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EDF

Universal Registration Document 2024

including the annual financial report

Our raison d'être

To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development.

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/AFR/ This information is part of annual financial report, as required by Article L. 451-1-2 of the French Monetary and Financial Code.

Universal Registration Document 2024

including the annual financial report

Be the energy for change

This Universal Registration Document (URD) was filed on 27 March 2025 with the French Financial Markets Authority (AMF), as the competent authority under Regulation (EU) 2017/1129, without prior approval pursuant to Article 9 of said Regulation.

This Universal Registration Document may be used for the purposes of an offer of securities to the public or the admission of securities to trading on a regulated market if it is supplemented by a securities note and, if applicable, a summary and any amendments made to the Universal Registration Document. The set of documents formed thereof is approved by the AMF in accordance with EU Regulation 2017/1129.

This document is a translation in English of the official version of the Universal Registration Document issued in French and is available on the Company's website (https://www.edf.fr/investors) as well as on the AMF's website (https://www.amf-france.org). All possible care has been taken to ensure that the translation is an accurate presentation of the original. However, in all matters of interpretation of information, views or opinions expressed therein, the original French language version of the document takes precedence over this translation.

1.

The Group, its strategy and its activities

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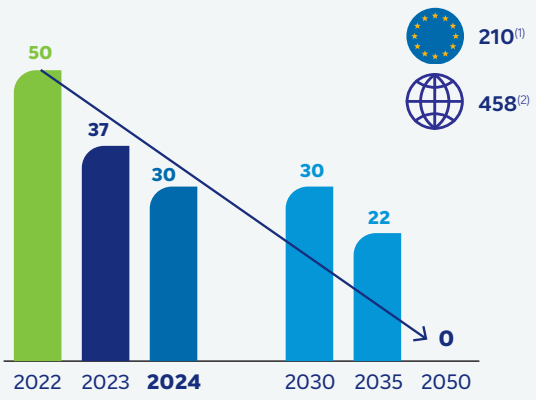
1.1 Key figures and business model

EDF carbon trajectory

Carbon intensity trajectory

(In gCO_2/kWh)

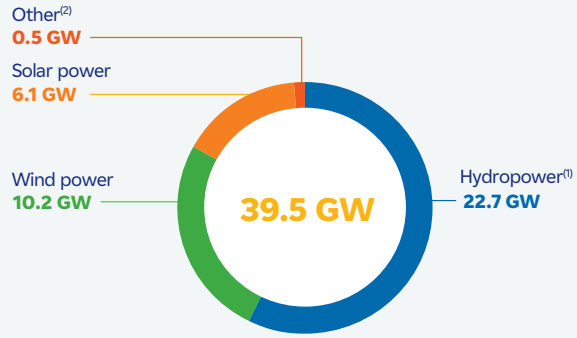
Around 7 times lower than the European average and more than 15 times lower than the global average



(1) 2023 value, EU-27, European Environment Agency.
(2) 2023 value, International Energy Agency, World Energy Outlook 2024.

EDF, the renewable energy leader in Europe

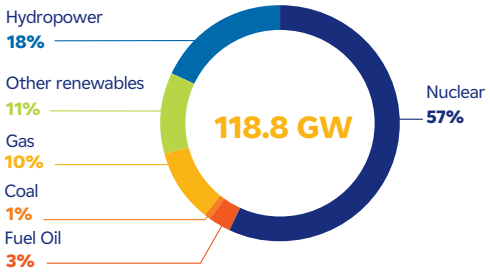
Net installed renewable capacities by sector at end-2024



(1) Including marine energy: 0.24 GW.
(2) Biomass, geothermal energy.

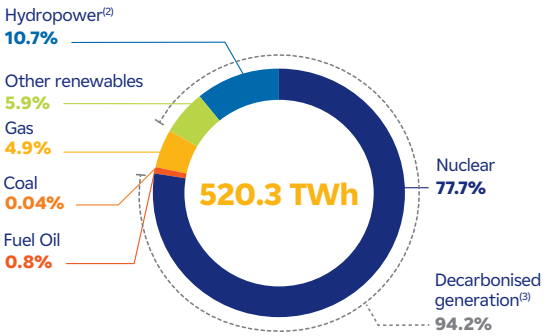
Key figures 2024

Installed capacities(1)



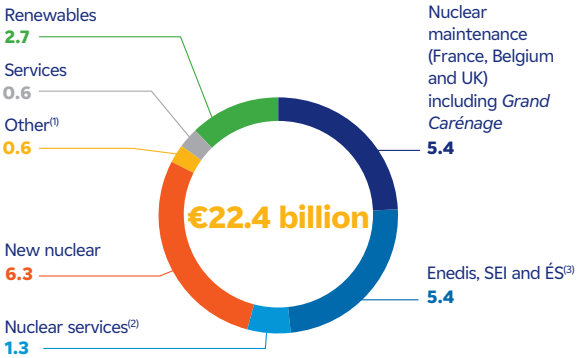
(1) Consolidated data.

Electricity generation(1)



(1) By fully consolidated entities.
(2) Including pumped-storage consumption and marine energy.
(3) Direct carbon emissions related to generation, excluding the life cycle analysis of generation facilities and fuel.

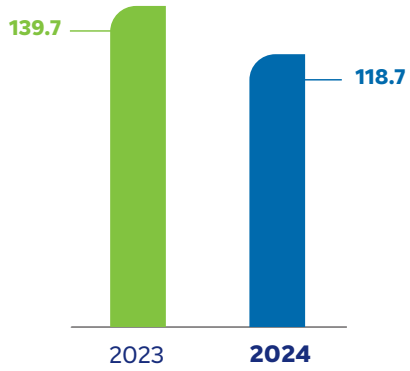
Net investments excluding disposal plan



(1) Including central functions, real estate, gas and fuel oil.
(2) Framatome and, since June 2024, Arabelle Solutions
(3) SEI: Systèmes Énergétiques Insulaires (Island Energy Systems). ÉS: Électricité de Strasbourg.

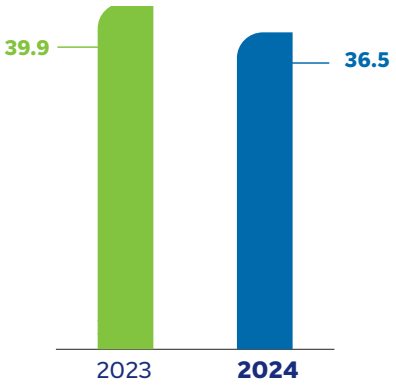
Sales

In billions of euros



EBITDA

In billions of euros



- France – Generation and Supply **21.0**
- France - Regulated activities[1]: **5.6**
- EDF Renewables: **1.4**
- Dalkia : **0.4**
- Industry and Services[2]: **0.1**
- United Kingdom: **3.5**
- Italy: **1.8**
- Other international: **0.8**
- Other activities: **2.0**

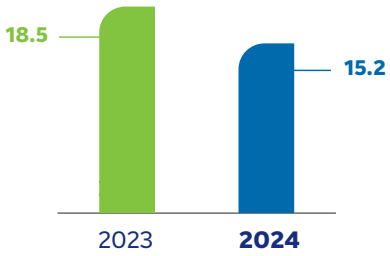
(1) Regulated activities: Enedis, ÉS and island activities; Enedis is an independent subsidiary of EDF under the French Energy Code

(2) Industry and Services: Framatome and Arabelle Solutions (Arabelle Solutions' income statement is only consolidated from 1 June 2024).

NB: Estimated figures for changes in EBITDA.

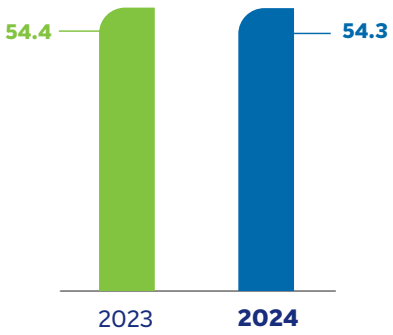
Net income excluding non-recurring items

In billions of euros



Net financial debt

In billions of euros



Assets and resources

Customer proximity

- **34.9** million electricity customers
- **6.6** million gas customers(1)
- **Leading** brands: EDF, Edison, Luminus, Dalkia
- **210.3** million visits to digital consumption monitoring platforms(2)

A human ambition

- **191,444** employees(3)
- Nearly **7.9** million hours of training provided, an average of **51.5** hours per employee(3)

An ambitious innovation ecosystem

- **2,124** R&D employees at EDF SA
- R&D budget of **€752m**(3) in 2024
- **783** innovations patented in the EDF SA and Enedis portfolio in 2024

Major industrial assets

- **118.8 GW** of electricity generation capacity(4)
- An integrated nuclear industry
- EPR technology
- A wind and solar project portfolio of c. **98 GW** gross(5)
- **1.4** million km of distribution networks(6)
- **44.2** million smart meters installed(3)
- **330** heating and cooling networks operated by Dalkia

A strong CSR commitment

- Leadership CDP Climate Change : score A
- Impact score: **73/100**
- EDF is one of the **41** Corporate Climate Policy Engagement Leaders identified by InfluenceMap
- **€32.7 billion** in green & sustainable funding

(1) Consolidated scope. Counted per site.
(2) EDF SA scope excluding French overseas *départements* and Corsica.
(3) Group scope.
(4) Consolidated data for the Group scope.
(5) Group scope. Pipeline excluding capacity under construction. All projects in the prospection phase from 2020 onwards are included in the pipeline.
(6) Operated under concession by Enedis.

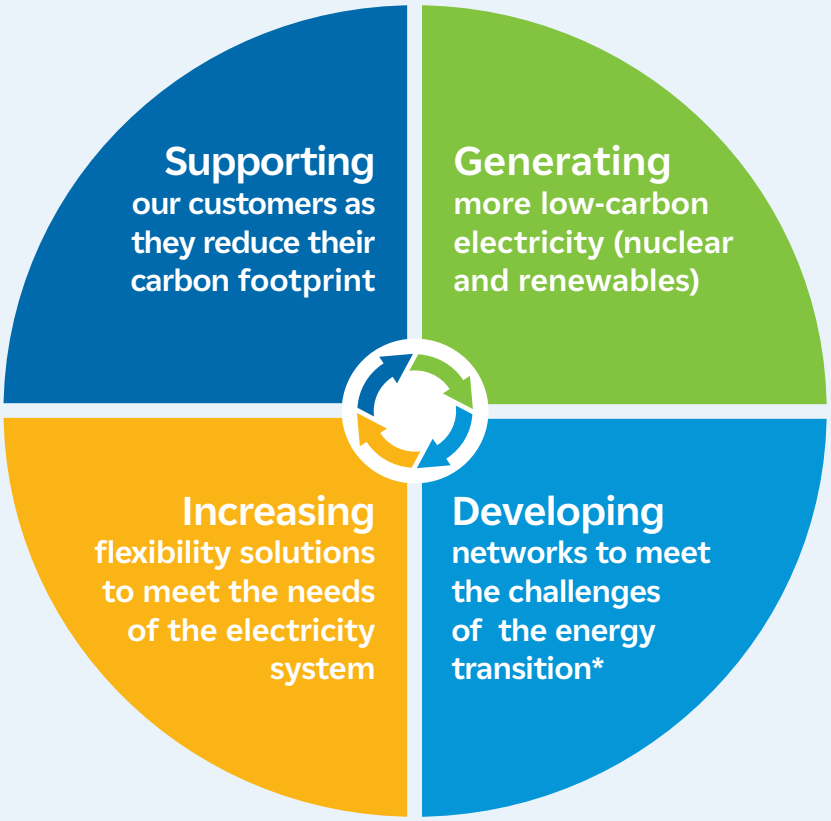
Business model

EDF's *Raison d'être*

To build a Net Zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development.

Ambitions 2035

EDF is building the electricity system of the future with Ambitions 2035.



** In France, the public electricity distribution network is managed independently by Enedis.*

CSR issues are addressed through 12 commitments

- Achieve net zero emissions
- Foster electrification
- Decarbonize the energy mix
- Develop advanced grids and flexible solutions

- Adaptation
- Nature
- Water
- Resources

- Shared vigilance
- Combat energy poverty
- Champion human rights
- Promote thriving local communities

Value creation in 2024

For the climate and the environment

- Ambition of achieving "**Net zero emissions**" by 2050
- Electricity output of **520 TWh**, **94%** low-carbon, with emissions of **30 gCO_2/kWh**(1)
- Ecosystem restoration: "**6 renatured sites**" in 2024
- **90%** of the Group's conventional waste sent to recovery channels

For customers

- No. 1 in customer relations in the "Service Companies" sector(2)
- **13.4 Mt** of CO_2 emissions avoided through the sale of innovative products and services

For partners and regions

- **95.4%** of EDF SA's purchases are ordered in France
- **1** direct job at EDF SA generates around **4.8** jobs in France
- **100%** of projects are subject to consultation(3)

For employees

- Employee engagement index of **75%**(4)
- Proportion of women in Group executives: **26.7%**(5)
- Health and safety: LTIR of **1.6**(6)

Sales
€118.7 billion

EBITDA
€36.5 billion

Net income excluding non-recurring items
€15.2 billion

Sharing added value with our stakeholders

Suppliers
Purchases(7)
€10.8 billion
EDF Group Global CSR agreement

States and Territories
Taxes(8)
€4.1 billion

Employees
Remuneration(9)
€16.9 billion

(1) Specific CO_2 emissions due to heat and electricity generation. Group scope.
(2) BearingPoint Customer Relation Podium Award – Kantar TNS.
(3) Projects over €60 million in accordance with the Equator Principles – Group scope.
(4) MyEDF Group internal survey.
(5) Group scope.
(6) Lost Time Incident Rate for Group employees and contractors.
(7) Consolidated other external expenses.
(8) Consolidated taxes other than income taxes. Group scope.
(9) Consolidated personnel expenses.

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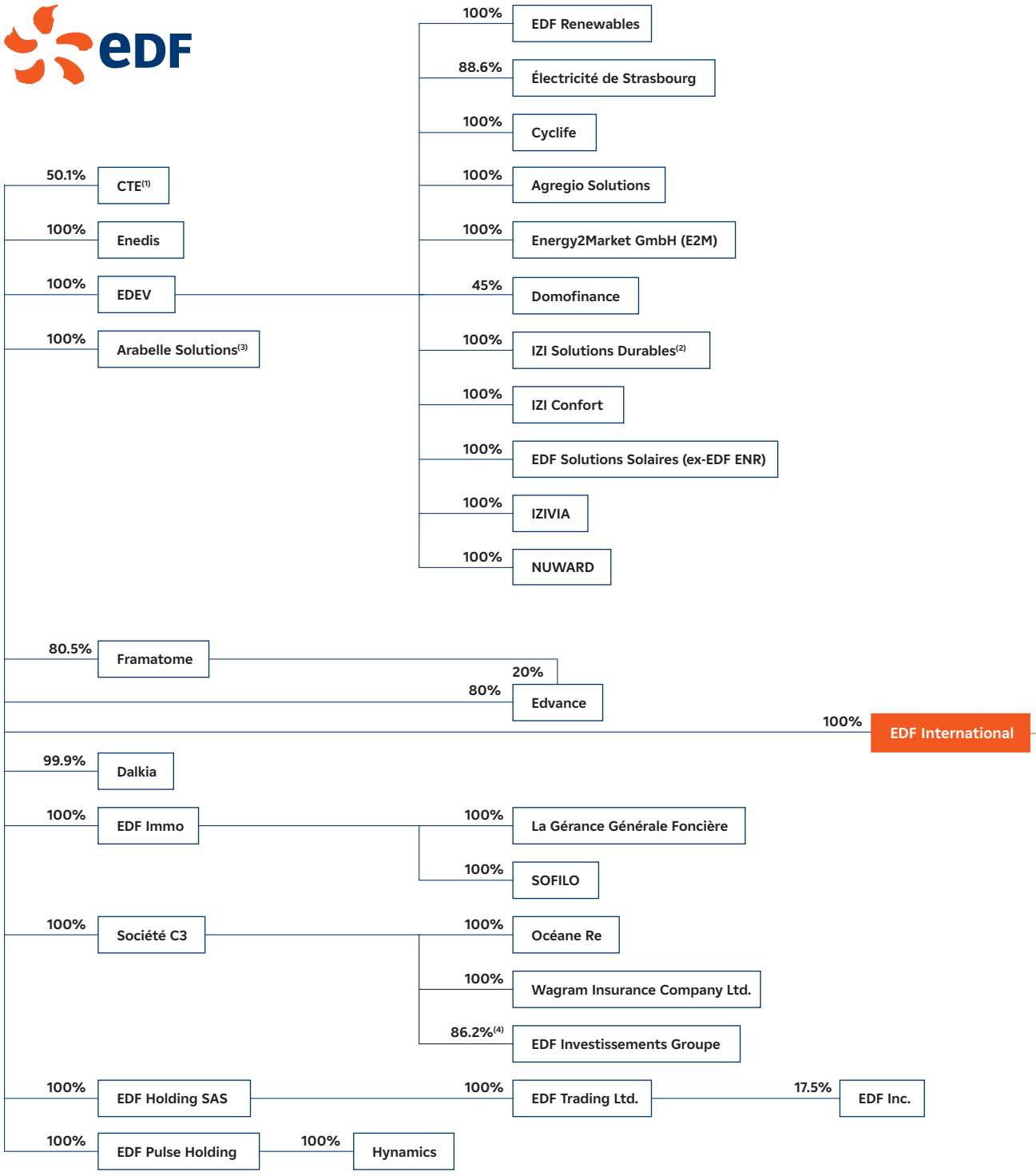
1.2 Presentation of the Group

1.2.1 Structure of the Group

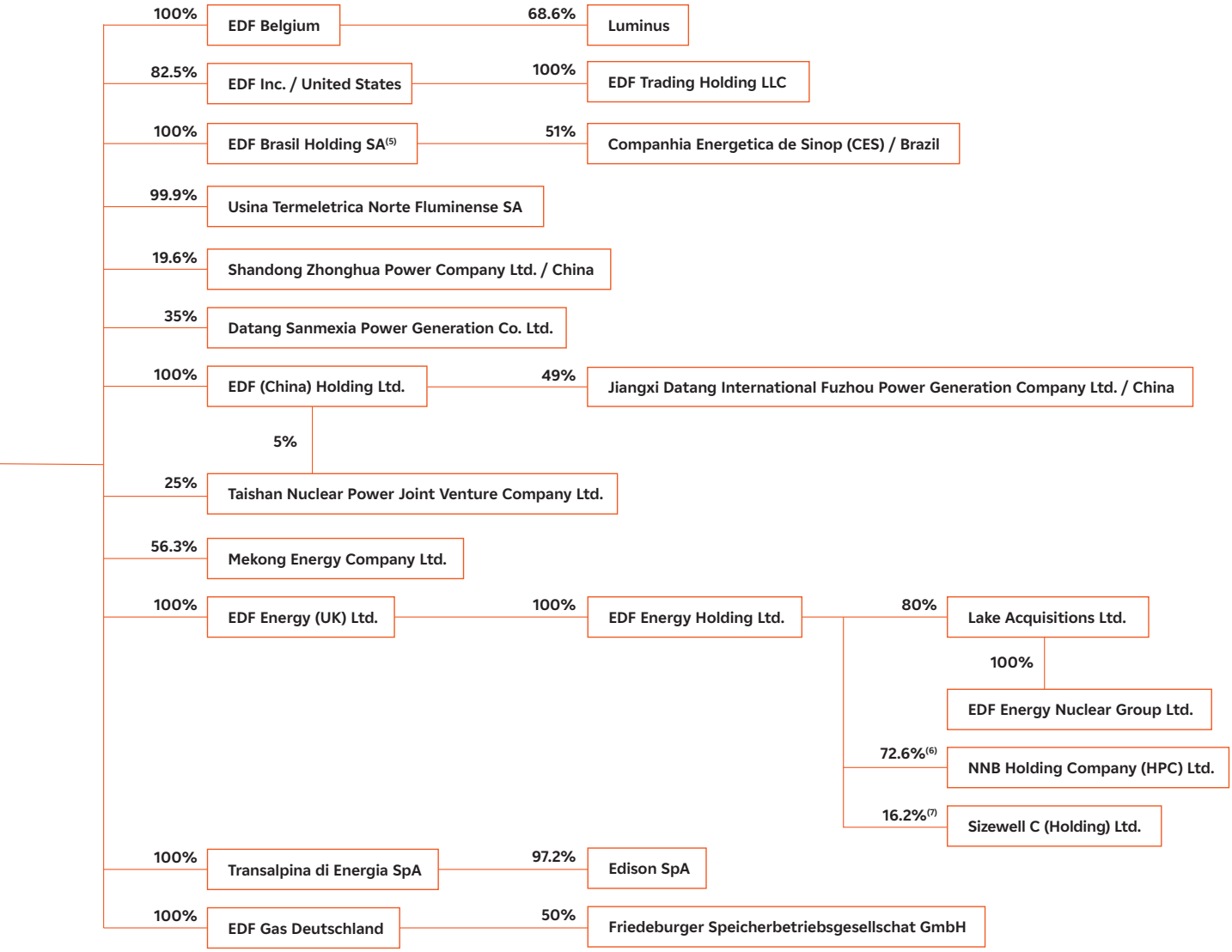
A simplified organisation chart of the Group at 31 December 2024 is presented below. The percentage given for each entity (subsidiary or sub-group of subsidiaries) corresponds to the ownership interest held directly or indirectly in the capital. The values given are rounded. The companies or groups of companies included in the Group's scope of consolidation are indicated in section 6.1, note 3.3 "Scope of consolidation at 31 December 2024" to the consolidated financial statements for the financial year ended 31 December 2024. Changes in the scope of consolidation for 2024 are presented in section 6.1, note 3.1.1 "Changes in the scope of consolidation" to the consolidated financial statements for the financial year ended 31 December 2024.



(1) Coentreprise de Transport d'Électricité (CTE), the company that holds 100% of RTE.
(2) IZI Solutions Rénov was merged into IZI Solutions Durables on 31 May 2024.
(3) Arabelle Solutions corresponds to the nuclear activities of GE Steam Power acquired on 31 May 2024.
(4) On 6 November 2024, a €500 million capital increase was subscribed by Natixis Belgique Investissements, which now holds 13.78% of EDF IG's capital as at 31 December 2024 (7.54% at 31 December 2023) while EDF, via C3, holds the remaining 86.22% (92.46% at 31 December 2023).

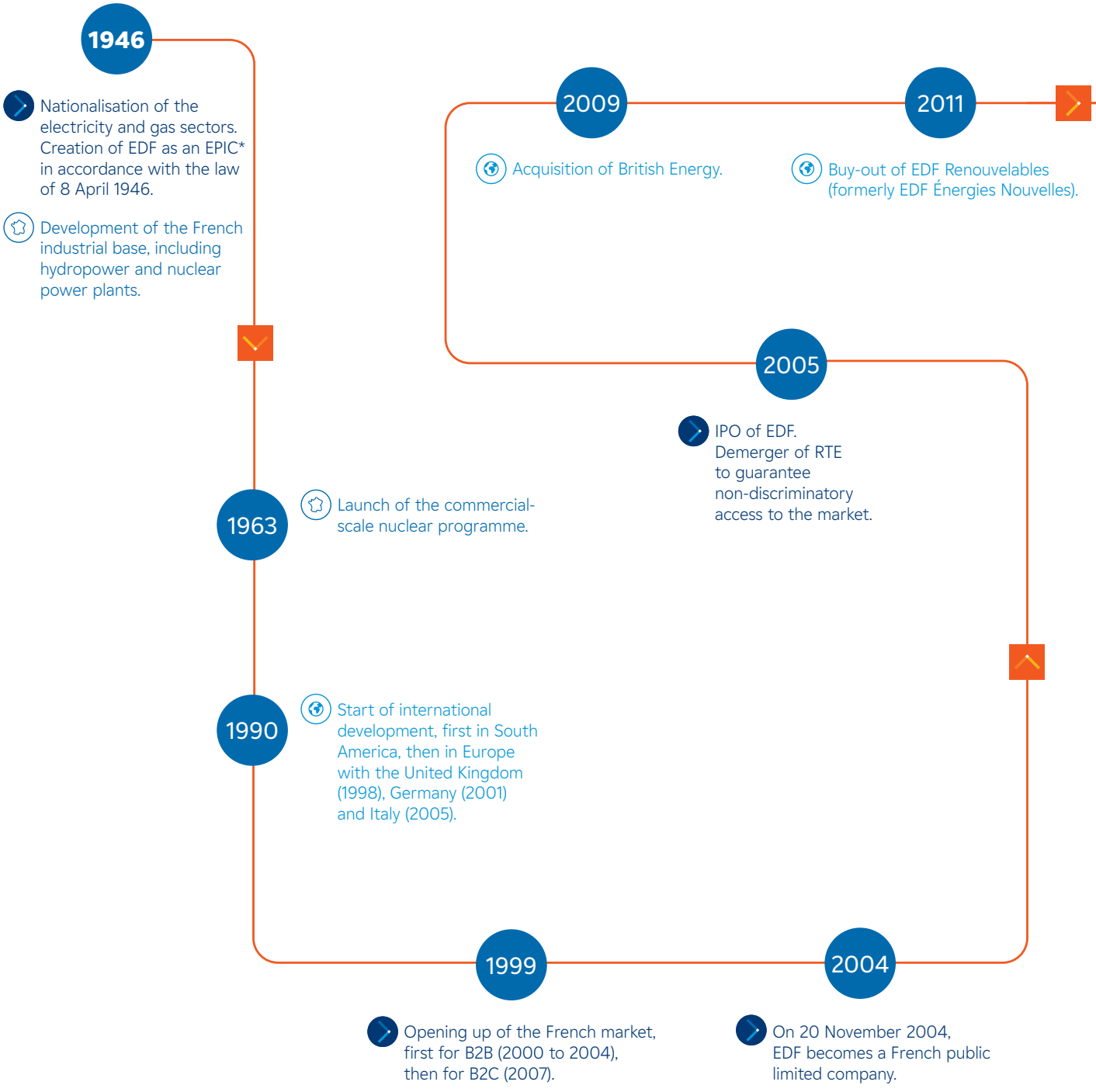
1.

EDF International



(5) Certain subsidiaries previously held by EDF Norte Fluminense (including Companhia Energetica de Sinop, a 51%-owned company consolidated under the equity method) are now held by EDF Brasil Holding.
(6) See section 6.1, note 14.4 "Non-controlling interests" to the consolidated financial statements for the financial year ended 31 December 2024.
(7) See section 6.1, note 112.3 "Investments in associates and joint ventures" to the consolidated financial statements for the financial year ended 31 December 2024.

1.2.2 History of the Group



EPIC: Public Industrial and Commercial Establishment.

2012

- Takeover of Edison.

2014

- Takeover by EDF of Dalkia's activities in France.

2016

- Signature of final contracts Hinkley Point C EPR construction project in the UK.

2017

- Sale of 49.9% of RTE to Caisse des Dépôts and CNP Assurances and capital increase of approximately €4 bn.
- Acquisition of 75.5% of Framatome.
- Launch of the Solar Plan.

2018

- Commissioning of the 1st EPR in Taishan, China.
- Ramp-up in offshore wind power.
- Launch of the storage plan and the electric mobility plan.

2019

- Multi-year energy programme (PPE): published on 25 January 2019.
- Success of the first fourth 10-year inspection in the 900MW fleet (Tricastin 1).
- Commissioning of Taishan Unit 2 in China.
- Commissioning of the Sinop hydropower plant in Brazil.

2020

- EDF adopts a *raison d'être* in its articles of association.
- Commissioning of the new Romanche-Gavet hydropower plant.
- Launch of "excell", an excellence plan for the nuclear industry.

2022

- Commissioning of France's first offshore wind farm at Saint-Nazaire.
- Launch of the Hydrogen Plan.

2023

- Acquisition by the French State of 100% of EDF's share capital following the squeeze-out of shares and OCEANE.

2024

- Flamanville 3's first connection to the French national grid

1.2.3 Significant events

Flamanville 3 EPR reactor connected to the grid on 21 December 2024.

NUCLEAR

- A significant 41.3TWh increase in nuclear power output in France to 361.7TWh, reflecting optimisation of reactor outages under the START 2025 programme, and industrial control of the stress corrosion checks and repairs.
- Flamanville 3: The reactor was connected to the network on 21 December[1]. After the first nuclear reaction on 3 September 2024, EDF's teams conducted a programme of tests and controls for a gradual reactor ramp-up. Testing and grid connection and disconnection phases will continue until the reactor reaches full power. On 31 January 2025, the French Nuclear Safety and Radiation Protection Authority (*Autorité de sûreté nucléaire et de radioprotection - ASNR*) approved an increase to above 25% power.
- Arabelle Solutions: acquisition of GE Steam Power's nuclear activities covering conventional island equipment for nuclear power plants, including the turbine generator set[2].

NUCLEAR NEW BUILD

- Hinkley Point C: the first reactor pressure vessel, supplied by Framatome, is now installed.
- EPR2: after a maturity review, the project is moving into the detailed design phase for the principal nuclear island buildings.
- Small Modular Reactor: development continues for pressurised water SMR by NUWARD, with a new approach based on proven technological building blocks.

RENEWABLES

- A 6.7% increase in wind and solar power output to 28.5TWh, largely driven by new installed capacities (including the 500MW Fécamp offshore wind farm in France[3], the 480MWp Serra do Seridó wind farm in Brazil[4], and the 480MWp CEME 1 solar power plant in Chile[5]).
- The portfolio of wind and solar power projects reached 114GW gross (a major contract was won in December for a 250MW floating wind farm in the Mediterranean).

HYDROPOWER

- A 12.7TWh increase in hydropower output to 55.5TWh[6], explained by high availability and exceptionally good hydraulicity conditions.

THERMAL

- Decarbonisation of flexible thermal plants:
  - > Start of work on the Ricanto liquid biomass power plant (130MW - France), to replace the Vazzio thermal plant[7].
  - > Inauguration of the Presenzano combined-cycle gas turbine (CCGT) plant (800MW - Italy) with 30% lower CO_2 emissions, and a turbine ready to run on hydrogen.
  - > Functional tests with a bioliquid (recycled Hydrotreated Vegetable Oil, compliant with the RED II directive) conducted on the Vaires-sur-Marne combustion turbine (CT) in June 2024 (after Brennilis in July 2023).

(1) See the EDF press release of 21 December 2024 "Update on the Flamanville EPR: the reactor produces its first electrons on the national electricity grid".
(2) See the EDF press release of 31 May 2024 "EDF acquires GE Steam Power's nuclear activities from GE Vernova".
(3) See the press release of 15 May 2024 "Fécamp, France's First Offshore Wind Farm in Normandy, is now operational".
(4) See the EDF press release of 18 July 2024 "EDF group commissions its largest wind farm in South America".
(5) See the EDF press release of 9 July 2024 "EDF inaugurates the largest solar power plant in Chile".
(6) After deduction of pumped-storage consumption, hydropower output totals 47.8TWh in 2024 compared to 37.0TWh in 2023.
(7) See the EDF press release of 22 November 2024 "The EDF group launches construction of the Ricanto bioenergy power plant in Corsica".

CUSTOMERS AND SERVICES

- Successful deployment of the commercial policy: 8 letters of intent and 2 binding contracts signed for long-term industrial partnerships[1] representing over 12TWh a year, and 6,000 medium-term power supply contracts signed (around 22TWh for 2028 and 12TWh for 2029[2]).
- Growth in the residential customer portfolio in the G4 countries to 41.5 million at end-2024[3].
- CO_2 emissions avoided reached to 13.4 Mt in 2024.
- Decarbonising uses: 18% increase in electric vehicle charging points installed or managed in the G4 countries. The biomass boiler installed by Dalkia at the Swiss Krono plant will avoid 35,000 t of fossil CO_2 emissions a year.

NETWORKS

- Higher number of connections by Enedis[4] in 2024: +21% for installed capacity for electric vehicles (to 5.1GW) and +19% for renewable energy facilities (to 5.5GW).
- Enedis ranked 'world's smartest grid' in the Smart Grid Index for the third consecutive year.
- The French network was fully available at all sites throughout the Paris Olympic and Paralympic Games, cutting CO_2 emissions by 80% for Paris 2024.
- Power restored to 90% of customers within 48 hours after weather events in France.
- In order to increase and secure the power supply system between Sardinia, Corsica and Tuscany, the SACOI3 power line replacement project was launched[5].

FLEXIBILITY

- Greater flexibility is required to cope with the system instability caused by renewable energy intermittency. This entails high price volatility (hourly prices < €10/MWh were observed for 1,366 hours in 2024, i.e. more than 15% of the time vs more than 5% in 2023) and more modulation of nuclear power plants.
- 18% increase in capacity of flexibility offers for customers in the G4 countries: 2.1GW at end-2024[6].
- Successful financial close for the three OASIS 1 battery energy storage systems (BESS) projects in South Africa, a portfolio with a combined capacity of 257MW and 1,028MWh of storage.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE COMMITMENTS

- With over 94% carbon-free electricity generation, EDF has one of the lowest carbon intensities in the world at 30gCO_2/kWh, reduced by 19% compared to 2023.
- The new CSR architecture places the "Building the electricity system of tomorrow" objective on two fundamental pillars, "Working within the planetary boundaries" and "Acting for a just transition".
- Strong ambitions to cut CO_2 emissions:
  - for Scope 1, a new target of a 65% reduction by 2027 in addition to the targets of 70% by 2030 and 80% by 2035 (vs 2017 levels),
  - for Scope 3, three new targets: reduction of 30% by 2027, 35% by 2030 and 45% by 2035 (vs 2019 levels).
- To meet its skill requirements, the Group hired nearly 20,000 people in France, (including around 10,000 permanent employees, 4,500 work-study trainees, and 5,000 interns), promoting a good gender balance and diversity, and bringing young people into work.

FINANCING

- EDF issued €5 billion of green bonds to fund development of its business activities in 2024 (nuclear, renewables and network activities) and £500 M of bonds dedicated to the Hinkley Point C project[7].

(1) Nuclear power allocation contracts.
(2) Data as of the date of the 2024 Results communication.
(3) The customer portfolio consists of electricity, gas and recurring service contracts.
(4) Enedis is an independent subsidiary of EDF under the French Energy Code.
(5) See the EDF press release of 28 May 2024 "EDF and Italian Transmission System Operator Terna launch SACOI3, the power line replacement project between Corsica, Sardinia and Tuscany".
(6) Excluding lagged power in France due to peak/off-peak hours.
(7) See the EDF press release of 31 October 2024 "EDF announces the success of its senior bond issue for a nominal amount of £500 million".

1.3 Group strategy and objectives

1.3.1 Environment and strategic challenges

Energy efficiency and low-carbon electricity are at the core of the energy transition

The fight against climate change is the defining challenge of our generation. Current policy projections predict +2.4°C global warming by 2100[1], but it is generally recognised that global carbon neutrality must be achieved by 2050 to limit warming to 1.5°C and respect the Paris Agreements.

In Europe, the "Green Deal" developed in 2020 and the European Commission's "Fit for 55" climate package provide the framework for measures enabling the European Union to achieve carbon neutrality by 2050. The recovery programmes that followed the Covid pandemic further reinforced the priority given to the climate. Also, in the context of global energy market disruptions caused by the war in Ukraine, the "REPowerEU" programme announced by the European Commission in 2022 seeks to address the additional challenges of resilience, sovereignty and competitiveness in this energy transition.

Among the priority focuses of the new European Commission appointed in 2024, decarbonisation and competitiveness of the European Union have been strongly reaffirmed. The electrification of energy uses in all countries is one of the main levers for achieving European decarbonisation commitments, complementing the priority development areas of renewables and energy efficiency. In addition to the -55% CO_2 emissions target set for 2030, a European decarbonisation target for 2040 will be proposed by the Commission.

In France, electricity accounts for just over 12% of CO_2 emissions (as opposed to 39%[2] worldwide). France's Climate and Energy Law of 8 November 2019 places the reduction of greenhouse gas emissions at the heart of French energy policy. The goal is "to become carbon-neutral by 2050, by cutting greenhouse gas emissions more than sixfold".

France's multi-year energy programme (PPE), which lists the broad outlines of French energy policy, sets out a 10-year vision, which is vital for major industrial players. A new PPE was submitted for stakeholder consultation in November 2024, to set objectives for 2030 and 2035.

To achieve the PPE's objectives, the major levers of action are:

- decarbonising energy demand and supply;
- prioritising the decarbonisation of energy demand by electrifying uses, the most relevant solution in terms of climate performance, energy efficiency, competitiveness and sovereignty;
- increasing the supply of low-carbon electricity by minimising its cost and strengthening energy sovereignty, through a diversified, well-balanced electricity mix, managed according to actual changes in demand;
- developing electrical capacities for a secure consumer supply, network adaptation and the flexibilities necessary for dynamic system balance.

Innovation, both upstream and downstream, will be an essential factor for successfully achieving these objectives.

1.3.2 Strategic priorities

EDF's *raison d'être* is "To build a Net Zero energy future with electricity and innovative solutions and services, to help save the planet and drive well-being and economic development". It was incorporated into the Company's articles of association at the end of the General Meeting of 7 May 2020 and underpins the Group's strategy.

Today, EDF is the world's leading producer of low-carbon electricity[3]. For every kWh produced, EDF emits about seven times less CO_2 than the average for European utilities (210gCO_2/kWh[4]) and fifteen times less than the global average (458gCO_2/kWh[5]), and has set itself even more ambitious emission-cutting targets: by 2030, EDF will have reduced its direct emissions by 70% compared to 2017, and that reduction in direct emissions will reach 80% by 2035. The carbon intensity of the electricity produced by the Group will be 30gCO_2/kWh by 2030 and will drop to 22gCO_2/kWh by 2035. And EDF is committed to reducing its indirect emissions by 35% by 2030 compared to 2019, and 45% by 2035.

The global context validates the role of low-carbon electricity and supports EDF's strategy

As a responsible operator and supplier, the EDF group is fully assuming its role as a major player in the ecological transition and energy sovereignty. From the construction and operation of nuclear, hydro, solar, wind and thermal power plants, to the development and operation of electricity networks, to marketing energy and associated services, the Group is present in every link of the value chain in France, and is developing internationally.

EDF supports its customers in reducing their carbon footprint by providing them with advice on energy efficiency and sufficiency, and by providing decarbonisation solutions. These solutions include the electrification of customers' uses (electric vehicles, electrified industrial processes, low-carbon heat, low-carbon hydrogen, etc.) through a supply of low-carbon, available and competitively-priced electricity that is gradually taking over from fossil energies. In France, this is reflected for example in the aim **to stimulate an additional 150TWh of demand for electricity demand instead of fossil energies by 2035 compared to 2023.**

To supply its customers, EDF is responding to the growing demand for low-carbon electricity by accelerating development of its low-carbon generation facilities. In France, EDF continues to operate the existing nuclear fleet under optimum conditions of safety and performance, and is working on the conditions for launching the programme to build six EPR2 and eight additional reactors. Recognised for its know-how, EDF is engaged in development of nuclear projects outside France (e.g. the Hinkley Point C and Sizewell C projects in the United Kingdom, and the strategic dialogue with India on the Jaitapur project). EDF is also continuing developments in hydropower and accelerating the expansion of renewable energies.

(1) Source: International Energy Agency - World Energy Outlook (Global Energy Outlook) 2024.
(2) Source: France's Ministry for the Energy Transition, *Chiffres clés du climat* (Key climate figures), 2023 edition, page 35.
(3) Source: Enerdata, World ranking of zero direct CO_2 emissions power producers (2023, TWh), https://power-producers-ranking.enerdata.net/
(4) www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1/greenhouse-gas-emission-intensity-of-electricity-generation-eu-level
(5) 2023 data, International Energy Agency, World Energy Outlook 2024.

Combined with the increase in both the volumes of electricity injected and new uses, the development of renewable electricity sources constitutes a major challenge for the electricity system: as a responsible operator, the EDF group is developing and strengthening solutions that contribute to the system's supply-demand balance over all time horizons. EDF is committed to mobilising a range of solutions to meet these needs, for a more dynamic, responsive adjustment of consumption and generation.

Electricity networks play a major role in the success of the energy transition. In the electricity system, they are used to transmit and distribute the electricity produced to end consumers. To meet the growing demand for electricity, network operators are setting the pace for implementation of the energy transition by connecting more new renewable energy producers or new users of electricity solutions every day. They are also modernising the networks, making them more agile and resilient, and digitising the management of these key infrastructures for people's daily lives.

The Group's international footprint creates value and contributes to France's success

The Group's core development scope in Europe is its "G4", comprising France, Italy, Belgium and the United Kingdom. EDF is present in these countries as a key player in electricity generation, with a significant customer portfolio in each region. Building on its strong local integration, EDF is developing a range of supply offerings, solutions and services coherent with local energy policy choices, to help customers reduce their carbon footprint.

In the rest of the world, outside this "G4", the Group is mainly developing through business models in which it does not have exclusive control of an asset, but an industrial role that capitalises on the Group's experience. EDF seeks out growth drivers by engaging in value-creating projects in growing markets and exporting its recognised expertise to countries wanting practical solutions for a successful energy transition. EDF can thus compare best practices with leading partners in competitive markets, while also developing new industrial skills and accelerating its ability to innovate, from both a technological and contractual standpoint.

A new (post-ARENH) market model

At a press conference held on 14 November 2023, France's Finance Minister Bruno Le Maire, Energy Transition Minister Agnès Pannier-Runacher and EDF's Chairman and CEO Luc Rémont announced that an agreement had been reached between the French State and EDF, laying the foundations for the new organisation of the French energy market that will succeed the Regulated Access to Historic Nuclear Power (*Accès régulé à l'électricité nucléaire historique* – ARENH) scheme as of 1 January 2026.

This new market organisation aims to develop medium- and long-term products in order to offer consumers a wider choice of contracts that can protect them against short-term price volatility and encourage investments in low-carbon generation.

As part of its new commercial policy, EDF sells annual baseload supplies for periods of 4 to 5 years at auction, enabling EDF and all electricity suppliers to offer contracts that give customers visibility and stability over those time horizons. EDF now offers its customers medium-term retail supply contracts of up to five years.

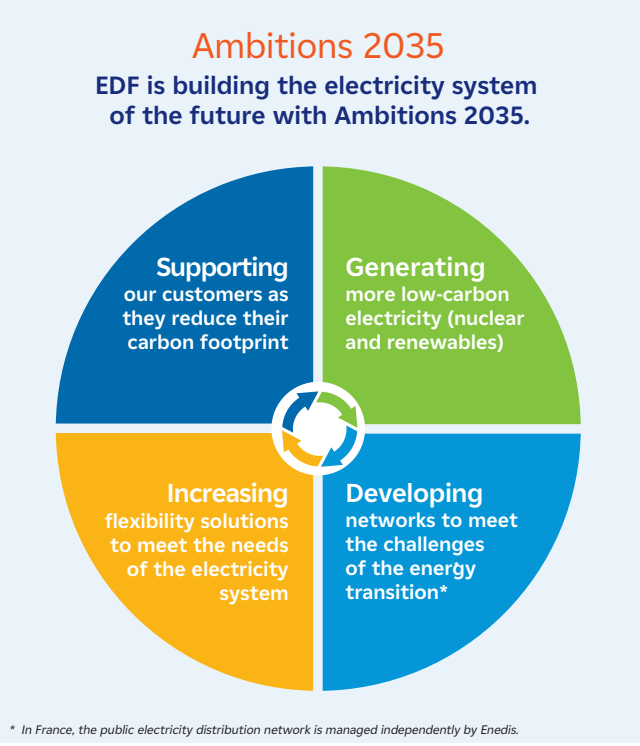
EDF also offers large electricity-intensive customers long-term industrial partnership contracts with a minimum term of 10 years, backed by the assets of the historical nuclear fleet (nuclear power allocation contracts).

To provide customers with additional protection in high-price periods, the new framework, which is now defined in article 17 of France's Finance Law for 2025, also requires payment by EDF of a portion of its historical nuclear power plants' net annual energy revenues derived from use of nuclear fuel when they exceed a certain level. Two thresholds are set for this contribution: a taxation threshold and a capping threshold, above which the contribution rate will be 50% and 90% respectively. These thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain watchful regarding retention of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros).

One year after the agreement, implementation of the commercial policy is already having a noticeable positive impact on the market, and on the offering policy of alternative suppliers. On 6 March 2025, the EDF group announced that it was changing the terms of its nuclear power allocation contracts (*Contrats d'allocation de production nucléaire* - CAPN)[1]. From the first half of 2025, the Company will offer nuclear power allocation contracts, for delivery in France, through a European-wide auction mechanism for consumers requiring more than 7GWh per year, whether suppliers or producers, with a physical electricity offtake capacity in France. Under this allocation mechanism, EDF will propose a total volume of 1,800MW of electricity per year (approximately 10TWh) for energy deliveries that will begin on 1 January 2026. Interested parties can contact EDF, which will assess their eligibility for the scheme. EDF intends to contribute to the electrification and competitiveness of the economy by diversifying and adapting its offering to the needs of its partners, and giving them long-term visibility.

It was against this backdrop that the "*Ambitions 2035*" Corporate Plan divided into four strategic areas, was presented in the third quarter of 2024.

EDF is building the electricity system of tomorrow with "*Ambitions 2035*"



(1) See the EDF press release of 6 March 2025 "EDF is launching a call for expressions of interest for nuclear power allocation contracts *(Contrats d'allocation de production nucléaire* - CAPN)".

Supporting customers in reducing their carbon footprint

Individuals, companies and local authorities are increasingly striving to change their practices for lighting, heating, production, consumption, travel, etc. Everyone wants to be an actor in their own energy transition while controlling their purchasing power and competitiveness.

In France and Europe, electricity is the main lever for decarbonising the economy. Electrification is a vector for energy efficiency (for a given use, electricity provides the same service while consuming less energy) and decarbonisation (it can be produced with no CO_2 emissions by nuclear and renewable energy plants, and can replace hydrocarbons in a number of uses). The range of decarbonisation solutions is supplemented by low-carbon heat in heating and cooling networks, and decarbonised gases such as the production of low-carbon electrolytic hydrogen.

To achieve the goal of carbon neutrality by 2050, the pace of electrification must accelerate.

EDF has set itself the goal of supporting its customers in reducing their carbon footprint. EDF is developing a range of offers to help its residential customers, companies and local authorities become players in their energy consumption (self-consumption, digital solutions for consumption management) and encourage them to be more energy-sufficient in their consumption.

Within its "G4" scope (France, Belgium, Italy and the United Kingdom), the EDF group provides value proposals for each customer and aims to ***reach 1.5 contracts per customer.*** It is building on excellent customer relations and a broad range of services and solutions, notably for sustainable energy performance in the residential and business markets.

The accessible and innovative decarbonisation solutions apply to uses in the sectors that emit the most CO_2:

- **In the construction sector**

In France, EDF has long supported builders, developers and social-housing landlords in the implementation of high-performance and low-carbon energy solutions. EDF offers a range of solutions that promote decarbonisation for new buildings from design to delivery, and draws on the expertise of its subsidiaries to carry out the work. *IZI by EDF* is developing its activities in interior and exterior renovation work for individuals and small business customers. *IZI Confort* sells, installs and maintains heat pumps and boilers. Dalkia provides energy performance contracts for commercial and industrial buildings as well as heat pump-based solutions. In addition, digital solutions are available to building occupants to monitor, optimise and manage their energy consumption and carbon footprint, such as smart building management and the Dalkia Energy Savings Centre (DESC), an integrated platform for remote energy efficiency control which optimises the operation of 40,000 facilities in France. Edison, Luminus and EDF Energy have also embarked on an ambitious trajectory to develop heat pump sales and facilities in Italy, Belgium and the United Kingdom respectively.

- **In transport**

To accelerate electric mobility, the EDF group has set itself the goal of becoming the leading electricity supplier on the electric vehicle owner segment within its "G4". To remove the obstacles to the spread of electric vehicles, EDF has installed around 408,000 charging points by the end of 2024 and aims to reach 1.5 million charging points in France, Italy, the United Kingdom and Belgium by 2030. The EDF group covers all light electric vehicle segments (home charging, workplace charging and public charging) via its entities and subsidiaries IZI by EDF, IZIVIA, Pod Point, Luminus, and Edison.

In France, IZIVIA is a leader in the installation and operation of public on-street charging points and company charging stations. IZI by EDF is one of the main installers of charging points for individuals and small businesses. In the United Kingdom, Pod Point is a market leader in home charger installations.

- **In industry**

By electrifying industrial processes, substituting low-carbon energies (hydrogen generated by electrolysis, biomass) for fossil fuels, reducing consumption and recovering waste heat, manufacturers can reduce their CO_2 emissions.

Through Dalkia, the EDF group is developing advisory services to assist customers with their decarbonisation strategy, electrification of industrial processes, waste heat recovery and renewable heat production. In addition, EDF contributes to the decarbonisation of industry by offering solutions for the production of decarbonised electrolytic hydrogen. It leverages its R&D expertise for the benefit of industrial customers, supporting them as their production facilities (e.g. electric furnaces and boilers) evolve.

In 2035, 8 to 9 million decarbonisation offers and services will be active for EDF's portfolio customers.

The aim of these solutions is to enable the EDF group to avoid ***more than 45 million tonnes of CO_2 emissions by G4 customers a year by 2035***[1].

- **Data centres and digital technology**

On 3 March 2025, the EDF group launched two initial calls for expressions of interest *(Appels à manifestation d'intérêt* - AMI)[2] from digital companies in order to highlight the advantages France has to offer for the installation of data centres, particularly access to competitively-priced, constantly available low-carbon electricity. This announcement revealed the location of the industrial sites concerned by two calls for expressions of interest, which may be operated by two selected operators. The first call for expressions of interest concerns the Montereau-Vallée-de-la-Seine site in Seine-et-Marne (municipalities of Vernou-La-Celle-sur-Seine and La Grande Paroisse), the second concerns two sites: La Maxe and Richemont in Moselle. A fourth site has been identified, and its location will be communicated at a later date. The identification of other sites is also continuing, with the aim of selecting two more by 2026, giving a total of six sites in the long term. These sites will be the subject of new calls for expressions of interest.

The objective of the calls for expressions of interest is to select digital operators that are able to develop the sites in order to build and operate high-power data centres. The award will be made on the basis of objective and transparent criteria relating in particular to the credibility and maturity of the companies' projects.

Producing more low-carbon electricity (nuclear and renewables)

In France, 99% of the electricity generated by EDF[3] is low-carbon, thanks to its nuclear and renewable energy plants. EDF is therefore playing a leading role in achieving the goal of carbon neutrality by 2050.

Its action, in France and in all relevant geographical areas, is intended to accelerate the development of renewable energies to complement its nuclear fleet.

- **The EDF group's goal of low-carbon generation will depend on the performance of the nuclear fleet,** while ensuring safety, industrial control, competitiveness, environmental protection and optimised operation of nuclear power plants in France and the United Kingdom. In addition, EDF is continuing to implement an innovative fuel cycle strategy.

(1) Calculation of emissions avoided by the following products/services sold by EDF, Dalkia, Luminus, EDF UK and Edison: increasing use of renewable energy in heating networks; energy efficiency; solar power production (installations sold to customers and self-consumption, excluding EDF installations that inject their output into the network); electric mobility; residential heat pumps. This indicator corresponds to the difference between the emissions of the product/service sold and the emissions of a reference scenario defined for each product/service. It is likely to increase in the coming years, subject to possible changes in method in order to remain in line with third-party practices. For the methodology used for this indicator, see section 3.2.2.1.3.3 "Avoided emissions".

(2) See the EDF press release of 3 March 2025 "EDF launches calls for expressions of interest to host new data centres in France".

(3) EDF SA.

EDF's nuclear generation fleet is the only one of its kind in the world. The ***Grand Carénage*** industrial refurbishment programme for the existing fleet in France is a major industrial challenge. The related investments must enable its power plants to remain in operation beyond 40 years with guaranteed nuclear safety, efficiency, and environmental protection. EDF's ambition is to return the existing fleet to the highest levels of operational generation performance, and enable it to ***produce an annual 360-400TWh of nuclear electricity in France in the long term.*** Studies are under way to continue operating the existing fleet beyond 60 years (under the supervision of the ASNR) in the best safety conditions, taking into account international experience with reactors of the same design as the French fleet.

Nuclear power plants do not emit CO_2[1]; they provide steady baseload generation whilst offering strong management and flexibility leverage for adjusting to electricity consumption. This makes nuclear generation an essential asset for a decarbonised electricity mix by 2050.

Internationally two EPR reactors are in operation at Taishan in China (in which EDF is a shareholder), and one at Olkiluoto in Finland.

With regard to Flamanville 3, after the reactor fuel was loaded last May, the Flamanville EPR teams carried out numerous technical tests and ensured the installation met the required conditions to initiate nuclear fission. On 2 September 2024, the French nuclear safety authority ASN gave its approval to carry out divergence operations on the Flamanville 3 reactor. A test programme was implemented to reach 25% power. The Flamanville EPR was connected to the national electricity grid for the first time on 21 December 2024.

In France, following the French President's announcements in February 2022 in Belfort concerning the launch of the programme to build six nuclear reactors in France, EDF is preparing together with the nuclear industry for the implementation of this programme, and carrying out studies for eight additional reactors. The stakeholder consultation and dialogue phase is ongoing. The public debate on the project for an initial pair of EPR2 reactors at the Penly site in Normandy was held from 27 October 2022 to 27 February 2023. This was an opportunity to provide information about and discuss this project, and gave rise to a report by the Special Public Debate Commission (CPDP) and a review by the Chair of the National Public Debate Commission (CNDP), both of which were made public on 26 April 2023. The public debate on the project for a second pair of EPR2 reactors at the Gravelines site began on 17 September 2024 and ended on 17 January 2025. The CNDP will publish the conclusions of the debate within two months, and they will then be analysed by EDF to take them into account in its decision as project owner. The public debate on the proposal to build a third pair of EPR2-type nuclear reactors near the Bugey site began on 28 January 2025 and is expected to end on 15 May 2025.

Given its cost and duration, the EPR2 programme cannot be undertaken by EDF without public support measures. On 17 March 2025, the Nuclear Policy Council met and reaffirmed the strategic nature of the construction of six EPR2 reactors. It examined the main principles of the programme's financing and regulatory plan which is based on a subsidised State loan covering at least half of the construction costs and a Contract for Difference for the nuclear power output at a maximum price of €100/MWh in 2024 value.

With regard to the back-end financing of the future, the Nuclear Policy Council also validated the principle that EDF should provide the bulk of the funding for this programme, in its capacity as a future customer of these facilities, and that governance should be led by Orano, in collaboration with EDF, the French Alternative Energies and Atomic Energy Commission *(Commissariat à l'énergie atomique et aux énergies alternatives* - CEA) and State services.

EDF and **its subsidiary NUWARD** aim to develop a Generation III Small Modular Reactor (SMR) to provide decarbonised electricity and heat from 2030, strengthening its role in the energy transition. In 2024, EDF decided to switch to a new SMR design based on proven technological building blocks, to provide a safe, competitive pressurised water reactor appropriate to the needs of the French and international market in the 2030s.

In the United Kingdom, EDF is continuing construction work on the Hinkley Point C reactors and has reached an agreement with the UK government to continue the development of the **nuclear power plant project at Sizewell C**. The UK government, which has become the majority shareholder alongside EDF, has stated that it will provide a grant of up to £5.5 billion for the project. Meanwhile, other funding is being sought for the project, aiming to raise additional private capital by the time of the final investment decision[2]. EDF's final investment decision will particularly depend on its ability to raise the necessary financing to complete the project, and deconsolidation of the project from the Group's balance sheet.

EDF is also preparing for site conversions following closures of end-of-life power plants. Via Cyclife, EDF continues to develop its nuclear plant decommissioning activities, adopting a circular economy approach embodied in reprocessing and recycling of most waste.

- **The EDF group's goal of low-carbon generation will depend on the acceleration of profitable development of renewable energies in France and internationally.**

The EDF group is working for growth in all renewable electricity technologies (hydropower, solar power, onshore wind power, offshore wind power, etc.). They already account for more than a quarter of the Group's total capacity[3]. Today, the EDF group is a major player in renewable energies and aims to continue their development.

Over the period 2024-2035, the Group will develop 8GW of gross renewable projects on average per year.

The EDF group is seeking to diversify its renewables technologies (onshore and offshore wind power, solar power, and hydropower) and their geographical distribution. EDF regularly invests in hydropower facilities to achieve a good combination of economic, energy and environmental performance, and offers solutions to strengthen hydropower capacity.

Relaunching hydropower growth in France is essential to achieving the objectives of the energy transition. EDF and the French State have explored several possible legal solutions to put an end to the dispute that has existed between France and the European Commission for several years. EDF considers that the transition from a concession system to an authorisation system is the most robust legal solution, and is also favourable from the energy, industrial, political and social standpoints. Discussions with the European Commission will begin in the coming months. The French National Assembly is also examining this matter through a cross-party fact-finding mission that could lead to a proposed law in the first half of 2025.

On average, ***for each kWh produced in 2035, the EDF group will emit 22g of CO_2.***

Developing networks to meet the challenges of the energy transition

Networks have a key role to play in the energy transition.

Given the assumption of a sustained rise in demand for electricity and an increase in the share of intermittent renewable energies in the electricity system, network operators must successfully implement the ambitious trajectory for the rise in connections set out in France's multi-year energy programme (PPE). Grids must adapt to the increasing variability of electricity systems: this requires the ability to absorb massive injections of intermittent energy (solar and wind power) while ensuring balance between supply and demand at all times.

The EDF group includes distribution network activities in France carried out through Enedis and Strasbourg Électricité Réseaux, two electricity distribution network operators that manage their networks independently of EDF, and the Island Energy Systems (SEI). Internationally, the subsidiary EDF International Network exports the Group's network know-how and skills.

(1) No direct emissions; LCA (life cycle analysis) emissions can be estimated at 4 gCO_2/kWh.
(2) Sizewell C equity raise process - GOV.UK (www.gov.uk); Further steps to prepare Sizewell C for construction - GOV.UK (www.gov.uk).
(3) 34.8GW at the end of 2024 out of a total 118.8GW (consolidated data).

For a successful energy transition in their respective regions, these network operators must transform their networks in order to (i) complete the exponential trajectory of connections proposed by the PPE to meet demand from producers (wind farms, solar power plants, rooftop solar panels, stationary energy storage or an equivalent system) and demand from consumers (electric vehicle charging infrastructures, self-consumption); (ii) accelerate the digital transition of their network operation, to strengthen predictive maintenance and rapid repair; and (iii) renew and strengthen existing networks to meet growing electricity needs.

As electricity will become the majority component of the French energy mix by 2050, the networks must be even more resilient to hazards in order to guarantee access to electricity. In the Enedis[1] distribution scope, ***90% of customers will be reconnected in less than 48 hours following a weather event (excluding exceptional climate-related incidents)***[2].

Meanwhile, thanks to the smart meters rolled out by network operators, electricity managers can encourage customers to better understand their needs, and respond to suppliers' initiatives to promote greater energy sufficiency and control of uses.

In France, network reliability is a core concern for Enedis[3], which ensures that electricity is 99.9% available in France[4]. Maintaining this level of availability to the 2035/2040 horizon is a considerable challenge on both the industrial and the human level.

Increasing flexibility solutions to meet the needs of the power system

Management of the electricity system requires greater flexibility to cope with the variations caused by intermittent energies, over all time horizons.

In response to these growing needs for network balance, EDF is developing a range of solutions for different time horizons. By 2035, the EDF group ***will have developed an additional 27GW gross of flexibility solutions*** compared to 2023.

Upstream, for example, these flexibilities will be materialised through the continued development of hydropower, through decarbonised thermal power plants (thanks to bioenergy and new carbon capture and storage technologies) and through preservation of the modulation capability of existing and future nuclear power plants.

EDF will continue to develop storage resources using pumped-storage hydropower and stationary batteries (connected to the transmission/distribution networks, or installed at customers' premises).

Downstream, EDF is committed to developing and enhancing its customers' ability to adjust their consumption. In particular, EDF is making the most of the **flexibilities offered by electric vehicle batteries,** through charging control solutions and V1G (one-way) smart charging services or by developing a V2G industrial pilot (with two-way charging capability) able to recover electricity from the battery when the vehicle is not in use[5]. In France, these offers are marketed by Izivia and IZI by EDF in association with Dreev (a joint venture between EDF and NUVVE) through local smart charging solutions (at site level) and broader smart charging solutions (at power system level). In Belgium, Luminus has launched a charging control service for its residential customers, and in the United Kingdom, Pod Point rewards its customers for flexibility.

Innovation

Innovation is an essential component of the road ahead to help customers in their transition, given the speed at which technologies are advancing today in all areas: from renewables to energy storage, via electric vehicles, hydrogen, management of uses, and digital developments.

Drawing on its own R&D work and the innovation ecosystem developed around EDF Pulse, the EDF group supports innovations that have the potential to accelerate the energy transition and provide the greatest support possible for France's industrial fabric.

The EDF group is investing heavily in the energy transition

In 2024, nearly 94% of the Group's investments were in low-carbon technologies (95% in 2023)[6].

The Group continues to regularly review its asset portfolio.

1.3.3 A Group in transformation

Since its creation, the EDF group has consistently risen to the challenges it has faced. The climate emergency and the need to develop electricity for the decarbonisation of uses form a new key challenge for society and the Group. EDF is playing a leading role for achieving a carbon neutrality objective by 2050. It must implement a sustainable business model to finance its investments, attract the necessary skills for the energy transition, and amplify and accelerate the transformation of its operating methods.

The Group can draw on solid advantages: the robust, continuous commitment of its teams serving EDF's *raison d'être*, its recognised expertise in all its trades, and shared values of mutual assistance and support for employees.

With the "*Ambitions 2035*" corporate plan, a transformation process has begun, to bring greater efficiency and collective speed to the Group's operating methods for the benefit of its customers.

Four operational excellence projects were launched in January 2023 to "build success for EDF":

- **"Industrialise and accelerate digital technology":** this project aims to propel the Group into a smooth, integrated and value-creating mode of operation, with a common language and tools, and more accessible and shared data;
- **"Spanner time":** this project aims to enhance operational performance, increase the appeal of EDF's trades to improve service to its customers, and restore the Group's financial freedom to carry out the necessary investments;
- **"Skills":** this project aims to meet the considerable skill requirements generated by the energy transition and the Group's projects;
- **"Measure and manage operational performance":** this project aims to strengthen management and monitoring of the Group's performance by increasing operational efficiency, in order to generate greater cash flow and ensure financial sustainability for the Group.

(1) Operator of the electricity distribution network, which is managed independently of EDF.
(2) One of the eight commitments of the Enedis Industrial and Human Plan: www.enedis.fr/nous-connaitre/notre-projet-dentreprise
(3) Operator of the electricity distribution network, which is managed independently of EDF.
(4) www.enedis.fr/nouvelle-france-electrique-horizon-2027-et-2032-enedis-publie-le-document-preliminaire-un-futur.
(5) See the press release of 10 October 2024 "Seven new partners are joining the EVVE project, alongside EDF and Dreev, to speed up the roll-out of bidirectional charging for electric vehicles in Europe".
(6) See section 3.2.2.1.2.4 "Invested resources and current and future expenditures in relation to the climate change objective" and section 6.1, note 20.4 "Low-carbon investments" to the consolidated financial statements for the financial year ended 31 December 2024.

1.4 Description of the Group's activities

1.4.1 Electricity generation

Against a backdrop of increasing electricity uses, the EDF Group has one of the largest power generation fleets in the world with some of the lowest CO_2 emissions, thanks to the share of nuclear and renewable energy in its energy mix. The Group intends to continue the expansion of renewable energies in France and around the world. It is also preparing for the nuclear power of the future with the EPR and the development of SMRs (Small Modular Reactors).

520.3TWh	118.8GW	39.5GW	94%
of electricity generated	worldwide consolidated installed capacity	net renewable capacity	of the electricity produced is low-carbon*

** Direct carbon emissions related to generation, excluding the life cycle analysis of generation plants and fuel.*

The strengths of the generation fleet

The Group's generation fleet has significant strengths:

- a diversity of generation facilities, providing adequate coverage of EDF's downstream portfolio needs (end users, sales to alternative suppliers, sales on the wholesale markets, etc.). The guiding principle for managing use of the various plants in the fleet is prioritising the facilities with the lowest variable costs;
- a nuclear fleet of 57 reactors in France[1], following connection of the Flamanville 3 EPR to the grid on 21 December 2024, and nine reactors in operation in the United Kingdom;
- construction of EPR-type reactors worldwide;
- control of the entire life cycle of nuclear generation facilities: design, operation, and decommissioning;
- implementation of actions aimed at improving the power plants' technical performance and extending their operating lifespan;
- a fleet generating 94% low-carbon[2] output due to the predominance of nuclear power and hydropower;
- a geographical position at the intersection of electricity exchanges between the European continental plate and the "electricity peninsulas" (Italy, Spain and the United Kingdom).

Details of the EDF fleet in mainland France

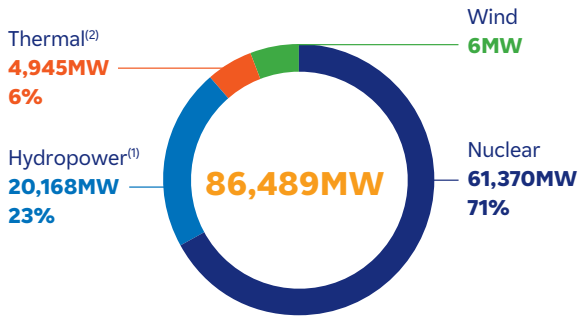
With total installed capacity of 86.5GW in mainland France[3] at 31 December 2024, EDF's power plants produced 415.0TWh[4] in mainland France in 2024. The principal components of this generation fleet at 31 December 2024 were as follows:

- 57 nuclear units (including Flamanville 3) with pressurised water reactors (PWRs). Their power generation capacity ranges from 900MW to 1,600MW, and their average age (excluding Flamanville 3) is 39 years. See also section 1.4.1.1.2 "Nuclear power generation in France";
- 19 thermal units in operation. See section 1.4.1.2 "Thermal generation in mainland France";
- 424 hydropower plants, with an average age of 79 years[5]. See section 1.4.1.3.1 "Hydropower generation in France";
- other hydropower plants owned by the Group's subsidiaries: ÉS, SHEMA Group, CERGA and RKI (on the Rhine, owned 50-50 with German energy company EnBW) and the Franco-Swiss entities of Chatelôt and Émosson.

(1) After the permanent shutdown of the two Fessenheim units and the connection of Flamanville 3 to the electricity grid.
(2) Direct carbon emissions related to generation, excluding the life cycle analysis of generation plants and fuel.
(3) Excluding Corsica and French overseas *départements* and regions.
(4) Including pumped-storage volumes.
(5) Sliding 1-year arithmetic mean for a like-for-like fleet, recalculated in 2021.

EDF SA'S INSTALLED CAPACITY AND OUTPUT IN MAINLAND FRANCE – 2024

Installed capacity

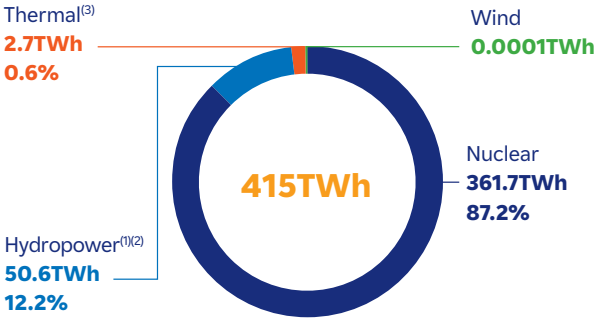


Expressed in megawatts of maximum capacity linked to the network.

(1) Excluding Corsica and overseas départements, i.e. 439MW in 2024, including sea energy: 240MW.

(2) Excluding Corsica and overseas départements, i.e. 1,320 in 2024.

Electricity output



(1) Excluding Corsica and overseas départements, i.e. 1.1 in 2024.

(2) Generation including pumped storage consumption.

(3) Excluding Corsica and overseas départements, i.e. 3.8 in 2024.

NB: figures are rounded.

1.4.1.1 Nuclear power generation

1.4.1.1.1 Nuclear organisation and governance

The EDF group is expected to play a major role in relaunching a nuclear programme. A new organisation of nuclear activities and of the Innovation, Corporate Responsibility and Strategy Division (DIRES) took effect on 1 April 2024. This change aims to group know-how and skills by major business line, industrialise methods to improve performance, and strengthen cross-functionality at the Company. Nuclear activities are now structured in four divisions and one unit:

- the Strategy, Technology, Innovation and Development Division (DSTID) handles all the Group's strategic activities of preparation for the future and planning. It leads project management for nuclear build projects, heads nuclear development internationally and is the authority on technical matters and products. The DSTID guides and challenges technological choices for the performance of the Group's business lines;
- the Projects and Construction Division (DPC) is the project manager for large nuclear projects in compliance with the framework and objectives in terms of safety, security, quality, costs and timing, until they are handed over to the teams in charge of operations;
- the Engineering and Supply Chain Division (DISC) delivers studies, equipment and services on time, on budget and to the specified quality, by harmonising the methods, tools and product/process standards of new projects and the existing fleet. This new division merges nuclear engineering teams with supplier-related activities;
- the Nuclear and Thermal Generation Division (DPNT) in France is responsible for the operation, maintenance and dismantling of existing nuclear and thermal fleets and newly-commissioned projects. It continues to roll out the *Grand Carénage* industrial refurbishment programme and the START 2025 programme(1);
- the "industry and services" unit manages operational activities involving design and studies, manufacturing and industrial services for nuclear steam supply systems, fuel, instrumentation and control (Framatome) and turbines (Arabelle Solutions).

1.4.1.1.2 Nuclear power generation in France

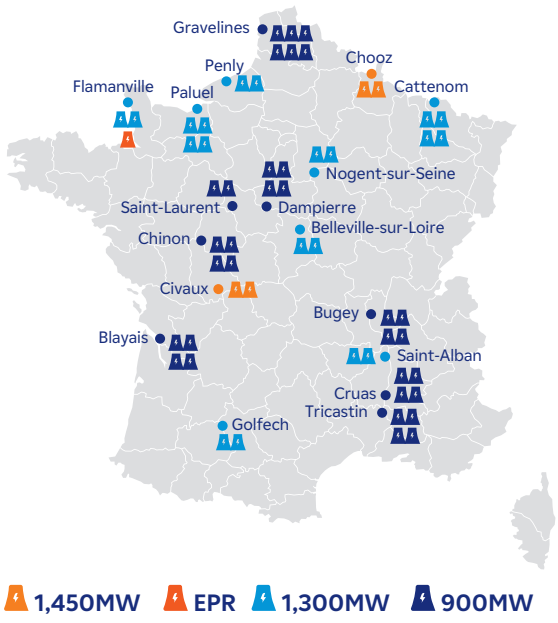
The electricity generated by EDF in France from its fleet of nuclear power plants represented 88.8% of its total electricity output in 2024(2).

1.4.1.1.2.1 EDF's nuclear fleet in France and its operation

EDF's PWR fleet in operation is divided into four series of available power generation capacity. The French nuclear fleet consists of 57 reactors(3) in operation, located on 19 sites owned by EDF. Its total authorised capacity was 62,970MW at 31 December 2024. With an average age (excluding Flamanville 3) of around 39 years, it is within the average range of nuclear fleets installed worldwide.

Series	Number of reactors in operation	Total capacity	Average age
900MW	32	29,010MW	42
1,300MW	20	26,370MW	36
N4 – 1,450MW	4	5,990MW	24
EPR	1	1,600MW(1)	n/a
TOTAL	**57**	**62,970MW**	**39**

(1) The final power will be known after the start-up tests.



(1) A transformation programme launched in 2021, focused on regaining industrial control of unit outages.
(2) Including pumped-storage hydropower.
(3) Including the Flamanville 3 EPR.

The commissioning dates of EDF's units and the dates of their last 10-year inspection (VD - *visite décennale*), based on the post-inspection coupling date, were as follows as at **31 December 2024**:

Units	Year of industrial commissioning	Most recent 10-year inspection	Next 10-year inspection
Bugey 2	1979	2021	VD5
Bugey 3	1979	2023	VD5
Bugey 4	1979	2021	VD5
Bugey 5	1980	2022	VD5
Dampierre 1	1980	2022	VD5
Gravelines 1	1980	2022	VD5
Gravelines 2	1980	2024	VD5
Tricastin 1	1980	2019	VD5
Tricastin 2	1980	2021	VD5
Dampierre 2	1981	2022	VD5
Dampierre 3	1981	2024	VD5
Dampierre 4	1981	2024	VD5
Tricastin 3	1981	2022	VD5
Tricastin 4	1981	2024	VD5
Gravelines 3	1981	2022	VD5
Gravelines 4	1981	2024	VD5
Blayais 1	1981	2021	VD5
Blayais 2	1983	2024	VD5
Blayais 3	1983	2024	VD5
Blayais 4	1983	2015	VD4
Saint-Laurent 1	1983	2015	VD4
Saint-Laurent 2	1983	2023	VD5
Chinon B1	1984	2024	VD5
Cruas 1	1984	2015	VD4
Chinon B2	1984	2016	VD4
Cruas 2	1984	2018	VD4
Cruas 3	1984	2024	VD4 in progress
Gravelines 5	1985	2017	VD4

Units	Year of industrial commissioning	Most recent 10-year inspection	Next 10-year inspection
Gravelines 6	1985	2018	VD4
Cruas 4	1985	2016	VD4
Paluel 1	1985	2016	VD4
Paluel 2	1985	2018	VD4
Paluel 3	1986	2017	VD4
Paluel 4	1986	2019	VD4
Saint-Alban 1	1986	2017	VD4
Flamanville 1	1986	2019	VD4
Saint-Alban 2	1987	2018	VD4
Flamanville 2	1987	2020	VD4
Cattenom 1	1987	2016	VD4
Chinon B3	1987	2020	VD4
Chinon B4	1988	2021	VD4
Cattenom 2	1988	2018	VD4
Nogent 1	1988	2019	VD4
Belleville 1	1988	2021	VD4
Belleville 2	1989	2019	VD4
Nogent 2	1989	2020	VD4
Penly 1	1990	2023	VD4
Cattenom 3	1991	2021	VD4
Golfech 1	1991	2024	VD4
Cattenom 4	1992	2024	VD4
Penly 2	1992	2024	VD3 in progress
Golfech 2	1994	2014	VD3
Chooz B1	2000	2020	VD3
Chooz B2	2000	2019	VD3
Civaux 1	2002	2021	VD3
Civaux 2	2002	2022	VD3
Flamanville 3	2025	-	VD1

At the end of 2024:

- **in the 900MW series**, 21 of the 32 reactors had completed their fourth 10-year inspection. The VD4s of Tricastin 4, Gravelines 2 and 4, Dampierre 3 and 4, Blayais 2 and 3, and Chinon B1 were completed in 2024. The Cruas 3 VD4 was in progress;
- **in the 1,300MW series**, 18 of the 20 reactors had completed their third 10-year inspection (including Golfech 1 and Cattenom 4 in 2024). The Penly 2 VD3 was in progress being conducted;
- **in the N4 series**, all 4 reactors had completed their second 10-year inspection;
- **for Flamanville 3:** by decision of 7 May 2024, the ASN authorised the commissioning of the Flamanville 3 EPR reactor and on 8 May 2024 EDF loaded fuel into the reactor vessel, the first stage of reactor start-up.

On 2 September 2024, the ASN gave approval for the launch of the EPR reactor divergence operations. On 3 September 2024 at 3.54pm, the Flamanville 3 teams carried out the first nuclear reaction in the reactor. Start-up tests continued in September with a first series of reactor tests at zero power. The tests are continuing by power level.

The reactor was connected to the national electricity grid on 21 December 2024 at 11.48am. After this first coupling, in accordance with the start-up procedure, testing and grid connection and disconnection phases will continue for several months under the supervision of the ASN, until the reactor reaches full power.

The start-up of a nuclear reactor is a long and complex process, which brings equipment into operation for the first time. The design and operation of the EPR, a third generation reactor, incorporates the most stringent safety standards.

Regulatory framework

Regulations applicable to Basic nuclear installations (INBs)

Following a procedure set out in the French Environment Code, the construction of a basic nuclear installation or INB (*Installation nucléaire de base*) is authorised by a decree of the French Prime Minister, issued after consulting the French Nuclear Safety Authority (*Autorité de sûreté nucléaire,* ASN) and on the basis of a report produced by the French Minister in charge of nuclear safety. The authorisation to commission an INB is issued by the ASN, also on completion of a procedure set out in the French Environment Code. The general regulations applicable to basic nuclear installations give priority to the protection of public safety, health and sanitation, and the protection of nature and the environment (known as "protected interests"). Law 2023-491 of 22 June 2023 amended certain provisions of the French Environment Code in order to accelerate procedures related to the construction of new nuclear installations near existing nuclear sites, and the operation of existing facilities.

In a letter dated 26 March 2024, the ASN reminded EDF of its expectations regarding prevention of and action against counterfeiting, falsification, and fraud in factories manufacturing equipment for nuclear power plants. This letter followed the hearing of EDF's CEO by the ASN board on 26 February 2024, and the submission by EDF on 19 March 2024 of a detailed action plan considered as an appropriate initial step[1].

Nuclear power allocation contracts

In the 1970s and 1980s, EDF developed industrial cooperation with European nuclear operators, in the form of nuclear power allocation contracts linked to reactors in EDF's French nuclear fleet.

Under these contracts, a share of the capacity of the reactors concerned is reserved for the co-contracting parties, in exchange for payment of a corresponding share of the reactors' overheads (construction costs, annual operating costs, decommissioning costs, local taxes and specific nuclear taxes, etc.); these parties are sold the same share of the power generated by these reactors at the variable cost of the fuel (including front-end and back-end costs) throughout their operating lifespan.

As of 31 December 2024, 10 of EDF's nuclear reactors were concerned by contracts of this kind (up to 1GW) with the following European energy companies:

- Cattenom 1-2: EnBW (5%);
- Bugey 2-3: Électricité de Laufenbourg[2] (17.5%);
- Tricastin 1 to 4: Electrabel[3] (12.5%);
- Chooz B1-B2: Luminus, an EDF subsidiary in Belgium (3.3%).

EDF has also entered into a second type of nuclear power allocation contract covering a fleet of power plants (totalling some 2GW). In these contracts, the term and the contribution to overheads remain linked to clearly identified reactors, but the total volume of power sold at variable fuel cost is determined by the availability of a broader baseline fleet of power plants, applied to the share of capacity reserved for the co-contracting parties for the reactors in question. These contracts mainly concern the following reactors:

- Chooz B1-B2 (the first N4 reactors): Electrabel (21.7%);
- Cattenom 3-4: Électricité de Laufenbourg (7.8%) and the Swiss electricity group CNP (21.8%).

The contracting parties in both types of contract shared the industrial risks with EDF during the development of the fleet. They now bear risks associated with the power plants' current operation, but have no operational role.

Operation of the nuclear fleet

Nuclear power is a means of generation whose variable cost, essentially linked to fuel, is low, at less than 30% of operating costs[4]. The main competitive levers of the nuclear fleet during its operating phase are thus the energy output and the optimisation of fixed operating and maintenance costs. The levers relating to the fuel cycle are described in section 1.4.1.1.2.3 "The challenges of nuclear operations".

Generation cycle and scheduled outages

EDF must address the challenges of strong seasonal variations in consumption in France due to high sensitivity to temperatures, while managing availability of maintenance resources and efficient use of reactor fuel. EDF has therefore adopted 12-month and 18-month generation cycles for its fleet, distributed as follows at end-2024:

Series	Number of reactors	Duration of the generation cycle
900MW	28	approx. 12 months
900MW*	4	
1,300MW	20	approx. 18 months
1,450MW (N4)	4	
EPR	1	approx. 20 months

** The four reactors at the Bugey power plant.*

Each generation cycle consists of a period when the reactor is in operation, and then an outage period (average duration of 2 to 3 months) during which a portion of the fuel is replaced. Two types of scheduled outages take place in alternation at the end of each operating cycle:

- simple refuelling outages, with a standard duration of approximately 40 days. The principal operation is unloading the spent fuel and reloading the new fuel. Certain tests and maintenance operations are also carried out;
- partial inspections (VP - *visites partielles)*, with a standard duration of around 85 days, dedicated to refuelling and maintenance[5].

Every ten years, each reactor is shut down for a 10-year inspection (VD)[6] which lasts around 180 days[7] on average. The duration varies according to the works and maintenance programme, and the series concerned.

(1) www.asn.fr/l-asn-informe/actualites/contrefacons-falsifications-et-suspicions-de-fraude-l-asn-rappelle-ses-exigences-a-edf
(2) Axpo Group.
(3) Engie Group.
(4) Operating costs are defined as follows: fuel costs (including back-end fuel cycle expenses), operating expenses (purchases and external services, personnel expenses) and maintenance costs (expenses and investments). They do not include investments related to construction or decommissioning expenses.
(5) Standard durations are realistic optimised benchmark durations defined by outage type, taking account of past experience. The planned duration of shutdowns varies around the benchmark depending on the programme of work to be carried out.
(6) Pursuant to Article L. 593-18 of the French Environment Code.
(7) The "normal" duration excluding special and/or extreme cases.

The programme for a 10-year inspection comprises:

- unloading of spent fuel and reloading of fresh fuel, as at every outage;
- hydrostatic testing of the primary circuit, containment leakage testing, and inspection of the reactor vessel;
- modification work recommended by periodic reviews;
- other specific maintenance operations, particularly renovation or replacement of major components.

After each 10-year inspection, the ASNR must give its approval to restart the reactor for the next cycle, and state its position on continuing operation for another 10 years, issuing technical recommendations if necessary.

Flamanville 3 is expected to generate around 14TWh during the cycle starting after the first nuclear reaction. After this first generation cycle, the reactor will undergo its first full inspection (VC1). Studies are currently under way to determine the duration and work programme.

Regulatory framework

The French Nuclear Safety Authority, now the French Nuclear Safety and Radiation Protection Authority (ASNR)

When Law 2024-450 of 21 May 2024 took effect, the activities of the ASN and the IRSN were combined to form a new authority, the French Nuclear Safety and Radiation Protection Authority (ASNR - *Autorité de sûreté nucléaire et de radioprotection*)[1]. The ASNR is an independent administrative authority which contributes to the control of nuclear safety and radiation protection in France, and to informing the public about these matters.

Its activity relates principally to the following missions:

- contributing to regulatory development by giving the French government its opinion on proposed decrees and ministerial orders, and making regulatory decisions of a technical nature;
- examining all individual applications for authorisations concerning Basic nuclear installations (INBs). The ASN is the body that grants authorisations except in the case of major INB operations such as construction or decommissioning;
- inspecting installations, through scheduled and unannounced regulatory on-site inspections, particularly during the regular inspections that are mandatory for a power plant to continue operating;
- informing the public about the status of nuclear safety and radiation protection in France;
- in the event of an emergency, the ASNR verifies the action taken by the operator to make the installation secure. It informs the public of the situation and assists the Government. In particular, it provides the competent authorities with recommendations on measures to be taken for civil security.

Operation of EDF's nuclear fleet

Owing to their low variable cost, nuclear generation facilities are primarily used for baseload generation. They are used just after run-of-river hydropower and other unavoidable renewable energy generation, as well as energy purchased under purchase obligations from distributed electricity producers. In 2024, the low level of domestic consumption and the increase in renewable generation, partially offset by an increase in exports, led to make greater use of the flexibility capacities of reactors.

High seasonal variations in consumption in France and substantial demand during the winter months mean that scheduled nuclear fleet outages must be concentrated mainly between April and October.

On 20 February 2025, EDF's Board of Directors authorised the signing of the contractual documentation allowing the start of the experimental phase of the irradiation service agreed between the French State, the CEA and EDF[2]. This phase will last as long as necessary to enable EDF to study the feasibility of this service, which will have no impact on the operation or purpose of the power plant, as it remains subject to the regime for civil nuclear facilities. This irradiation service could also be used by the medical sector or by the aerospace industry.

Generation in 2024

Nuclear generation output stood at 361.7TWh for 2024, up by 41.3TWh compared with 2023 (320.4TWh). This increase was due to an improvement in the performance of unit outages and good industrial management of stress corrosion control and repair projects. The stress corrosion issue continued to be addressed on an industrial scale as in 2023: thanks to improved inspection processes, the expertise of industrial partners and experience gained from repair work, schedules were optimised and reactor downtime was reduced.

2024 technical performance

Nuclear generation was less impacted by the stress corrosion issue in 2024 than the previous two years, largely due to the industrialisation of the related technical and organisational work.

Of the outages completed at the end of December 2024, 17 ended on or ahead of schedule: four 10-year inspections, five partial inspections and eight refuelling outages.

The 10-year inspection performance of Dampierre 4 is notable for having ended more than 25 days ahead of schedule. The best performance of the partial inspections of the 1,300MW series was at Nogent 2, which was completed 25 days ahead of the provisional schedule. Cruas 1 achieved the most efficient refuelling outage, lasting just over 30 days, 9 days less than the initially planned duration, and Civaux 2 achieved the shortest refuelling outage in the N4 series for 15 years.

The beneficial effect of the START 2025 transformation programme, launched in 2021 with a focus on regaining industrial control of unit shutdowns, continues: extensions of unit outages were of shorter duration than in 2023: for 17 out of 36 outages, recoupling took place before the target date in 2024, compared with 7 out of 41 in 2023.

However, during the 2024 campaign two reactor outages significantly overran their provisional duration (> 50 days). The most notable delay concerned the Flamanville 1 & 2 site, which had a particularly large industrial work programme and was impacted by major technical contingencies.

Nuclear generation output expressed in annual energy volume provides the basis for calculating a generation rate for the whole French nuclear fleet. This rate is defined as the ratio of energy generated to the theoretical maximum energy (the volume generated if the installed capacity were operated year-round), and is also known as the load factor (Kp). It is calculated by multiplying two other factors (Kp = Kd × Ku):

- the availability factor (Kd) (ratio of available energy[3]Available energy is equal to the theoretical maximum energy less generation losses due to technical reasons inherent to power plants, such as planned outages, unplanned outages due to damage or for safety reasons, and regulatory testing. to theoretical maximum energy assuming year-round operation at the installed capacity). The Kd depends on outage durations, and is therefore impacted by the standard durations and the work programmed for outages;

(1) The French Nuclear Safety and Radiation Protection Authority (ASNR) was officially created on 1 January 2025, the effective date of Law 2024-450 of 21 May 2024 on the organisation of governance of nuclear safety and radiation protection to meet the challenge of revitalising the nuclear industry.
(2) See the EDF press release of 18 March 2024 "EDF responds to the request of the French government to study the creation of an irradiation department to support the CEA".
(3) Available energy is equal to the theoretical maximum energy less generation losses due to technical reasons inherent to power plants, such as planned outages, unplanned outages due to damage or for safety reasons, and regulatory testing.

- the utilisation factor (Ku) (ratio of energy generated to available energy). This factor reflects environmental, regulatory and labour constraints, system services supply, and optimisation carried out by EDF (via fuel and modulation).

In 2024 the Kp factor was a good 67.2%. This results from a Kd of 74.1% and a Ku of 90.6%.

Flamanville 3 EPR

EDF is the owner and manager of the Flamanville 3 EPR project[1], with capacity of around 1,600MW.

Interactions with the French Nuclear Safety Authority (ASN) and administrative authorisations

EDF received operating authorisation for Flamanville on 30 August 2021, pursuant to the Energy Code, in an order issued by the Minister for the Ecological Transition.

Following the commissioning request filed by EDF, the ASN organised a public consultation concerning its proposed decision from 27 March to 17 April 2024.

At the end of this consultation, the ASN Commission published its commissioning decision authorising the loading of fuel into the reactor vessel[2].

Before issuing the commissioning authorisation, the ASN gave its final verdict on the compliance of the main secondary circuit and the main primary circuit in its compliance declaration regarding the nuclear steam supply systems on 7 May 2024.

In a letter dated 26 March 2024, the ASN reminded EDF of its expectations regarding prevention of and action against counterfeiting, falsification, and fraud in factories manufacturing equipment for nuclear power plants. This letter is in line with EDF's detailed action plan, which is a first step deemed appropriate[3]. As regards Flamanville 3, in connection with an investigation into falsification at a subcontractor's factory, EDF has undertaken to replace the bodies of two protection valves on the main secondary circuits before the reactor's fourth scheduled outage, on the twofold condition that the time taken to supply the equipment is compatible with a scheduled outage and that the preparations are made well in advance so as to guarantee complete control of this complex operation.

Progress at the site

The following developments took place during 2024:

- the preparation phase for loading fuel into the vessel was completed, putting the facilities into configuration to start fuel loading in complete safety (this involved approximately 6,000 activities);
- the pre-fuel loading tests for Flamanville 3 were completed and the results were sent to the ASN on 17 April;
- commissioning authorisation by the ASN was received on 7 May, making the Flamanville EPR the 57th reactor in France's nuclear fleet;
- fuel loading on 8 May: after the final pre-loading control assessment was signed, the 241 fuel assemblies were installed in the reactor vessel between 8 and 15 May, and the vessel was closed;
- divergence on 3 September: first stable nuclear reaction at low power, marking the start of the reactor ramp-up;
- the tests continued, together with ramp-up of the turbine to 1,500 revolutions/min by the end of October;
- the first connection to the grid took place on 21 December.

Equipment manufacturing and quality - the reactor vessel

In the first half of 2017 the ASN examined higher-than-expected carbon content levels in the bottom of the reactor vessel and the vessel head, following documentation submitted by Framatome under EDF's supervision. Based on the opinion of a group of ASN-appointed experts, the ASN concluded that the mechanical properties of the vessel head and vessel bottom were adequate for their uses, including in the event of an accident[4]. On 9 October 2018, the ASN authorised commissioning of the bottom of the vessel subject to functional checks, and commissioning of the vessel head for a limited lifespan until the end of 2024.

In December 2022, Framatome submitted a request to postpone the date for replacement of the vessel head until the end of the first operating cycle.

In response to this request, and following the public consultation held from 11 to 31 March 2023, the ASN published a resolution on 16 May 2023 authorising use of the current reactor vessel head until "the reactor shutdown during which the first complete requalification test of the primary circuit takes place".

The new vessel head has now been manufactured in Framatome's factories.

Lessons learned from Taishan

EDF analysed the potential impact of the technical issues encountered with reactor 1 of the Taishan plant (see section 1.4.5.3.6.1 "China")[5] for the start-up of the Flamanville EPR. Inspections carried out on the relevant fuel assemblies showed mechanical wear on certain assembly components.

EDF replaced the potentially affected fuel assemblies around the core with 64 new fuel assemblies that have undergone heat treatment to significantly mitigate the risk of wear and tear before start-up. The IRSN issued an unqualified favourable opinion of EDF's proposed strategy, the ASN has finalised its examination and all the reinforced fuel assemblies have been received on site.

Commissioning schedule and cost at completion

In its press release of 16 December 2022[6], EDF adjusted the Flamanville project schedule and cost at completion. Fuel loading was scheduled at the time for the first quarter of 2024.

In its press release of 27 March 2024[7], EDF stated that thanks to its teams' mobilisation for the final testing and technical inspections to ensure that the facility was fully operational and compliant with the highest safety standards, the Flamanville 3 EPR was technically ready to begin commissioning. The same press release added that following in-depth discussions with EDF, the ASN had decided to hold a public consultation from 27 March to 17 April 2024 concerning its proposal to authorise commissioning of the Flamanville 3 EPR. The ASN finally issued its commissioning authorisation on 7 May 2024.

For details on the investments made for the Flamanville 3 EPR, see section 6.1, note 10.3 "Property, plant and equipment used in generation and other tangible assets by the Group" to the consolidated financial statements for the financial year ended 31 December 2024.

(1) European Pressurized Water Reactor.
(2) See the EDF press release of 27 March 2024 "Update on the Flamanville EPR".
(3) www.asn.fr/l-asn-informe/actualites/contrefacons-falsifications-et-suspicions-de-fraude-l-asn-rappelle-ses-exigences-a-edf
(4) ASN Opinion 2017-AV-0298 of 10 October 2017.
(5) See the EDF press release of 12 January 2022 "Update on the Flamanville EPR".
(6) See the EDF press release of 16 December 2022 "Update on the Flamanville EPR".
(7) See the EDF press release of 27 March 2024 "Update on the Flamanville EPR".

Repairs of stress corrosion detected on the auxiliary circuits of a number of nuclear reactors

During scheduled controls included in the 10-year inspection of the Civaux 1 reactor in late 2021, stress corrosion was identified on parts of the auxiliary circuit piping in the reactor's main primary circuit. EDF immediately carried out inspections and expert appraisals of the four series of reactors making up the French nuclear fleet (900MW, 1,300MW-P4, 1,300MW-P'4 and N4).

The examinations performed in 2022 led to an initial characterisation of the stress corrosion sensitivity of the fleet's 56 reactors. 40 reactors were identified as having little or no vulnerability to stress corrosion (the 32 reactors in the 900MW series and the 8 reactors in the 1,300MW-P4 series), and 16 reactors were identified as sensitive or highly sensitive to stress corrosion (the 12 reactors in the 1,300MW-P'4 series and the 4 reactors in the N4 series). The industrial programme for the preventive replacement of sections of piping in stress corrosion-sensitive reactors ended in the first quarter of 2024.

By the end of 2024, 87% of the welds repaired during initial assembly had been inspected, whatever the sensitivity of the reactor[1]. The planned checks were carried out in full and confirmed the reactors' sensitivity classification and the specific risk associated with repaired welds. The checks carried out on these units identified a few cases of suspected stress corrosion, which led to around 10 additional replacement projects in 2024.

The reactor inspection programme will continue in 2025 with a volume of checks similar to 2024. As in 2024, this could involve a decision to perform some additional repairs. The inspections will be carried out during scheduled maintenance outages no additional or dedicated outages are planned. As a result, by the end of 2025, the auxiliary lines inspection programme will have been completed as initially scheduled, supplemented by controls on other lines (pressuriser expansion lines, main primary circuit, small-diameter lines).

EDF sent the ASN its monitoring and maintenance strategy at the end of 2024 and the ASN is expected to state its position during 2025.

The risk associated with the stress corrosion issue is described in section 2.2.1 "Operational performance risks", risk 1B "Risk of non-achievement of objectives for operation and/or extended lifespans of nuclear power plants (France and United Kingdom)".

Combating fraud and suspicious practices (CFSI)

EDF continues to pay particular attention to controlling the quality of the manufacturing and assembly of parts for nuclear facilities in operation or under construction. The detection of any signs of fraud or suspicious practices systematically leads to investigations and the implementation of actions to protect EDF's interests.

Given the current increase in practices that could relate to CFSI (Counterfeit, Fraudulent and Suspect Items), EDF has launched an action plan primarily designed to strengthen its prevention and detection capabilities and engage the entire nuclear sector in the fight against CFSI. Details of this plan, which defines targeted and graduated actions, were presented in a letter from EDF to the ASN dated 19 March 2024. This action plan was considered appropriate by the ASN.

In 2025, implementation of these reinforcement actions will continue for both the fleet in operation and the power plants under construction.

1.4.1.1.2.2 Nuclear safety, environment, radiation protection

The risks related to nuclear safety, the environment and radiation protection are described in section 2.2.2 "Specific nuclear operation risks", risk 2C "Nuclear safety risks during operation resulting in nuclear civil liability".

Constant nuclear safety

As a nuclear operator, EDF is responsible for nuclear safety. In a rapidly changing context (competitive market, environmental challenges, European interconnection, etc.), EDF reaffirms the absolute priority of protecting human health and the environment, notably by preventing accidents and limiting their consequences ensuring nuclear safety. Implementation of the French nuclear power programme has led EDF to put in place a safety policy that:

- takes into account, right from the design stage, the risks and issues that might arise during power plant operation (risks relating to the actual operation of facilities and risks of internal or external attacks);
- is founded on application of strict rules of operation, and a cautious and inquiring attitude in its technical teams, developed through establishment of a true safety culture;
- draws on the experience accumulated from operating a standardised fleet;
- incorporates and promotes a continuous improvement approach, notably embodied in a constant concern to reduce the number of automatic reactor trips;
- benefits from nuclear engineering and R&D internal to the Group, in order to anticipate any failings, maintain facilities in good working order, upgrade equipment continuously, reassess safety margins, monitor technological advances, and implement new, more efficient techniques and project management for facilities undergoing decommissioning;
- invests in skill development: every nuclear generation site is equipped with a simulator used for training and practice in all types of situation.

Regulatory framework

Nuclear transparency

France's Environment Code includes specific provisions (Articles L. 125-10 and following of the Environment Code) on the right to information regarding the nuclear industry, aimed at guaranteeing the public's right to reliable, accessible information. In particular, the operator of an INB is required to declare to the ASN and the competent administrative authority, as soon as possible, any accidents or incidents occurring as a result of operation of the facility that could potentially be detrimental to the interests referred to in Article L. 593-1 of the French Environment Code, namely security, public health and safety or the protection of nature and the environment.

Other authorities also contribute to nuclear transparency. They include the High Committee for Transparency and Information on Nuclear Safety (HCTISN) and Local Information Committees (CLIs), which are formed for any site with one or more INBs.

(1) See the EDF Statement of 17 March 2023 on "The stress corrosion phenomenon".

Nuclear safety control

Nuclear safety is subject to numerous controls, both internal and external. For each nuclear power plant, EDF carries out Overall Excellence Assessments jointly with WANO[1] peer reviews every four years. These take place over a three-week period and involve some 40 inspectors. The General Inspector for Nuclear Safety and Radiation Protection is appointed and reports directly to the Chairman and CEO of EDF. He holds discussions with employees in the nuclear sector. Every year, an opinion on the overall safety of France's nuclear fleet is issued based on these assessments and initiatives for improvement are proposed to the Company's management. The Inspector's annual report is made public.

The steps taken by EDF have reduced the average annual number of automatic reactor trips, which has been divided by four in twenty years. In 2024, there were 21 for the entire fleet.

- **At national level**, nuclear safety in France is controlled by the ASN by means of:
  - > scheduled or unannounced inspections carried out by the ASN: around 450 per year across all EDF's nuclear facilities;
  - > regular 10-year inspections to verify the facility's compliance with the rules applicable to it. These inspections are also conducted to update assessments of risks or issues associated with the facility for protected interests (security, public health and safety, protection of nature and the environment). They consider the condition of the facilities, the experience gained during their operation, and new developments in nuclear science and rules applicable to similar facilities.

    At the end of the 10-year inspection, the operator sends the ASN a report on the conclusions, stating its position regarding the compliance of its facility, and the changes made to correct any points of non-compliance identified or improve the safety of the facility. The ASN shares its analysis of this report with the minister responsible for nuclear safety, and states its position as regards continued operation of the reactor for another 10 years following the inspection. It may also set additional requirements for the operator[2]. The 10-year inspection is an essential step for continuing power plant operation.
- **At international level**, inspections take place regularly. They are a channel for sharing experience built up worldwide:
  - > OSART inspections by the IAEA's[3] Operational Safety Analysis Review Team are carried out at the request of the French government (once per year). Their purpose is to make recommendations and spread good practices. In 2024, an OSART inspection was carried out at Nogent;
  - > international peer reviews conducted by the WANO[4] are organised at the request of EDF. They involve an assessment of safety performance with regard to international best practices. Five such peer reviews took place in 2024.

Warning system

In the event of an accident, a crisis response procedure is in place to limit the environmental and human impacts and make sure the facility is safe. This procedure is founded on two closely coordinated plans, designed to cover the local and national level respectively:

- the Internal Emergency Plan for each nuclear site, developed by EDF;
- the Special Intervention Plan, prepared by French prefectures in collaboration with the French government and EDF.

For greater effectiveness, these plans take account of risks both external (flooding, etc.) and internal (fire, etc.). The adequacy of the system for warning, informing and protecting people is regularly assessed through accident simulation exercises. Each year, approximately 100 exercises are organised for the entire French nuclear fleet, i.e. around one every three days. Around ten of these are nationwide exercises overseen by the ASN, which involve EDF and the public authorities, including the prefectures.

EDF has been enriching its crisis management procedure since its earliest analyses following the Fukushima accident of March 2011. It has set up a national unit capable of providing rapid material and human assistance to any site experiencing a serious issue. Simulation exercises for this rapid response unit, called the *Force d'action rapide nucléaire* (FARN), have been conducted from the regional bases at Civaux, Paluel, Dampierre and Bugey. The FARN can be mobilised for a reactor at any site in difficulty and is able to provide a simultaneous response at six reactors on the same site.

Significant safety events

The operational safety of nuclear facilities is taken into consideration right from their design phase. It is regularly monitored, with a staff mobilisation policy and major investment plans.

Any shortcoming classified as particularly important according to the detailed criteria defined by the ASN is referred to as a "significant event". The detection of significant events by nuclear operators plays a key role in the prevention of incidents and accidents. The regulations require all nuclear operators to declare significant events to the ASN, to protect the interests listed in Article L. 593-1 of the French Environment Code.

Each event is analysed by the power plant's teams to determine its significance, with an independent declaration made by the site's independent safety department.

The significant nature of the event is determined by the power plant's management based on an analysis carried out by the plant's teams and the site's independent safety department.

The declaration process for significant safety events (SSE) is part of the ongoing drive to improve nuclear safety and transparency. One of its main aims is to enable analysis of these events, so as to facilitate the subsequent assessment of an incident or the risk of an incident, and improve prevention practices in an establishment and/or a sector of activity.

All significant events must be declared to the ASN by the nuclear operators or transporters within a maximum period of 48 working hours. Declarations include a proposed classification on the International Nuclear Event Scale (INES) scale (which comprises seven levels from 1 to 7, depending on the events' significance; events with no nuclear safety significance are classified INES level 0). The ASN retains final authority for the classification of events. The ASN refers to the INES scale to select events that are sufficiently serious to warrant a public statement.

(1) World Association of Nuclear operators.
(2) See section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation" for details of the regulatory framework concerning the ASN.
(3) International Atomic Energy Agency.
(4) World Association of Nuclear operators.

Since the introduction of a scale of this kind in France in 1987, no event at INES level 3 (serious incident – very low external radioactive emission and exposure of the public, representing a fraction of regulatory limits) or above has occurred in the French nuclear fleet. In 2024, EDF declared 755 significant safety events in France, compared to the 708 declared in 2023. No significant safety event of INES level 2 or above was declared (as in 2023).

The Group's nuclear safety policy is an integral part of the training given to employees of EDF and its service providers. After initial training lasting several months – up to 24 months for key positions (safety engineer, operator, etc.) – each employee must undergo mandatory retraining every year, two years or three years, depending on the functions and fields of activity.

Detailed nuclear safety results for 2024 are published in the annual report drawn up by the General Inspector for Nuclear Safety and are available online[1].

Environmental protection

EDF's environmental approach was initiated in 2002 at a number of sites. It was then extended to all nuclear generation units. It is based on an ISO 14001-certified environmental management system (EMS). See section 3.2.1 "Environmental management system". For a description of the processing of radioactive waste from the back-end of the fuel cycle and decommissioning, see section 1.4.1.1.2.3 "The challenges of nuclear operations".

Radiation protection

Thanks to mobilisation of the various stakeholders, EDF is continuing the drive for improvement of radiation protection and dosimetry (through training and exercises of employees and management, stricter monitoring of plant cleanliness, upgrading the equipment available to operators, optimised installation of lead screens, standardisation of working methods and equipment on the nuclear sites, reinforced supervision, etc.).

As a result, for the past decade the average annual collective dose is 0.69 man-Sieverts (manSv)[2] per reactor, down by 1% from the previous decade, whereas the average volume of hours worked has increased by 35%. In 2024, it was 0.75 man-Sieverts per reactor. The average annual individual dose (for EDF employees and industrial partners) remained below 1 millisievert (mSv) in 2024 (0.99mSv), well below the regulatory limit of 20mSv for the whole body over a rolling 12-month period.

EDF is proactively pursuing its ALARA (As Low as Reasonably Achievable) policy to manage collective dose levels. It continues to reduce exposure to radiation through multiyear plant clean-up programmes, and by testing new technologies aimed at reducing the radioactive source term.

1.

Regulatory framework

Regulations on radiation protection

In France, nuclear activities that present a risk of human exposure to ionising radiation are regulated by two separate sets of rules for two categories of people to be protected.

French regulations on the radiation protection of the general population, which are governed by the French Public Health Code, principally require declaration, registration or authorisation for all nuclear activities. Authorisations granted to establish a Basic Nuclear Installation (INB) fulfil the authorisation requirements of the French Public Health Code. Article R. 1333-11 of the French Public Health Code allows a maximum exposure of 1mSv per year for the general public.

French regulations on the radiation protection of workers, which are governed by the French Labour Code, lay down various obligations for employers of workers who are likely to be exposed.

1.4.1.1.2.3 The challenges of nuclear operations

A – Stages and challenges of the nuclear fuel cycle

The risks associated with the nuclear fuel cycle are described in section 2.2.2 "Specific nuclear operation risks", risk 2B "Risks related to control of the fuel cycle".

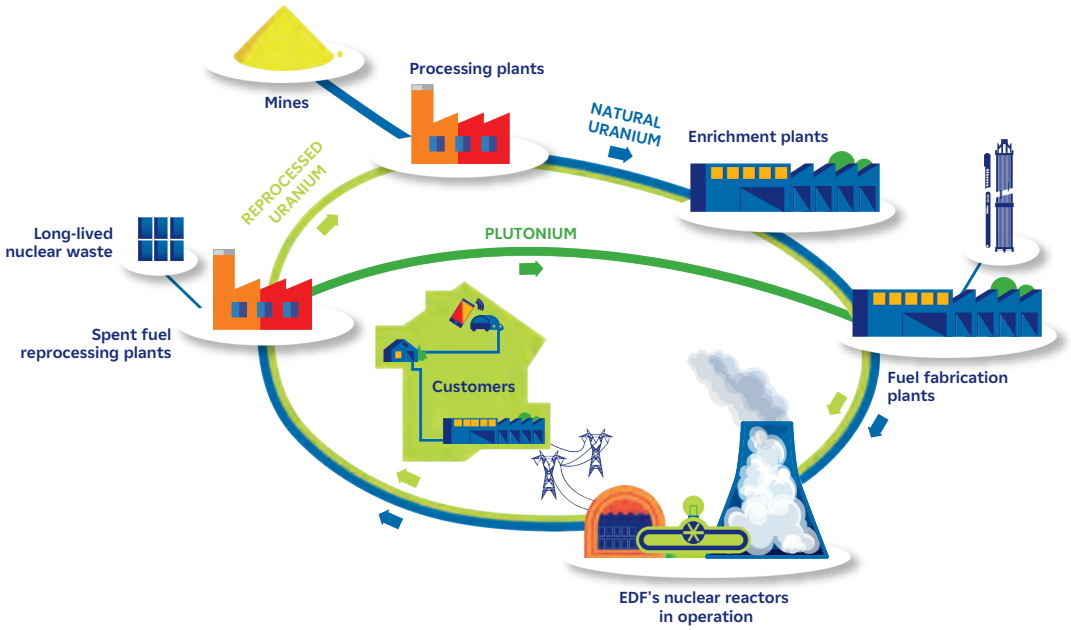
The nuclear fuel cycle encompasses all industrial operations in and outside France which contribute to supplying fuel to generate energy in a reactor, then to unloading and processing the fuel.

EDF coordinates all the operations in the cycle, which consists of three stages:

- **the front end of the cycle,** comprising the purchase by EDF of concentrates derived from uranium ore, which are then made into more sophisticated products through fluorination (or conversion), enrichment, and fuel assembly fabrication by industrial fuel cycle operators with which EDF has multiyear service contracts;
- **the core of the cycle**, when the fuel is used in the reactor: reception, loading, operation, and unloading. The fuel stays four to five years in the reactor. EDF carries out these operations;
- **the back end of the cycle**, for the reactor fleet in France, comprising interim pool storage, reprocessing of spent fuel, conditioning of radioactive waste and recycling of reusable materials, and interim storage of conditioned waste prior to long-term storage.

In most cases EDF is the owner of, and responsible for, the fuel and materials it uses in the various stages of the cycle.

(1) For example, the 2024 report is available at: igsnr.com/wp-content/uploads/2025/02/Rapport-IGSNR-2024.pdf
(2) Sum of the doses absorbed by the whole body due to exposure to radiation from radioactivity for all activities and all persons involved.



Front end of the cycle

To ensure continuity and security of supply for its reactors in France and the United Kingdom, EDF retains overall control of all operations at every stage of the cycle, through a portfolio of contracts and by building up stocks at the various stages of the front end of the cycle (natural uranium, fluorinated enriched or unenriched uranium, and warehousing of new fuel assemblies). Orano is an important supplier in this stage of the cycle.

Natural uranium procurement

EDF's uranium supplies are guaranteed by long-term contracts for periods of up to 20 years, following a policy of diversification in terms of sources and suppliers. The indexation formulas in these supply contracts are partly fixed (baseline prices that may be inflation-adjusted) and partly variable (based on market price indexes). They generally stipulate floor and ceiling prices that moderate the effects of market price fluctuations on supply costs. Where necessary, the Group implements a strategy to hedge its foreign exchange risk and the US inflation risk.

EDF takes care to implement best practices in mineral extraction. Since 2011, EDF has carried out regular mine audits based on a method developed with the WNA[1]. See section 3.3.3.4.3 "Responsibility in the fuel supply chain".

Fluorination (or conversion)

EDF's needs are covered by Orano in France, and other producers internationally such as CamECO in Canada and Converdyn in the United States.

Enriching natural uranium in uranium-235

EDF covers its enrichment needs through mainly fixed-price contacts with global enrichment service supplies: Orano (France), Urenco (the United Kingdom, Germany, the Netherlands, the United States).

Enriched reprocessed uranium

Since the 1990s, reprocessing has made it possible to recycle uranium from spent fuel processing (95% of the spent fuel mass) for reuse in the reactors. This reprocessing was suspended in 2013, pending the availability of a new industrial plan. In 2018, EDF's Board of Directors approved the restart of robust, competitive and efficient uranium reprocessing.

The corresponding contracts were signed with the suppliers concerned in 2018. The first loading of the resulting fuel assemblies took place at the end of 2023, confirming fulfilment of the required industrial, regulatory and economic conditions.

Operation of the 1,300MWe series beyond 40 years will be supported by industrial modifications so that enriched reprocessed uranium fuel can be loaded into the 1,300MWe reactors, thus ensuring that reprocessed uranium will be recycled over the long term.

Fuel assembly fabrication

EDF procures its fuel assemblies either internally from its subsidiary Framatome, or externally from Westinghouse.

Fuel supply for the two EDF reactors at Hinkley Point C (United Kingdom)

In September 2016, EDF, Orano and Framatome signed agreements for the supply of uranium, conversion and enrichment services, and assembly fabrication, for the Hinkley Point C reactors' fuel supply.

Back end of the cycle

The risks associated with the back end of the cycle are described in section 2.2.2 "Specific nuclear operation risks", risk 2A "Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations" and risk 2B "Risks related to control of the fuel cycle".

Regulatory framework

As producer of the waste, EDF is responsible for treatment and processing of its spent fuel and for the related waste. This responsibility cannot be transferred or limited in time.

Orano performs the spent fuel processing.

France's National Agency For Radioactive Waste Management ANDRA[2] is in charge of management operations for long-term final radioactive waste storage, in accordance with Article L. 542-12 of the French Environment Code.

Management of radioactive and non-radioactive waste is governed by Articles L. 541.1 and following of the French Environment Code.

(1) World Nuclear Association.
(2) ANDRA: *Agence nationale pour la gestion des déchets radioactifs.*

In accordance with its powers under Article 594-4 of the Environment Code, in early 2024 the Directorate General for Energy and Climate (DGEC) and the French Treasury commissioned an external audit of the valuation of EDF's spent fuel management costs at 31 December 2023. This audit began in the second quarter of 2024 and should be completed in the first quarter of 2025. It is not currently expected to have any significant impacts on the provisions for spent fuel management.

Processing of spent fuel from EDF's nuclear power plants

EDF's current strategy, in agreement with the French State, is to process spent fuel and wherever possible recycle substances: plutonium in the form of MOX fuel, and reprocessed uranium (see "Front end of the cycle" above).

Some 1,100 tonnes of spent fuel are processed every year. The volume is determined by the amount of recyclable plutonium in the reactors that are authorised to load MOX fuel.

The spent fuel journey

EDF and Orano: a carefully managed partnership

Relations between EDF and Orano concern the shipment, processing, and recycling of spent fuel. The two companies have entered into a series of agreements:

- in December 2008: a master agreement covering the period 2008-2040;
- in October 2024: an implementation agreement covering the period 2024-2026, and the related supply contracts for MOX assemblies.

Spent fuel storage capacities

On 26 February 2024 the Nuclear Policy Council (CPN), chaired by the French President, confirmed France's policy for the back end of the nuclear fuel cycle, involving continuation of the processing and recycling of spent fuel with a view to closing the nuclear fuel cycle. These policy orientations are in line with the French President's speech given in Belfort on 10 February 2022 concerning the continued operation of the current fleet and the construction of new reactors.

EDF and Orano have proposed an industrial plan for the future nuclear fuel cycle facilities at the Orano site in La Hague, notably including a new spent fuel processing plant and a new MOX fuel fabrication plant. Orano will be the project manager of the plan, which also includes the establishment of a building grouping new storage capacities that will later be connected to the future processing facilities. The plan was presented to the ASN on 24 September 2024.

Moreover, the prospect of keeping the current nuclear fleet in operation beyond 50 years if the safety conditions are met, as stated in President's in Belfort, has deferred the horizon of the saturation risk for the spent fuel storage facilities operated by Orano in La Hague to 2040, or possibly later.

The projected commissioning date of these new storage capacities is compatible with the needs identified for the purpose of continuing the operation of the nuclear fleet.

Finally, the plan to densify the storage pools at Orano's current facilities in La Hague, which is scheduled for completion in mid-2025, is an effective counter-measure to the risk of saturation in the event of malfunction at the nuclear fuel cycle facilities.

As another supplementary solution, Orano is also studying the possibility of dry temporary storage for spent fuel. Specific financial provisions have been set aside for the dry storage and densification scenarios.

Storage of conditioned final radioactive waste

Radioactive waste is classified into different categories depending on its nature, its level of radioactivity and the lifespan of its radionuclide components: high-level waste (HLW), intermediate-level waste (ILW), low-level waste (LLW) and very low-level waste (VLLW). It is called long-lived (LL) when it remains active for more than 31 years.

High-level waste and long-lived intermediate-level waste

After spent fuel processing, vitrification of high-level waste (HLW) is possible; this is a very high-quality conditioning process resulting in a small volume. The volume of waste is calculated on the basis of a reference inventory corresponding to the former plants' operation and 50 years of operation for the current PWR fleet (including Flamanville 3). The total volume of all the HLW conditioned in this way is around 9,300m^3 (electricity consumption by one million people over one year generates around 3m^3 of HLW).

Long-lived intermediate-level waste (ILW-LL) includes:

- structures from assemblies (radioactive waste flasks and end-pieces, pieces of fuel cladding, etc.) separated during spent fuel processing. They are currently compacted and conditioned in stainless steel containers;
- waste resulting from certain operating, maintenance and dismantling activities.

The total volume of ILW-LL is about 37,000m^3. It includes waste produced during the operation and decommissioning of permanently shut-down installations, including UNGG (natural uranium graphite gas) reactors, and waste from the current PWR fleet (including Flamanville 3). The calculation is based on a 50-year operating lifespan for PWR plants, and includes dismantling operations.

This waste generates less heat than HLW and can thus be placed in storage sooner.

- **The Cigéo project for an industrial geological storage centre**

Overview

Cigéo is France's deep geological storage facility project for ILW-LL and HLW produced by all French nuclear installations until they are dismantled, including waste from spent fuel processing. The project is being led by France's National Agency for Radioactive Waste Management (ANDRA). The centre is to be located in the east of France at the border between the Meuse and Haute-Marne *départements*.

After 15 years of research, evaluation and a public debate, the principle of deep geological storage was adopted by Law 2006-739 of 28 June 2006 (amended) on the sustainable management of radioactive materials and waste, as a safe long-term solution to manage this type of waste without shifting the burden onto future generations. Cigéo will consist of surface facilities to receive and prepare waste packages, and to excavate and build the necessary underground structures. The waste will be stored in installations some 500 metres underground, in an impermeable layer of argillaceous rock able to contain radioactivity over very long periods (several hundred thousand years). Cigéo is designed to operate for at least 100 years while having the flexibility to offer adaptation options for future generations.

Pending its storage in deep-level geological layers, HLW and ILW-LL from spent fuel processing is being stored at the Orano site in La Hague, in dedicated specific facilities.

Key stages of the project

ANDRA's reference begins with a pilot industrial phase, with delivery of the first waste expected between 2035 and 2040.

On 11 January 2018, the ASN considered that the Cigéo project had reached satisfactory overall technological maturity at the safety options file stage. A detailed design review was organised by a group of independent experts at the request of the Directorate General for Energy and Climate (DGEC). In late 2020, this group issued a generally favourable opinion on the file presented by ANDRA.

The public inquiry regarding the Cigéo project's public utility was held between 15 September and 23 October 2021. It resulted in a favourable opinion from the inquiry commissioners (along with five recommendations to the project manager), made public on 20 December 2021. The findings of the commission noted that the public enquiry had "attracted a large number of contributions from the public, most of them with extensive supporting arguments" and that Cigéo was "opportune, relevant, and robust".

Prior to the enquiry, a second appraisal of Cigéo's Socioeconomic assessment by France's General Secretariat for Investment (SGPI) had resulted in a favourable opinion "both for the overall project and its transport component". It highlighted the fact that "the Cigéo project has strong prudential and insurance value to cope with environmental and health risks".

In an opinion issued on 13 January 2021, the French Environmental Authority emphasised the educational nature of the environmental assessment. It made a series of recommendations, which ANDRA took into account in the public inquiry.

Decree 2022-993 of 7 July 2022 declared Cigéo to be in the public interest and adjusted the Pays barrois (Meuse) area land use master plan, the Haute-Saulx (Meuse) local inter-municipality urban planning document, and the Gondrecourt-le-Château (Meuse) local urban planning document for compatibility. Decree 2022-992 of 7 July 2022 also included the Cigéo project among the operations of national interest specified in Article R. 102-3 of the French Urban Planning Code.

The application for an authorisation to create the Cigéo centre was officially submitted on 17 January 2023.

On 22 June 2023 the ASN declared the application admissible, and on 27 June 2024 France's Environmental Authority also issued an opinion on the application to create the centre. This meant that technical examination of the application could begin. This involves three meetings of the ASN's Advisory Committee of Experts: the first took place in April 2024, the second in December 2024, and the third is scheduled for mid-2025, with issuance of the ASNR opinion expected in November 2025.

The aim is to receive authorisation by the end of 2027.

Treatment of bituminous waste

In its opinion on the safety options file, the ASN required examination of alternatives to the proposal to store bituminous waste at Cigéo with no processing. In September 2018, a group of experts was appointed by the DGEC to draw up a report on current bituminous waste management practices. In September 2019, it concluded that the various management options (storage or neutralisation) were feasible in principle. However, it stressed the importance of continuing the studies already under way to identify the most appropriate option. A four-party research programme involving producers and ANDRA is still exploring this question.

Cigéo tax status

Regarding the tax status of Cigéo, Article 127 of France's Finance Law for 2021 modified the tax regime for basic nuclear installations (INB) set out in Article 43 of France's Finance Law for 2000. It introduced a change in the calculation method for the tax on storage of high-level waste and long-lived intermediate-level waste. However, the application measures for these principles and their potential impact on the level of taxation on the installation have yet to be clarified.

Costing of Cigéo

Cigéo's current reference costing is specified in the Decree of 15 January 2016.

ANDRA is to remit an updated file on the costing of Cigéo in April 2025 to the DGEC, the ASNR and the competent parliamentary commissions. This will be followed by consultation of stakeholders, including producers of waste, and the French State will then define the new "objective cost" of Cigéo by September 2025. EDF has nonetheless updated the Cigéo provision in the 2024 financial statements to take account of information that is sufficiently certain and was not included in the 2016 cost calculation.

- **The ICEDA radioactive waste conditioning and interim storage facility**

ICEDA, located at the Bugey plant, is a facility dedicated to conditioning and interim storage of long-lived intermediate-level waste (ILW-LL) resulting from the operation (other than fuel management) and decommissioning of power plants. The facility was commissioned in 2020 and conditioned its first waste in 2021.

Since 2021, all the radioactive waste from decommissioning operations at Chooz A and the initial operating waste from Fessenheim has been conditioned at the ICEDA facility, producing a total of 39 ILW-LL waste packages.

In 2023, the ASN authorised the continuation of conditioning at ICEDA without no specified time limit.

In 2024, the ASN approved a modification to the regulatory characteristics of waste that could be received for conditioning at the ICEDA facility. As a result of this modification, the facility is now authorised to condition 100% of the waste for which it was designed. The conditioning permit corresponding to the new scope is expected in early 2025.

Finally, after the two reactors at the Fessenheim plant were shut down permanently, EDF filed an application to modify the ICEDA's authorisation decree in order to allow the facility to condition waste resulting from the decommissioning of Fessenheim. The amended decree is expected in 2025.

Long-lived low-level waste

Long-lived low-level waste (LLW-LL) comes from the deconstruction of legacy UNGG reactors (graphite bricks that made up the core of these reactors and their fuel assemblies). In July 2015, ANDRA submitted a report on the feasibility of a storage facility located in the Soulaines region (Aube) in France to the ASN for review. Work on this proposal is ongoing as part of the National Plan for Managing Radioactive Matter and Waste (PNGMDR)[1], to identify the waste that could be stored in the facility.

In accordance with ASN notice 2020-AV-0357 of 6 August 2020 and the 5th PNGMDR[2], in March 2024 ANDRA submitted a file presenting the technical and safety options selected for LLW-LL storage at the Vendeuvre-Soulaines site. This file is currently being examined by the ASNR.

(1) *Plan national de gestion des matières et des déchets radioactifs.*
(2) Decree 2022-1547 and the implementation order published in the *Journal officiel* of 10 December 2022.

In addition, the studies conducted by EDF to characterise the radiological inventory of this waste in more detail have demonstrated significant gains suggesting that it should be possible store the graphite from the first decommissioned reactor (Chinon A2) in the existing Aube surface level storage centre, with no need to wait until a specific storage centre is commissioned.

The scenario currently modelled in the financial provisions for Chinon A2 graphite extracted from the reactor up to 2045 is therefore storage at the Aube centre, based on the assumptions of construction of a temporary storage facility at Chinon and final storage in a specific LLW-LL centre.

For other reactors, the financial provisions cover direct storage of graphite waste in an LLW-LL repository.

Short-lived low-level and intermediate-level waste and very-low-level waste

Short-lived low-level and intermediate-level waste (LILW-SL) and very low-level waste (VLLW) comes from:

- the operation of nuclear facilities: gloves, filters, resins, etc.;
- the decommissioning of these facilities: concrete, scrap metal, lagging, piping, *etc.*

This type of waste is stored near surface at the Soulaines and Morvilliers facilities run by ANDRA in the Aube *département*. To reduce volumes, some waste undergoes preliminary melting or incineration at the Centraco plant owned by Cyclife France.

Following the public debate on the PNGMDR carried out in 2019, in line with the joint decision by the Ministry for the Ecological Transition and the ASN (the authorities in charge of the PNGMDR), legislation allowing the reuse of very low-level metallic waste in France was published on 14 February 2022. This regulatory change makes it possible to implement an industrial recycling and sale solution for this waste metal. This is the purpose of the EDF-developed Technocentre project, concerning a dedicated facility for recycling and sale of very low-radioactivity metals, to be located on the Fessenheim site.

EDF referred the Technocentre project to the National Public Debate Commission (CNDP) in early 2024. The public debate organised by CNDP, and led by EDF, started on 10 October 2024 and lasted until 7 February 2025.

Creation and development of the Cyclife group: a subsidiary dedicated to the dismantling and management of radioactive waste

EDF created the holding company Cyclife in 2016 following the acquisition of the English and Swedish assets of the waste processing company Studsvik. The objective of the Cyclife group, formed by merging Cyclife UK, Cyclife Sweden and Cyclife France (formerly a SOCODEI subsidiary) is to consolidate development of the Group's internal and external waste processing and decommissioning activities, with two aims:

- to take advantage of the opportunities on the decommissioning market in Europe and Japan, capitalising on the know-how and assets developed for decommissioning work in France;
- to control critical operations and key technologies and optimise them over the long run, to provide a secure foundation for the EDF group's future decommissioning operations.

In 2018, Cyclife SAS acquired an 84.6% stake in Cyclife Digital Solutions, which specialises in systems and digital simulation for decommissioning and waste management.

In 2019, the subsidiaries Cyclife Engineering and Graphitech[1] were formed to develop solutions for decommissioning light-water reactors and designing waste processing facilities (Cyclife Engineering), and for decommissioning graphite reactors (Graphitech).

Cyclife Germany was set up in December 2021 to provide a direct presence in one of the largest markets in Europe, in order to strengthen Cyclife's positioning in waste processing and facilitate its development in decommissioning activities.

On 22 December 2021, Cyclife SAS signed a contract to acquire the engineering company Aquila Nuclear Ltd. in the United Kingdom. This new acquisition strengthened Cyclife's position in the UK's nuclear engineering sector and complemented the introduction of a decommissioning business unit at the subsidiary Cyclife UK which was already active in this market.

In February 2022, EDF set up a new nuclear waste management subsidiary owned in equal shares by Cyclife SAS and Veolia Nuclear Solutions, named Waste2Glass. Its purpose is to develop new nuclear waste management processes using vitrification based on the Veolia group's Geomelt and MVS processes, and conduct technical and economic feasibility studies for identified nuclear waste streams.

On 31 March 2022, Cyclife SAS pursued its expansion by buying the French company Quadrica, a specialist in the development of digital tools. In January 2024, Cyclife Digital Solutions and Quadrica merged, to gain in visibility and continue development of digital solutions.

In early January 2024, Cyclife Japan was created to strengthen the Group's local presence in Japan. Initial partnerships have already underpinned work on the relevance of the solutions offered by Cyclife to the needs of Japanese nuclear operators.

In June 2024, Cyclife GmbH acquired 100% of the shares in BalckeDürr Nuklear Service, which has since been renamed Cyclife GmbH. This company specialises in decommissioning and clean-up operations and waste sorting/conditioning/release services, notably with projects in Germany and Sweden.

The Cyclife Group is therefore continuing its growth (over 1,200 employees at the end of 2024). With operations in five countries (France, Germany, the United Kingdom, Sweden and Japan), Cyclife is able to provide a fully integrated decommissioning/waste management offering.

R&D

EDF conducts both its own R&D activities and R&D with a network of partners (nuclear operators, industrial operators, very small, small and medium-sized businesses, institutional and academic players). The work focuses on radioactive waste management and decommissioning. As a recognised major player in these areas, EDF is actively participating in four European projects, aiming to:

- improve the performance of waste management and decommissioning projects;
- develop its expertise;
- contribute to the development and implementation of international best practices.

Coverage of future expenses for spent fuel management and long-term radioactive waste management

Every year, EDF sets aside financial provisions for the back end of the nuclear fuel cycle in France and for radioactive waste management[2].

B - The challenges of preparing for the future of the nuclear fleet in France

The French Environment Code does not specify any maximum operating lifespan for nuclear installations, but it requires an assessment every 10 years of their compliance with applicable regulations, and an updated assessment of the risks and drawbacks of the installation for protected interests. These assessments take account of the condition of the installations, the experience gained during their operation, new developments in nuclear science, and safety rules applying to similar facilities.

(1) Jointly owned by EDF and Veolia.
(2) See section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024.

EDF's industrial strategy is to continue operation of the fleet significantly beyond 40 years, in optimum conditions as regards safety and efficiency, given the significant investment made during the fourth 10-year inspections, the post-Fukushima improvements, and French energy needs. The French President announced during a speech on 10 February 2022 in Belfort that he wanted "*to extend the lifespan of all reactors that can be extended*" and that "*no nuclear reactor in operation will be closed in the future (...), except for safety reasons*". He also stated that he had asked EDF to *"study the conditions necessary for extending the lifespan beyond 50 years"*, paving the way for continuing operation of France's nuclear reactors beyond a 50-year lifespan.

EDF's industrial ambition as it prepares for the future of the nuclear fleet refers to three time horizons: up to 50 years, 50 to 60 years and beyond 60 years

Up to 50 years

EDF is carrying out the fourth 10-year inspections of its 900MW and 1,300MW series, with large-scale modifications to the installations and major safety improvements, in order to demonstrate that these reactors are fit to operate for a further 10 years. For the 1,450MW series, procedures for the 30-year milestone have the same improvement objectives as the 40-year milestone for the other two series.

900MWe series

During the first half of 2016, all the technical, economic and governance conditions were fulfilled for extending the operating lifespan of the 900MWe series power plants in the French nuclear fleet in line with the Group's industrial strategy. On 28 July 2016, the EDF Board of Directors therefore approved the extension of the operating lifespan of 900MWe series power plants in France (excluding Fessenheim) from 40 to 50 years from 1 January 2016 onwards, without prejudice to the ASN's position on the measures suggested by EDF for each of the nuclear units in question.

On 23 February 2021, the ASN issued a resolution on the conditions for continued operation of EDF's 900MW reactors beyond their fourth 10-year inspection, and set out related requirements. The ASN considered that the measures planned by EDF, combined with the ASN's requirements, open up the prospect of continued operation of these reactors for a further ten years following their fourth 10-year inspection.

On 10 August 2023, the ASN stated its position on the continued operation of Tricastin 1 beyond 40 years (until its fifth 10-year inspection, scheduled for 2029), in view of the conclusions of its fourth 10-year inspection.

In addition, following a request from EDF to extend the deadlines for some of the requirements defined in the resolution of 23 February 2021 mentioned earlier, the ASN issued a new resolution on 19 December 2023 amending certain requirements.

The modifications being rolled out in the first phase of works during the fourth 10-year inspections (VD4) are continuing, thanks to the lessons learned from the first VD4 inspections (by the end of 2024, VD4 inspections had been completed for 21 reactors, with another under way). The modifications to the second phase of work were successfully completed on the Tricastin 1 reactor (first in the series) during its partial inspection in 2023. The results of the fourth 10-year inspections are satisfactory. They demonstrate that there is a strong capability for industrialising operations, and that the involvement of industrial partners has contributed to the success of this project.

1,300MWe series

Examination with the ASN of the generic phase of the fourth 10-year inspections of the 1,300MWe series began in 2021 and is continuing.

This examination will conclude with the ASNR taking a decision in the summer of 2025. Through technical requirements, this decision will guide the measures to be implemented to meet the objectives of the fourth 10-year inspections of the 1,300MWe series. These generic measures will be supplemented by measures specific to each reactor, once the report of the conclusions of each reactor's inspection has been submitted to the Ministry in charge of nuclear safety, and the ASNR.

The public consultation process was initiated by the ASN in October 2024. EDF is preparing for the first fourth 10-year inspection in the 1,300MW series, planned or Paluel reactor 1 in 2026.

The first preparatory work began in July 2024.

A public consultation for the generic phase of the fourth 10-year inspections of the 1,300MWe plants organised by the High Committee for Transparency and Information on Nuclear Safety, was held in the first half of 2024.

On 28 July 2021, the Board of Directors approved extension of the depreciation period of the 1,300MWe power plants from 40 to 50 years in the consolidated financial statements. This accounting estimate is not an indication of the ASN's future position concerning continuing plant operation, which will be stated for each reactor after their 10-year inspections, as specified by law.

1,450MWe series

Examination with the ASN of procedures for the third 10-year inspections of the 1,450MW series has begun, and the first of these inspections is planned for 2029. The accounting depreciation period for the 1,450MW series currently remains at 40 years, but its extension is an industrial objective for the Group.

50-60 years

On 13 June 2023, the ASN issued an opinion on the prospects for continuing operation of EDF's nuclear reactors until they reach 60 years.

Studies were launched in late 2022 for the fifth 10-year inspections of the 900MWe series (to begin in 2029), taking into consideration the major challenge of adapting to climate change, an in-depth compliance review of the facilities, and the potential impacts of ageing.

Following the public consultation launched at the end of October 2024, the ASN stated a position on 10 December 2024 on the general guidelines adopted by EDF for these fifth 10-year inspections, which it considers relevant and consistent with the current state of knowledge. The fifth 10-year inspections should make it possible to consolidate the significant safety improvements made to the reactors during their fourth 10-year inspections, and strengthen the consideration given to the effects of climate change.

At the end of its ongoing examination, the ASNR will issue a position in mid-2028 on the continued operation of the 900MWe reactors for a further 10 years, based on the conclusions of the generic phase of the fifth 10-year inspections.

Beyond 60 years

A "long-term" reflection on extending operating lifespans beyond 60 years was initiated in 2023. It is included in the timetable set by the ASNR, which will state its position in late 2026 after expert assessment and examination phases in 2025 and 2026 respectively.

This work focuses on the challenges of ageing, and thus covers identification of R&D needs and scientific and methodological development. It is also nurtured by intensive international discussions with other nuclear operators, and with leading centres of expertise.

Investment in the existing nuclear fleet in France: the *Grand Carénage* industrial refurbishment programme

On 22 January 2015, EDF's Board of Directors approved the principle of the *Grand Carénage* industrial refurbishment programme to renovate major equipment, enhance reactor safety and, conditions permitting, continue their operation beyond 40 years. This programme incorporates additional safety improvements identified following the Fukushima accident.

The *Grand Carénage* programme is being gradually implemented in compliance with:

- the objectives of the Law on the Energy Transition for Green Growth;
- France's multi-year energy programmes (PPEs);
- the ASN's opinions and requirements; and

- specific procedures needed for reactors to remain in operation for more than 40 years.

On 31 March 2022, EDF's Board of Directors formally recorded the completion of the first phase of the *Grand Carénage* programme on 31 December 2021, and approved the principle of its continuation, with a new roadmap for 2022-2028 incorporating information gained from current ASNR examinations, particularly concerning the fourth 10-year inspections of 900MW and 1,300MW plants, and the start of the Studies phase for the fifth 10-year inspections of 900MW plants.

Cost of the programme

Investment over the period from 2022 to 2028, phase 2 of the major refurbishment programme, was re-estimated at the end of 2024 at €36.1 billion in current euros, or €32.0 billion in 2021 euros. In 2024, the total amount of investments was €5.2 billion. These figures include the cost of stress corrosion-related work, estimated at €1.3 billion (€1.2 billion in 2021 euros) over the period 2022-2025.

Industrial work will continue beyond 2028, and investment expenditure will remain high beyond that date.

C - Challenges relating to power plant decommissioning

In its capacity as an operator, EDF takes full regulatory, financial, and technical responsibility for the decommissioning of its power plants and the other nuclear installations it operates[1]. EDF therefore manages the entire life cycle of its nuclear generation facilities.

Regulatory framework

Regulations applicable to the decommissioning of nuclear installations

The decommissioning of a basic nuclear installation (INB) is ordered by a decree, issued after an opinion from the ASNR and completion of a public inquiry. This decree determines the characteristics of the decommissioning, the timeframe for its completion, and where applicable, the operations incumbent upon the operator after decommissioning.

The reference scenario adopted by EDF since 2001 is for decommissioning without waiting for radioactive decay, consistent with French regulations, which require decommissioning to take place *"in as short a time as possible"* after final shutdown, on acceptable economic terms and in line with the principles set out in the existing laws and regulations.

The regulatory process for decommissioning involves the following:

- a final shutdown declaration at least two years before the planned shutdown date, describing the preparatory decommissioning operations planned;
- application for a decommissioning permit, filed within two years of the final shutdown declaration, which after examination by the authorities and a public inquiry, leads to a decree ordering decommissioning of the facility;
- key stage progress reviews with the ASNR, included in safety standards specific to decommissioning;
- finally, once the work is complete and the facility has reached its target final state, declassification to remove it from the legal regime governing basic nuclear installations.

To date, 11 reactors using four different technologies have been permanently shut down:

- three pressurised water reactors (PWRs): one at Chooz A and two at Fessenheim;
- the heavy water reactor (HWR) at Brennilis;
- the Superphénix fast neutron reactor (FNR);
- the six Natural Uranium Graphite Gas (UNGG) reactors at Bugey, Saint-Laurent and Chinon.

These sites remain the property of EDF, and they will remain under its responsibility and monitoring. Given its role as responsible operator, EDF will act as the contracting authority for the decommissioning.

EDF assumes a period of approximately 15 years for the dismantling of PWRs.

The decommissioning of EDF's historic nine first-generation reactors in final shutdown will produce around 1.5 million tonnes of primary waste; 80% of the waste is non-radioactive, and none is high-level. The remaining 20% is intermediate-level waste (ILW) or very low-level waste (VLLW). 8% of it is long-lived waste.

The decommissioning of the two reactors at Fessenheim will produce 380,000 tonnes of waste; 95% of this waste is non-radioactive.

The existing means of reprocessing for short-lived VLLW and LLW have been supplemented by the ICEDA facility for the conditioning and storage of long-lived intermediate-level waste (ILW-LL) from operations and decommissioning[2].

The system for handling decommissioning waste has yet to be completed with the new LLW-LL storage facility (see the paragraph on LLW-LL in section 1.4.1.1.2.3-A "Stages and challenges of the nuclear fuel cycle"). For the dismantling of UNGG power plants, construction of an interim storage facility is planned for the LLW-LL graphite sleeves[3] from the silos at Saint-Laurent, until a final disposal solution is established (the first removal of graphite is expected in 2045).

Chooz A

Chooz A is a pressurised water reactor that used a technology similar to the 57 reactors currently in operation. It was commissioned in 1967 and operated until 1991. The reactor location, in a rocky cavern in a hillside, means that access conditions, entry and exit of materials, and effluent management are more difficult than for the rest of the existing PWR fleet.

The work begun in 2017 to complete the underwater decommissioning of the Chooz A reactor vessel and its internal components experienced difficulties until 2022. The Covid pandemic had a serious impact on the work: in particular, filtration was suspended during the 2020 lockdown, resulting in the formation of organic matter and thus high turbidity in the water. In addition, given the frequent unavailability of the fuel handling machine, which will be needed to lift the reactor vessel and remove it from its concrete well, it was decided to completely renovate this machine to address obsolescence issues and qualify it to handle the mass of the reactor vessel.

The project made significant progress in 2023 and 2024:

- emptying the pool after segmentation of vessel internals;
- segmentation of the primary system pipework prior to lifting out the vessel;
- renovation of the reactor cavern fuel handling machine.

Completion of vessel dismantling is currently expected in 2027.

A partnership agreement between EDF and the French national research agency CNRS was signed on 7 September 2022 for a project to reuse the caverns for research on neutrinos once the installations have been decommissioned. This will put the facility's unusual configuration to good use.

Fessenheim

Reactors 1 and 2 at the Fessenheim power plant were permanently shut down on 22 February 2020 and 30 June 2020 respectively. These shutdowns were followed by the start of end-of-life operations (circuit draining, evacuation of boron, sealing and removal of certain equipment and support functions, removal of fuel, decontamination of primary circuits, etc.).

(1) The Tricastin Operational Hot Unit BCOT (*Base chaude opérationnelle du Tricastin*), the Saint-Laurent silos, the ICEDA waste storage facility, *etc.*
(2) See section 1.4.1.1.2.3 "The challenges of nuclear operations", paragraph on "The ICEDA radioactive waste conditioning and interim storage facility".
(3) These graphite sleeves come from the operation of France's legacy UNGG (natural uranium graphite gas) reactors. They are hollow cylindrical graphite structures that surrounded the fuel rods.

On 1 September 2023, operation of the Fessenheim site was transferred from EDF's Nuclear Generation Division (DPN) to the Decommissioning Projects and Waste Division (DP2D).

All the spent fuel was removed from the site and sent to La Hague in the space of just over two years, a highly satisfactory performance. As a result, 99.9% of the site's radioactivity has been removed and the first industrial transfer of radioactive operating waste to the ICEDA facility has taken place. A large-scale primary circuit decontamination operation (Full System Decontamination: FSD) was successfully carried out on both reactors. It was completed in June 2023.Treatment in Sweden of the upper components of the used steam generators (after their replacement during the operation of Fessenheim units 1 & 2) has been completed, and the multilateral agreement with the safety authorities of the countries the lower components will transit though on the way to Sweden (France, Belgium, Germany, the Netherlands and Sweden) is being finalised.

The electromechanical dismantling of part of the turbine hall, with a view to converting it into a radioactive waste decoupling and transit facility, was completed and the conversion work is under way.

As of the end of 2024, progress on the trajectory of preparatory work for dismantling was in line with the projected schedule.

Major steps were taken towards obtaining the decree ordering decommissioning operations, which will mark the start of the decommissioning phase: the decommissioning application for Fessenheim was filed with the Minister for the Ecological Transition and the ASN in December 2020, the ASN Advisory Committee held a meeting on 22 June 2023, a public inquiry took place (from 25 March to 30 April 2024) and subsequently the Inquiry Committee and the Prefecture issued favourable opinions.

Under the current schedule, the decommissioning decree for the Fessenheim installations is expected to be issued in mid-2025, and to take effect in early 2026 once the ASN has approved the general operating rules applicable to decommissioning.

Brennilis

The decommissioning work covered by the decree authorising partial dismantling was completed in mid-2018. Since then, the site has been finalising the preparation work for the next stage, which will concern the reactor vessel. This stage will be covered by the "full dismantling" decree published on 26 September 2023: its implementation was marked in June 2024 by the ASN's approval of the new general operating rules.

In parallel to the regulatory procedures, work on asbestos removal and site buildings arrangements (opening of concrete walls and assembly of metal structures) took place before dismantling of the peripheral circuits, which marked the start of work on the vessel, scheduled in December 2024.

Creys-Malville

After removal of the reactor vessel containment plugs, installation of the "SCOT" rotating confinement structure and commissioning of the automated workshop, segmentation of the reactor vessel internals began in 2024.

In late 2024, the neutron shield support (the first part of the vessel internals) was extracted, segmented and conditioned in waste packages. The second part, the diagrid (the last large-scale component to be removed from inside the vessel) will be extracted for segmentation in the first quarter of 2025. Meanwhile, work inside the reactor building continued: in 2024, dismantling of the vessel head plug was completed, and dismantling work began on the reactor pit and the safety containment vessel.

In peripheral buildings, 2024 saw the end of dismantling of the sodium tanks and the first dismantling work in the steam generator buildings, which will generate around 5,000 tonnes of waste (90% of it non-radioactive) from projects scheduled until 2030.

Decommissioning of the Superphénix reactor remains scheduled to end in 2034.

UNGG reactors

The industrial decommissioning strategy for the UNGG reactors was reviewed in depth in late 2015, notably leading to a switch from underwater to in-air dismantling, which involves:

- an essentially remote-controlled dismantling process;
- qualification of tools and the remote operation platform on a Graphite Reactor Decommissioning Demonstrator;
- dismantling of the initial first-of-a-kind reactor (Chinon A2), and putting the five other reactors into a safe storage configuration in order to benefit from experience on the first reactor decommissioning before the wider rollout.

Under this new strategy, dismantling operations for the reactor caissons should be completed between 2063 and 2093, depending on the reactors.

Updating the industrial decommissioning scenario for first-generation power plants, particularly UNGG plants, led to a €590 million increase in the related financial provision at 31 December 2015.

In a cover letter accompanying the resolutions of 17 March 2020 supporting the technical options chosen, the ASN took the view that EDF should aim to shorten the schedule for completing this work *"in view of the legal obligation for the decommissioning of each reactor to take place in as short a time as possible"*. EDF confirmed that it was conducting regular schedule reviews based on the results from the decommissioning demonstrator and the first reactor. So far, no new information has arisen to enable optimisation of the schedule.

Construction of the Graphite Reactor Decommissioning Demonstrator was completed in late 2021. The first tests, carried out in September 2022, concerned the development of tools for recovery of graphite bricks from reactors and the progressive design of the robotic arms required to decommission UNGG reactors.

The test programme is progressing as planned and a report is presented annually to the ASN.

Following the inspection on "the management of complex projects" which ended in November 2020, EDF's responses and commitments were sent to the ASN in May 2022.

Regarding the regulatory aspect of these procedures, the application for a dismantling authorisation for the silos at the Saint-Laurent site was submitted to the ASN in electronic format on 30 September 2022. The dismantling applications for Chinon A2 and A1 and the applications for substantial changes to the decommissioning decrees for Chinon A3, Saint-Laurent A, and Bugey 1 were filed on 15 December 2022, in line with the ASN resolutions of March 2020. EDF submitted updated versions of all these applications in February 2024 in response to the requests made by the Nuclear Safety and Radiation Protection Mission (MSNR) as part of the admissibility analysis. The ASN and the IRSN began their examination of the applications on 25 November 2024 with a view to holding a meeting of an Advisory Committee of Experts in March 2026.

Meanwhile, decommissioning operations around the reactor caissons are continuing at all three sites.

On the Bugey 1 site, the electrical buildings have been demolished, bringing the total decommissioned surface to 27% of the target for the safe storage configuration (which requires decommissioning of all surfaces other than the reactor building and premises needed for dismantling the reactor building). Asbestos was removed from the turbine hall in 2023 by extraction of several hundred asbestos-containing tubes integrated into the engineering equipment. At Chinon A2, the ferrules (sections of the primary circuit) of all four interchanges buildings were evacuated to Cyclife-France for melting.

Decommissioning of the Chinon A3 heat exchangers has been completed: 5,200 tonnes of metal circuits have been dismantled after 12 years of work.

At the Saint-Laurent A2 reactor, decommissioning of non-caisson components resumed in the second quarter of 2024 after reinforcing the management of lead risks. Thanks to fast-paced industrial operations, the milestone of completing dismantling of the circuits located under the reactor vessel was achieved in early December 2024.

Decommissioning costs and assets held to cover long-term nuclear commitments

Since the beginning of operations at its power plants, EDF has established financial provisions to cover decommissioning, engineering, monitoring and maintenance of its facilities, and site security[1]. The aim of decommissioning operations is to restore the sites to their original condition and makes the land reusable for industrial purposes.

Article L. 594-2 of the French Environment Code and its implementing regulations define the provisions that are unrelated to the operating cycle and must therefore be covered by dedicated assets[2]. Dedicated assets have been gradually built up since 1999[3].

An external audit commissioned by the Directorate General of the Treasury and the Directorate General for Energy and Climate (DGEC) concerning "dismantling expenses for existing permanently shut-down facilities and the management of radioactive waste from these facilities" took place from December 2020 to May 2021, pursuant to the letter of instruction received on 5 June 2020 from the DGEC. This audit covers non-PWR legacy installations that have been shut down permanently, *i.e.* Superphénix, Brennilis, and the six UNGG reactors. The final audit report was remitted to the audited party on 9 July 2021. The DGEC's follow-up letter was issued on 22 November 2021 and the audit report was posted on the Ministry for the Ecological Transition website.

This report highlighted "*an organisation with a structural focus on execution of dismantling projects*", an "*annual costing and review process [that] is robust, and provides good traceability for the assumptions used and the original data*", and "*a long-term industrial approach to overcome the few remaining technological challenges*". Finally, the report confirmed that "*the provisions are consistent with the basic scenarios of the projects and cover the full range of expenses of the audited scope*" and concluded they "*are adequately sized*" due to testing of the size of EDF's expenses and provisions.

Beyond the well-controlled processes and organisations, two minor points with low materiality were reported (and corrected when the estimates were revised at the 2021 year-end). Areas for improvement were identified relating to project planning, project maturity assessment and the risks and uncertainties quantification process. They did not call into question the conservative estimates of the associated decommissioning and waste management costs. The audit report also noted EDF's use of a set of best practices that are rarely implemented in decommissioning projects.

The written response to this follow-up letter was sent on 21 February 2022, resulting in introduction of an action plan to address the areas for improvement mentioned above. All of the actions were completed by the end of 2024.

1.4.1.1.3 "New Nuclear" projects

For the risks associated with these projects, see section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs".

1.4.1.1.3.1 Preparation of a programme to build new EPR2 nuclear reactors in France

Thanks to the work done by EDF and Framatome on the New Model EPR project, the technical configuration was developed in late 2017 for an "EPR2" model which could ultimately expand the offering of the French nuclear industry both in France and for the export market. The EPR2 is an optimised version of the EPR, an industrial successor to the EPR that integrates experience gained from EPR projects and power plants currently in operation.

The French government asked EDF and the nuclear industry to prepare a comprehensive dossier on a renewal programme for nuclear installations in France, and in May 2021 EDF remitted a "Proposal by EDF and the nuclear industry for a new reactor programme in France". The programme involves building three pairs of EPR2 successively at Penly, Gravelines and near Bugey while continuing the feasibility analysis at other nuclear sites.

In his speech in Belfort on 10 February 2022 about France's strategy for "achieving carbon-free energy by 2050", the French President expressed his wish to launch a phased programme to build new nuclear reactors. The programme covers construction of three pairs of EPR2 reactors, and feasibility studies for building eight more. The President also stated that these new EPR2 units will be built and operated by EDF.

Appropriate financing and regulatory plans are currently being drafted for the implementation of this programme. A review of the project's cost at completion has been initiated and is continuing, with a view to strengthening the programme's competitiveness and establishing a firm cost and schedule so EDF can make an FID (final investment decision) in 2026.

Until a final investment decision is made on the EPR2 programme, EDF has received authorisation from its Board of Directors (on 6 December 2020, 31 March 2022 and 6 March 2024) to continue developing the programme.

Governance

Pursuant to the recommendations made by Jean-Martin Folz in 2019[4] and the French Court of Auditors in its summer 2020 report on EPRs, EDF has decided to strengthen the design & build governance for EPR2 reactors. EDF has therefore set up a new organisation that separates the Project Owner function from the Project Manager function. This organisation was strengthened in 2024 as part of the reorganisation of EDF's nuclear activities described in section 1.4.1.1.1 "Nuclear organisation and governance".

The project owner ensures that an appropriate legal, economic and financial framework is in place and that the project can be carried out in the right conditions. It defines the cost, schedule, and performance targets for EPR2 projects and makes sure they are respected by the Project Manager.

The project manager is responsible for the design of the EPR2 reactors; if a final investment decision is made, it will ensure that they are built in compliance with the quality, cost, schedule and safety objectives set by the Project Owner.

Progress report and outlook

The general conceptual design studies begun in 2018 were finalised by the end of 2021. This stage was preceded by the submission of the preliminary safety report to the ASN in February 2021, and completion of the ASN's examination of the safety options file (as stated in letters of April and September 2021).

A new sequence then began in January 2022, focusing on three priorities:

- continuation of engineering studies for the first nuclear concrete at Penly, the site selected for a first pair of EPR2 reactors. A technical maturity review was organised in 2023 for the main buildings of the nuclear island. This review gave EDF feedback on the project from a committee of independent experts, in order to secure the next steps in EPR2 development and construction. A second review held in mid-2024 validated completion of the "detailed design" milestone for the nuclear buildings;

(1) See section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024.
(2) See section 6.1, note 15.1.3 "Coverage of EDF's long-term nuclear obligations" to the consolidated financial statements for the financial year ended 31 December 2024.
(3) See section 6.1, note 15.1.2.2 "Strategic allocation and composition of dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024.
(4) In a report submitted to the French Minister for the Economy and Finance and the Chairman & Chief Executive Officer of EDF in October 2019.

- close relations with key partners, to learn from studies by suppliers and give them the necessary visibility to invest in skills and industrial facilities; the main civil engineering contract for Penly was signed in October 2023;
- worksite preparation, particularly procedures for administrative and regulatory authorisations:
  - > Penly: on 11 February 2022 EDF referred the proposal to build two EPR2 reactors at Penly to the National Public Debate Commission CNDP[1]. The public debate was held between late October 2022 and late February 2023, in parallel with a public consultation on energy organised by the French government. By the end of June 2023, the application for authorisation to build had been submitted to the Ministry for the Energy Transition. In July 2024, an environmental authorisation decree was issued authorising EDF to carry out preparatory work; this authorisation is currently the subject of a non-suspensive appeal before the Council of State,
  - > Gravelines: on 22 November 2023 EDF referred the proposal to build two EPR2 reactors at Gravelines to the CNDP. At its plenary meeting of 10 January 2024, the CNDP decided to organise a public debate, which began on 17 September 2024 and ended on 17 January 2025,
  - > Bugey: the public debate for the Bugey site began on 28 January and is expected to last until 15 May 2025.

1.4.1.1.3.2 Small Modular Reactors (SMR)

The EDF group is continuing its strategy of developing a Generation III Small Modular Reactor (SMR) jointly with its subsidiary NUWARD, to support the energy transition and meet industrial operators' needs in Europe and internationally in the 2030s. The NUWARD's basic design phase continued throughout the first half of 2024, with deeper consideration of the project's design and market positioning. The lessons learned have led to a change in strategy, and development is continuing with a new approach based exclusively on proven technological building blocks.

This approach will build on the technical, industrial and commercial knowledge accumulated by NUWARD, and the Group's own experience in nuclear power and PWR technology.

1.4.1.1.3.3 International developments

United Kingdom

In the United Kingdom, EDF Energy is a participant in the project to build two nuclear reactors at Hinkley Point, together with China General Nuclear Power Corporation (CGN). The project company Nuclear New Build (NNB) is the project owner. EDF's Engineering and Supply Chain Division (DISC) and Edvance are carrying out the design studies[2]. Framatome supplies the components and the instrumentation and control system, and the turbine is supplied by Arabelle Solutions.

EDF is involved in the development of the Sizewell C project to build two EPR reactors in partnership with the UK government (see section 1.4.5.1.2.4 "The New Nuclear Industry").

EDF also owns a 33.5% stake in Bradwell B, in partnership with CGN (see section 1.4.5.1.2.4 "The New Nuclear Industry").

India

In March 2018, EDF and the Indian national electricity company Nuclear Power Corp of India Ltd. (NPCIL) signed the "Industrial Way Forward Agreement" (IWFA), a non-binding industrial cooperation agreement for the construction of six EPR reactors in India at the Jaitapur site. This agreement sets out the industrial plan, the partners' roles and responsibilities, and the next steps in the project. It states that the EDF group and its partners will supply all the studies and equipment for the nuclear island, the conventional island, the auxiliary systems, and the heat sinks and galleries. EDF does not plan to invest in this project. The client, NPCIL, will be the general project manager, constructor and integrator in the execution phase.

In accordance with the schedule laid down in the IWFA, EDF and its partners submitted a comprehensive conditional non-binding proposal to NPCIL in late 2018, followed by a binding technical and commercial proposal in April 2021. Since then, EDF, with the support of the French government, has continued its discussions with Indian stakeholders as part of the process of setting up a Special Task Force requested by the two countries' governments. In the long term, the goal is to be able to converge with NPCIL on technical and commercial matters, with a view to signing an initial Pre-Engineering Contract.

Saudi Arabia

EDF is participating in the competitive tender initiated in Saudi Arabia by K.A. CARE[3] and then taken over by Saudi Nuclear Energy Holding Company (SNEHC). It has responded for the first phases of the consultation process, with a view to submitting a bid for the supply of engineering studies, equipment, and the construction of two EPR-type reactors.

Czech Republic

EDF is taking part in the competitive tender process formally launched in March 2022 in the Czech Republic by electricity supplier ČEZ, its project company Elektrárna Dukovany II and the Czech government.

This tender initially concerned the construction of a 1,200MWe unit on the Dukovany site, with a potential extension of the nuclear programme to three additional units. EDF received confirmation of this extension on 31 January 2024 through an official request from ČEZ for a supplement to its bid, to be submitted in April 2024. This request was only sent to two of the initial three suppliers in contention (EDF and the South Korean KHNP, but not the American bidder Westinghouse). Briefly, since the start of the process, EDF has submitted three offers covering engineering studies, equipment supply, and the construction and commissioning of one to four EPR1200 reactors for the Dukovany and Temelin sites, plus the supply of the first fuel core and five further loads for each unit. This has involved: (i) a conditional binding offer made on 30 November 2022; (ii) an updated binding offer on 31 October 2023 and (iii) a binding supplementary offer on 30 April 2024 for one to four EPR1200 reactors. On 17 July 2024, the Czech government chose the South Korean company KHNP as its preferred bidder, initiating exclusive negotiations between ČEZ and KHNP. However, EDF has not yet been formally eliminated, and its offer remains valid (the rules of the tender allow a change of preferred bidder). After a careful analysis of the characteristics of the South Korean bid, which was made public by the Czech government, EDF decided to challenge the selection of KHNP (i) at the national level, through the Czech Competition Authority and (ii) before the European Commission. The main grounds for these challenges is the defence of fair competition rules on the European market, notably regarding compliance with European regulations on foreign subsidies. These two procedures are ongoing.

(1) *Commission nationale du débat public*
(2) Edvance is a joint engineering subsidiary of EDF and Framatome, set up in 2017 for new nuclear power plant projects in France and internationally.
(3) King Abdullah City for Atomic and Renewable Energy.

At the request of the French government, in November 2022 the ASN issued an opinion on the safety options file for the EPR1200 reactor intended for export. The ASN's opinion on these safety options was similar to its opinion of July 2019 for the EPR1200 reactor options, from which they are derived. The ASN noted that the safety objectives and the standards used for the safety system design and architecture were taken from the EPR2 reactor model[1].

Poland

In October 2021, EDF submitted a preliminary non-binding offer to the Polish government for a contract covering engineering studies, equipment supply, and the construction of 4 to 6 EPR reactors in Poland, with a total target installed capacity of 6.6GW to 9.9GW across 2 or 3 sites. This preliminary offer covered all the key parameters of a programme of this kind, such as the technical configuration of the future power plants, the envisaged industrial plan, the development strategy for the local supply chain, the estimated cost of the programme and the associated execution schedule. Although the Polish government has chosen to continue binding discussions with a competitor for the first site, EDF's offer remains valid for the other sites and EDF is continuing its discussions with Polish stakeholders as the Polish government is considering launching a tender for a second site in Poland.

Other key prospects

EDF is committed to the strategic development of a fleet of high-power reactors in Europe. Many European countries have decided to launch or relaunch new nuclear programmes and accelerate their development processes. EDF is in discussions with countries such as the Netherlands, Finland, Sweden, Slovenia and Slovakia to carry out preliminary technical and commercial studies to derisk projects prior to the submission of formal offers.

In Canada, EDF supports local operators (Ontario Power Generation, Bruce Power) in their respective development processes for large-scale projects in Ontario.

1.4.1.1.3.4 Digital transformation of nuclear engineering

The integrated transformation programme of the Engineering and New Nuclear Build Division (DIPNN), now transferred to the Engineering and Supply Chain Division (DISC), aims to deeply and sustainably transform nuclear engineering in order to improve its industrial management and its competitiveness.

Its main objectives are to:

- standardise and simplify engineering processes and methods by integrating system engineering principles, and digitise them for the move towards digital engineering and efficient data-centric practices;
- standardise products based on proven solutions, base international offerings on the standard products and replicate them across projects;
- reconfigure relations with the supply chain by streamlining the panel of suppliers, making them accountable, and developing the extended enterprise model of operation;
- integrate the information system around PLM (Product Lifecycle Management) solutions, and ensure its interoperability with the information systems of external stakeholders (customers, suppliers, authorities, etc.) to establish a truly digital ecosystem;
- capitalise more effectively on knowledge and know-how and develop internal skills, while optimising the use of outsourcing.

1.4.1.1.4 Activities related to nuclear generation: Framatome

Framatome[2] is a key player in nuclear energy, owned by EDF (80.5%)[3] and Mitsubishi Heavy Industries (19.5%).

Framatome is highly-reputed for its innovative solutions and high added-value technologies for the worldwide nuclear fleet. With its global expertise, backed by sound references and a workforce of over 21,000 employees, the company designs, maintains, and installs components and fuel, and instrumentation & control systems for nuclear power plants.

In 2024, Framatome hired over 2,600 employees to maintain and increase its skills.

Framatome has a significant industrial presence in France, Germany, the United States and China. It also has industrial or commercial operations in more than 20 countries, including Argentina, Belgium, Brazil, Bulgaria, Canada, the Czech Republic, Finland, Hungary, Italy, Japan, Kazakhstan, Romania, Slovakia, South Africa, South Korea, Spain, Switzerland, Sweden and the United Kingdom.

Framatome's strategy is focused on its core business as a maker of nuclear steam supply systems. It aims to develop and produce safe, competitive solutions, and to execute projects on an industrial scale to the required quality standard, on budget and on time.

The company has a customer base that includes leading international energy players, and it works on over 385 reactors worldwide. Framatome's experience with reactors of all types of technology means it can meet specific customer requirements all over the world.

1.4.1.1.4.1 Framatome's activities

With 65 years of experience in the design and construction of nuclear power plants, Framatome can draw on recognised expertise, provided by highly-qualified engineers and operators.

Engineering

Framatome's experts are specialists in the design of the principal components of nuclear steam supply systems, metallurgy, mechanics, neutronics, scientific calculation work, fluid mechanics and risk and safety analysis. Framatome's engineering services include the core of the power plant, known as the nuclear island, and the main components of the primary circuit. These notably include steam generators, pumps, the pressuriser and the nuclear reactor vessel.

Framatome's specialists and technicians mainly work on major new nuclear build projects such as EPRs, and development of SMRs and Generation IV reactors.

Equipment manufacturing

More than 100 power plants in 11 countries are fitted with Framatome components. The Framatome plants in Le Creusot, Saint-Marcel and Jeumont in France produce key nuclear steam supply system equipment for electricity companies all over the world, to equip new-build power plants or to replace items at power plants in operation. The company manufactures advanced-technology heavy equipment (reactor vessels, steam generators, etc.) and mobile components (reactor coolant pump units and control rod drive mechanisms).

(1) ASN Opinion 2022-AV-0413 of 10 November 2022 on the safety options for the EPR1200 reactor project, issued in application of Article L. 592-28-1 of the French Environment Code. This opinion specifies that at the request of the government, the ASN may examine the compliance of safety options for nuclear installation models intended for export with the obligations applicable in France for the same type of installation.

(2) Framatome, Framatome Healthcare, Framatome Defense, and Framatome Space are registered brands and trademarks of Framatome and its subsidiaries in the USA and other countries.

(3) On 25 January 2024, EDF increased its stake in Framatome from 75.5% to 80.5% by acquiring the 5% stake held by Assystem.

In 2024, Framatome continued to ramp up production at its Saint-Marcel plant which specialises in heavy components. This plant supplies key forged components for new build projects outside France, including the Hinkley Point C EPR project in the United Kingdom, and has started production of components for the EPR2 programme in France and Sizewell C in the United Kingdom. It also supplies parts for replacement components intended for French reactors.

Meanwhile, since 2017 Framatome has been part of a plan for continuous performance improvement through operational excellence. Its objective is to ensure stability in the supply chain, control the manufacturing lead times of Framatome and its key suppliers, and maintain skills. Framatome's component plants are thus rolling out the "Excell in Quality" plan designed to guarantee "right the first time" production and construction. All stakeholders are engaged, with the aim of standardising activities. Framatome is thus following on from EDF's Excell plan, implemented from 2020 to 2023, whose key areas (quality, standardisation) remained in application in 2024. Also, in 2021 Framatome initiated the "Flow & Waste" programme to reduce execution lead times. This programme was continued and strengthened in 2024, as lead time has become a priority for the company. "Flow & Waste" is identical to EDF's "Spanner time" programme initiated in 2023.

Instrumentation and control systems

Framatome designs, manufactures and installs reliable nuclear instrumentation solutions and control systems for plants in operation and new builds. Its solutions include safety instrumentation and control (I&C) systems, operational I&C systems, nuclear instrumentation, lifecycle solutions, global I&C engineering expertise simulators, human-machine interface design and human factors engineering. Framatome has installed over 300 complete instrumentation and I&C systems on reactors of all types worldwide.

Fuel

Framatome designs, develops and manufactures fuel assemblies for pressurised water reactors, boiling water reactors and research reactors. The company's know-how spans the entire process: from design of the fuel assembly, to production of zirconium and its alloys – zirconium being vitally important for fuel production – on to fuel fabrication and related services, right through to operations on nuclear power plants.

The company performs all relevant calculations for improving fuel management and performance, in compliance with the highest safety standards. Nearly 260,000 Framatome fuel assemblies have been loaded into more than 200 reactors in operation around the world.

Commissioning and operation licensing of nuclear power plants

Framatome has gained substantial international experience from working with nuclear safety authorities on all types of reactors that exist around the world. The company can thus support operators in dealings with their respective safety authority, and in the application of existing regulations in the relevant country.

In France, Framatome has developed expertise in application of the ministerial order concerning nuclear pressure equipment.

The company also provides its international customers with technical centres where numerous tests are carried out each year to qualify their equipment. It assists customers preparing qualification studies and the related documentation.

Maintaining, modernising and extending the operating lifespan of existing nuclear power plants

Framatome offers innovative solutions and services to maintain and modernise existing nuclear power plants and extend their lifespan while preserving their safety, performance and availability. Framatome has over 65 years' international experience and puts it to use for all types of technologies and the maintenance of more than 300 reactors worldwide. Its teams have expertise and knowledge of the requirements concerning maintenance, component replacement, inspections and checks, refuelling operations, and optimised management of reactor outages for maintenance. The company's activities principally cover the management of equipment and spare parts, I&C modernisation, and chemistry and radiochemistry services.

Management of major projects

Framatome's involvement in new-build nuclear reactor projects spans design, procurement and supply, and commissioning. The company's teams draw on its expertise in the management of complex projects to meet customer requirements in compliance with the most stringent safety standards. In the case of new-build projects, the company proposes solutions for nuclear islands.

Framatome is involved in the maintenance of four EPR reactors in service around the world, in China (Taishan 1 & 2), Finland (Olkiluoto 3) and France (Flamanville 3).

Framatome is participating alongside EDF in the construction of EPR projects in France (the EPR2 programme) and the United Kingdom (Hinkley Point C 1 & 2 and Sizewell C 1 & 2).

In 2017, EDF and Framatome created Edvance, a joint engineering subsidiary for the construction of new nuclear power plants in France and worldwide.

1.4.1.1.4.2 Key achievements by Framatome in 2024

Project execution was well controlled, in accordance with the company's contractual commitments, and the actions to optimise structural costs continued. Production output by the plants was in line with the commitments made to customers, despite pressures on the supply chain.

Several primary component replacement operations took place: in the French fleet, for EDF (replacement of steam generators in the Cruas 3 nuclear power plant), in South Africa, for the customer Eskom (finalisation of steam generator replacement for unit 2 of the Koeberg power plant) and in Canada for Bruce Power (Bruce Power 5 & 6). Framatome continued to grow in the North American market, which remained highly competitive. Deliveries of equipment for the Angra 3 project in Brazil continued.

The instrumentation and control business continued to grow, driven by new build and retrofitting projects in France, the United Kingdom and Central Europe. In North America, the remedial action taken following the losses recorded in 2023 on a safety I&C renovation contract made it possible to complete the project.

There was substantial activity in major project management and component manufacturing: in France, the Flamanville 3 EPR was connected to the power grid, and the ramp-up of engineering and design work on standard forged component production for the EPR2 programme is continuing.

In the United Kingdom, the primary components of unit 1 and part of unit 2 of the Hinkley Point C EPR project were delivered to the site, and for the Sizewell C project, production of forged components and primary equipment is under way.

In 2024, Framatome's fuel business signed contracts in Hungary and Slovakia to supply fuel to VVER-type power plants.

Investments were launched as part of an industrial programme to ramp up production, in connection with the EPR2 programme in France. These investments concern the manufacturing and assembly of primary and auxiliary equipment components. They also concern the fuel supply chain, which is being modernised and consolidating its capability to carry out new production operations.

Framatome continued to integrate the equipment manufacturer Jeumont Electric, the specialist in the design and manufacture of electric motors and alternators it had acquired in December 2023, and carried out several external growth transactions in 2024: it acquired Vanatome, a specialist in valves and taps for the nuclear, defence and energy industries, in June 2024; the Arkadia group's non-destructive testing and inspection business in September 2024; and Allentis, a French provider of cybersecurity solutions, in November 2024.

Framatome also continued to develop its brands (Framatome Healthcare, Framatome Defense and Framatome Space).

As part of the development of activities related to its Framatome Healthcare brand, Framatome's proprietary isotope production technology is used for the commercial production of lutetium-177 in a CANDU reactor operated by Bruce Power in Canada. In 2024, Framatome, via its ISOGEN joint venture with Kinetrics, and its partners, Bruce Power and Isotope Technologies Munich (ITM), announced the doubling of the isotope production capacity in Bruce Power's Unit 7 in Canada by installation of a second production line. At the end of 2024, Framatome and SN Nuclearelectrica SA launched a similar medical isotope production project in Romania.

Under the Framatome Defense brand, launched in October 2020, Framatome serves the needs of France's defence programmes and related sovereignty issues through its industrial establishments located throughout the country. Framatome Defense's main contributions are to future nuclear programmes such as the Barracuda-type nuclear submarine programme, third-generation ballistic missile submarines (SNLE 3G), the future new-generation aircraft carrier (PA-NG) and projects for the benefit of the CEA's[1] Military applications division, particularly concerning nuclear propulsion.

Under the Framatome Space brand, launched in October 2023, Framatome provides skills and tools to the space industry to help it rise to new exploration challenges.

1.4.1.1.4.3 Basic Nuclear Installations (INB)

Framatome operates a Basic Nuclear Installation (*installation nucléaire de base* - INB) which makes nuclear fuels located at its Romans-sur-Isère site, identified by the French authorities as INB 63-U.

2024 nuclear safety results

As in 2023, there were no major safety or radiation protection events at the sites for which Framatome is a nuclear operator, i.e. the Romans-sur-Isère, Richland and Lingen fuel production sites.

In 2024, Framatome declared 10 significant safety events (SSE) of level 0 on the international INES scale, and no SSE of level 1 or higher.

Detailed nuclear safety results for 2024 are published in the annual report drawn up by the General Inspector for Nuclear Safety and the report on the Romans-sur-Isère site published in application of the French Law on Transparency and Nuclear Safety[2].

Dedicated assets

Dedicated assets have been established to cover long-term nuclear commitments. See section 6.1, note 17.1 "Other provisions for decommissioning" to the consolidated financial statements for the financial year ended 31 December 2024.

1.4.1.1.5 Arabelle Solutions

On 31 May 2024, EDF acquired the nuclear activities of GE Vernova relating to the conventional island of nuclear power plants, with the exception of service activities in the Americas. These activities, employing around 3,300 people, are managed by Arabelle Solutions, a wholly-owned subsidiary of EDF.

Arabelle Solutions' activities mainly relate to the conventional island of nuclear power plants:

- New Nuclear activity: design, manufacture and installation of core equipment for the conventional island (including the Arabelle turbine and the Gigatop alternator) for new nuclear plants, notably suitable for EPR and EPR2 technology reactors, and Small Modular Reactors (SMR);
- Services activity: maintenance and upgrades of this equipment for existing nuclear power plants.

Arabelle Solutions also supplies turbines for naval activities, notably for British nuclear submarines.

Arabelle Solutions employs approximately 3,400 people in 15 countries, mainly in France (2,200 employees, or approximately 70% of the workforce), India (approximately 400 employees) and the United Kingdom (approximately 300 employees).

The principal industrial assets operated by Arabelle Solutions are the following, located in those three countries:

- the Belfort site in France, where Arabelle turbines and very high-power alternators (over 1,000MW) are manufactured;
- the Sanand plant in India, specialising in low-power turbines (for SMRs) and medium-power turbines (notably for Indian nuclear installations);
- two repair workshops: one in La Courneuve in France for turbines and pumps, and the other in Rugby in the United Kingdom, which handles repairs of alternators and medium-power turbines, and also manufactures the turbines currently used in British nuclear submarines;
- an industrial facility located in Ludres in France, specialising in obsolescence management and the production and repair of electronic boards for nuclear power plants.

Arabelle Solutions currently has industrial or commercial operations in around twenty countries around the world.

Arabelle Solutions has a customer base that includes some of the world's leading energy companies. Its technology is present in one-third of the all the nuclear plants installed in the world. Arabelle Solutions carries out maintenance operations on more than 100 nuclear units each year.

Arabelle Solutions is involved alongside EDF in the construction, commissioning and maintenance of the conventional islands of Flamanville 3 and Hinkley Point C, as well as in the preparations for EPR new builds in France (EPR 2 programme) and the United Kingdom (Sizewell C).

Arabelle Solutions is also participating in Rosatom's projects for the construction of the Akkuyu nuclear power plants in Turkey and the El Dabaa plant in Egypt, and the extension of the Paks power plant in Hungary (see section 2.2.1 Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs).

The main projects completed by Arabelle Solutions in 2024 include several critical component repairs on the existing French fleet for EDF, and in South Africa for the customer Eskom (the Steam Generator Retrofit contract on unit 1 of the Koeberg power plant). Arabelle Solutions is beginning to see growth on the Services market, in a global environment still characterised by stiff competition, and its deliveries of equipment to international customers went smoothly.

In new nuclear projects, significant milestones have been achieved on Flamanville 3 (France), Hinkley Point C (United Kingdom), the EPR2, Akkuyu (Turkey) and El Dabaa (Egypt).

(1) *Commissariat à l'énergie atomique et aux énergies alternatives.*
(2) Available on the www.framatome.com website.

1.4.1.2 Thermal generation in mainland France

Thermal power generation facilities are an important component of the electricity mix to keep a real-time balance between generation and consumption. They respond to fluctuations in electricity consumption and renewable energy generation (solar and wind power in particular) and help to ensure adequate voltage and frequency levels on the network. This role is set to increase with the massive influx of intermittent generation facilities into the French and European electricity grids.

1.4.1.2.1 EDF's thermal generation fleet in mainland France

At 31 December 2024, the thermal fleet operated by EDF was diversified both in terms of fuel and capacity:

Fuel	Unit capacity (in MW)	Number of units in operation at 31/12/2024	Total capacity (in MW)	Year commissioned	Generation (net energy output in TWh)	
					At 31/12/2024	At 31/12/2023
Coal	580	2	1,160	1983 and 1984	0.2	0.25
Combustion turbines using fuel oil, gas and dual-fuel (gas and fuel oil)	85	4	340	1980 and 1981	0.31	0.46
	203	1	203	1992		
	134	1	134	1996		
	125-129	2	254	1998 and 2007		
	185	2	370	2010		
	179-182	3	542	2008 and 2009		
Combined Cycle Gas (CCGT)	427	1	427	2011	2.15	6.01
	465	2	930	2012 and 2013		
	585	1	585	2016		

Generation in 2024

Electricity generation by EDF's thermal power plants in mainland France represented 0.6% of its total electricity output in 2024. At the end of 2024, the thermal generation fleet had a total installed capacity of 4,945MW.

Thermal generation volumes (net energy) in 2024 totalled 2.66TWh, with a lower level of operation than in 2023 (6.72TWh). Coal-fired plants supplied 0.2TWh, CCGT plants 2.15TWh and combustion turbine plants 0.31TWh.

The challenge for these thermal generation facilities, which are used to variable extents throughout the year, is to ensure maximum reliability and availability. The fleet's adaptability to a sustained level of operation has been demonstrated. Particularly high demands were made of combustion turbine plants, which provided a very good response rate when called into operation.

1.4.1.2.2 Challenges relating to thermal generation

A thermal fleet in transition

Between 2013 and 2015, EDF permanently shut down 10 coal-fired generation units.

EDF shut down the Le Havre power plant permanently on 1 April 2021.

In September 2024, **as the technical and economic conditions for the Ecocombust project had not been met, EDF announced that it was to stop the biomass conversion project at the Cordemais thermal power plant**, and that it was considering shutting down the last two coal units at Cordemais permanently by 2027.

An action plan to limit the environmental footprint of other thermal generation facilities in mainland France

The Group launched a cross-functional strategic project for decarbonised thermal energy in 2021, which identified the various measures and techniques available to decarbonise its current fossil-fired generation plants or construct new low-carbon thermal plants.

Roadmaps were defined and are currently being implemented to examine all the opportunities for decarbonising existing generation plants, and to manage solutions for developing new decarbonised thermal capacity in case the electricity system needs it.

Operating tests with a bioliquid (Hydrotreated Vegetable Oils, in compliance with the RED II directive) were carried out on two combustion turbines in July 2023 (Brennilis) and June 2024 (Vaires-sur-Marne).

The results of these tests were positive in both their technical and environmental aspects, confirming the relevance of this decarbonisation solution.

Emissions by the thermal fleet

In 2024, EDF's thermal fleet in mainland France emitted 1.3 million tonnes of CO_2 (2.9 million tonnes in 2023). The CO_2 content per kWh generated was 477g/kWh net (425g/kWh net in 2023). This increase results from the lower use of gas-fired plants in EDF's thermal generation mix, whereas they contributed 81% of the thermal fleet's output in 2024 (89% in 2023), and the correspondingly larger relative contribution of coal-fired plants, which accounted for almost 7.6% of the thermal fleet's output in 2024 (4% in 2023). In 2010, the CO_2 content per kWh generated was more than 900 gCO_2/kWh net.

In 2024, EDF's thermal fleet in mainland France emitted 290t of SO_2, 941t of NO_x and 5t of dust. Per kWh generated, polluting emissions have been reduced since 2010 by a factor of 30 for NO_x, over 165 for SO_2 and over 165 for dust. These drastic reductions were made possible by:

- closing down the oldest thermal power plants;
- renovating and installing state-of-the-art flue-gas treatment equipment at the most recent coal-fired plants;
- using low-sulphur fuel;
- commissioning natural gas combined-cycle turbines.

For example, the Cordemais units are equipped with flue-gas desulphurisation and denitrification systems (reducing sulphur dioxide emissions by 90% and nitrogen oxide emissions by 80%) and dust collectors that trap almost all the dust.

Regulatory framework

Emission regulations

Several provisions of the French Energy Code have raised the greenhouse gas emissions ceilings for certain power generation facilities, and define offsetting obligations for greenhouse gas emissions resulting from the higher ceiling. This offsetting will finance projects that comply with the principles set out in Article L. 229-55 of the French Environment Code.

Thermal generation activities are also subject to other specific regulations derived from a number of EU Directives (Directive 2012/18 of 4 July 2012 known as the "Seveso 3 Directive", Directive 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, and Directive 2010/75/EU of 24 November 2010 on industrial emissions known as the "Industrial Emissions Directive" or IED), amended by Directive 2024/1785 of 24 April 2024.

Shutdown of the oil-fired fleet

In spring 2018, EDF permanently shut down its last thermal power plant operating on heavy fuel oil, in Cordemais.

Modernising the thermal generation fleet with natural gas combined cycle turbines

EDF has commissioned the following facilities:

- France's first combined cycle gas turbine (CCGT) plant at Blénod in 2011;
- 2 CCGT plants at Martigues in 2012 and 2013;
- a new-generation CCGT plant at Bouchain in 2016, in partnership with General Electric.

This modernisation of the thermal generation fleet reduces atmospheric emissions of CO_2, nitrogen oxides and sulphur oxides.

The CCGTs in Martigues are the result of a repowering of former oil-fired units, reusing some of their equipment such as the steam turbine, the condenser and the water treatment facilities. The installed capacity of the Martigues plant is 930MW, and its efficiency is above 50%, significantly higher than the efficiency of coal-fired thermal units.

The Bouchain CCGT has innovative features in terms of capacity (it can reach 600MW in under 30 minutes) and efficiency (over 60%). It also demonstrates good environmental performance. Its CO_2 emissions are around 360g/kWh, close to just a third of the emissions by the nearby old coal-fired plant shut down in 2015.

Decommissioning of permanently shut-down thermal fleet units

EDF has planned all the decommissioning operations for units that have been permanently shut down or are scheduled for permanent shutdown. Financial provisions have been set aside to cover decommissioning costs for all the units in operation and the site remediation works(1).

In 2024, EDF continued the decommissioning work on sites that are no longer in operation.

EDF is careful to preserve the potential of its sites, through reasonable allocation of spaces and local monitoring of relevant urban planning regulations to secure its own needs. By applying this differentiated management of spaces and ground, EDF's land is gradually being released from land use rules (freeing up new land resources, with potential for biodiversity and land de-artificialisation) as appropriate to the Group's needs, while assisting local authorities as they develop new types of activity.

Regulatory framework

Regulations applicable for the end of operation

Fossil fuel-fired power plants are subject to the legislation on installations classified for environmental protection (ICPEs) contained in the French Environment Code. Activities covered by this legislation are identified in a list and subject to declaration, registration, or authorisation requirements depending on the level of risks and drawbacks they may cause. These regulations require sites to be restored when a facility is taken out of service, depending on the expected future use of the land. For certain facilities, financial guarantees must also be established. Depending on the nature of the hazards and/or drawbacks for each category of installation, these guarantees are intended to ensure surveillance of the site, the ongoing security of the facility, interventions in the event of accidents prior to or subsequent to shutdown, and restoration of the site after shutdown.

1.4.1.3 Renewable energy generation and storage

The EDF group is a major player in renewable energies in Europe, and the largest supplier of hydropower in the European Union.

Hydropower is the Group's main type of renewable energy. The Group is also a leading actor in the development of competitive industrial channels, primarily for wind and solar power.

Renewable energies account for over a quarter of the Group's total installed capacity.

The EDF group's commitments for expanding renewable energies are also presented in section 3.2.2.1.2.1.2 "Low-carbon generation" - "Roadmap for increasing the Group's decarbonised generation".

(1) See section 6.1, note 17.1 "Other provisions for decommissioning" to the consolidated financial statements for the financial year ended 31 December 2024.

THE GROUP'S NET INSTALLED RENEWABLE ENERGY CAPACITY AT END-2024[1]

(in MW)	Hydropower	Wind power	Solar power	Biomass	Geothermal energy	Marine energy	Total
France	20,551	2,071	1,024	454	1	240	24,340
Europe excl. France	1,191	2,004	520	4			3,719
America	205	4,819	2,647				7,671
Asia	432	1,006	690	23			2,152
Africa[2]	120	310	1,185				1,615
Total net installed capacity	**22,500**	**10,211**	**6,066**	**480**	**1**	**240**	**39,497**

(1) Proportionally to the Group's percentage ownership.
(2) Including the Middle East.

1.4.1.3.1 Hydropower generation in France

1.4.1.3.1.1 EDF's hydropower generation fleet

Hydropower is the largest source of renewable electricity, and the second source of electricity generation in France after nuclear power. It is an important sector for the electricity system due to its flexibility and its contribution in terms of network balance and supply security.

EDF's hydropower fleet comprised 424 power plants at the end of 2024, with an average age of 79 years[1].

Hydropower plants	31/12/2024	31/12/2023
Total maximum capacity *(in GW)*	20.17	20.20
Total output including pumped-storage hydropower plants *(in TWh)*	50.52	38.80

In mainland France, hydropower plants are mainly located in mountainous areas in the Pyrenees, the Alps, the Massif Central and the Jura, and along the Rhine. Their combined installed capacity amounts to around 20.17GW[2] (23.3% of EDF's total installed capacity) and the average annual potential output is around 50TWh[3].

The various hydropower facilities are designed to optimise the use of water resources in the valleys under a multi-use water management approach. Given the size and variety of its facilities, EDF has installations able to respond to all types of desired uses, in base load and peak load. They provide optimisation levers due to their flexibility of use.

Type of facility	Turbine capacity (MW)	Average gravity-based generation capacity over 60 years[1] (TWh)
Run-of-river	3,646	16.37
Dam/Reservoir	8,160	14.15
Pondage	3,077	7.76
Pumped-storage [2]	5,045	1.49
Tidal	240	0.53

(1) The average capacity over 60 years is restated based on observed climate change.
(2) Gravity-based generation capacity only, not including pumped-storage energy.

1.4.1.3.1.2 Performance of the hydropower generation fleet

In 2024, EDF spent more than €620 million (external purchases and capitalised labour) on hydropower fleet development and maintenance, to ensure optimised, safe operation.

A highly-automated and remotely-monitored fleet

Approximately 77% of the installed hydropower capacity (i.e. over 15.6GW) is remotely controlled from telecontrol centres, under centralised management for each valley. These centres can adjust the operating programme at any time to meet electricity system requirements or respond to economic opportunities on the electricity market.

To improve the reliability of its power plants, EDF monitors physical parameters of the machinery (temperature, vibration, etc.) from its regional operations centres. Any anomaly can thus be speedily detected, and incidents can be avoided through enhanced knowledge of the condition and operating behaviour of equipment.

Two of these regional operations centres now function as 24/7 support and service centres, providing remote support to the operator in order to limit mobilisation of on-call personnel and provide technical support to the employees mobilised when necessary.

Technical performance of the fleet and hydraulicity conditions in 2024

Hydropower output can vary significantly from year to year due to weather-related fluctuations in water resources. The year 2024 was characterised by substantially above-normal hydropower stocks and a strong generation performance.

Anticipating future needs driven by the expansion of intermittent renewable energy (solar and wind power), the emphasis is on increasing hydropower plant flexibility and fine-tuning power plant management.

1.4.1.3.1.3 Hydropower safety

EDF performs regular monitoring and maintenance of dams, contributing to hydropower safety. Hydropower safety consists of all the measures taken during the design and subsequent operation of hydropower facilities, to protect people and property against water-related hazards arising from the presence or operation of structures.

Hydropower safety is a major, permanent concern for EDF and involves three main activities:

- control of operational risks, i.e. risks caused by changes in water levels or water flow downstream of the facilities;
- management of the facilities during periods of exceptionally high water levels, to keep the installations and surrounding communities safe;

(1) Sliding 1-year arithmetic mean for a like-for-like fleet, recalculated in 2021.
(2) Excluding French overseas *départements* and regions, and Corsica.
(3) Annual potential output excluding the Rance plant.

- measures to prevent the major risk of dam or reservoir failure, through regular monitoring and maintenance of facilities under the supervision of public authorities. In France[1], 237 class A and B dams undergo hazard assessment studies carried out every ten and fifteen years respectively. These studies consolidate an overview of the facilities and associated countermeasures, forming part of a risk mitigation procedure[2]. The 67 largest dams are covered by a special administrative procedure (the Special Intervention Plan).

See also section 2.2.1 "Operational performance risks", risk 1F "Hydropower safety risks".

In 2024, there were a large number of floods, and most of the facilities operated by EDF were affected.

Regulatory framework

Regulations applicable to the safety and security of hydropower facilities

Articles R. 214-112 and following of the French Environment Code contain provisions that are applicable to the safety and security of licensed hydropower facilities operated under concession. Dams are classified A, B or C according to their characteristics, particularly their height and the volume of the reservoir, and the operator or concession holder must fulfil a certain number of regulatory safety and security obligations that depend on this classification and the laws governing the facility.

1.4.1.3.1.4 Challenges relating to hydropower generation

Hydropower is a key component of the energy transition, due to both its low-carbon output and its flexibility and storage capability, which far outperforms other energy storage solutions. Hydropower also plays a major role in the regional management of water resources.

Concession renewals

Regulatory framework

Regulations applicable to hydropower facilities in France

In France, hydropower facilities are subject to the provisions of Articles L. 511-1 and following of the French Energy Code. They are operated under concessions granted by the State (for facilities with capacity of over 4.5MW), or under licences from the Prefecture (for facilities under 4.5MW).

The French Energy Code requires the granting of hydropower concessions to be preceded by public notice and competitive tendering following the procedure set out in the French Public Procurement Code.

In accordance with Article L. 523-2 of the French Energy Code, when a hydropower concession is renewed or extended in accordance with Articles L. 521-16-2 or L. 521-16-3 of the French Energy Code, an annual concession fee is levied. This fee is proportional to the revenues generated by the concession and paid partly to the French State, and partly to the French *départements* and municipalities through which the waterways used flow.

The facilities operated by EDF under concessions and licences are run with a combined concern for energy improvement, water management, biodiversity, remuneration for the State and local authorities through the relevant fees, and local development, while ensuring safe, secure operation.

Most concessions that expired before 2012 were initially for 75 years[3] and were renewed for terms of 30 to 50 years.

At the end of 2024, 36 concession, covering a total capacity of over 3,600MW, had not been renewed by the grantor.

See also section 2.2.3 "Market regulation, political and legal risks", risk 3B "Risks related to changes in the legislative and regulatory framework for hydropower concessions".

Local integration in the hydropower valleys

EDF wants to contribute to sustainable, shared development in the areas around hydropower generation facilities, which are generally rural and mountainous, and sometimes isolated. EDF's relations with local areas are founded on its behaviour as a responsible operator and long-term industrial actor in the valleys.

EDF's dealings with hydropower zones principally concern two levers:

- employment, by trying to maximise local economic impact. EDF Hydro[4] makes 78% of all its purchases in its hydropower zones, thus benefiting the local industrial fabric by doing business with over 6,278 local companies. The employment footprint of EDF's hydropower activity in mainland France is estimated at 4,664 indirect jobs[5]. EDF has also worked together with economic and institutional players in the valleys for more than 10 years on the *"EDF, une rivière, un territoire"* (EDF, One River, One Territory) programme which has created or protected over 730 jobs by making equity loans to around 60 local businesses;
- ongoing dialogue with economic, political, and non-profit actors in the areas concerned, particularly water users and environmental stakeholders:
  - for balanced management of resources. After "water shortages" in 2022 and 2023, management of contractual minimum flows was complicated in 2024 by significant flows. On the river Durance, for example, EDF had to cope with 12 successive episodes of flooding up to the end of June 2024, combined with a late snowmelt that continued into the first fortnight of July. EDF took all stakeholders' constraints into consideration in its dynamic forward planning of volumes, notably for the Serre-Ponçon reservoir (Hautes-Alpes and Alpes-de-Haute-Provence) which reached extremes of a low water level of 320 million m^3 at the end of May and its maximum storage capacity of 1.2 billion m^3 over June and July. The Durance and Verdon hydropower facilities were thus mobilised extensively to control reservoir filling and make it possible to hold the large volumes of water expected, given the restrictions on downstream outlets (new summer operating methods were introduced that avoided pumping water into the Étang de Berre; no water could be released from the Mallemort canal for two months due to work by the local development entity *Syndicat mixte d'aménagement de la vallée de la Durance*). EDF therefore decided to discharge water from the Serre-Ponçon reservoir from 1 to 15 July 2024, reducing the level to 776m measured by the French altimetric system NGF[6] in anticipation of the expected water inflows and dam closures, while preserving sufficient flow rates to supply water for agricultural purposes and the regulatory reserved flow. The fill levels of the Serre-Ponçon, Castillon (Alpes-de-Hautes-Provence) and Sainte-Croix (Var and Alpes-de-Hautes-Provence) reservoirs during the summer were therefore favourable for multi-use,

(1) Mainland France and French overseas *départements* and regions, including wholly-owned subsidiaries.
(2) For further details, see the annual report of the Inspector for Hydropower Safety, available on EDF's website.
(3) Pursuant to the Law of 16 October 1919 on the use of hydropower.
(4) EDF Hydro is the division of EDF SA that is in charge of operating hydropower facilities under concessions or licences in mainland France, and the associated engineering activities.
(5) Using generally accepted academic definitions, based on the amount of purchases made in the French economic fabric in 2024, and an indirect employment impact per million euros on 64 economic sectors; economic data source: INSEE.
(6) NGF: *nivellement général de France*, an altimetric measurement providing an absolute water level.

> for voluntary dialogue and consultation. EDF conducts numerous regional dialogue processes and consultations. For example, as soon as studies were launched for the Vouglans - Saut-Mortier project in the Jura (proposed installation of a pump turbine on the left bank of the Saut-Mortier reservoir in the immediate vicinity of the current hydropower plant, to be commissioned by 2030), EDF organised an extensive voluntary targeted consultation process that lasted until April 2023 and led to several changes being made to the project to strike the best balance between energy, environmental and water use issues. This initiative was acknowledged during the public inquiry, held from May to June 2023. The construction phase of the project began in the summer of 2024, and dialogue and consultation are continuing.

Managing access to water

The maximum capacity[1] of the dams operated by EDF in France is nearly 7 billion m^3 of water. As well as being a hydropower supplier, EDF is therefore also a contributor to the sustainable local management of water resources.

EDF sustains the flows of many rivers in summer, to the benefit of aquatic ecosystems and other water uses: drinking water, irrigation, river-based sports and leisure activities.

Water resources are managed in consultation with the various stakeholders; in some cases, this involves agreements (overseen by the State as concession grantor) with local authorities, anglers, farmers, and the managers of tourist destinations and industrial sites. EDF is thus very much a stakeholder in local water management governance. The company has an innovative "Basin coordinator delegates" scheme ensuring that all EDF's functions have representation in France's water management authorities such as Basin Committees and water authority boards, on behalf of the French Electricity Union UFE[2].

Action for climate change adaptation

EDF has always had to adapt to natural hydrometeorological variability, which can lead to significant variations in its potential hydropower output in mainland France from one year to the next. Numerous projects have been launched over several years concerning the adaptation of structures, operating methods and hydropower facility design, and also consultation processes for responsible water management (see above). Coordination of this work on climate change adaptation for EDF's hydropower generation was launched in 2021, leading to the ARCHE project for adaptation and climate resilience of hydropower at EDF, which was validated by the CSR Executive Committee at the end of 2023. This project focuses on three issues (safety of facilities and people, high-level economic and environmental performance, and the essential contribution to management of multiple water uses) and sets objectives for four major areas of adaptation (knowledge, assets, operation and regional resilience) broken down into around 50 action plans.

A number of initiatives were launched or completed in 2024, ranging from studies on raising dams such as the Laparan dam (Ariège) to the finalisation of a Digital Watershed Twinning model to assess the impact of climate change and human activity on the management of water resources in the river Loire to the horizons of 2050 and 2100, by adapting facilities such as the emblematic power plant in Chamonix (Haute-Savoie) which pumps meltwater from the Mer de Glace glacier. EDF completed a €2.8 million investment for this plant in 2024 to install a resilient surface water recovery system further downstream than the previous facilities, able to adapt to any thaw speed at the glacier.

1.4.1.3.2 Other renewable energies

Biomass and biogas

Through its holdings, the EDF group owns shares in several dozen heating networks and small-scale, mainly wood-fired generating plants in France (notably through its subsidiary Dalkia) and outside France. It has been engaged in the development of anaerobic digestion for several years, with the biogas produced used both in cogeneration and for direct injection into the natural gas distribution network.

Geothermal energy

EDF is developing geothermal energy through its subsidiary Électricité de Strasbourg. It operates two industrial facilities in Alsace: the Ecogi heat generation plant at Rittershoffen, for local industry, and the power generation plant at Soultz-sous-Forêts.

Dalkia has also specialised in geothermal energy for over 40 years. Dalkia operates a number of near-surface and deep geothermal energy facilities in France (about 20 in the Ile-de-France region).

1.4.1.3.3 EDF Renewables

Apart from hydropower, the EDF group's involvement in renewable energy is largely managed by its subsidiary EDF Renewables. EDF Renewables companies employed a total of 5,358 people at 31 December 2024 in France and abroad.

EDF Renewables is fully engaged in the renewables market dynamic, maintaining its strong presence in onshore wind power while accelerating its solar and offshore wind power business.

It is also continuing its development in the energy storage sector, notably through the installation of large-scale batteries.

EDF Renewables is a participant in the Group's low-carbon hydrogen development strategy, with the ambition of positioning itself as a major European player in decarbonising industry and heavy mobility (see section 1.4.6.3 "EDF's Hydrogen business").

Finally, EDF is also active in the distributed renewable energy sector (rooftop solar power) for residential and corporate customers. It has operations in France (via the subsidiary EDF Solutions Solaires) and around the world (via EDF Renewables), notably in the United States, China, the United Kingdom and since 2021, Vietnam, Israel and Germany.

EDF Renewables is continuing to grow its installed capacity (10% annual average growth over the past five years). As of 31 December 2024, EDF Renewables had gross installed capacity of 23,219MW, net installed capacity of 14,175MW and 8,404MW gross currently under construction. The portfolio of projects under development and secured represented 71GW[3] at the end of 2024.

With operations in more than 25 countries, EDF Renewables is one of the leading players in the development and generation of electricity from renewable energy sources. Historically, its main operations are located in North America (United States, Canada and Mexico) and Europe, starting with France and the United Kingdom. EDF Renewables has also started to rebalance the geographical distribution of its activities. It is strengthening its presence in other countries with high potential for growth in renewable energies such as South Africa, Brazil, China, India, the United Arab Emirates, Saudi Arabia, Morocco and Oman.

(1) This is not the same as the active storage capacity that can actually be released given the characteristics of the facilities (such as the height of water intake structures), which is necessarily less.
(2) *Union française de l'électricité.*
(3) Including storage.

EDF Renewables is an integrated operator in renewable energies, with operations in every stage of the value chain, from upstream project development, to engineering during wind and solar plant construction, to operation and maintenance of completed plants. EDF Renewables develops projects on its own or in partnerships, as appropriate. At 31 December 2024, its portfolio of net installed capacities comprised 60.3% wind power, 37.0% solar power and 2.7% storage. EDF Renewables has begun a technology rebalancing by accelerating its development in solar energy.

As part of its business model, the Group is also involved in the Development and Sale of Structured Assets, which consists of selling projects it has built, in whole or in part, to third-party investors. The gross capacity of the assets sold through such operations in 2024 amounted to 1,221MW.

1.4.1.3.3.1 The fleet

INSTALLED CAPACITY BY ENERGY TYPE AND COUNTRY

	At 31/12/2024		At 31/12/2023	
(in MW)	Gross[1]	Net[2]	Gross[1]	Net[2]
Wind power				
South Africa	145	74	145	73
Germany	164	162	164	162
Saudi Arabia	426	152	426	152
Belgium[3]	325	32	325	27
Brazil	824	824	951	768
Canada	807	599	807	599
Chile	175	88	175	88
China	1,001	485	1,001	476
United States	3,527	2,829	3,623	2,925
France	2,826	2,059	2,547	1,959
Greece	264	238	264	238
India	571	459	571	459
Morocco	187	84	87	34
Mexico	324	162	324	162
Poland	68	68	68	68
United Kingdom[4]	875	245	635	183
Turkey	0	0	0	0
Total wind power[5]	**12,511**	**8,559**	**12,115**	**8,372**
Solar power				
Saudi Arabia	388	133	388	133
Brazil	399	399	399	199
Canada	61	42	61	42
Chile	115	58	115	58
China	311	311	299	299
Egypt	167	82	167	82
United Arab Emirates	3,165	590	3,165	590
United States	2,638	1,572	1,474	971
France	923	920	682	679
Greece	172	156	172	156
India	663	332	663	332
Ireland	27	14	27	14
Israel	616	366	589	349
Mexico	120	120	120	120
United Kingdom	221	113	218	111
Vietnam	90	47	83	43
Total solar power[5]	**10,076**	**5,254**	**8,621**	**4,177**
Electricity storage				
Germany	2	2	2	2
China	10	3	10	3
Egypt	1	1	1	1
United States	366	229	216	154
United Kingdom	253	129	200	102
Total electricity storage[5]	**632**	**363**	**429**	**260**
Total[5]	**23,219**	**14,175**	**21,165**	**12,809**

(1) Gross capacity: total capacity of the facilities in which EDF Renewables is a shareholder.

(2) Net capacity: capacity corresponding to EDF Renewables' stake.

(3) Offshore wind power only.

(4) EDF Renewables owns 51% of EDF Renewables UK (the other 49% is owned by EDF Energy).

(5) Corresponds to the sum of the exact values rounded to one decimal place.

1.4.1.3.3.2 Energy types and significant events

For details of renewables activities in Italy and Belgium, see sections 1.4.5.2 "Italy" and 1.4.5.3.1 "Northern Europe" respectively.

Wind power

Onshore wind power

EDF Renewables had a total of 10,363MW of onshore wind power capacity in operation at 31 December 2024. Onshore wind farms under construction represented a gross capacity of 1,660MW at that date.

France
In 2023, EDF Renewables continued its development. It launched the construction of six wind power projects with total volume of nearly 95MW, and was awarded 106MW of contracts in Energy Regulation Commission (CRE) tenders.

EDF Renewables also carried out its first wind power repowering in mainland France at the Oupia wind farm, increasing its maximum capacity from 8.1MW to 20.7MW. In 2024, EDF Renewables commissioned the repowering of the Saint Simon and Tenesa wind farms (12MW gross and 11.7MW respectively).

South Africa
EDF Renewables is continuing the construction of several wind projects totalling 791MW of gross capacity.

With its Anglo-American partner, EDF Renewables has set up a joint venture called Envusa Energy, which acts as a trader between generator projects and the offtakers (mines).

Saudi Arabia
EDF Renewables (as lead contractor in a consortium with Masdar and Nesma) commissioned the Dumat Al Jandal wind farm in 2022. With gross installed capacity of 426MW, this project is the first wind farm in Saudi Arabia and the biggest in the Middle East. It has been in full-capacity operation since July 2022, providing over 70,000 homes with renewable electricity.

Brazil
EDF Renewables has been operating in Brazil since 2015, and is one of the country's leaders in the renewable energy industry. The first phase of the Serra do Seridó wind farm in the State of Paraíba, with total installed capacity of 242MW, was commissioned in July 2023. The second phase, totalling 238MW, was commissioned on 18 July 2024.

EDF Renewables also launched construction of the 261MW Serra das Almas wind power project in the State of Bahia.

Canada
In 2023, EDF Renewables commissioned the Cypress 1 wind farm totalling 200MW.

India
In 2023, EDF Renewables completed commissioning of the 112 turbines of the Kabini project (SECI V) in the State of Gujarat, totalling 302MW of installed capacity.

Also in 2023, EDF Renewables signed a power purchase agreement (PPA) for 100MW of wind power as part of the GUVNL4 auction.

EDF Renewables has also started construction of two projects with a total capacity of 130MW.

Morocco
EDF Renewables is continuing construction of the Koudia wind farm, a repowering project with total installed capacity of 100MW, which was commissioned in July 2024.

After finalising the construction of the first phase of the Taza wind power project (87MW) in September 2022, jointly-owned in consortium with the Japanese partner Mitsui, phase 2 was launched in October 2024, increasing the installed capacity to 100MW. The commissioning of Phase 2 is scheduled for the first half of 2026.

United Kingdom
In 2023, two EDF Renewables projects in the United Kingdom, the Clash Gour (223MW) and Heathland (80MW) wind farms, were awarded a Contract for Difference (CfD) for a share of their power output.

China
Construction has begun of the Qinzhou wind power project with a total capacity of 155MW.

Offshore wind power

Offshore wind power is a strong growth area for EDF Renewables. The company already has operations on the offshore wind power market, with almost 21GW gross of projects under development, under construction, commissioned, or managed under operation and maintenance contracts. EDF Renewables is present in Belgium, the United Kingdom, France, Ireland, and more recently, China and the United States.

France
EDF Renewables is the leader in offshore wind power.

It won three projects in 2012, namely the offshore wind farms at Saint-Nazaire, Fécamp, and Calvados. The combined gross capacity of these projects is 1,425MW and the total investment amounts to around €6 billion. EDF Renewables is partnering with Enbridge Inc. and Skyborn for the Fécamp and Calvados projects, and Enbridge Inc. for the Saint-Nazaire project, France's first offshore wind farm. Construction of the Saint-Nazaire farm began in late 2019 and it was commissioned at the end of November 2022.

Construction of the Fécamp offshore wind farm began in 2020. The electrical substation and 71 foundations were installed offshore in summer 2022. The facility was fully commissioned in May 2024.

Construction of the Calvados offshore wind farm, off the Normandy coast, was launched in February 2021. An order for recyclable blades for 10 turbines was placed in 2022. Connection of the wind farm to landfall and the electricity grid is currently being completed, and installation of the foundations was launched in the autumn of 2024.

Together with an entity owned jointly by Enbridge Inc. and the Canadian pension fund CPPIB (Canada Pension Plan Investment Board), EDF Renewables is also constructing a pilot offshore wind farm project (*Provence Grand Large*) in the Mediterranean, using floating wind power technology. Construction continued in 2023 with the assembly of the floating platform turbines. Offshore turbine installation was then completed and connection works are under way. Commissioning is expected in early 2025.

The Dunkirk project, with installed capacity of almost 600MW, was awarded to a consortium consisting of EDF Renewables, Innogy (now RWE) and Enbridge in June 2019. In 2021, after RWE withdrew from the project, EDF Renewables and Enbridge increased their stakes in the project such that both now own 50%. The consortium (responsible for design, construction, and operation and maintenance of the future wind farm) and RTE (responsible for the electrical connection) are continuing with the consultation phase of the project, which follows on from the public debate organised by the CPDP in the fourth quarter of 2020. The project authorisations are under consideration and the public inquiry was held in the summer of 2024.

EDF Renewables and Maple Power, an entity co-owned by Enbridge Inc and the Canadian pension fund CPPIB, won the Manche Normandie offshore wind farm project in March 2023, following the 1GW "AO4-Centre Manche 1" tender launched by the French government in 2021. This project will be the biggest offshore wind farm in France.

In late 2024, following the sixth offshore wind farm tender, the French Ministry for Industry and Energy chose "Éoliennes Méditerranée Grand Large", the project company owned by EDF Renewables and Maple Power, to design, build and operate the floating offshore wind farm known as "Golfe de Fos 1". The future Méditerranée Grand Large wind farm will be located 25km off the Mediterranean coast. With capacity of around 250MW, it should provide the equivalent of the annual electricity consumption of around 450,000 inhabitants.

United States

At the end of 2018, EDF Renewables and Shell New Energies US LLC (Shell) set up a 50-50 joint venture, Atlantic Shores Offshore Wind, LLC. The purpose of this joint venture is to develop offshore wind turbines on a site located off the coast of New Jersey (WEA) under a lease issued by the US federal authorities. In June 2021, it was awarded a Power Purchase Agreement (PPA) to develop 1.5GW of capacity. In July 2022, it gained another maritime area in a federal auction, to develop a 1.5GW project off the coast of the State of New York.

United Kingdom and Ireland

At the end of October 2024, the offshore wind farm "Neart na Gaoithe" (located in Scotland, 15.5km off the coast of Fife), owned by EDF Renewables in partnership with the Irish electricity company ESB, passed a major milestone with the injection of the first kWh into the British national grid, and the commissioning of the first part of the project with capacity of 240MW. This project's total capacity is 450MW.

EDF Renewables also won the contract for the 1.3GW Codling offshore wind power project in the Irish Sea in March 2023.

South Korea

In September 2024, EDF Renewables acquired its first offshore wind power project in South Korea, with maximum capacity of 1.5GW.

Solar photovoltaic solar power

EDF Renewables has stepped up its development in solar power. At 31 December 2024, installed solar capacity stood at 10,076MWp gross (5,254MWp net), an increase of 1,077MWp net compared with the end of 2023.

EDF Renewables also has a portfolio of solar power projects under construction totalling 5,370MWp of gross capacity.

France

EDF is implementing a strategy covering all market segments. It is founded on an integrated model combining project development up to operation, the pursuit of industrial excellence, and steady investment in innovation. This strategy leverages EDF's research and development and the territorial networking of EDF's special teams for local authorities and businesses. The sites targeted as a priority are so-called "damaged" sites: industrial wastelands, polluted sites, derelict sites and former quarries. These sites can be given a new lease of life through the development of solar power projects. The company is also looking to develop agrivoltaic solar projects.

In 2024, EDF Renewables commissioned 16 solar power plants with total gross capacity of 241MW, and started building 15 wind farms with capacity of 318MW.

Innovation is also supporting the development of solar photovoltaic power, notably in the form of:

- agrivoltaics, i.e. development of solar power installations above certain types of crop. In 2023, EDF Renewables launched Vitisolar, a pilot project placing solar panels above vineyards in the Bordeaux region, and the demonstrator ADELI in Gard in the south of France, in which rice and alfalfa are grown in alternation beneath solar panels. In June 2024, EDF Renewables also launched EVAPORE, an apple tree demonstrator;
- floating solar projects: in June 2023, EDF Renewables inaugurated France's first floating solar power plant, at Lazer in the Hautes Alpes. This plant, with installed capacity of 20MWp, covers three quarters of a hydropower plant reservoir;
- self-consumption ground-mounted solar power to help industrial companies consume decarbonised energy. In 2023, EDF Renewables inaugurated its first self-consumption ground-mounted solar power plant, built to supply electricity to part of the Sanofi factory at Aramon in the Gard *département*.

South Africa

EDF Renewables entered into an agreement with Anglo American group to set up a joint venture, Envusa Energy, and launch a portfolio of over 600MWp of wind and solar power projects for which construction began in 2024. Envusa Energy aims to have installed capacity of between 3 and 5GWp by 2030. EDF Renewables started building work for the Mooiplats solar power plant with total capacity of 283MW.

Saudi Arabia

In 2023, EDF Renewables commissioned South Jeddah, the first solar power plant in Saudi Arabia, with installed capacity of 388MWp.

EDF Renewables, in consortium with Masdar and Nesma, also won the tender and signed a power purchase agreement (PPA) to develop the Al Henakiyah project with installed capacity of 1.2GWp.

In early December 2024, EDF Renewables signed a PPA with the Saudi Power Procurement Company (SPPC) for the 1,000MW MASA'A and 400MW Al Henakiyah2 solar power plants.

United States

After commissioning the Arrow Canyon (275MWp) and Holland Creek (117MWp) power plants in 2022, EDF Renewables North America commissioned the entire Fox Squirrel solar power plant in 2024, with total capacity of 750MW. The company also commissioned the Desert Quarzite (377MW) and Morris Ridge (230MW) projects.

United Arab Emirates

The consortium made up of EDF Renewables and the Chinese company Jinko Power Technology Co. Ltd. (alongside local partners Masdar and Taqa) inaugurated the Al Dhafra solar power project 35 kilometres south of Abu Dhabi in November 2023. With installed capacity of 2GW, it is one of the most powerful solar power projects in the world, supplying the equivalent of 160,000 local households' electricity needs every year.

In September 2024, EDF Renewables and its partners KOWEPO and Masdar announced the financial closing of the Al Ajba solar power project in Abu Dhabi, with total installed capacity of 1.8GW.

Oman

With its Korean partner KOWEPO, EDF Renewables started construction of the 630MWp Manah solar power plant, its first project in Oman.

India

EDF Renewables is expanding its solar power business through EDEN Renewables India, a joint subsidiary with TotalEnergies.

Vietnam

EDF Renewables holds a stake in SkyX Energy, a rooftop solar developer in Vietnam.

Israel

In 2023, EDF Renewables inaugurated the Ashalim 2 solar plant with capacity of 42MWp. The company is building 10 projects with total capacity of 94MW.

United Kingdom

The Porth Wen, Burwell 1 and Sutton Bridge solar farms, with total capacity of 213MWp, were commissioned at the end of 2023. EDF Renewables also began construction on the Tye Lane, Macallan and MAG projects with combined capacity of 89MW.

Operation & Maintenance

As an integrated operator, EDF Renewables operates and maintains most of its own facilities. Its operation and maintenance work is chiefly for EDF group wind and solar plants, but is also carried out on behalf of third parties. Worldwide, EDF Renewables operated 20.5GW at the end of 2024, involving over 1,100 experts, engineers and technicians across nine countries. EDF Renewables has long been active in operation and maintenance (O&M) in North America, where it manages over 16.1GW. Its O&M business in Europe and the rest of the world concerned more than 4.4GW at end-2024.

The pace of O&M activities is driven by the commissioning of new plants and the operation strategy, which is defined individually for each project depending on the technology and region. The aim is to achieve maximum efficiency in every facility, working in conjunction with suppliers, for the entire expected or extended lifespan.

To this end, EDF Renewables has a predictive maintenance supervision centre (e-Diagnostic Centre) which uses specific in-house expertise that is centralised and coordinated with the EDF group's R&D. This centre completes the remote plant monitoring and control system consisting of two real-time oversight centres located in France (Colombiers) and California (San Diego).

EDF Renewables also owns several European maintenance centres, located in Belgium, Greece, the United Kingdom and France. These O&M centres are designed to position technical teams as close as possible to the wind and solar farms. In 2023, EDF Renewables opened its third offshore wind O&M centre in France, at Ouistreham (the first two, at Saint-Nazaire and Fécamp, were opened in 2021 and 2022 respectively).

Distributed Energy Resources

France

EDF Solutions Solaires, a wholly-owned subsidiary of the Group, is an integrated distributed solar power operator, carrying out design, development, construction, operation, and maintenance of rooftop and car park canopy solar installations. It markets solar power contracts for residential customers, business customers, and local authorities in mainland France and overseas *départements* and regions through its subsidiary Sunzil. With over 60,000 installations completed, EDF Solutions Solaires now occupies a leading position. On the residential market, it carries out almost 25% of all self-consumption installations in France. On the business customer market, its offering is part of the *EDF Solutions Énergétiques* brand services.

United States

In the United States, EDF Renewables is engaged in a growth strategy on the distributed energy market. Several acquisitions and partnerships since 2016 have expanded this business (for example the acquisition of Global Resources Options, Inc. (groSolar) in 2016, and a partnership with EnterSolar in 2018).

In 2019 EDF Renewables North America acquired PowerFlex Systems with a view to speeding up large-scale deployment of infrastructures for electric vehicles in the United States. PowerFlex, based in Los Altos, California, is a pioneer of EV charging technology.

EDF Renewables North America entered into a strategic partnership with EnterSolar in 2018, taking a 50% stake in the company. In 2021, it acquired the remaining 50% and grouped all distributed "behind the meter" activities under the PowerFlex brand. By grouping energy solutions for business and industry, PowerFlex is able to offer customers a stand-alone or bundled package of on-site solar, battery storage, electric vehicle charging, microgrid and energy management systems.

In December 2022, PowerFlex announced it had received a $100 million investment from Manulife Investment Management, which joined the Board of Directors as a minority shareholder. Today, PowerFlex is one of the largest developers and installers of commercial solar power in the United States, with over 460MW commissioned. The company has installed and operates almost 12,500 charging points.

Electricity storage

At a time when renewable energy generation is growing fast and large-scale power plants are being closed down, battery storage technology, combined with a smart control system, helps smooth national grid power output. Through its subsidiaries, EDF Renewables is developing innovative storage systems in the United States, the United Kingdom, Germany, France and South Africa.

EDF Renewables has also launched a new microgrid activity comprising solar facilities that are equipped with a battery storage system and connected to a local grid in remote areas (such as deserts and islands).

South Africa

In September 2021, EDF Renewables and its partner Perpetua Holding won an innovative project in South Africa that combines solar, wind and battery storage technologies. This project, named Umoyilanga, consists of a 77MW wind farm and a 138MW solar plant, each equipped with a battery system. The financial closing of this project was completed in December 2023 and it is now under construction.

United States

EDF Renewables is developing and building storage systems linked to solar power projects.

In 2022, EDF Renewables North America commissioned two Battery Energy Storage Systems (BESS): Maverick 6 (50MW) and Big Beau (40MW).

In 2023, EDF Renewables commissioned the Arrow Canyon project (75MW, 375MWh of batteries).

In 2024, EDF Renewables began construction of the Beehive project (250MW) and commissioned the Desert Quarzite project (150MW).

United Kingdom

Through its start-up Pivot Power[1], EDF Renewables opened the most powerful electric vehicle charging station in Europe, Energy Superhub Oxford, in July 2022. This project is part of a national network of Energy Superhubs developed by Pivot Power, combining batteries connected to the transmission network and an electricity infrastructure for electric vehicle charging. The aim is to encourage the use of renewable energies and accelerate the decarbonisation of transport. Initially, the hub will offer rapid charging for 42 vehicles.

In 2023, EDF Renewables UK completed the construction of a new 50MW/100MWh battery facility at Energy Superhub Coventry, capable of powering 100,000 homes for two hours.

Five projects – Pivot Power Sundon, Bredbury, Tye Lane, Braintree, and Indian Queens – are in pre-construction.

In 2024 in the United Kingdom, EDF Renewables commissioned the 53MW Sundon battery storage project and began construction of Indian Queens, which will have capacity of 48MW.

(1) And in cooperation with Oxford City Council, Fastned, Tesla Superchargers and Wenea.

1.4.2 Sales and supply in France

As well as supplying gas and electricity, EDF accompanies its customers by offering a wide range of services and energy solutions. EDF aspires to be a trusted partner for customers, through responsible marketing practices and simple, intelligible offers.

29.4 million	217.1TWh	51.5TWh
customer sites in France[1]	of electricity sold in 2024[2]	of gas sold in 2024[3]

(1) EDF Customer Division + Électricité de Strasbourg; electricity: 26.8 million, gas: 2.6 million.

(2) EDF Customer Division (excluding sales to local distribution companies and Exeltium) + Électricité de Strasbourg.

(3) EDF Customer Division + Électricité de Strasbourg.

1.4.2.1 The market in France

1.4.2.1.1 Competition

The French electricity and gas market has been fully open to competition since 1 July 2007 for all customers.

In the electricity and gas markets, many suppliers have had offerings for businesses and local authorities since the early 2000s. For residential customers, competition has intensified significantly since 2017 as well-established operators from other sectors and geographical areas have moved into the gas and electricity supply market.

In 2022 these alternative suppliers sold their customers energy sourced from their own generation capacities, the wholesale electricity market and the ARENH (*Accès régulé à l'électricité nucléaire historique)* scheme for Regulated Access to Historic Nuclear Power.

ARENH applications received from alternative suppliers during the November 2024 session for delivery in 2025 totalled 134.93TWh, up by 3.5% compared to the previous year, while the ARENH volume to be distributed was 100TWh, giving an allocation rate of 74.12%.

See section 1.4.3.3 "The ARENH scheme for regulated access to historic nuclear power", and section 2.2.3 "Market regulation, political and legal risks", risk 3A "Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes".

Regulatory framework

France's Energy Regulation Commission (CRE)

The CRE is an independent administrative authority which exists to facilitate smooth operation of the electricity and natural gas markets, for the benefit of final consumers. In particular, the CRE ensures that the conditions for access to electricity and natural gas transmission and distribution networks are not anti-competitive.

The CRE has significant powers: the power to make proposals, advisory powers and decision-making powers (power of approval and regulatory powers). The CRE's main proposals concern:

- the amount of expenses that are attributable to the public service missions assigned to power producers, and the net amount of the related contributions; these proposals are made to the Ministers for the Economy and Energy;
- the ARENH price, after publication of the decree specifying the methods for identifying and recording the costs taken into account to calculate the ARENH price.

The CRE is also responsible for sending the Ministers for the Economy and Energy its reasoned proposals for changes in the regulated electricity sales tariffs and the tariff for electricity sales to the local distribution companies.

The CRE has decision-making power to set the "TURPE" network access tariffs (for using the public electricity transmission and distribution networks).

Under its suppletive regulatory power, the CRE also takes network connection decisions, and decisions that set the rules for calculating and adjusting suppliers' rights to purchase electricity under the ARENH scheme.

The CRE is also vested with very broad powers of investigation and inquiry entitling it to any information it deems useful for the fulfilment of its remit, and has the authority to settle disputes and to apply penalties, through the Dispute Settlement and Sanctions Committee.

The Law on the Energy Transition for Green Growth also entitles the CRE to have the information it obtains in the course of its work audited, at the expense of the entities audited.

Organic Law 2017-54 of 20 January 2017 on Independent Administrative Authorities and Independent Public Authorities, and Law 2017-55 of 20 January 2017 on the General Statute of Independent Administrative Authorities and Independent Public Authorities, gave a common legal status to these independent authorities, which include the CRE. This law laid down the rules for their members' terms of office and ethics, and for the operation, organisation and parliamentary oversight of such authorities.

1.4.2.1.2 Contracts applying the regulated electricity sales tariffs

Eligibility for regulated electricity tariffs

For details of changes to the applicable law and regulations, and changes during the year in France's regulated electricity sales tariffs (formerly known as the "blue" tariffs), see section 6.1, note 5.1.1 "Regulatory changes" to the consolidated financial statements for the financial year ended 31 December 2024.

In 2024, the following categories of consumers were eligible for the regulated electricity sales tariffs:

- residential end users, including single-home owners and co-owners' associations for a single residential building, for site(s) with subscribed power of up to 36kVA. These customers can freely switch back and forth between regulated tariffs and market-price contracts;
- non-residential end users with subscribed power levels of up to 36kVA, but only when they have fewer than 10 employees and annual sales, total revenue, or a balance sheet total of less than €2 million;
- residential and non-residential end users for site(s) located in zones that are not connected to France's mainland electricity network.

Following the adoption of the "Brun" Law 2024-330 of 11 April 2024, from 1 February 2025, consumers connected to the mainland France network who are eligible for the regulated electricity sales tariffs will also be able to benefit from them for sites with subscribed power levels above 36kVA, as this limit has been eliminated from the regulations.

Regulatory framework

"Blue" tariff changes

In accordance with Article L. 337-4 of the French Energy Code, the French Energy Regulation Commission (CRE) is responsible for sending the Ministers for the Economy and for Energy its reasoned proposals for regulated electricity sales tariffs. If no objections are made within three months, the proposals are deemed to have been approved.

1.4.2.1.3 Market-price electricity supply contracts

In France, all residential and non-residential customers may also choose a market-price contract from any supplier, including EDF.

With the exception of customers directly connected to the transmission network, who must sign separate supply and delivery contracts, all other customers may enter into a single contract with the supplier of their choice. A commission is paid by the distributor to any supplier offering a single contract to its customers since in doing so, it provides customer with management services on behalf of the distributor.

The quality of supply, which is the distributor's responsibility, is regularly monitored under contracts with the distributors. EDF monitors the impact of power cuts and supply quality on its customers, and customer satisfaction, in order to work with the distributor in a continuous improvement process.

1.4.2.2 Activities of the Customer Division

EDF's Customer Division covers all operations relating to the sale of electricity and gas, and related services in mainland France. It also performs all customer management functions, including management of customer inquiries received via all channels (telephone, email, etc.), complaint handling, invoicing, and debt recovery. These activities span all customer segments: residential customers, small and large business customers, and local authorities. For larger customers (industry and service sectors), energy services are mainly marketed and provided by EDF's subsidiary Dalkia.

The Customer Division's work is founded on recognised fundamentals:

- customer trust, which it constantly strives to strengthen;
- local presence, embodied by its 6,900 customer advisers who are all based in France, its 8 Regional Customer Divisions and its Key Accounts Department;
- permanent innovation in digital technology, electric mobility, self-consumption solutions, and electricity flexibility.

In 2021, EDF became the first energy supplier to obtain *Relation Client France* (France Customer Relations) certification from the French Customer Relations Association AFRC and the *Pro France* Association which promotes French-made products. This certification is awarded to French companies that choose to locate all their customer services in France and are committed to providing jobs for local communities through initiatives for local integration, training and inclusivity.

1.4.2.2.1 Activity by customer category

1.4.2.2.1.1 Residential customers

Residential customer satisfaction and trust are a priority for EDF. According to *Baromètre sur Image*, approximately 9 out of 10 customers are satisfied after a telephone contact with EDF. EDF is one of French consumers' favourite companies. Brand image surveys show that two out of three customers trust EDF to help them manage their energy consumption. The annual report of the French national Energy Mediator published in 2024 states that EDF also has one of the lowest dispute rates on the market, ranking in 4th position with a score of 44, up by 2 compared to 2022 (the average across all energy suppliers is 67). The company provides a customer experience that is both human (through its advisors who are all located in France and can be contacted by telephone or online chat) and digital (online customer account access, online chat, web callback, the *EDF&Moi* mobile app, social media, etc.).

Energy supply

Electricity supply

EDF supplies electricity at regulated sales tariffs, but also through a full range of market-price electricity solutions, tailored to customers' needs and expectations.

In regulated-tariff contracts in 2024, many customers continued to subscribe to the TEMPO option, which enables them to save money by shifting consumption to the most suitable time, especially on days when the electricity system is under heavy strain.

In market-price offerings, EDF's range is structured around two types of contract:

- the *Vert Électrique* (Green Electric) range of offerings (*Vert Électrique, Vert Électrique Weekend, Vert Électrique Auto* and *Vert Électrique Régional*, which was awarded the *VertVolt* label in 2024 by the French Ecological Transition Agency ADEME) helps to finance and support renewable energy generation in proportion to customers' consumption, using renewable energy guarantees of origin;
- the *Zen Électrique* range (*Zen Week-end* and *Zen Week-end Plus)* offers customers supply solutions appropriate to their consumption profile and lifestyle. In 2023, the range was enhanced with a Flex option Zen Weekend contract, a load-shedding option integrated with the supply that encourages customers to shift their consumption, especially on days when the electricity system is under heavy strain. In 2024, a new offering was introduced that is particularly popular with customers: *Zen Fixe*, a contract that guarantees a fixed price per kWh (for the energy portion of bills) for two years.

Gas supply

EDF supports its customers as they manage and reduce their consumption of gas, and therefore their CO_2 emissions. Since 2023, the range of market-price gas offerings has been streamlined through the provision of *Avantage Gaz* (Gas Advantage) contracts guaranteeing a fixed price per kWh for 2 years. The *Avantage Gaz Optimisé* (Optimised Gas Advantage) contract, which was previously indexed to the regulated gas sales tariff, is now indexed to the CRE reference price since regulated gas tariffs have been discontinued. Customers subscribing to this contract were able to benefit from the gas "tariff shield".

Monitoring consumption

Along with its supply offerings, EDF helps its customers to monitor, understand and reduce their energy consumption over time. The aim is to encourage them to save energy by using its *Mes Éco et Moi* (My Savings and Me) digital simulators. Customers who consult their energy use tracking tool more than two or three times a month can achieve average energy savings of 10%. Consumption monitoring tools, particularly the *EDF&Moi* (EDF and Me) app, are growing in popularity and registered over 210 million visits in 2024. Updates have progressively been made since early November and will continue over the coming months to make the *EDF&Moi* app easier for customers to understand and use; for example, it has an Energy Management functionality that is gradually being enhanced to enable EDF customers to optimise their uses as much as possible, giving them more control over their energy bills.

A range of services to meet customers' needs

EDF offers a wide range of solutions to help every household manage its energy bills, control its consumption, decarbonise its energy consumption and manage its comfort:

- Breakdown, insurance and remote monitoring solutions for all customers:
  - the *Assistance Dépannage* range, in partnership with AXA, which provides breakdown assistance to customers in the event of a problem with electrical, telecom, plumbing, or other equipment. The contract is available in five different packages depending on the customer's needs and situation;
  - the *Assurénergie+* range, also in partnership with AXA, which is bill payment insurance service. In the event of a serious life event (e.g. hospitalisation, job loss, etc.), under certain conditions, the customer receives an indemnity equal to their estimated monthly energy bill at the time the policy was purchased, for a maximum of one year subject to contractual payout limits. In addition, the customer may also benefit from personal assistance services appropriate to their situation, to facilitate day-to-day living;
  - Since 2019, EDF has also put its customers in touch with its partner EPS[1] if they are interested in a remote surveillance solution.
- Specific support at key moments in customers' lives:
  - When customers move home, EDF provides them with advice and a checklist to facilitate their relocation. Customers who sign up to an energy contract with EDF also have access to special offers negotiated with leading partners: these offers relate to removals, household appliances, home decoration, and building works.
  - Targeted offerings such as "EDF Extras" for young people, helping them save money on their electricity contract and giving them free gifts to help them settle in to a new home.
- Solutions offered by EDF's subsidiaries[2] to help customers on market-price contracts reduce their domestic consumption, consume energy better and decarbonise while switching their uses to electricity. These solutions comprise:
  - Energy retrofit offerings for homes, notably insulation or overall energy renovation by IZI By EDF;
  - Heating system replacement and maintenance services, naturally with a particular focus on heat pumps by IZI by EDF and IZI Confort;
  - Installation of electric vehicle charging points in individual homes and collective housing by IZI by EDF;
  - Heat control for radiators that cannot be connected to the *EDF&Moi* app, using "Sowee by EDF" thermostats or through financing solutions for work, either via EDF home energy efficiency grants under the energy savings certificates scheme, or via subsidised loans provided by Domofinance.

Energy savings certificates

Regulatory framework

France's energy savings certificates scheme (CEE) was first introduced in 2006. Changes were introduced when the fifth period of the system began on 1 January 2022, after a fourth period (2018-2021) which targeted a total obligation of 2,133TWhc.

The fifth period of this energy savings certificates scheme (which runs from 2022 to 2025) makes it more efficient (through a sharp reduction in subsidies, mandatory verifications of operations before filing an application for certificates, emphasis on comprehensive retrofitting of housing, and stricter national energy savings certificates schemes) and more focused on benefiting households with severe energy poverty (by raising the "energy poverty" obligations, restricting the scope to very vulnerable households, and increasing the penalties in this category to €20/MWhc), while imposing additional obligations on suppliers of carbon-intensive energies. The national obligation was initially set at 2,500TWhc for the period, of which 730TWhc was an "energy poverty" obligation, significantly higher than for the fourth period. On 1 January 2023, this fifth-period obligation was raised by a further +600TWhc (to a total 3,100TWh for the period), including a +400TWhc increase to the "energy poverty" obligation (bringing the total "energy poverty" obligation to 1,130TWhc).

EDF, as an obligated actor under the energy savings certificate regulations, is encouraging people to make energy savings. It promotes home energy retrofits through its "Energy Savings Partners" and distributor networks. All residential customers who have made energy efficiency alterations to their home may qualify for a direct grant from EDF for home energy efficiency work[3], *via* the website www.prime-energie-edf.fr.

Solidarity policy

The EDF group's commitment to supporting the most disadvantaged and vulnerable customers has a long history. EDF's policy in this area aims:

- To prevent situations of energy poverty or difficulty in paying bills, by providing advice and consumption management tools, and facilitating energy renovation work;
- To give the best possible support, in conjunction with EDF's partners, to customers who are having difficulty finding the most appropriate solutions.

(1) EPS is a leading provider of remote monitoring services in France. For more information: www.homiris.fr/fr/a-propos.html
(2) These may be offered by EDF customer advisors, in compliance with the competition law instructions laid down by the courts and France's Competition Authority.
(3) Provided they meet the strict requirements of the energy savings certificates regulations in force and have submitted the required supporting documents.

In pursuit of these aims, significant resources are being mobilised to make this policy a reality on the ground, and in this regard EDF remains a unique player among energy suppliers. For example, at the end of 2021, EDF was the first supplier to support its residential customers with unpaid bills by deciding not to cut off their electricity supply at any time of year (except in a few residual situations) and instead to limit their power to 1kVA (this goes beyond the company's regulatory obligations, which only ban cutting customers off during the winter period). This measure does not apply if it is physically or technically impossible to limit the electricity supply to the home. See section 3.3.5.2 "Combatting energy poverty".

The Decarbonisation plan

Since the energy crisis, EDF, as a supplier of energy savings, has supported its customers in their desire to control their energy bills by encouraging the adoption of more energy-sufficient behaviours: energy-saving habits, modulation and/or reduction of consumption, use of monitoring tools, etc.

The challenge for EDF is how to support its customers' electrification of their uses, and thus contribute to their decarbonisation by switching from fossil fuels to low-carbon electricity, which is the main lever for achieving the 2050 carbon neutrality objectives set by France and the European Union.

In this context, EDF rolled out an action plan in 2024 based on three pillars:

- **raising awareness and demonstrating that electricity is a lever for €/CO_2 savings**, notably through the *EDF&Moi* app, now enhanced with new Energy Management functionalities (to control electricity usage), and by giving existing and prospective customers the opportunity to draw up a personalised energy performance action plan for their home or future home, via the *Mes Ecos&Moi* simulator;
- **encouraging our customers to take action** by offering an additional financial incentive such as the extra grant financed by EDF for any heat pump installation, or by enabling as many people as possible to control their heating by installing the "Sowee by EDF" thermostat (for electric heating), which is sold by EDF advisors;
- **providing customer support** by putting more content about energy-saving solutions and the available financial assistance on the customers' website particulier.edf.fr, and meeting with customers by appointment for personalised assessments to verify that their current contract is appropriate, identify equipment needs, or inform them of ways to decarbonise their uses.

This plan was backed by a programme to promote efficient uses of electricity through targeted content, speeches and communication campaigns, such as the campaigns concerning the extra EDF grant for heat pump installation, and controlling electric heating.

1.4.2.2.1.2 Business customers

EDF is firmly rooted in local areas and supports its business and local authority customers in their ambitions to achieve sustainable efficiency, competitiveness and lower carbon intensity, in line with France's national net-zero objective. EDF offers a wide range of electricity and gas supply contracts and service offerings.

EDF's offerings

EDF offers straightforward electricity and gas supply contracts, combined with management services and advice on energy-saving practices. For customers that are bigger consumers, contracts can be personalised (with specific durations and fixed or indexed prices) based on their needs and budget visibility. EDF also supports the highest-consumption customers through personalised offers and remuneration for load-shedding capacities where relevant.

EDF structures its contracts so as to encourage customers to optimise their energy consumption and shift it to times when there is less strain on the electricity system. For example, EDF applies differentiation between peak and off-peak prices, and summer and winter prices, and offers an Energy Sufficiency option which includes a mobile peak time that is an incentive for users to reduce consumption during the hours of highest demand. EDF also has an innovative contract for its small business customers that offers low prices after 8pm, and at weekends and public holidays.

EDF has an enhanced range of solutions and services for all large and small business customers and local authorities, such as technical support and repair solutions for very small, small and medium companies, and electrical engineering support for business customers (to ensure their internal electricity installations are safe).

As part of its evolving commercial policy, EDF's Upstream-Downstream Optimisation and Trading Division sells medium-term annual baseload supplies (with 4 or 5-year maturities) at auction, enabling EDF Commerce and all electricity suppliers to offer contracts that give customers visibility and stability over those time horizons. EDF Commerce now offers its customers medium-term retail supply contracts of up to five years. In 2024, EDF signed around 4,720 contracts of this type covering a total volume of around 21.9TWh, 50% of them for a 5-year period. They were signed by customers in all portfolio segments, for varied consumption volumes, and concerned all business sectors (by volume, 57% in industry, 42% in the tertiary sector). In addition, EDF offers certain electricity-intensive customers long-term "at cost at risk" industrial partnership contracts, with a minimum term of 10 years, backed by the historical nuclear fleet (nuclear power allocation contracts). To date, 8 letters of intent and 2 binding contracts have been signed.

Most of the service contracts offered by the EDF group are designed to support customers in their decarbonisation efforts and reduce their bills through the following actions:

Adapting energy consumption habits and organising the business so as to consume less and/or at the right time

In parallel with encouraging electrification of uses to replace fossil energies, EDF raises customers' awareness of long-term energy sufficiency through energy-saving practices, and offers consumption monitoring tools for all customer segments.

Transforming, changing and updating equipment and energy consumption processes

EDF offers audits and advice to improve energy efficiency or energy management, and for the ISO 50001 certification process. The company particularly supports its customers in their plans to replace or electrify uses. For example, for electric mobility, EDF works with its subsidiary IZIVIA to provide advice on the sizing of electric vehicle charging stations and related services. EDF has also developed partnerships with automotive manufacturers and leaders in the automotive sector, and provides advice on heat or cold recovery for manufacturers with suitable processes.

Taking the energy mix in a more renewable and/or local direction

EDF offers all its customers, in all its electricity contracts, an option which guarantees that an amount of renewable energy equivalent to a certain percentage of their consumption will be injected into the grid. This makes it easier for EDF's customers to communicate about their commitment to the energy transition. With its subsidiary Agregio Solutions, EDF also develops PPA (Power Purchase Agreement) solutions for its major customers, concerning electricity from renewable sources. Finally, EDF provides self-consumption solar power solutions that are optimised according to electricity needs. They are supplemented by a range of associated services such as financing, maintenance, supervision and performance monitoring, provided in liaison with its subsidiary EDF Solutions Solaires. EDF also has complementary electricity supply offerings for its self-consumption customers that are specially tailored to their profile, helping them to maximise their savings from self-generation and control their consumption where relevant.

Earning energy savings certificates

EDF encourages its industrial, tertiary-sector, local authority and social-housing landlord customers to make energy savings by carrying out:

- energy efficiency and decarbonisation work on industrial processes, including through electrification of uses;
- retrofit, insulation or energy system control work for collective and tertiary buildings.

EDF contributes to action on energy poverty by supporting social-housing landlords' retrofitting work and raising tenants' awareness of energy-saving practices.

Also, through its financial contributions to energy savings certificate programmes, EDF participates in action such as:

- raising young people's awareness of the ecological transition and eco-mobility;
- providing information and training for industrial operators or small and medium-sized businesses, and developing innovation for better control of their energy demand.

EDF also contributes to the guarantee fund for energy retrofits[1] through these programmes.

Customer satisfaction

EDF has made customer satisfaction a key priority for many years. In a rapidly changing environment, EDF has undertaken major changes to significantly and constantly improve the customer experience and the quality of service provided.

Satisfaction measurement systems (overall satisfaction, Net Promoter Score, customer effort score) apply at the various stages of the relationship with customers, and also with customers who have not contacted EDF (the "barometer"). They are designed to assess customer demands concerning energy supply, services, information and support, in order to set up action plans when necessary. This approach has significantly improved customer satisfaction in virtually all segments over the last five years. In 2024, 88% of customers said they were satisfied or very satisfied with EDF.

EDF actions for local and regional authorities, social-housing landlords, local distribution companies and public-sector service entities

To advance the energy transition, EDF offers customised solutions for the needs of local authorities and public institutions with decentralised decision-making powers (hospitals, universities and other top higher-education establishments, chambers of commerce and industry, *CROUS*[2] regional student service centres, ports and airports). The EDF group's action involves:

- supplying electricity and gas at market prices, in response to these users' energy problems;
- developing energy transition-related offerings and services: local and regional climate, air and energy plans, ecodistricts, local energy generation, public lighting, electric mobility, energy efficiency for buildings, etc.;
- and the following as part of EDF's public service missions:
  - signing concession agreements to supply electricity at the regulated sales tariffs,
  - supplying electricity at the regulated sales tariffs,
  - action against energy poverty.

Agreements for control of energy consumption have been signed with local and regional authorities, with the aim of assisting these authorities as they take specific local initiatives for the energy transition and renewable energies. Support measures exist to help social-housing landlords improve the energy efficiency of social housing, and this earns energy savings certificates for EDF. In 2023, 188,275 homes were retrofitted with this support, and 9,502 of them received extra aid thanks to the *coup de pouce* ("helping hand") scheme.

1.4.2.2.2 For sustainable cities and regions

Cities and regions have to combine responsible development with local appeal, and the EDF group responds to the needs of local and regional development players. It identifies the available options for energy solutions and services, taking into account the technical and economic characteristics of their projects. The aim is to assist them with the energy transition and to decarbonise their uses. The Group has 45 Development Managers across all France's regions, to offer the best possible response to the needs of large cities, urban communities, and medium-sized and rural towns.

The EDF group has developed a range of advisory services for:

- designing low-carbon neighbourhoods;
- developing building retrofit policies based on an asset management strategy;
- constructing plans for vehicle fleet electrification and charging stations, with its subsidiary IZIVIA;
- installing solar panels, with its subsidiary EDF Solutions Solaires or other partners.

1.4.2.2.3 Customer data protection

EDF is very attentive to the protection of customer data, and its information assets more generally. Its primary goal is ensuring that processing of personal data complies with the General Data Protection Regulation (GDPR). Regular audits of information asset protection and information system security are conducted each year.

EDF keeps an up-to-date confidentiality classification of information and documents in order to apply the most appropriate security measures. All customer advisers are regularly informed and trained to respond to questions about personal data protection, particularly how to exercise the related rights. Complex requests are handled jointly with the Customer Data Protection Contact and the Data Protection Officer (DPO).

(1) Referred to in Article L. 312-7 of the French Construction and Housing Code.
(2) *Centre régional des oeuvres universitaires et scolaires.*

1.4.3 Optimisation in France

Since electricity cannot be stored, EDF has to supply the right amount of electricity to meet customer demand at all times. Optimisation operations aim to forecast demand and find an appropriate balance between the resources available to satisfy that demand (production plants, long-term supply contracts, purchases on the wholesale markets, *etc.*). Optimising EDF's output also involves covering physical, financial, and market risks.

Regulatory framework

Wholesale energy market - the REMIT Regulation

Regulation (EU) 1227/2011, known as the "REMIT" Regulation, on the integrity and transparency of wholesale energy markets, took effect on 28 December 2011. Its purpose is to guarantee the confidence of market players and consumers in the integrity of the wholesale electricity and gas markets. Regulation (EU) 2024/1106 of 11 April 2024, which recently amended the REMIT regulation, has strengthened market surveillance and introduces new obligations for market participants. Implementing texts are still pending.

The reinforcement of wholesale energy market integrity and transparency is intended to foster open and fair competition on those markets, in particular so that the market prices set reflect fair and competitive interplay between supply and demand. The regulation prohibits insider trading and market manipulation, and introduced an obligation to publish inside information, for which it provides a definition.

The European Agency for the Cooperation of Energy Regulators (ACER) is primarily responsible for monitoring wholesale trades in energy products, in order to detect and prevent transactions based on inside information and market manipulations. The ACER also collects the data needed to assess and monitor markets. The REMIT regulation provides that market participants, or any third party authorised to act on their behalf, must give the ACER a detailed statement of their operations on the wholesale energy market.

Market participants that perform transactions covered by this reporting obligation to the ACER must register with the national regulatory authority of the Member State in which they are established (the Energy Regulation Commission – CRE – in France), or of a Member State in which they do business if they are not established in the European Union.

At the national level, the national regulatory authorities also work together and monitor wholesale energy product trading. Member States determine their own regimes for penalties applicable to REMIT regulation breaches.

In France, the applicable regulations are now part of the French Energy Code, mainly in:

- Article L. 131-2, which stipulates that the CRE monitors the wholesale electricity and gas markets and is responsible for ensuring enforcement of the prohibitions of market abuse, and compliance with the obligation to publish inside information held by market participants;
- Articles L. 135-1 to L. 135-16 relating to the investigation and control procedures by the CRE, and its powers in terms of collecting information for the performance of its missions;
- Articles L. 134-19 to L. 134-24 relating to proceedings before the CRE's Dispute Settlement and Sanctions Committee CoRDiS.

1.4.3.1 Role and activities of the Upstream/Downstream Optimisation & Trading Division (DOAAT)

EDF manages the electricity supply/demand balance over various timeframes all the way down to real time, within the framework established by its risk policies, which comply with the instructions issued by the Group's Risk Division and validated by EDF's Executive Committee. See section 2.2.4 "Financial and market risks", risk 4A "Energy market risk".

Climate variations have a decisive impact on this management. For example, a 1°C fall in temperature in winter leads to an average rise of around 2,400MW[1] in electricity consumption in France. Much of this temperature sensitivity is borne by EDF's portfolio. In addition, depending on water availability, the hydropower output by EDF's facilities can vary by up to some 20TWh between two extreme years.

The DOAAT acts as the "balance responsible entity" (with respect to France's national grid operator RTE) for the scope of EDF's facilities in mainland France. Optimisation consists of giving RTE a proposed supply programme that balances with demand, to ensure physical supply security across its scope while minimising risks and the cost of fulfilling EDF's contractual commitments.

For all timeframes, the DOAAT ensures that it has sufficient resources to honour its commitments. To do so, it draws on various levers of action:

- scheduling of generation plant maintenance operations (particularly for nuclear plants);
- management of stocks (fuels, hydropower reservoirs and customer load-shedding capacities);
- buying and selling on the wholesale markets via EDF Trading, which operates on the markets on the DOAAT's behalf. See section 1.4.6.4 "Optimisation and trading: EDF Trading".

With the assistance of EDF Trading, the DOAAT also manages the exposure of EDF's upstream/downstream portfolio to price variations on the wholesale markets for electricity and fuel (gas, coal, petroleum products) and the CO_2 emissions quota market.

(1) Source: RTE.

1.4.3.2 Long-term electricity purchase and sale contracts

EDF maintains commercial relations through energy purchase or sale contracts with European operators. There are many types of such contracts, which confer:

- rights to the energy generated by facilities, mainly nuclear plants, over their operating lifespans. See section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation";
- or power drawing rights for a totally or partially guaranteed power level, generally for a term of between 15 and 25 years.

1.4.3.3 The ARENH scheme for regulated access to historic nuclear power

See section 6.1, note 5.1.1 "Regulatory changes" to the consolidated financial statements for the financial year ended 31 December 2024, and section 1.4.2.1.1 "Competition".

1.4.3.4 Capacity mechanism

See section 6.1, note 5.1 "Sales" to the consolidated financial statements for the financial year ended 31 December 2024.

1.4.3.5 Specific balancing and capacity scopes for purchase obligations and market sales

Regulatory framework

EDF is an obligated purchaser of electricity produced by the generation facilities the French government wishes to support and develop (renewable energy and energy-efficient cogeneration facilities). Pursuant to the CRE's decision of 16 December 2014, all electricity purchased under such obligations is managed within a specific balancing scope defined on 1 July 2015 for installations subject to purchase obligation contracts. The resulting additional costs for EDF are compensated out of the State budget, by reference to the market price for electricity (and the concept of "avoided cost"), in accordance with the law (Article L. 121-7 of the French Energy Code). Since 1 January 2017, the management costs for this public service mission have also been compensated.

The DOAAT organises the direct sale on the energy markets of the energy produced by installations covered by purchase obligation contracts. This scope is managed completely independently of the EDF portfolio. Electricity volumes covered by purchase obligations that can be forecast over the long term (the "virtually certain" portion of purchase obligations) are sold via transparent, non-discriminatory tenders. Electricity volumes covered by purchase obligations that can be only forecast in the short term (day ahead, or the "variable" portion of purchase obligations) are sold on EPEX Spot.

The DOAAT also carries out certification of the capacities of generation plants subject to purchase obligations for a dedicated purchase obligation scope, and proceeds to any necessary rebalancing and sales of the related capacity guarantees on the market.

1.4.4 Regulated transmission and distribution activities in France

Electricity transmission and distribution activities in mainland France are carried out by the transmission system operator (RTE) for high and extra-high voltages, and distribution network operators (Enedis and the local distribution companies in their respective exclusive service zones) for medium and low voltages.

RTE, which is an Independent Transmission Operator (as defined by EU law), and Enedis are managed in accordance with the rules on management independence, as defined by the French Energy Code.

1.4.4.1 Transmission – Electricity Transmission Network (RTE)

106,550km	10,400	383TWh	€2.6 billion
of high and extra-high voltage lines by 2024(1)	employees (including around 500 work-study trainees)	of withdrawals in 2024 (adjusted for weather effects)	of investments in 2024

(1) All voltage levels, including direct current, and all types of installation, including the underwater network.

RTE, *Réseau de transport d'électricité*, was founded on 1 July 2000 and spun off as a subsidiary on 1 September 2005. It is the owner and manager of the French public electricity transmission network, which it operates, maintains and develops. With 98,210 kilometres of overhead lines, more than 7,800 kilometres of underground lines, 540km of undersea lines, around 2,870 substations in operation or joint operation and around fifty cross-border links at the end of 2024, this network is the largest in continental Europe. Its unique geographical position places it at the heart of the European electricity system.

RTE is responsible for the safe, smooth operation of the electricity system, and provides open and fair access for all network users. As a neutral, independent industrial operator for the energy transition, RTE is optimising and transforming its network in order to be able to connect new consumption and generation facilities. RTE's expertise and prospective reports inform public policymaking.

At 31 December 2024, RTE was indirectly owned 50.1% by EDF via the company *Coentreprise de Transport d'Électricité* (CTE). Its specific conditions of governance mean that RTE is not fully consolidated by the Group, but accounted for by the equity method.

1.4.4.1.1 Governance of CTE and RTE

CTE

CTE is a limited company (*société anonyme*) with a Board of Directors, owned by EDF (50.1%), *Caisse des Dépôts et Consignations* (29.9%) and *CNP Assurances* (20%)[1]. CTE holds 100% of the share capital of RTE. In accordance with its articles of association, the sole purpose of CTE is the acquisition and holding of RTE's shares, and more generally, all commercial, financial, intangible and tangible property transactions relating directly, or indirectly, to its corporate purpose or that may facilitate the fulfilment of that purpose and stimulate business growth.

CTE's Board of Directors is composed of eight members, who are appointed for 6-year terms: four EDF representatives, two CDC representatives and two *CNP Assurances* representatives. RTE's General Compliance Controller attends meetings of CTE's Board of Directors.

RTE

RTE is a limited company (*société anonyme*) with an Executive Board and a Supervisory Board. RTE's Supervisory Board is composed of 12 members appointed for 5-year terms. Six are representatives of the shareholder CTE, two (the French State and one Board member appointed on the recommendation of the French State) are appointed pursuant to Articles 4 and 6 of Order 2014-948 of 20 August 2014 on governance and capital transactions of companies with public shareholding, and four are employee representatives.

Other individuals attend Supervisory Board meetings but are not board members:

- a Government Commissioner;
- a representative of the General economic and financial inspectorate CGEFi;
- the Secretary of RTE's Central Social and Economic Committee;
- RTE's General Compliance Controller;
- the members of RTE's Executive Board[2];
- the Secretary of the Supervisory Board.

RTE's Executive Board is composed of five members, who perform their duties under the oversight of the Supervisory Board, within the limits fixed by the French Energy Code and RTE's articles of association. With the agreement of the Energy Minister, the Supervisory Board appoints the Chair of the Executive Board and the other members of the Executive Board following the Chair's proposals.

1.4.4.1.2 RTE's missions

RTE manages the public transmission network in mainland France and balances electricity supply and demand. It carries out its missions in the conditions set out in standard specifications, which were approved by a decree that is applicable until 2051.

RTE thus manages the transmission infrastructure, guarantees access to the transmission network, and manages energy flows to ensure balance in the electricity system.

RTE faces various challenges in its mission as an electricity transmission network operator:

- it is responsible for ensuring the security of electricity supply in France, in a context of significant and already visible changes in the interconnected French and European electricity system, with ongoing system integration;
- and it is also responsible for keeping its industrial facilities up to date and upgrading them to meet the needs of local authorities and consumers. RTE will soon publish its network development plan to 2040, which defines the strategy for developing the network to accommodate new decarbonised infrastructures (new generation facilities and new consumers), renew the existing network and adapt to the consequences of climate change.

Electricity system analyses

Analysis of France's electricity report for 2024

In early 2025, RTE published its analyses of the electricity situation in 2024, following an interim analysis of the first half of 2024 published in August.

In France (including Corsica), weather-adjusted electricity consumption reached 449.2TWh[3] in 2024, slightly higher than in 2023 (+3TWh, or +0.7%[4]). This is still below its pre-crisis levels (-5% to -10% depending on the month), but the downward trend that began at the end of the 2010s (due to progress in energy efficiency) and was accentuated by the crisis of 2020 but especially the crisis of 2022 (due to energy sufficiency and contraction of demand due to the price effect) now seems to have come to an end.

Electricity output also continued to recover after the crises of 2020 and 2022, with a rapid resurgence in nuclear generation (361.7TWh), exceptional hydropower generation, at its highest level since 2013 (74.7TWh), and sustained growth in wind and solar power generation (70TWh in 2024, compared to 46TWh in 2019). In 2024, fossil-fired generation was at its lowest since the early 1950s (19.9TWh), and for the first time cumulative fossil energy output was below solar power output (23.3TWh). These conditions enabled France to set a new record for net electricity exports over one year (the previous record was 78TWh, in 2002): in 2024, France was a net exporter of energy (net export balance of 89TWh). This reflects the competitiveness of French low-carbon electricity generation (nuclear and renewable power), which is competitive on the European markets and is therefore frequently in demand to supply European consumption.

The quality of the electricity supplied by RTE is measured by two indicators: equivalent outage time and outage frequency. The values of these indicators for 2024 are still provisional. Based on information available at the date of publication, equivalent outage time was 2min 31s (the target set by the CRE is 2min 48s) and outage frequency was 0.43 (the target set by the CRE is 0.46).

Publication of the outlook study for the security of electricity supply for winter 2024-2025

On 13 November 2024, RTE published its annual study forecasting the operation of the French electricity system during the winter of 2024-2025. Given the changes in the determinants of security of supply indicated above, the outlook for winter appeared very favourable in November, with a low risk of imbalance between supply and demand. In concrete terms, the risk assessment for last winter and the probabilistic risk assessment at the start of the winter of 2024-2025 are the lowest for around ten years. In the event of occasional difficulties during the winter, the EcoWatt system remains fully operational and will be activated as a priority, in addition to the other "post-market" mechanisms.

(1) 0.96% is held by its subsidiary CNP Retraite.
(2) Except for business conducted in executive sessions.
(3) Provisional figure.
(4) Including the volumes of self-consumed electricity in France.

Network development strategy and investments

The SDDR ten-year network development plan

RTE's investment strategy in 2024 is part of the current ten-year network development plan (SDDR) published on 17 September 2019. It also formed part of the preparation and planning for the next SDDR, which will be published in early 2025.

This document will set out the new principles of RTE's industrial trajectory, and the changes to be made to meet the government's new targets for accelerating decarbonisation, reindustrialisation and climate change adaptation.

Each year, RTE draws up an annual investment programme that is submitted to the CRE for approval. The 2025 investment programme should enable RTE to continue to increase the pace of investments and prepare new projects, paving the way for very significant acceleration in the second half of the 2020s. In 2024, RTE's total investments for the scope regulated by the CRE amounted to €2,585 million. The investment programme for 2025 totals around €3.5 billion and has been submitted to the CRE for approval.

Main investments in 2024

- Continuing work to connect renewable energies to the grid, notably through progress made on the regional renewable energy connection plans (S3REnR)[1].
- Increasing cross-border exchange capacity, with the continuation of work begun in 2023 on future interconnectors with Spain (Bay of Biscay) and Ireland (Celtic).
- Continuing work on the main infrastructure renewal plans, notably the rebuilding plan for metal-enclosed substations and the Corrosion Plan for replacement of black steel supports in highly corrosive areas.

Investment forecasts for 2025-2028

Given the current pressures on supply procurement, the 2025 investment programme and its projection over the next few years is now an important document, sending a signal to equipment suppliers about the reality of the situation they will find themselves facing.

The capital expenditure trajectory for the TURPE 7 HVB period shows a sharp rise, with an average of €4,700 million per year in investments planned for this period, 2.4 times the amount for the previous period (2021-2024). One key feature of this trajectory is the continuation of major investments to meet the three main priorities identified by RTE in the SDDR, which will be published shortly: an unprecedented connection programme (for consumers downstream, and for renewables and new nuclear power upstream), network reinforcement (via adaptation of its very high voltage structure, which organises flows at national and European level), and network upgrading to build resilience to climate change (which is already having discernible impacts that are going to become more pronounced).

Regulatory framework

Certification of RTE

The French Energy Code requires transmission network operators to be certified through a process that involves both the CRE and the European Commission. The purpose of the process is to ensure that the entity in question meets the requirements of management independence with regard to the vertically integrated enterprise. RTE received certification from the CRE in 2012 and certification as an ITO (Independent Transmission Operator) from the European Commission on 11 January 2018 (after a change of shareholder). This certification was confirmed by the CRE decision of 2 July 2020, following reorganisation of the CDC's shareholdings.

"TURPE" network access tariff for using the public electricity transmission network (TURPE transmission tariff)

Pursuant to Article L. 341-3 of the French Energy Code, the tariff for using the public electricity transmission network (TURPE) is set by the CRE, which defines its framework, structure and level.

The sixth TURPE high-voltage transmission tariff, TURPE 6 HTB, was set by a CRE decision of 21 January 2021, which was published in the French *Journal officiel* on 23 April 2021 ("the TURPE 6 HTB decision"). This decision determined:

- the resources available to RTE to carry out its missions;
- the TURPE network access tariffs, which change each year in view of inflation and the costs incurred by RTE to operate the electricity system;
- the regulatory framework applicable to RTE, particularly the financial return on its assets, which is calculated by multiplying the regulated asset base by a remuneration rate, which the CRE set at 4.6% for the 2021-2024 tariff period. At 31 December 2024, the regulated asset base amounted to €17 billion[2]. It represents RTE's industrial assets, less investment subsidies, and is calculated excluding fixed assets under construction (for which the rate of return is equal to the average debt coupon, i.e. 2.4% from 2021 in accordance with the TURPE 6 tariff framework). See also section 6.1, note 5.1.1 "Regulatory changes" to the consolidated financial statements for the financial year ended 31 December 2024.

By decision 2023-01 of 5 January 2023, the CRE changed the incentive regulation framework so that the TURPE 6 HTB tariff would take account of the impact on RTE's activity of the very sharp increase in wholesale electricity prices starting from winter 2022-2023. This change notably concerned risk-sharing between network users and RTE for factors relating to electricity system management, such as network congestion, contractualisation of balancing reserves and voltage level management.

In 2024, an automatic +4.99% increase in the TURPE 6 HTB tariff, scheduled for 1 August 2024, was postponed by the French government to 1 November 2024.

In decision 2025-02 of 6 January 2025, the CRE proposed an exceptional increase in the TURPE transmission tariff for 2025, applicable from 1 February 2025. This +9.61% increase is intended to achieve early settlement of the provisional balance of RTE's income and expenses adjustment account (CRCP) over the whole of the TURPE 6 HTB period.

2024 also saw preparation of the next network access tariff TURPE 7 HTB and in-depth technical discussions with the CRE concerning the tariff adjustment framework, the tariff structure and its level. The future tariff will cover the period from 2025 to 2028 and will be set by decision of the CRE in early 2025. It should support RTE's investment needs for network upgrading and network development to accommodate new users, in a context of decarbonisation and electrification of the French economy. All this will be described in the network development plan for the period to 2040, soon to be published by RTE.

(1) Law 2010-788 of 12 July 2010, known as the "Grenelle II" Law, assigned RTE the mission of supporting the development of renewable energies by drawing up regional renewable energy development plans (S3REnR) to incorporate renewable energies into the French electricity system while ensuring system reliability and cost control.

(2) To be validated by the CRE.

1.4.4.1.2.1 Maintenance of the transmission infrastructure and asset management

RTE manages the assets comprising the transmission network through work on maintenance, renovation or replacement of structures, and emergency repairs.

The gradual integration of new technologies, particularly monitoring systems, is enabling the company to:

- adapt technical policies for asset replacement; and
- develop conditional and predictive maintenance through optimisation of resource management, targeting priority operations and limiting action to what is strictly necessary.

Network digitisation and monitoring make it possible to carry out remote diagnosis and deploy new maintenance technologies such as drones, 3D visualisation, and augmented reality. Test and simulation software also provide decision support for network management. Mass data analysis is being conducted with a view to developing new asset management strategies that may lead to different balances between maintenance, renovation, and replacement.

Finally, the gradual introduction over the next two years (starting from the end of 2024) of dedicated centres for permanent infrastructure monitoring will make it possible to optimise maintenance operations and provide more responsive remote processing of incidents on the network. The objective is to increase network availability, to serve customers and the regions.

1.4.4.1.2.2 Operation of the electricity system

The procedures for operating the electricity system, managing market mechanisms (including management of interconnections), and coordinating networks in Europe are organised in accordance with European laws and regulations (network codes, the Clean Energy Package, etc.).

Management of the electricity system

RTE manages the flows on the electricity transmission network in real time. It uses its available resources through the adjustment mechanism, to maintain real-time balance between supply and demand. The cost generated by the adjustments made by RTE is due to negative differences between forecast flows and actual flows, and is passed on to the "balance responsible entities" (producers, traders, suppliers, etc.) in proportion to their own difference. In the event of a positive difference, RTE pays financial compensation to the relevant balance responsible entities.

Management of interconnectors

RTE manages access to international interconnectors in collaboration with the neighbouring European transmission network operators. These interconnectors carry energy from one country to another, reinforce the operating safety of the electricity transmission networks, and contribute to development of the European electricity market. They make it possible for electricity market players to buy and sell energy in other European countries, taking into account cross-border price differences, and this improves production-resource pooling in Europe (especially for renewable energies).

Network coordination in Europe

European regulations define the services that regional coordination centres[1] provide to transmission network operators in a harmonised framework, establishing complementary and robust terms for power supply between them. The first five services, which are not yet fully implemented, concern the design of common network models, capacity calculations, security analyses, the coordination of structure removals and the assessment of the balance between supply and demand. The Clean Energy Package includes a list of 16 additional services (post-operation analyses, regional sizing of reserve capacity, training, etc.). The network operators and regional coordination centres are currently designing shared methodologies for progressive implementation of these requirements, which started in mid-2022.

1.4.4.2 Distribution – Enedis

38.8 million	1.4 million	€5,346 million	41,016	356
customers	km of network	of investments in 2024	employees	concession agreements

As the distribution network operator, Enedis' main mission is to operate and develop France's public electricity distribution network. Enedis is responsible for network security and safety, and oversees the balance of electricity flows at all times. Enedis now serves around 95% of the population of mainland France. The remaining 5% are served by local distribution companies.

Enedis in 4 key principles

The French model for the electricity distribution operator Enedis is based on four main principles:

- **a legal monopoly** that puts Enedis in charge of 95% of electricity distribution in mainland France;
- **tariff equalisation** and invoicing for delivery applying the same prices regardless of distance, for equitable treatment and solidarity between users and regions;
- **concession agreements signed with the authorities in charge of electricity distribution,** preserving decentralised regional governance;
- **strict separation from non-regulated activities and other players** (particularly electricity suppliers and producers), in order to comply with the rules of independence and to ensure non-discriminatory access to the network.

(1) One of these, Coreso, is a technical coordination centre whose members are 9 transmission system operators (TSOs): RTE, ELIA, NGSO, EirGRID, Soni, 50hz, TERNA, REE, REN.

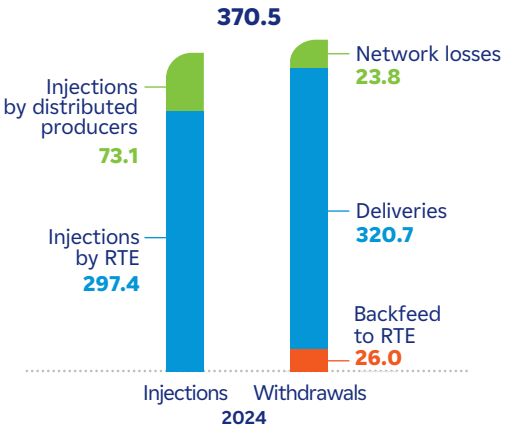
In 2024, Enedis distributed electricity to more than 38.8 million customers (points of delivery). It also provided connections for over 1,089,402 energy generation and storage sites in mainland France thanks to its approximately 1.4 million km of network.

At 31 December 2024, the Enedis distribution network was made up of around:

- 673,700km of 20,000 volt high voltage A (HVA) lines;
- 744,100km of low-voltage power lines (400 volts);
- 2,252 HVA/HVB source substations;
- 819,200 HVA/LV transformer substations.

SIMPLIFIED REPORT OF ENERGY FLOWS – 2024

(in TWh)



Since 1 July 2023, the volume of network losses has been calculated based on daily measurements carried out over the Enedis scope. It is defined as the difference between the electricity injected (by RTE, the local distribution companies or the distributed energy producers) and the consumption invoiced, less the electricity backfeed to RTE.

The electricity backfeed is the volume of local power output not used on the network at a time when withdrawals are lower than generation. The volume of backfeed has increased since the large-scale deployment of wind and solar power in low-consumption areas.

Network losses consist of:

- technical losses inherent to distribution network operation: these result from physical effects and are directly dependent on the quantity of electricity being delivered;
- non-technical losses related to the absence of metering or meter malfunction, or caused by meter fraud.

Enedis must make up these losses to guarantee the overall balance of the system within its scope. The amount of energy purchases made to cover network losses recorded in the financial statements is €2,425 million. In application of its hedging policy, Enedis purchases the corresponding electricity on the wholesale, forward or spot markets. It acts either through organised market platforms or through calls for tenders involving around 15 qualified suppliers. Enedis also responds to electricity sale tenders organised by the Purchase Obligation team at EDF's Upstream/Downstream Optimisation & Trading Division.

Enedis' access to ARENH[1] rights to cover network losses is implemented through specific calls for tender with a panel of qualified suppliers eligible for this product. Enedis exercises its ARENH rights when market prices are higher than the ARENH price.

1.4.4.2.1 Structure of Enedis

Pursuant to EU Directives and the applicable rules on non-discriminatory access to networks and management independence, network operators must be separate from any energy supply or generation activity. If the distribution network operator is part of a vertically integrated enterprise it must be a legally separate entity in order to preserve its operational and decision-making independence.

EDF and Gaz de France, now Engie, thus made their distribution network operators subsidiaries. The electricity distribution network operator ERDF was formed in 2008, and renamed Enedis on 1 June 2016. This new name raised its profile and clarified its purpose, as the CRE had recommended.

Enedis and GRDF have a shared service function in accordance with the law. See section 1.4.4.2.3 "Shared service function of Enedis and GRDF".

- Enedis' Supervisory Board comprises 15 members:
  - eight members appointed by the Ordinary General Meeting;
  - five employee representatives elected in accordance with the conditions set out in Law 83-675 of 26 July 1983 on democratisation of the public sector;
  - one member appointed by the French State by virtue of Articles 4 or 6 of Order 2014-948 of 20 August 2014; and
  - one member representing the authorities in charge of electricity distribution, appointed by decree pursuant to Article 153 of Law 2015-992 on the Energy Transition for Green Growth.
- By a Decree of 21 April 2020, the French State appointed a Government Commissioner to attend meetings of the Enedis Supervisory Board, as allowed by Order 2014-948 of 20 August 2014 (Article 15), in compliance with Decree 2015-38 of 19 January 2015.
- Enedis' Management Board is composed of a maximum of five members, who perform their duties under the oversight of the Supervisory Board, within the limits fixed by the French Energy Code and Enedis' articles of association.

Enedis' missions in France

Enedis fulfils the missions of the public distribution network operator in mainland France, in compliance with the law and the concession agreements signed with each concession-granting authority for public electricity distribution. These missions require it to:

- define and implement operational, investment and development policies for the electricity distribution network;
- provide user connections and access to these networks in an objective, transparent and non-discriminatory manner, and provide interconnection with other networks;
- provide users with all the necessary information to access the network efficiently (information protected by laws or regulations excepted);
- negotiate, conclude and manage concession agreements with the authorities in charge of public electricity distribution;
- operate, maintain and repair the electricity distribution networks;
- design and build infrastructures, and manage work on these networks;
- carry out metering activities for users connected to these networks, particularly supply and installation, inspection, maintenance and replacement of metering devices, as well as data management and any other missions relating to all of these activities;

(1) *Accès régulé à l'électricité nucléaire historique*: a scheme for Regulated access to historic nuclear power.

- ensure that the market operates efficiently, and that market players have equal access to the distribution network and data;
- encourage integration of renewable energies into the network and the implementation of energy efficiency initiatives;
- monitor load-shedding scopes;
- be accountable for the distribution and measurement of energy flows between the network users, and adequate coverage of energy losses from the network.

Enedis, the energy sector's first officially designated "Company with a mission"

On 27 June 2023, Enedis became the first major company in the energy sector to be officially designated as a "Company with a Mission" (*entreprise à mission*). In line with its public service missions, this reaffirms Enedis' commitment to contributing in the long term to a fairer and more sustainable society, through decisions that focus on creating a positive environmental and social impact.

1.4.4.2.2 Distribution activities

Change in investments

In 2024, Enedis invested €5,346 million:

- €2,806 million for connections (of consumers and producers) and adjusting the grid to the load;
- €1,910 million for the quality of service, network reliability, safety and preservation of the environment;
- €630 million for information systems, telecommunications and operational resources (vehicles, machinery, real estate, etc.).

Investment in connections continued to grow in 2024 due to strong demand. Demand from customers was lower for connections of individual homes following the crisis in the new build market, but gathered speed for connections of electric vehicle charging stations. Demand from producers grew substantially as a result of the impacts of the energy transition and the rise of renewable energies (wind and solar power).

In addition, the concession-granting authorities invested €838 million in 2024.

In all, almost €6,184 million was therefore invested in 2024 in mainland France in the distribution networks operated by Enedis.

GROSS INVESTMENTS BY ENEDIS

(in millions of euros)	2024	2023
Connections and reinforcements	2,806	2,524
Regulatory, safety and public roadway obligations	609	576
Work instruments and operating resources	630	619
Network modernisation	1,301	1,167
Total investments by Enedis	**5,346**	**4,886**
HANDOVER OF INFRASTRUCTURES BY THIRD PARTIES AND LOCAL AUTHORITIES(1)	**838**	**812**
Total network investments	**6,184**	**5,698**

(1) After the PCT (a) and Article 8 (b) deductions for the portion financed by Enedis.

(a) PCT (portion covered by the tariff): a portion of the delivery tariff paid to project manager concession grantors as a contribution to connection funding.

(b) Article 8 of Annex 1 of the concession specifications concerning environmental integration of infrastructures (for example, work to bury lines).

In addition to its investments, Enedis is continuing its drive for preventative network maintenance, including tree topping work. The corresponding amount recognised in operating expenses in 2024 was €392 million (compared to €359 million in 2023).

Quality of service

Quality of service is one of Enedis' main objectives. In 2024, the average duration of outages experienced by low-voltage customers was 71.6 minutes, longer than the 62-minute target set in the incentive regulation for the TURPE network access tariff. This result was caused by a series of unforeseeable weather events (gales, thunderstorms, floods). Resilience programmes are being intensified to cope with such events, and in the short and medium term this is increasing the number of outages for work on the network. This increase is also accentuated by projects to connect renewable energy facilities.

Enedis has a Rapid Response Electricity Task Force, FIRE (*Force d'intervention rapide électricité*) to respond to large-scale incidents. This means that at any time, it can send teams and resources from other regions to restore customers' electricity in the affected region as quickly as possible. In 2024, the FIRE was called out three times for the networks managed by Enedis.

Development of renewable energies

2024 saw a significant increase in the number of new facilities connected to the network by Enedis, particularly in the solar power segment: 248,385 new solar power facilities were connected (compared to 206,944 in 2023), with total capacity of 4,667MW (compared to 3,135MW in 2023). The increase in wind farms connected to the public distribution network also continued, with 934MW connected in 2024 (compared to 1,010MW in 2023).

At the end of 2024, a total of around 41.6GW of solar and wind power generation capacity was connected to the grid operated by Enedis, consisting of 22.1GW of solar power plants and 19.5GW of wind farms. Power generation plants using other sources are also connected, particularly hydropower plants (1.9GW), cogeneration plants (2.8GW), biogas, biomass and dispatchable fossil-fuel facilities. In total, at the end of 2024, the generation fleet connected to Enedis has around 49.1GW of installed capacity, compared to 43.3GW at the end of 2023.

Of the total solar power installation connections in 2024, 235,593 concern producers with low-voltage connections(1) of less than 36kVA, connected for self-consumption purposes, with or without sale of the surplus. These represented around 100% of the year's "small producer" connections.

(1) Low-voltage infrastructures.

Enedis has also continued its work to develop hosting capacities for renewable energies. It has started to build source substations in application of the regional renewable energy connection plans.

Development of electric mobility

The electrification of the transport sector has generated a significant amount of business for Enedis. All the charging terminals needed for electric vehicles must be directly or indirectly connected to the public distribution network, and the network must be capable of delivering the required quantity of electricity at the right instantaneous power level.

Sales of electric vehicles really took off in France in 2020, accounting for around 10% of new vehicle sales, compared to between 2% and 3% in 2019. The increase continued in 2021 and 2022. By the end of 2024, the number of plug-in electric vehicles on French roads had reached 2,059,555, an increase of 29% compared to end-2023[1].

In response to the growing volumes of Electric Vehicle Charging Infrastructure (EVCI) connections, Enedis has set up a unit to handle key EVCI accounts. This unit is tasked with coordinating the monitoring of connection studies and work by "EVCI multi-connectors" that roll out charging station installation plans throughout France. At the end of 2024, there were almost 155,000 publicly accessible charging points in France.

In 2024, Enedis completed 11,395 EVCI connections, and increase of 21% compared to 2023.

Equipping collective housing car parks with charging facilities is another key issue in the spread of electric mobility, as nearly one in two French households is in a block of flats. In the area served by Enedis, there are 236,000 blocks that have more than 5 parking spaces. Their co-owners or landlords can choose between:

- hiring a private operator to install EV charging facilities, which Enedis will have to connect as a specific delivery point;
- or opting for the public solution, which consists of extending the public distribution network into the car park, ready to supply power to parking spaces.

In 2024, Enedis completed 4,440 EV charging infrastructures for collective housing, i.e. 72% more than in 2023. By the end of 2024, 4% of collective housing in France was equipped with collective electric vehicle charging facilities.

Enedis assists local authorities in defining their Electric Vehicle Charging Infrastructure master plan (SDIRVE). At the end of 2024, 116 SDIRVEs had been launched and nearly half had been approved by their Prefecture. Enedis is committed to the electrification of its own vehicle fleet. At the end of 2024, 37.9% of its fleet of around 18,000 light passenger vehicles and light commercial vehicles was electric, and nearly 7,800 charging points were installed at its sites.

Activity as distribution network operator in liaison with market participants

Under contracts with distribution network operators and suppliers, Enedis operates in liaison with balance responsible entities and electricity suppliers. It calculates the energy flows for the scope of each balance responsible entity (there were 85 such entities at the end of 2024), in order to provide information for the balance responsible entity mechanism supervised by RTE. Enedis is responsible for day-to-day relations with electricity suppliers (of which there were 95 at the end of 2024), to ensure that their single-contract customers benefit from electricity delivery and the associated services.

Given the challenges of energy sufficiency and customers' need for information on their electricity consumption, there is great demand for the data measured by Enedis (energy and power), not only from electricity suppliers but also from the 802 third parties[2] who have a contract to access the data via the interface portal set up by Enedis.

Regulatory framework

"TURPE" network access tariff for using the public electricity distribution network (TURPE distribution tariff)

Over 90% of Enedis' sales revenues come from electricity delivery. The level and structure of the TURPE network access tariff for using the public electricity distribution network is set by the CRE in a transparent, non-discriminatory manner, in order to cover all the costs borne by efficient network operators. See section 6.1, note 5.1.1 "Regulatory changes" to the consolidated financial statements for the financial year ended 31 December 2024.

The TURPE 6 distribution tariff has been in force since 1 August 2021. The last tariff change took place on 1 November 2024, with an average increase of 4.81%.

In December 2024, the CRE announced that it planned to make an exceptional adjustment to the TURPE 6 tariff on 1 February 2025, to achieve faster clearance of the network operators' tariff receivables generated by the energy price crisis of recent years. This change also makes it possible to introduce the TURPE tariff increases at the same time as the decrease in the supply portion of the regulated electricity sales tariffs.

The CRE referred the matter to the Higher Energy Council (CSE) on 7 January 2025 with its draft decision, proposing a 7.7% increase in the TURPE distribution tariff and a 9.61% increase in the TURPE transmission tariff.

The TURPE 7 tariff will come into force on 1 August 2025, following the consultation conducted by the CRE since the end of 2023. The decision will be taken by the CRE in late January/early February 2025. As a result of the exceptional increase in the TURPE 6 tariff on 1 February 2025, the CRE announced that no change would be made to the average level of the TURPE 7 tariff on 1 August 2025, and that changes from 1 August 2026 should be close to inflation, pending its final decision on the TURPE 7 tariff.

Concessions

At 31 December 2024, Enedis was the joint operator with EDF of 356 concessions covering approximately 95% of the population of mainland France. The concession agreements are generally concluded for a term of 25 to 30 years.

In December 2017, the French National Federation of Licensing Authorities FNCCR, France Urbaine, EDF and Enedis signed a framework agreement for a new concession agreement model. France Urbaine represents major cities, large urban inter-municipalities and other towns and cities. Most of its members have the authority to grant concessions for the public distribution of electricity.

The revised concession agreement model reaffirms the principles of the French concession model: public service, regional solidarity and national optimisation, while taking into account the challenges of the energy transition. On 20 November 2024, it was modified by an amendment to the framework agreement, which clarifies the wording of the end-of-agreement clause. The official introduction of this new model paved the way for long-term modernisation of Enedis' relations with the concession-granting authorities.

As of 31 December 2024, there were 296 concession agreements signed on the basis of this model, including new agreements signed in 2024 for the city of Paris and four other concessions. Adding 30 previously renewed or amended agreements containing stipulations similar to the new model, the total number of modernised concession agreements is 326.

(1) Electric vehicles (EVs) and plug-in hybrid vehicles (PHVs).
(2) A third party here means an actor who is neither the supplier nor the customer who owns the metering point, and has obtained prior consent to access the customer's data.

Regulatory framework

Regulations governing distribution concessions in France

In accordance with Articles L. 121-4 and following, L. 322-1 and following of the French Energy Code, and Article L. 2224-31 of the French Local Authorities Code, the public distribution of electricity is operated under the public service concessions system. By virtue of these articles of law, local authorities organise the public electricity distribution service through concession agreements and specifications that define the respective rights and obligations of the concession-granting authority and the concession operator. Currently, most concession-granting authorities are public institutions formed by associations of several cooperating municipalities, some of which cover an entire *département*.

The mandatory separation between generation and supply activities and network activities required by European Directives has led to the identification of a public service comprising two distinct missions: the mission of supplying energy at the regulated tariff, assigned to EDF and the local distribution companies in their respective exclusive service zones; and the mission of developing and operating France's public electricity distribution networks, assigned to Enedis and the local distribution companies in their respective exclusive service zones, and EDF for zones that are not interconnected with the French mainland network.

Article L. 334-3 of the French Energy Code stipulates that these concession agreements must be tripartite. They are signed by the concession-granting authority and the distribution network operator (or the competent local distribution company for the zone) for aspects relating to management of the public distribution network, and by EDF (or the competent local distribution company for the zone) for aspects relating to regulated-tariff energy supply.

Within the limits defined by statute and case law precedents, the concession-granting authorities are the owners of the distribution networks, which constitute returnable assets[1].

Pursuant to Article L. 3213-1 of the French Public Procurement Code, which transposed Article 10.1 of Directive 2014/23/EU of 26 February 2014 into domestic law, French concession agreements for the operation of the public distribution network and the supply of electricity at the regulated tariffs are concluded directly, with no tender notices or competitive tendering procedures.

1.4.4.2.3 Shared service function of Enedis and GRDF

Enedis and GRDF's shared service function[2] is not a legal entity in its own right, and the two companies are bound by an agreement that defines their relations within this function, its competences, and the resulting division of costs. This agreement has been signed for an unlimited term and can be terminated at any time subject to 18 months' notice: in such a case, the parties undertake to renegotiate the agreement during the notice period. It is updated regularly. In 2019, the Enedis-GRDF governance agreements were completely reviewed. The Medical and Social Unit is the last remaining joint body in the shared service function that serves both distributors (Enedis and GRDF).

1.4.4.2.4 Future challenges

An ambitious investment trajectory to facilitate the ecological transition and guarantee a quality energy supply amid climate change

Enedis plans to invest €96 billion (gross investments in 2021 euros excluding handovers of infrastructures - see above) over the period 2022-2040. Annual investments will thus increase from €3.9 billion in 2021 (excluding the Linky rollout) to more than €5 billion (in 2021 euros) in the long term.

These investments will support the ecological transition by connecting electric vehicle charging infrastructures (EVCI) and renewable energy infrastructures. The end of new fossil-fuel vehicle sales in 2035 and the generalisation of electric vehicles will result in a surge in investments around 2030, and equipping collective housing will be a major challenge. Moreover, the rapid acceleration in the rise of renewable energies will continue, particularly in solar power, with the forthcoming publication of a new multi-year energy programme.

In parallel, Enedis has planned modernisation programmes that cover all at-risk structures, with targeted replacements based on the likelihood of failure. The programmes that have already started will be expanded, in order to continue improving the quality of supply and resilience given the increase in climate change-related risks (fires, heatwaves, floods, gales and storms). These programmes are designed to:

- improve the networks' resilience against climate hazards, by burying or restructuring lines that cross wooded areas or zones exposed to wind, frost or snow;
- improve the reliability of high-voltage A overhead networks through scheduled renovation;
- reduce impregnated paper insulation in underground power lines;
- reduce the number of uninsulated low-voltage overhead networks;
- limit the impact of floods and accelerate restoration of power.

Enedis is supporting the spectacular growth of electric mobility

The spread of electric mobility is the key driver of the increase in France's electricity consumption between now and 2050. According to Enedis' projections, which are aligned with the National Low Carbon Strategy (SNBC) scenarios, there will be 18 million plug-in electric vehicles on the road in France in 2035 - 40% of all light passenger vehicles and light commercial vehicles at that time.

The volume of work required to connect the new charging points these vehicles will need (at home, on-street, in shopping centre car parks, at corporate sites and on major roads and motorways, for example) is a real challenge for Enedis, especially as regards charging solutions for collective housing. A dedicated project-based organisation has been set up to cope with the strong growth in this segment.

Adapting the distribution networks to the growth of this new use is also a challenge.

Given this context, Enedis is conducting numerous studies and experiments on the structuring questions raised by electric mobility: coordination of charging, use of vehicle batteries to provide services for the electricity system, synchronisation of charging and renewable energy production, use of data from vehicles, charging points and meters, modelling and studying the network impact of the need for fast charging (particularly along motorways). The aim is to anticipate the effects on the electricity system and the distributor's activities.

To address the complexity of the energy transition, the electricity distribution network is continuing its digital revolution

The massive influx into the distribution network of diffuse, intermittent energy sources, and the sharp growth in electric mobility, require increasingly granular, complex control and management of flows.

(1) Returnable assets are assets that must be returned to the concession-granting authority at the end of the concession, and are considered to belong to that authority from the outset. They are defined in the concession agreement or by the law. When no definition is provided, assets that are essential for the performance of the concession service are generally classified as returnable.
(2) Defined by Article L. 111-71 of the French Energy Code.

Under these circumstances, Enedis is using digital technologies and scaling up smart grids to address the challenges of the ecological transition. This involves fitting the networks with hundreds of thousands of sensors, continuing the digitisation of previous-generation smart systems, developing digital tools (DERMS, Distributed Energy Resource Management Systems) to organise connections so that flow management respects the technical limits of structures, and improving oversight and resilience (including cybersecurity) of infrastructures and information systems.

The rollout of smart grid technologies on an industrial scale is currently a crucial lever for accelerating the ecological transition.

Regulatory framework

Regulations governing the Linky smart meter project

The Linky project, led by Enedis, is subject to a specific regulation regarding the lifespan of Linky meters (20 years), with a dedicated regulated asset base (RAB) for the meters installed between 2015 and 2021 and the associated information system.

The CRE's decision of 17 July 2014 set a nominal pre-tax return on assets of 7.25% plus a 3% bonus under an incentive regulation concerning compliance with costs, deadlines and system performance, which can bring the total return on this RAB to 10.25%. As provided for in the decision of 17 July 2014, the incentive regulation on system performance over 2020 and 2021 was set by the CRE decision of 23 January 2020. After the large-scale Linky rollout phase ended in December 2021, in a decision of 17 March 2022, the CRE defined the financial incentive indicators applicable for performance monitoring of the Linky advanced metering system for the period 2022-2024. In addition, a deferred adjustment mechanism intended to ensure that the Linky remains tariff-neutral for customers means that some income for the period 2014-2022 will be received in the period 2023-2030. The amount due under this deferred adjustment mechanism, plus an amount to cover financing costs (set at 4.6%), will thus be collected in full by the end of 2030. At 31 December 2024, the amount to be collected is +€1,780 million (this represents a tariff receivable for Enedis from network users, which is not recognised in the Group's balance sheet at 31 December 2024, pursuant to currently applicable accounting standards).

In 2024, some 910,000 new Linky smart meters were installed on the network, almost two-thirds of them to replace older-generation meters. 95% of the active customer base are now equipped with a Linky meter, enabling them to monitor their consumption more closely.

This smart metering system also improves precise detection of the areas of the low-voltage network affected by power supply failures during weather events, and thus accelerates repairs.

The Linky system also made it possible to monitor the power supply to the venues of the Paris 2024 Olympic and Paralympic Games.

Additionally, Enedis has developed and launched new substations, the key network component, on an industrial scale. These are express source substations that can be brought online quickly, with a design and factory pre-assembly process that reduce electricity producer connection time by one year while optimising their cost. One third of the substations to be built between now and 2035 will be based on this concept.

Innovation is crucial for optimising investments and operating infrastructures with a high degree of efficiency, while incorporating eco-design right from the launch phase of projects. The digital revolution on Enedis' grids and in its business lines is taking place in cooperation with the entire innovation ecosystem of both smart grids and FrenchTech. This innovation policy systematically involves research laboratories, universities, start-ups, associations and companies of all sizes. This approach brings job and growth opportunities for local communities and gives these achievements international visibility.

Enedis (with RTE) was behind the creation of Think Smartgrids, the French smart grid industry association that promotes the sector internationally. Think Smartgrids currently has over 100 members.

France leads the way thanks to Enedis' smart grid

The French electricity utility has been named the smartest distribution system operator in the world for the third time in a row, taking first place in the Smart Grid Index[1]. Enedis is continuing its industrial, technical and technological momentum to make the French public electricity distribution network a global benchmark for years to come.

Data management, a fundamental aspect of the digital revolution

In just a few years, Enedis has also become one of the energy sector's leaders in the field of data. At present, around 500 types of data per year are made available to customers, local authorities and market participants. Enedis was one of the first companies in its sector to launch a Europe-wide Open Data platform. It was also the driving force behind the creation of *Agence ORE*[2], the energy network operators' agency forming an alliance of all the electricity and gas network operators in France. This agency releases comprehensive data from all the operators.

Enedis' remit to collect, protect and release data has made it possible to develop industrial solutions for the entire French population, like the Linky programme. The use of this data is of strategic interest to Enedis, and also enables the company to improve its industrial performance and the quality of the service provided to customers. This raises significant new cybersecurity challenges and requires enhanced protection of systems and data. All Enedis' information systems apply individual data protection, in compliance with the standards and rules laid down by the French Data Protection Agency, CNIL[3].

A responsible public service with a positive impact that supports the ecological transition

In line with its corporate plan, on 27 June 2023 Enedis was officially designated a "company with a mission" *(entreprise à mission)* as defined by the "Pacte" Law of 2019, with the following *raison d'être*: ***"Acting for an innovative, efficient and socially responsible public electricity distribution service. Connecting people to the collective challenge of a sustainable world".***

Its commitment is now reflected in five public long-term measurable mission objectives, also enshrined in its articles of association:

- leveraging its industrial and digital expertise to create an efficient electricity distribution network that supports renewable energy production while promoting energy-sufficient and innovative electricity uses;
- taking climate issues and the preservation of biodiversity and natural resources into consideration in all its activities;

(1) The Singapore Power Group's Smart Grid Index evaluates the "smartness" of electricity grids worldwide across seven key dimensions: monitoring and control of network equipment, data analytics, supply reliability, integration of distributed energy resources, integration of green energy, cybersecurity and customer empowerment and satisfaction. In 2024, 92 operators in 36 countries were compared.

(2) Agence ORE (*Opérateurs de Réseaux d'Énergie*) provides a one-stop-shop overview of energy distribution in France, with the data available free of charge. It provides aggregated data on multiple energy types and multiple distribution network operators in order to support the energy transition in local communities throughout France, offering open data and data visualisations.

(3) *Commission Nationale Informatique et Libertés.*

- engaging its human, industrial, and financial resources to support communities, enhancing local cohesion and resilience;
- acting with its employees and partners to defend a customer-centric, inclusive, solidarity-based public service;
- embedding human and career path diversity in its business lines, and protecting health and safety at work.

By including these objectives in its articles of association, Enedis is anchoring its approach for the long term.

Enedis' first mission report was published in February 2024, tracing its journey from its historic commitment to adopting the status of "company with a mission". In July 2024, Enedis validated its first mission roadmap, co-constructed with its mission committee, which will be used to monitor the implementation of its mission through 12 operational objectives and 13 performance indicators.

Also in July 2024, Enedis published its first CSR report. This first report is part of a process of building transparency for stakeholders. It reaffirms Enedis' goal of being a public service with a positive impact for the planet, for women and men, and for the regions.

Key actions for the climate

More than ever, Enedis is mobilised for a successful second electrification of France, contributing to the goal of carbon neutrality by 2050 by:

- accelerating the connection of renewable energies and electric vehicle charging points to the grid;
- helping its customers to adopt more restrained and more efficient energy consumption practices;
- rolling out low-carbon electricity solutions on a large scale.

Enedis had connected over a million renewable energy producers to France's public electricity distribution network by the end of 2024.

The company also made its mark on Olympic history by providing the connections for the Paris 2024 Olympic and Paralympic Games.

For the first time, all the event venues had their main power supply provided by the public distribution network rather than by diesel generators. During the events and ceremonies, all sites were supplied continuously by Enedis, achieving a total power outage time during the games of zero minutes.

The International Olympic Committee is capitalising on this new approach for the next cities to host the games, such as Los Angeles, which will also mainly use the national grid in 2028.

Regarding its carbon footprint, Enedis is committed to drastically reducing its direct greenhouse gas emissions and is promoting an ambitious approach with its suppliers to reduce its indirect emissions:

- for the first time in 2024, its Carbon Assessment was audited and published;
- new commitments have been made to reduce its Scope 1 and 2 emissions by 30% by 2030[1];
- as regards Scope 3, over 1,000 low-carbon projects to reuse excavated soil were carried out in 2024.

Adjustment of distribution networks

Enedis operates essential infrastructure for electricity distribution, notably power lines and substations, and has made the resilience of its installations a strategic priority.

Enedis has thus drawn up a Climate Hazards Adaptation Plan to make its 1.4 million km of networks less vulnerable to the various climate risks identified.

Experiences with recent weather events confirm the relevance of the programmes put in place. For the overhead HVA lines, they involve targeted undergrounding and a vast renovation programme to make all networks more reliable, in 25-year cycles. Low-voltage overhead lines are being replaced with insulated twisted cables or underground lines. High-voltage underground networks with impregnated paper insulation are being replaced with new underground networks, depending on their reliability and their sensitivity to heatwave risks.

Given the new interactions with other infrastructures (particularly telecommunications systems), changes are also being made to Enedis' Rapid Response Electricity Task Force (FIRE), which enables the company to redeploy resources and manpower anywhere in France in order to restore power as quickly as possible.

1.4.4.3 Island Energy Systems

The electricity systems operated by EDF in areas not interconnected with France's mainland network, known as non-interconnected zones, cover Corsica, Reunion Island, French Guiana, Martinique, Guadeloupe, Saint-Barthélemy, Saint-Martin and Saint-Pierre-et-Miquelon, and several Ponant islands off the west coast of France (Sein, Ouessant, Molène, Chausey).

EDF operates through two legally independent entities in these areas:

- the Island Energy Systems Department, responsible for maintaining the supply-demand balance on a daily basis. It manages all networks. It purchases all the energy generated in these island areas, sells energy at the regulated sales tariff, and implements energy efficiency actions;
- the subsidiary EDF Production Électrique Insulaire (EDF PEI), responsible for building and operating generation plants.

The implementation of tariff equalisation for all regions, which covers all additional generation costs, is funded by the compensation for public energy service charges (CSPE).

The costs borne by the network operator are covered by the TURPE network access tariff including contributions to the electricity equalisation fund (FPE), paid by all French electricity customers.

(1) Compared to the 2017 reference year, based on the A-Baseline scenario for changes in the energy mix published by RTE, applying the rate of distribution network losses observed at the end of 2023.

KEY CHARACTERISTICS OF THE ISLAND ENERGY SYSTEMS

	Data at end-2024
Number of customers	1,268,000
Network length (in km)	Approximately 40,300
Net installed capacity* (in MW)	2,015
hydropower and other renewable power plants	22%
thermal power plants	78%
Net output* (in GWh)	5,988
Percentage hydropower output	18%
Purchases of energy from third parties (in GWh)	3,955
renewable energies, including bagasse	67%
other energies	33%
Total energy generated* and purchased from third parties	**9,943**

* *Data including the EDF SEI (Island Energy Systems) Department and EDF Production Électrique Insulaire (PEI), a wholly-owned subsidiary of the EDF group.*

Recent developments and outlook

Investments to decarbonise and reinforce the electricity generation fleet

In accordance with the local multi-year energy programmes (PPEs), the EDF group has planned to replace the power plants that are reaching the end of their operating lifespans (Vazzio in Corsica and Dégrad des Cannes in French Guiana). The new power plants (Ricanto in Corsica and Larivot in French Guiana) are being built and will be operated by the EDF PEI subsidiary. As stipulated by the local PPEs, EDF PEI will operate these new power plants using bioliquid (meeting the requirements of Articles L. 281-2 and following of the French Energy Code) and plans to convert existing plants so that 100% of its generation assets will produce renewable electricity by 2030. In the second half of 2023, EDF PEI's Port Est power plant on Reunion Island was the first plant of the fleet to be converted.

EDF PEI is currently a partner in a solar power plant with battery storage in French Guiana, and a wind power plant with battery storage in Martinique, and is strengthening its renewable energy operations through projects in partnership with EDF Renewables. EDF PEI is also a partner of GMOB, a company that installs and runs a network of electric vehicle charging stations in the French Caribbean.

Investments in electricity networks

In view of the rise of renewable energies, the growing number of generation facilities connected, and the need to ensure efficiency in the existing network, the network operator EDF SEI continues to strengthen and expand the electricity networks. It invested a total of €283 million in its Networks activities in 2024.

The system operator supports the energy transition in total safety

As the electricity system operator, EDF SEI has a significant contribution to the integration of non-synchronous renewable energies into the electricity system, promoting a safe, long-term increase in the share of renewables in the electricity mix. It does this by implementing innovative technical solutions (notably resulting from R&D work) to adapt each electricity system, changing its management policies, and participating in the development of energy storage resources. Every two years, it publishes electricity system supply-demand balance projections over a 15-year horizon.

Work is ongoing to create microgrids 100% powered by renewable energies for certain isolated areas. A system combining solar power, digital monitoring and energy storage was installed on Île de Sein, an island off the west coast of Brittany, in 2017 and provides a regular supply of 100% renewable energy for several hours a day. In 2021, in Saint-Georges-de-l'Oyapock in French Guiana (a town of 4,000 inhabitants), EDF commissioned a microgrid carrying 100% renewable energies (from solid biomass and hydropower), combined with a battery and a digital control system. In Maripasoula, also in French Guiana, a battery and a digital control system have been installed to support a recently-commissioned solar power generation field, which limits the use of fossil energies.

Energy efficiency is a crucial energy transition lever in the island systems. EDF contributes to the elaboration and implementation of the local energy demand management strategy. Public grants, defined in regional compensation frameworks validated by CRE, the French regulator, are one of the main vectors of support for equipping consumers with energy-efficient devices and installations. EDF actively promotes the demand management operations financed by these grants for all customer segments, notably through the *Agir Plus* label.

EDF SEI is finalising the rollout of 1.2 million digital meters in the non interconnected zones it manages by the end of 2024 (and in Corsica by the end of 2025), an investment of around €270 million. These meters contribute to substantially modernise customer relations, and amplify the energy transition levers.

In accordance with Corsica's Multi-year Energy Programme[1], EDF is investing in a new converter station at Lucciana as part of the SACOI3 project developed in partnership with the Italian transmission network operator Terna. Upgrading of the Sardinia-Corsica-Italy direct-current line to raise its total capacity to 400MW will enable Corsica to import up to 100MW from Italy as of 2029/2030.

1.4.4.4 Électricité de Strasbourg (ÉS)

The ÉS group is an energy utility in Alsace with a long-term commitment to the region's energy and economic performance. At the Extraordinary General Meeting of 28 June 2024, ÉS was the first local distribution company in France to adopt the status of "social purpose company" *(société à mission)*, created by the "Pacte" Law of 22 May 2019.

The ÉS group has four areas of business: electricity and gas distribution, energy supply, energy services and renewable energy generation. This portfolio enables the ÉS group to give its customers the best possible support for the energy transition.

EDF Développement Environnement (EDEV) owns 88.64% of the ÉS group. The remaining shares are owned by the public and the company's employees. Its shares are listed on Euronext Paris.

(1) Decree 2015-1697 of 18 December 2015 on Corsica's multi-year energy programme.

Electricity and gas distribution

Strasbourg Électricité Réseaux is the ÉS group subsidiary in charge of electricity distribution. This company is managed independently. It acts as the electricity distribution network operator for three quarters of the Bas-Rhin *département*, in strict compliance with the code of conduct.

Strasbourg Électricité Réseaux operates, maintains, develops and upgrades an electricity network of over 16,000 kilometres covering over 400 municipalities in Alsace. It serves almost 600,000 delivery points at different voltage levels, and provides connections with the networks of Enedis, RTE and two other downstream local network operators.

As a public distribution network operator, Strasbourg Électricité Réseaux strives to respond to the development of new uses and provides support for the energy transition, notably by connecting distributed renewable energies and electric mobility infrastructures.

It is engaged in a process of renewing and modernising its infrastructures and tools to enhance performance, notably illustrated by the industrial rollout of smart meters and the commissioning of a new network monitoring and control platform.

Gas distribution in the *Trois Frontières* region (Huningue, Saint-Louis, Hégenheim, Village-Neuf, Hésingue) is carried out by *Trois Frontières Distribution Gaz*.

Electricity and gas supply

ÉS Énergies Strasbourg is the electricity sales and supply subsidiary of Électricité de Strasbourg. At the end of 2024, it had over 581,000 electricity customers (including green electricity), and over 110,000 gas and biogas customers. Its customers comprise residential users, businesses (in the tertiary and industrial sectors) and local authorities.

ÉS Énergies Strasbourg also offers customers related services. These include electricity, gas and plumbing repairs, and digital services designed to help customers understand their energy consumption and support them in concrete actions for responsible energy use.

For its residential customers, ÉS Énergies Strasbourg has continued to roll out support services for home renovation and building work via a portal that puts customers in touch with a network of local partners. ÉS Énergies Strasbourg is also active in the development of solar power solutions. It promotes sustainable transport, particularly electric vehicle charging infrastructures. All these commercial activities linked to solar power and electric mobility are grouped together under the *Planigy by ÉS* brand, which was launched in September 2022.

Through its range of supply offerings, services and solutions, ÉS Énergies Strasbourg gives its customers day-to-day support in their efforts to save energy and decarbonise their energy uses.

Energy services

ÉS Services Énergétiques is a subsidiary specialising in energy services, owned 50-50 by Électricité de Strasbourg (FIPARES) and Dalkia. For the energy transition, ÉS Services Énergétiques is positioned as a provider of sustainable solutions and a creator of energy efficiency, to help private- and public-sector economic actors in Alsace reduce their carbon intensity. Its attractive offerings for businesses, industries and local authorities cover:

- creation of heating networks appropriate to needs;
- retrofit work to improve the energy efficiency of buildings;
- optimisation of the management of energy facilities;
- implementation of renewable energy solutions (heat pumps, biomass boilers, solar thermal energy, etc.) for lower-carbon heating;
- raising users' awareness of energy savings.

ÉS Services Énergétiques also offers management and optimisation solutions for electrical engineering, industrial and public lighting, and canteen engineering activities.

Renewable energy generation

Deep geothermal energy

In France, the ÉS group is one of the leading players in the deep geothermal sector. It has operated the first deep geothermal plant for industrial use at Rittershoffen since 2016. This plant produces a renewable superheated water output of approximately 160GWh per year, drawn from a geothermal source located at a depth of 2,500m.

ÉS also operates the Soultz-sous-Forêts geothermal heat exchanger, which produces around 5GWh per year.

Biomass

The Strasbourg biomass cogeneration plant uses residue from the wood industry in the Vosges and Black Forest mountains. With 34MW of thermal capacity and 10MW of electrical capacity, it generates around 60GWh of renewable electricity and around 110GWh of renewable heat every year.

Hydropower

The Framont hydropower plant, which has a capacity of 400kW, can generate approximately 2GWh per year depending on water availability. This is equivalent to the annual electricity consumption of 500 homes.

ÉS Énergies Strasbourg also holds a 35% stake in SERHY, a company that specialises in the construction and operation of hydropower plants, mainly in the Alps and the Pyrenees. SERHY produces around 170GWh of renewable energy per year.

Lithium

In January 2023, ÉS and Eramet signed a memorandum of understanding to explore the possibility of extracting battery-grade lithium from geothermal brine in Alsace. The Alsace Geothermal Energy project (AgeLi) is targeting an annual production of at least 10,000 tonnes of lithium by 2030.

1.4.5 International activities

The EDF group supplies electricity and gas to 41.5 million customers worldwide: residential customers, businesses, and local authorities. It is a major energy provider on four key European markets: France, the United Kingdom, Italy, and Belgium. The Group is seeking to move into new geographical areas, developing low-carbon solutions in growth countries while consolidating its positions in Europe.

1.4.5.1 United Kingdom

EDF Energy and EDF Trading are responsible for the activities of the EDF Group in the United Kingdom[1] and encompass other EDF Group companies in the UK (Dalkia UK, EDF Renewables UK and Pod Point). EDF Energy is one of the UK's largest energy service providers and employs 12,680 people at its various sites[2]. EDF Trading provides optimisation and risk management services to the EDF Group and third parties. EDF's goal in the UK is to help Britain achieve carbon neutrality. EDF is making the transition to a low-carbon energy system in five areas of activity:

- Nuclear: zero-carbon electricity generation[3], decommissioning services, the construction of a new nuclear power plant at Hinkley Point and the development of other new nuclear power plants;
- Retail: the provision of electricity, gas and energy services to residential and small business customers. Offer customers electric mobility solutions with Podpoint, of which EDF Energy holds a majority stake, low-carbon heating with CB Heating Ltd (trading as EDF Heat Pumps) and solar panels and battery systems with Contact Solar;
- Business and Wholesale: the provision of electricity, gas and energy services broadly to large enterprises, the public sector and asset owners;
- Renewable: the development, construction and operation of wind and solar power generation and large battery storage facilities in the UK and Ireland by EDF Renewables UK and the development of low-carbon and renewable hydrogen solutions with Hynamics;
- Technical services: the provision of technical and energy services to the private and public sector with Dalkia UK.

1.4.5.1.1 EDF's strategy and sustainable development in the UK

In the UK, EDF supports the UK government's ambition to produce 100% clean electricity by 2030 (Clean Power by 2030) and to reach the *Net Zero* target by 2050. The *Net Zero* trajectory will preserve Britain's energy security and help protect customers from global energy price volatility, creating economic opportunities for businesses and communities. In an increasingly complex and interconnected energy system, the scope of EDF's capabilities in the UK constitutes a strategic advantage.

The latest version of EDF's Helping Britain Achieve *Net Zero* progress report[4] outlines the company's progress and plans to help Britain decarbonise society and the economy and, more broadly, achieve its sustainable development goals. These include helping customers "save cash and save carbon", minimising environmental impacts and making a positive social contribution in the UK. EDF Energy has also published a plan to reduce its carbon footprint, covering certain categories of emissions by 2026[5].

EDF is the largest producer of zero-carbon electricity in the United Kingdom and operates a fleet of wind, nuclear, solar and storage assets.

EDF Energy's priority in the field of electricity generation is to ensure that its activities are safe, reliable and cost-effective. In 2023, EDF Energy's nuclear fleet produced 13% of the UKs electricity generation. All the advanced gas-cooled reactors have been extended beyond their original 25 year design life. In December 2024, EDF Energy confirmed that four advanced gas-cooled reactors in the United Kingdom had been extended further, a total capacity of 4.6GW. In order to continue to meet 3%[6] of Britain's electricity demand until 2055, a 20-year extension of the service life of the Sizewell B PWR is being considered.

Extending the lifespan of EDF Energy's plants, insofar as it is safe and economically feasible, contributes to the UK's energy security and reduces its dependence on gas while maintaining vital operational skills for future nuclear power plants.

Three of EDF Energy's AGR stations are currently being defueled. According to an agreement signed with the British government in June 2021, EDF Energy is responsible for de-fuelling all seven AGR plants before handing over to the Nuclear Restoration Services (NRS), which has been designated by the UK government to carry out the subsequent decommissioning activities.

EDF Energy is the UK's largest nuclear developer.

The UK Government believes that nuclear energy will play a key role in building a clean electricity system by 2030 and that it is essential to develop nuclear capacity in Britain in order to achieve the country's carbon neutrality target by 2050.

In partnership with CGN[7], EDF Energy is building two new reactors (3.26GW in total capacity) based on EPR technology at the Hinkley Point site in Somerset. At the end of 2024, about 12,000 people are working on the site to build the plant, and the construction site is expected to provide 71,000 jobs nationwide by the end of construction.

A similar 3.26GW EPR project is planned for Sizewell in the Suffolk. It will produce reliable, low-carbon electricity for nearly six million households for 60 years, thereby avoiding nine million tons of CO_2 each year. The Sizewell C project aims to provide 1,500 apprenticeship places and support 70,000 jobs. In May 2024, Sizewell C was granted a nuclear site licence, with a final investment decision due in 2025. As of 31 December 2024, the British government holds 83.8% of the project and EDF holds the remaining 16.2%.

EDF Energy is supporting the new nuclear programme in the United Kingdom and paving the way for *Net Zero* through the acquisition of skills and sites enabling new technologies to be explored.

(1) See section 1.4.6.4 "Optimisation and *trading*: EDF Trading".
(2) December 2024.
(3) Zero carbon at the point of production.
(4) https://www.edfenergy.com/about/sustainability
(5) Carbon Reduction Plan PPN0621 - 2024.pdf
(6) Based on 2023 generation data and 2023 final electricity consumption.
(7) China General Nuclear Corporation.

EDF in the UK is a leader in reducing the carbon content of its customers.

EDF Energy supplies 3.7 million homes and businesses with electricity, gas and other services, with the mission of helping customers save money and carbon, in line with the Ambitions 2035 project.

EDF Energy has just completed the migration of 5.8 million residential and small business accounts to the Kraken Technologies platform. In addition to changing work methods and internal capacities, this has helped accelerate the implementation of innovative solutions for the benefit of individual customers. With the acquisition and integration of CB Heating Ltd (rebranded EDF Heat Pumps) and Contact Solar[1], and other UK-based EDF capabilities, customers have a one-stop shop that can meet their energy and decarbonisation needs. These acquisitions support the company's goal of providing efficient customer service in the marketplace through a range of products and services, and providing greener, cheaper energy. In June 2024, EDF Energy acquired Opus Energy's small and medium-sized business portfolio, making it the second-largest supplier in the small and medium-sized enterprises segment in terms of number of meters in the UK.

EDF Energy is the UK's largest supplier of electricity to business and the public sector. In the UK, EDF is working together to offer a wide range of decarbonisation solutions to its customers, including electric mobility, low-carbon heating, micro electricity generation, renewable energy purchase contracts (PPAs), flexibility services and meters combined with data services. EDF Energy is a leading optimiser of batteries in Great Britain, the largest buyer of renewable energy through PPAs and uses its wholesale market capability as a service to other industry participants.

1.4.5.1.2 The activities of EDF Energy

EDF ENERGY INSTALLED CAPACITY AND PRODUCTION IN THE UNITED KINGDOM - 2024

EDF Energy	12/31/2024	12/31/2023
Electricity supplied[1] (in GWh)	45,011	44,755
Gas supplied (in GWh)	27,124	27,598
Number of residential customer accounts (in thousands)[2]	5,213	5,358
Number of employees[3]	12,680	11,588
Overall rate of reported accidents[4]	0,63	0,72

(1) Electricity supplied to the end customer including the energy metre adjustment for year N-1.

(2) Data at year-end.

(3) Staff at the end of the period, including employees on maternity leave. Doesn't include Pod Point staff.

(4) Overall accident rate declared: total annual number of industrial accidents with stoppages, deaths, injuries treated at work (excluding first aid)/number of hours worked × 1 000 000. This applies to all employees, temporary workers and sub-contractor staff. Excluding EDF Renewables UK and excluding the Hinkley Point C project. The accident frequency (TFA) for Hinkley Point C stands at 0.05 at the end of December 2024 (0.086 at the end of December 2023).

1.4.5.1.2.1 The regulations applicable to licenced nuclear facilities in the United Kingdom

The following regulations apply to both EDF Energy's nuclear production and new-build projects in the UK.

Regulatory framework

Basic nuclear installations in the United Kingdom

In the United Kingdom, the 1965 Nuclear Installations Act ("NIA 1965") requires EDF Energy to hold a *Nuclear Site Licence* for each of its existing nuclear power plants and for the nuclear plants under construction. It requires the licensee to comply with a number of conditions of licence. The Planning Act 2008 ('PA 2008') created the *Development Consent Orders* (DCOs), which are the authorisations required to build a new nuclear power plant in the United Kingdom. The process for obtaining a DCO includes an environmental impact assessment, the implementation of environmental mitigation measures, and holding a certain number of public consultations.

Office for Nuclear Regulation (ONR)

In the UK, the Office for Nuclear Regulation (ONR) and the Environment Agency (EA)/Scottish Environment Protection Agency (SEPA) are responsible for nuclear safety, security, emergency preparedness and environmental regulations that apply to UK nuclear sites.

The ONR is responsible for the regulation and inspection of nuclear facilities. The following laws are under its control:

- the Health and Safety at Work Act 1974 ('HSWA 1974'), which defines EDF's obligations with regard to the safety of workers and others at its plants;
- the *Nuclear Installations Act 1965* ("NIA 1965"), which requires nuclear power plant operators to hold a nuclear site licence, to comply with the terms of that licence and to hold nuclear liability insurance;
- the Energy Act 2013 (Part 3) ('EA 2013') granted the ONR statutory status. It also confirmed the Office's missions in the fields of nuclear safety, health and safety on nuclear sites, the safety of nuclear installations, the management of radioactive materials and their transport. Annexe 8 of the Act describes in detail the powers of the Office's inspectors;
- the Ionising Radiation Regulations 2017 ('IRR 2017'), which are based on the *Basic Safety Standards Directive*, and which provide for the protection of workers and the public against ionising radiation;

(1) Acquired in February 2024.

- the Environmental Permitting (England and Wales) Regulations 2016 and the Environmental Authorisations (Scotland) Regulations 2018). The 2016 Regulation provides the current framework for the authorisation of radioactive substances. The 2018 Regulation provides the framework for authorising environmental activities and currently only includes activities related to radioactive substances. EA and SEPA are the regulators responsible for the 2016 and 2018 regulations respectively.

When assessing the measures which may be necessary to reduce the risks of activities in accordance with HSWA 1974, the ONR requires that the risks be reduced to the most reasonably practicable level.

The ONR uses the powers conferred on it by the NIA 1965, the EA 2013 and the 36 conditions of licence for nuclear sites as the basis for its surveillance and law enforcement regime. The Office has broad powers of inspection which enable it to inspect nuclear installations, request documents and carry out investigations. This begins with a detailed examination and assessment of the nuclear safety of the design and continues throughout the operation and dismantling of the installations.

Under the NIA 1965, the ONR is authorised to grant licences to applicants and to impose conditions of licence that may be amended or revoked. In particular, the ONR can prohibit certain nuclear operations or revoke the licence of a nuclear site. More generally, the Office can agree to specific actions, approve provisions or require changes/variations in operations. Non-compliance with safety legislation can be punished by an unlimited fine, a maximum term of imprisonment of two years for the Directors, or both.

Brexit

The *Nuclear Cooperation Agreement* (NCA) concluded between Europe and the UK on 30 April 2021 is similar to other NCAs that the EU has signed with non-EU countries. It is applicable for an initial period of 30 years and provides for a commitment to cooperation in the civil nuclear field, including protection, safety and security. It also provides a framework for trade in nuclear materials and technology, facilitates research and development, and allows for the exchange of information.

1.4.5.1.2.2 Nuclear production

EDF Energy has eight nuclear power plants in the United Kingdom (15 reactors), three of which (6 reactors) have entered the fuel unloading phase. The total generating capacity was 5.9GW in 2024. Centrica plc. ('Centrica') holds a 20% stake in Lake Acquisitions Limited, the indirect parent company of the entity holding the nuclear operating assets (excluding new-build).

Nuclear generation fleet technology

Seven of the eight nuclear power plants (Dungeness B, Hartlepool, Heysham 1, Heysham 2, Hinkley Point B, Hunterston B and Torness) are advanced gas-cooled reactor (AGR) plants. The eighth, Sizewell B, is a pressurised water reactor (PWR) plant.

Nuclear safety and radiation protection

Nuclear safety is EDF Energy's top priority. In 2024, four Level 1 events were recorded on the *International Nuclear Event Scale* (INES scale).

Strict procedures are applied to control and minimise the radiation doses received by employees and sub-contractors in all existing EDF Energy nuclear power plants. In 2024, the average individual dose received by all EDF Energy plant staff was approximately 0.042 mSv. The highest individual dose received in 2024 was 4.410 mSv, whereas the maximum legal dose is 20 mSv per year.

Plant life

The lifespan of each plant is mainly determined by its technical and financial capacity to meet the required level of nuclear safety. This is determined at each statutory outage before the next operating period by means of inspection, maintenance, testing and evaluation of the plant's performance. After each outage, reactor restart must be authorised in advance by the ONR. The normal operating period between scheduled outages is generally three years for the AGR plants and 18 months for Sizewell B.

Furthermore, every ten years, the plants are the subject of a periodic review of their design and of their operational and organisational safety, which is more detailed and comprehensive (*Periodic Safety Review* - PSR). The continued operation requires the validation of this examination by the ONR. The Sizewell B nuclear power plant PSR was submitted to the ONR in January 2024, with a decision letter received in January 2025.The letter confirmed that there were no significant safety concerns or challenges to continued operation.

The AGR plants have a design life of 25 years and Sizewell B has a PWR design life of 40 years. However, the investment, technical knowledge, operational skills and safety experience of EDF Energy have made it possible to extend the service lives of the AGR plants. In December 2024, it was announced the decision to extend by one year the lifetime of Hartlepool and Heysham 1 to March 2027 and by two years for Heysham 2 and Torness till March 2030. Since EDF acquired British Energy, the average plant life extension for the AGRs has been eight years.

See also in section 2.2.1 "Operational performance risks", risk 1B "Risk of non-achievement of objectives for operation and/or extended lifespans of nuclear power plants (France and United Kingdom)" - Nuclear fleet in the United Kingdom".

POWER AND OUTPUT PER POWER PLANT

Power plants	Capacity[1] (MW)	Production[2] (in TWh) 2024	2023
AGR power plants			
Hartlepool	1,185	61	7.3
Heysham 1	1,060	5.8	6.5
Heysham 2	1,240	8.6	7.6
Torness	1,200	8.0	8.3
PWR power plant			
Sizewell B	1,198	8.8	7.7
TOTAL	**5,883**	**37.3**	**37.3**
LOAD FACTOR[3]		**72%**	**72%**

(1) The output of the generating reactors is net of any electricity consumed for the plant's own use, including electricity imported from the grid on 1 January 2024.
(2) Annual production includes refuelling outages, scheduled outages and unplanned outages. Imports from non-producing plants shall not be taken into account.
(3) The demand factors are obtained by dividing the actual production by the production which would have been achieved if each plant had been operating at full capacity during the period in question.

Operational review of the existing nuclear power plants

The nuclear plants produced 37.3TWh in 2024, a stable output compared with 2023.

The shutdowns of the four units in Heysham 1 and Hartlepool Nuclear Power Plants in 2024 after the failure of a steam valve in Heysham 1 at the end of 2023 were partly offset by a lower number of scheduled outages in 2024.

EXPECTED DURATIONS OF OPERATION* AND CLOSING DATES

Power plants	Reactor type	Beginning of production	Declared service life	Extensions already declared	Expected Closure Date
Hinkley Point B	AGR**	Feb. 1976	46 years	21 years	2022
Hunterston B	AGR	Feb. 1976	46 years	21 years	2022
Dungeness B	AGR	Apr. 1983	38 years	13 years	2021
Heysham 1	AGR	July. 1983	44 years	20 years	2027
Hartlepool	AGR	August 1983	44 years	20 years	2027
Torness	AGR	May 1988	42 years	17 years	2030
Heysham 2	AGR	July. 1988	42 years	17 years	2030
Sizewell B	REP	Feb. 1995	40 years	–	2035

** As formally registered by EDF Energy and approved by the Nuclear Decommissioning Authority ("NDA").*
*** Gas cooled advanced reactors.*

Management of radioactive waste and decommissioning activities

In the UK, radioactive waste is classified into four categories:

- Low-Level Waste (LLW), for which there is an outlet including the Drigg Subsurface Storage Centre in Cumbria;
- Intermediate level waste (ILW), for which no disposal outlet is currently available in the UK;
- High Level Waste (HLW), which is defined as radioactive waste and whose temperature can significantly rise due to the level of radioactivity. This factor shall be taken into account in the design of the facilities for the storage and disposal of such waste;
- Higher Activity Waste (HAW), which consists of HLW, ILW and LLW waste that cannot be stored on a subsurface.

EDF Energy's LLW and HAW waste strategy is in line with the UK and Scottish Governments' desire to apply the prioritised waste management principles (reduce, reuse, recycle, recover). The use of a series of repositories and recycling solutions should promote the optimum use of the LLW waste repository in Cumbria in the United Kingdom. At present, only one disposal route for LLW waste exists in the UK.

HAW waste is stored in secure, purpose-built facilities on EDF Energy sites in the medium term pending the deployment of longer-term national storage solutions in England and Scotland.

Spent fuel from the advanced gas-cooled reactors is transported to the Sellafield site (owned by Sellafield Limited, a subsidiary of the NDA) for long-term storage.

Spent PWR fuel at Sizewell B is stored on site in a dedicated dry storage facility that will securely store the spent fuel that will be generated throughout Sizewell B's operating life. After long-term surface storage, spent PWR fuel at Sizewell B will be removed to a future geological repository in the UK.

The AGR spent fuel arrangements were agreed at the time of the restructuring of British Energy and through them EDF Energy pays for long term storage (and in previous years reprocessing) of spent nuclear fuel. Sizewell B's fuel storage strategy is approved by the NDA as it is funded by the Nuclear Liabilities Fund (NLF).

Policies designed to continuously improve and optimise the quantities of spent fuel and waste are implemented by EDF Energy. They are part of broader, company-wide policies for nuclear safety, sustainable development, and the environment.

Regulatory framework

Radioactive waste management in the UK

In the United Kingdom, EDF is required under condition 34 of the nuclear site licence to ensure, as far as reasonably practicable, that radioactive materials and radioactive waste on its sites are adequately controlled or contained so that they cannot leak or escape.

In England, the Environment Agency (EA) regulates the disposal of radioactive waste from nuclear sites authorised under the Environmental Permitting (England and Wales) Regulations 2016. These regulations also cover what was previously regulated by *Pollution* Prevention *and Prevention Control,* authorisations for discharge under the *Water Resources Act*, authorisations for activities subject to flood risk and authorisations for waste management.

The Committee for the Management of Radioactive Waste (CoRWM) published its recommendations for the long-term management of high-level waste in 2006. In response, the UK Government has established that deep geological disposal is the preferred route for high-level waste disposal in England. It has established the framework for the management of long-term geological storage, combined with safe and secure interim storage.

In Scotland, the Scottish Environmental Protection Agency (SEPA) regulates the disposal of radioactive waste from licenced nuclear sites. The Scottish Government is pursuing a near surface near site long storage or disposal policy for HAW arising from Scottish sites.

Dismantling the nuclear installations

In the UK, EDF is subject to condition 35 of the nuclear site licence, which forms the basis of the detailed decommissioning plans and programmes required by the ONR. However, these requirements must be taken into account together with other legal provisions such as Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999), which require an assessment of the environmental impact of decommissioning and measures to mitigate this impact.

Dismantling is generally carried out in stages, with the Office having to give its formal approval before moving on to the next stage. The Office may require that the dismantling be started or stopped at any time and must approve the dismantling plans for each stage of the process.

Potential nuclear power plant operators are required to submit a decommissioning and waste management plan (DWMP) in their *Funding Decommissioning Programme* (FDP). It details the operator's quantified plans for fulfilling its decommissioning, waste management and disposal obligations, and includes a financing plan ('FAP'), explaining how the operator will set up financial provisions for its obligations. Part 3, Chapter 1 of the 2008 Energy Act ('EA 2008') sets out the rules governing the decommissioning and remediation of nuclear sites, as well as detailed provisions on FDPs. See also section 6.1, note 15.2.3 'Provisions for nuclear plant decommissioning' to the consolidated financial statements for the financial year ended 31 December 2024.

EDF Energy is a signatory to a series of agreements (the Restructuring Agreements) which define how eligible decommissioning costs and non-contractual liabilities will be financed by the NLF. They include a guarantee from the UK government for the costs of decommissioning existing nuclear power plants. The NLF was initially funded by a contribution from the British government. Since its privatisation, it has been funded by EDF Energy Nuclear Generation Ltd., which makes quarterly payments under the terms of a contribution agreement. In 2020, the British government provided the NLF with an additional contribution of £5 billion.

ENGL and the UK Government signed an update to the Restructuring Agreements on 23 June 2021. The modifications and clarifications confirm the recovery of eligible costs and provide that once the fuel removal phase is completed under EDF Energy's responsibility, all AGR plants will be transferred to Nuclear Restoration Services (NRS), which have been designated by the UK Government to carry out the subsequent decommissioning activities[1].

Thermal production and gas storage

Cottam Power station closed on 30 September 2019, after more than 50 years of service. The decision to close the plant was taken in response to changing market conditions and the desire to decarbonise electricity production. At present, the dismantling work is progressing satisfactorily, with a date for completion of the demolition scheduled for 2026.

West Burton A closed on March 31, 2023, after 57 years of service. The decision to close the plant is in line with EDF's commitment to contribute to carbon neutrality. At present, the dismantling work is progressing satisfactorily, with a date for completion of the demolition scheduled for 2028.

The decision to sell EDF Energy (Gas Storage) Limited, which has two gas storage centres (Hilltop Farm and Hole House), was taken in 2023 and the sale was finalised in April 2024.

Price of carbon

As the largest producer of low-carbon electricity in the country, EDF Energy revenues benefit from the wholesale price of electricity. This price is impacted by the application of a carbon price to CO_2 emissions related to the production of electricity from fossil fuels. Electricity producers in Britain are subject to two carbon pricing mechanisms: the UK Emissions Trading Scheme ("ETS") and the UK Carbon Price Support Tax of £18/ton until March 2026.

(1) See also section 6.1, note 15.2.1 "Regulatory and contractual framework" to the consolidated financial statements for the financial year ended 31 December 2024.

1.4.5.1.2.3 Customers

	12/31/2024	12/31/2023
Electricity supplied to customers (in GWh)	45,011	44,755
Gas supplied to customers (in GWh)	27,124	27,598
Number of residential customer accounts at end of period (in thousands)	5,213	5,358

EDF Energy supplies gas, electricity and related services to residential and business customers in the UK. The company is also in charge of wholesale optimisation of EDF Energy's production and customer assets. The size of business customers ranges from large public service contracts to small private companies. EDF Energy adopts different risk management strategies for each segment.

EDF Energy is the UK leader in energy efficiency installations thanks to the *Energy Company Obligation (ECO) Scheme*. The company provides services that go "beyond supply", such as management and optimisation of energy assets, sales and easy access to electric vehicles (EVs), heat pumps and photovoltaic panels.

EDF Energy remains committed to its programme to deploy smart meters and to modernise the UK infrastructure to enable the emergence of smart grids and charging according to the time of consumption. This is contributing to grid resilience, while the UK is moving towards a low-carbon future.

Residential customers

In 2024, EDF Energy supplied 10,522TWh of electricity and 25,318TWh of gas to residential customers. At 31 December 2024, EDF Energy had 3.1 million electricity customer accounts and 2.2 million gas customer accounts. The 2024 churn (around 9.7%) reflected an increase compared to 2023 (around 5%), as energy prices have gradually fallen and suppliers have started to offer tariffs more competitive with the SVT (the regulated Standard Variable Tariff). EDF Energy's market share decreased from 10.1% at the end of 2023 to 9.7% (as of the most recent report, on 31 October 2024).

To support its most vulnerable customers during the winter, EDF Energy is investing £29 million, an amount that has increased for the third year running. Such funding helps customers facing debt, working with partners to help the most vulnerable, both financially and to heat and insulate their homes. EDF Energy remains strongly committed to the public authorities and regulatory authorities, both bilaterally and in partnership with other suppliers within the Energy UK sector organisation. Together, they address issues such as supplier resilience, the future of the Standard Variable Tariff (SVT) methodology, and government support for consumers. This includes advocating for the introduction of a social tariff for the most vulnerable customers.

EDF Energy has just completed the migration of 5.8 million residential and SME customer accounts to the Kraken Technologies platform. The new platform offers greater opportunities to innovate and distinguish EDF Energy's services to the needs of its customers. Due to the anticipated lengthening of waiting times due to the migration of customers and customer service staff to Kraken, EDF Energy's position in the Citizens Advice Energy Supplier Ranking dropped to 13th position out of a total of 16 suppliers based on data collected between July and September 2024 (latest version). However, EDF Energy is convinced that this system will enable it to provide one of the best customer services, as shown by the "Excellent" rating obtained by EDF Energy on TrustPilot (4.7/5) on 31 December 2024.

The consequences of the energy crisis

After high volatility in 2021 and 2022, wholesale gas and electricity markets stabilised in 2023 and stabilised at a lower level throughout 2024. However, wholesale and retail prices remain considerably higher than before the energy crisis, and occasional sudden and short-term increases show the continuing nervousness of the market.

EDF Energy's hedging strategy still faces significant risk due to erosion and volatility in demand. Energy consumption declined during the energy crisis and its recovery remains subject to uncertainty. Geopolitical instability, especially with conflicts between Russia and Ukraine and in the Middle East, is driving an increase in market volatility and liquidity risks. The possibility of regulatory change still poses a significant risk to the company, exacerbated by the change of government in the UK in 2024. New regulations could affect EDF Energy's ability to generate profits from its tariffs or to collect debts from its customers. While prices remain high, energy retailing remains a sensitive topic for both residential and business customers.

In close collaboration with Ofgem, the UK government and other stakeholders, EDF Energy is participating in discussions on market regulatory reform and how to help customers in 2025 and beyond to achieve carbon neutrality.

Regulatory changes (for consumers)

Default rate cap and government assistance with invoice payments

Ofgem introduced a price cap for residential customers on[1] January 2019. The price was initially set every six months, based on the average wholesale prices for the last six months. However, as part of its response to the energy crisis, Ofgem revised its approach and began updating the default tariff cap every quarter.

2024 also saw the last elements of the government's response to the energy crisis come to an end, with the last elements of support under the Energy Price Guarantee (EPG) for domestic customers formally ceasing on 31 March 2024. Energy suppliers are to be fully compensated by the Government for the savings provided to their customers under the schemes. Final reconciliations to begin closing out the schemes are now underway.

Resilience of the retail energy market

In April 2022, Ofgem implemented a Market Stabilisation Charge (MSC) and a ban on offering more competitive rates to new customers (Ban on Acquisition Tariffs - BAT) until the end of March 2023, and then extended both measures until March 2024.

The MSC ended in March 2024. It required a supplier acquiring new residential customers to compensate the previous supplier if wholesale prices fell below the cap. This mechanism was intended to reduce the risk of costly supplier failures and to ensure that companies that purchased energy upstream for their customers would not be penalised in the event of a significant drop in wholesale prices. The MSC was first triggered in November 2022.

Under the BAT, suppliers are not allowed to reserve fixed-term offers for new customers, as their existing customers should also be able to benefit from the reduced prices. While the ban was originally intended to apply until March 2023, Ofgem has extended it three times, and will now remain in place until at least March 2026.

These measures have stabilised the market and avoided short-term supplier behaviour. Together with the decline in wholesale prices and the change in methodology of the default tariff cap, they allowed suppliers to offset the large losses in coverage suffered during the 2021 and 2022 energy crisis.

ECO4 and *Warm Home Discount*

The ECO3 plan ended on 31 March 2022. It was replaced in summer 2022 by ECO4, the fourth version of the plan in force until 31 March 2026. Like ECO3, the ECO4 scheme obliges major suppliers to promote energy efficiency measures to help vulnerable customers save on their bills.

In addition, the Government introduced the Great British Insulation Scheme (GBIS) in 2023, which runs simultaneously until 31 March 2026. The GBIS programme is designed to broaden household eligibility criteria so that they can benefit from energy efficiency measures when they are not eligible for ECO4. In 2024, EDF Energy's total commitments under the Energy Company Obligation (ECO4) and the Great British Insulation Scheme (GBIS) were increased to GBP 140 million, and is expected to increase further to GBP 169m in 2025.

The Warm Home Discount (WHD) programme also runs annually until the winter of 2025/2026. The amount of support for eligible households is currently GBP 150.

Financial Resilience

Ofgem has introduced new rules to ensure that all energy suppliers have sufficient liquidity on the basis of customers' credit balances and can meet their obligations under the Renewable Energy Obligation (RO). EDF Energy and similar suppliers must hold a minimum of 20% of the credit balances of its individual customers in the form of cash and all the obligations of representative entities by means of purchased guarantees or certificates. EDF Energy fully complies with these requirements. EDF Energy submitted its first annual compliance review in March 2024, confirming that Ofgem's new minimum capital requirements, which will apply from March 2025, will be met.

Smart Metering Policy

UK energy suppliers were required to take 'all reasonable measures' to install smart meters for their individual customers and SMEs by the end of December 2021.

Since January 2022, a new requirement has been imposed on all suppliers to continue installing smart meters until the end of December 2025. During this period, suppliers must meet minimum annual installation targets. These targets have been very difficult to achieve as smart meters remain optional for customers and rates of switching have remained low. EDF is working to provide smart meters for all residential customers and SMEs wishing to benefit from this new technology. However, the company achieved high performance in 2022 and 2023, like all other major suppliers, but it failed to meet the minimum targets set, and this trend is expected to continue until the end of the regulated period in view of the increasing number of customers who reject smart meters. The recent change in government and the upcoming expiration of the current Smart Metering Targets framework provide an opportunity to define a new framework that emphasises the rapid installation of smart metering for customers who wish to have one in their home.

In 2024, EDF Energy installed more than 274,000 additional smart meters. At the end of 2024, 66% of eligible EDF Energy customers have smart meters. EDF Energy has thus far installed 3.65 million smart meters.

Business Customers

EDF Energy supplies around 364,000 small business ("SME") customers and around 17,000 industrial and commercial (I&C) customers, including around 15,000 customers of medium-sized enterprises and around 2,000 customers of large enterprises. The I&C (EDF Business Solutions - EBS) business also supplies several large public sector customers, including Crown Commercial Services (the largest energy contract in volume in the UK) and Scottish Procurement.

In 2024, the business segment supplied a total of 34.49TWh of electricity to non-private customers, of which 2.31TWh to SME customers and 32.18 TWh to I&C customers. In total, EDF Energy supplied 1.81TWh of gas to business customers, including 1.21TWh to SME customers and 0.6TWh to I&C customers.

The market for professional customers in the UK is around 154.4TWh, making EDF Energy the largest supplier of electricity by volume to business customers, accounting for around 21% of the business market. The volume supplied by EDF to the non-domestic electricity market increased by 0.4TWh over one year due to the strong growth of its B2B business.

In the SME segment, the number of customers has increased by 22% this year, mainly due to the acquisition of Opus Energy's SME portfolio. EDF Energy is now the 2nd supplier in the SME segment in terms of number of meters in the UK, ahead of E.On.

Sales of EDF Energy's Medium Business segment increased again and the company improved its customer service, consolidating its position as a market leader. It continues to expand its gas business, which provided about 4,700 counting points at the end of 2024.

For the Large Business segment, a targeted approach led to the acquisition of 12 new customers in 2024, two of which exceeded 100GWh. In addition, 36 contracts with large businesses have been renewed. EDF Energy has supplied around 15TWh for contracts with its public sector customers.

In the electricity purchase market, EDF Energy remains the largest buyer of renewable electricity through Power Purchase Agreements (PPAs) (based on its own and third party capacities) in the UK according to the latest industry report published by Cornwall Insight. Contracts have been signed with 401 renewable energy sites, including 7 new corporate PPAs for 2 new onshore wind projects and 5 solar projects.

Regulatory evolution (for non-retail customers)

Energy Bill Relief Scheme and Energy Bill Discount Scheme

In response to rising energy prices in the third quarter of 2022, the UK government implemented the Energy Bill Relief Scheme (EBRS). It is intended to help companies pay their energy bills in the context of rising prices. In this context, the government granted rebates on unit gas and electricity prices. This discount is calculated by comparing the estimated wholesale price share in the unit price that a customer would pay in the winter of 2022/2023, with a reference price guaranteed by the government, lower than the currently expected wholesale prices. The original scheme was extended from 1 October 2022 to 31 March 2023 and was replaced by the Energy Bill Discount Scheme (EBDS), a scheme to reduce energy bills, which lasted until 31 March 2024. Under the EBDS, undertakings were given a discount on wholesale prices rather than a cost cap, as provided for by the EBRS. In total, EDF Energy has provided around GBP 1.1 billion in government support to its business clients through these arrangements. The discount was automatically applied to the invoices of eligible customers and was then recovered from the public authorities.

Wholesale market services

General principles

EDF Energy's energy purchases and risk management are intended to ensure that EDF Energy's activities are optimised and that its services are provided at a competitive price, while limiting the risk of volatility on its gross margins. A dedicated EDF Energy department, Wholesale Market Services (WMS), is tasked with centrally managing the risks inherent in the wholesale market within the framework of pre-defined risk limits and controls. It ensures a unique interface with the wholesale market via EDF Trading. It also offers modelling services to all EDF Energy entities. It negotiates and manages market access and optimisation services on behalf of third parties, such as electricity generators.

Electricity supply and sale

Since April 2010, 20% of nuclear production has been sold to Centrica, a minority shareholder in the existing nuclear fleet, in accordance with agreements concluded with Centrica. The remaining 80% is sold internally at the same price terms as those set out in the agreement with Centrica, based on published market prices, smoothed over electricity futures prices where liquidity permits.

In addition to its own production, EDF Energy also procures its energy through purchase contracts mainly with renewable energy producers and those based on cogeneration. In 2024, these purchases amounted to approximately 8.84TWh.

WMS Flexibility Services provides market access and optimisation services for storage (e.g. batteries) and small-scale production (e.g. advanced management speciality gas plants) to its customers to earn revenues from wholesale services and flexibility services. In 2024, it obtained 545MW of new battery optimisation contracts and signed renewal of battery contracts with existing partners totalling 20MW. It also obtained 27MW under new advanced gas production contracts and signed the renewal of similar contracts already in place with 30MW.

EDF Energy's position as a net buyer on the wholesale market for the volumes delivered in 2024 was around 6.6TWh (including structured sales), with around 18.7TWh sold and 25.2TWh purchased.

Electric Vehicles (Pod Point)

EDF holds a 54.05% stake in Pod Point.

In 2024, Pod Point deployed about 28,000 residential charging points for rechargeable vehicles. These sales were made despite supply chain problems and a cost-of-living crisis that slowed the growth of the electric vehicle market. EDF Energy currently has 45,000 customers who own electric vehicles, an increase of 90% compared with 2023, of which around 15,800 benefit from an electric vehicle tariff.

Heat Pumps (EDF Heat Pumps, rebranded from CB Heating)

In 2023, EDF Energy acquired 100% of CB Heating, a leader in the installation of heat pumps. This follows a strategic investment made in the company in 2022. In 2024, EDF Energy sold (gross) around 1,600 heat pumps and installed 1,000, representing an increase of around 70% in sales for CB Heating in 2024 compared to 2023. This trend is fuelled by the ECO programme and by the increase in funding under the *Boiler Upgrade Scheme*, which increases from GBP 5,000 to GBP 7,500 per installation.

Solar panels and batteries (Contact Solar)

In February 2024, EDF Energy acquired Contact Solar, a leading company in the installation of residential solar photovoltaic panels. EDF Energy has gradually increased the number of leads generated for Contact Solar throughout the year and, since the acquisition was finalised in February, it has made around 1,900 sales (gross) and around 1,300 installations.

1.4.5.1.2.4 The New Nuclear Industry

Following the final investment decision (FID) taken by the EDF Energy Board on 28 July 2016, EDF Energy and China General Nuclear Power Corporation (CGN) signed the contracts for the construction and operation of two EPR reactors at the Hinkley Point site in Somerset (Hinkley Point C or HPC project).

EDF is participating in the development of a nuclear power plant project at Sizewell in the Suffolk region (the Sizewell C project based on EPR technology).

Hinkley Point C (HPC)

At 31 December 2024, EDF Energy owned 72.6% of HPC, with CGN holding the remaining 27.4%.

Like any project of this scale, the project involves very important industrial risks (work and productivity on site, manufacturing by suppliers, construction and commissioning contingencies, tensions on world markets) which can lead to delays and cost overruns when the project is completed. These risks are detailed in section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs".

Project achievements

In 2024, the Hinkley Point C project completed a series of milestones:

- Unit 1 - Reactor building: reactor vessel installation. The reactor vessel installation sequence was carried out between 30 November and 3 December. HPC is the first new reactor built in Britain in more than 30 years. Framatome began manufacturing the reactor vessel in 2011, which consists of more than 500 tons of cast iron and will contain nuclear fuel
- Unit 1 - Turbine Hall: installation of the generator stator. The stator, built by Arabelle Solutions, arrived at the site from Belfort on 17 November 2024 and was installed on 17 December 2024.
- Unit 1 - Diesel programme: starting up of the heat exchanger installation.
- Unit 2 - Reactor building: installation of the third bulkhead of the containment liner. This piece is the third and last element of the containment liner. It was prefabricated on site and installed on 14 October 2024.
- Unit 2 - Reactor building: reactor pool and transfer pool installation.

Project Cost and Schedule

A review of the Hinkley Point C project was finalised in January 2024[1], which led to a reassessment of the construction schedule and costs. In terms of the timetable, it is now envisaged that power will be started up in unit 1 around the end of the decade. Several scenarios are considered:

- the first scenario, around which the project is organised, corresponds to a target of starting production in unit 1 in 2029. This schedule is notably based on a target productivity for electromechanical assemblies, underpinned by the implementation of action plans currently being developed;
- a second scenario (base case), taking into account certain risks inherent in the success of these action plans, the build-up of these facilities and the testing schedule, will lead to unit 1 production starting in 2030;
- finally, given the complexity of the project, an unfavourable scenario could lead to a start of the electricity production of unit 1 in 2031, i.e. 12 months more than the base case.

(1) See the EDF press release of 23 January 2024 entitled "Update on the Hinkley Point C project".

In the first two scenarios, the project's completion cost is estimated to be between £31 billion and £34 billion$_{2015}$ depending on the circumstances. The cost of civil engineering and the extension of the electromechanical phase (as well as its effect on the other works) are the two main causes of this revision of the construction cost. In the unfavourable scenario, the additional cost would be around GBP 1 billion in 2015.

In 2024, performance in civil engineering and electromechanical works did not produce the expected results. Action plans have been put in place and the project remains within the scope of the first two scenarios mentioned above in terms of cost and duration.

At the end of 2024, the actual construction costs incurred, net of interest, for the entire project[1] amounted to approximately GBP 26.4 billion (nominal value), or GBP 21.9 billion in 2015. Interim interest amounts to GBP 2,245 million.

At the end of 2024, the Group recorded an impairment of GBP 945 million mainly related to the update of the long-term inflation rate curve assumption in the United Kingdom (see section 6.1, note 10.7.2 "Impairment tests on goodwill, intangible assets and property, plant and equipment" to the consolidated financial statements for the financial year ended 31 December 2024).

Financing of the project

In a side letter to the *Secretary of State Investor Agreement* dated 27 September 2016, EDF undertook to the UK Government that if the Group intended to sell a stake in HPC resulting in the loss of the majority of voting rights before the second unit is operational, the Government's consent would be sought before making the transaction.

As the total financing needs of the project exceed the initial contractual commitment entered into by the shareholders (*committed equity*), HPC called on the latter to allocate additional equity on a voluntary basis (*voluntary equity*) as from the third quarter of 2023. HPC is now financed on a voluntary basis and EDF alone is currently contributing. In the absence of any voluntary equity from CGN to date, EDF is seeking different solutions to cover the financing needs until the commercial commissioning of the plant. CGN has the ability to resume financing at any time.

Discussions with the Office for Nuclear Regulation (ONR)

The ONR is continuing its close regulatory monitoring of the HPC project and is placing special emphasis on the topics covered by the *Chief Nuclear Inspector,* namely a strategic approach to the health and safety of nuclear sites and cyber-security. At the end of 2024, the reactor pressure vessel was installed in unit 1, a stage that constituted a HPC hold point subject to authorisation by the ONR under its Primary Powers. As part of its Flexible Permissioning regime, the ONR issued a decision of no objection to the commissioning of the low-voltage switchboards (LVLs) in July 2024. The Projects arrangements to ensure compliance with Licence Condition 21 (commissioning) were also implemented this year to allow LVL switchboards to be commissioned. In the future, the ONR intends to authorise a number of additional activities as the HPC project moves towards the on-site fuel delivery phase. The ONR continues to investigate two separate safety accidents that occurred in 2022: one concerning a fatal accident in November 2022 and the other concerning the fall of a prefabricated rebar steel cage on a worker in August 2022. HPC continues to co-operate with both investigations and submitted a Voluntary Statement in September 2024 to the ONR regarding the fatal accident. A further Voluntary Statement was submitted in December 2024 regarding the accident involving the prefabricated rebar steel cage.

Contract for Difference (*Contract for Difference* - CfD)[2]

HPC Project Company, NNB Generation Company (HPC) Limited, and the Department of Energy and Climate Change (DECC) finalised the terms of the Contract for Difference (*CfD*) in October 2015. The latter was declared compatible with EU state aid rules by the European Commission in October 2014.

Signed on 29 September 2016, alongside other contracts with the UK Government, the CfD is a contract signed by HPC and countersigned and managed by a counterparty called *Low Carbon Contracts Company Limited* (*LCCC*), a private company wholly owned by the UK Government, which aims to secure the revenues generated by the electricity produced and sold by HPC by a financial mechanism offsetting the difference between the contractual strike price and the market reference price over a period of 35 years from the commissioning of each of the units.

From the date of commercial entry into service of the unit under consideration, if the reference price at which the producer sells electricity on the market is lower than the strike price defined in the CfD, the producer will receive the difference. If the reference price is higher than the exercise price, the producer will be liable for the difference.

The main features of the Contract for Difference are as follows:

- the strike price for HPC is set at GBP 92,50$_{2012}$/MWh. The strike price will be reduced to GBP 89,50$_{2012}$/MWh if the Sizewell C project is subject to a positive final investment decision in order to take advantage of the series effect, with compensation from Sizewell C to HPC in order to share the costs of first of a kind EPR technology between the two UK projects, payable on 31 December 2025 or on the positive final investment decision for the Sizewell project, whichever is the later;
- the strike price is indexed to UK inflation through the Consumer Price Index (CPI);
- the term of the exercise of the mechanism is 35 years; in view of the delay of unit 1, which is expected to be commissioned after 1 May 2029, and of unit 2, which is expected to be commissioned after 31 October 2029, the 35-year period will be reduced commensurately with the deadline overrun beyond these dates;
- the CfD contract has a Longstop Date, whereby if neither unit has been commissioned by this date the UK Government is authorised (without obligation) to terminate the CfD. In view of the impacts of Covid-19 on the project and the outcome of the UK Government' negotiations with CGN on its exit of the Sizewell C nuclear project, the Longstop Date was moved from 31 October 2033 to 31 October 2036;
- the project is protected against certain unfavourable regulatory and legislative developments. Provision is also made for cases of cost reviews (upward and downward depending on the assumptions) for the 15th and 25th years, and to review certain conditions for the costs corresponding to decommissioning and waste management operations (Funding Decommissioning Programme).

There is no explicit volume guarantee in the CfD or annual cap; however, the contract includes clauses to protect against the risk of a *curtailment risk* by the system operator so that the project is contractually covered against this type of event.

(1) Calculated amount across the project in line with costs at project completion.
(2) The terms of the contract are available on the British government's website: https://www.gov.uk/government/publications/hinkley-point-c-documents.

Exposure and management of foreign exchange risks, rates and inflation

After the commissioning phase, the return on investment in euros varies largely with the fluctuations of the pound sterling and inflation in the UK, with the revenues generated in sterling and indexed to inflation.

The HPC project is protected against fluctuations in electricity market prices during the CfD period. It is exposed to fluctuations in electricity prices beyond the CfD period.

In terms of currencies, around 15% of the estimated £17.4 billion in costs to go from 2025 onwards is denominated in euros. This exposes both the project and the EDF Group to the euro/pound exchange rate. In the event of a weakening of the pound against the euro, the pound cost of the project increases and its profitability decreases accordingly. A hedging strategy has been implemented at the project level.

However, at the Group level, the devaluation of the pound would result in a decrease in the need for funding brought back into euros and thus in the Group's debt. In view of the long-term future of the investment in HPC, the EDF Group has deployed a progressive strategy to hedge the risk of appreciation of the pound in its investment in HPC.

Funding programme for the decommissioning of nuclear power plants and waste shipment

The contracts relating to the HPC *Funding Decommissioning Programme* (FDP) were signed on 29 September 2016. For a detailed description of the regulatory requirements applicable to nuclear operators, see section 1.4.5.1.2.2 "Nuclear production".

Sizewell C

Sizewell C is a project to build a nuclear power plant with two EPRs at Sizewell, in the Suffolk region of England. Sizewell C is expected to have a total capacity of 3 GW supplying electricity to 6 million households for about 60 years.

The project is based on HPC's replication strategy, replicating as much of HPC's design and supply chain as possible. Sizewell C will benefit from HPC feedback and experience as well as a complete UK supply chain in all respects, which should improve visibility in terms of schedule and costs.

As at 31 December 2023, Sizewell C was fully consolidated in the Group's financial statements. At 31 December 2024, EDF no longer controls Sizewell C (Holding) Ltd due to the following developments:

- With the gradual decrease in its ownership percentage, EDF has lost rights in the governance of Sizewell C and
- A leadership team (independent of EDF) has been established for Sizewell C, with the necessary skills to make decisions and lead the plant's construction.

Therefore, from 31 December 2024, Sizewell C (Holding) Ltd is therefore accounted for by the equity method, since the Group now exercises significant influence over the company.

Decision of the British Government to support the development of Sizewell C

The *Department for Energy Security and Net Zero* (DESNZ) announced in August 2024 that it will provide new grants for the development of Sizewell C, up to a maximum of £5.5 billion, reflecting the support of the UK Government. At the launch of the Autumn Budget (October 2024), the UK Government stated that 'new nuclear energy will play a major role in enabling the UK to ensure its energy security and produce clean energy, while providing thousands of skilled and quality jobs'[1].

EDF's commitment to funding the Sizewell C project has been capped. The amount set was reached at the end of 2023 and EDF has no obligation to contribute more than this ceiling. Pending the final investment decision, the project was fully funded by the UK government in 2024, thereby consolidating its position as a majority shareholder in relation to the project.

On 31 December 2024, the British government held 83.8% of the project, with EDF holding the remaining 16.2%.

Preparation for construction

Pending a final investment decision, expected in spring 2025, the project has moved from a development phase to a construction phase and is actively preparing to start construction.

The commitment to finance local actions made by Sizewell C in the context of the application for development authorisation became effective on 15 January 2024 with the completion of the on-site works. The acquisition of the main site took place in March 2024. The civil engineering companies are busy and work on the site is accelerating. Detailed design of off-site structures (such as roads and railways) and earthworks progressed as planned. Contracts for critical components and equipment have been finalised or are in the process of being finalised, and the manufacturing of some critical equipment, including reactor vessels and steam generators, has been initiated to secure the benefits of HPC replication.

Plans for organisation and collaboration with HPC are also implemented or are being tested.

Consent, Permissions and Licences

In July 2022, the UK Government approved the development application (DCO). An appeal to the courts challenging that decision was dismissed in June and December 2023. A further appeal of the decision, lodged in January 2024, was dismissed by the Supreme Court in May 2024. The project fulfilled a series of obligations included in the application for a development licence (DCO) allowing construction to start in 2024.

The *Office for Nuclear Regulation* (ONR) formally licenced the nuclear site in May 2024.

Regulatory framework and risk-sharing mechanism

The *Nuclear Energy [Financing] Act*, which came into force in March 2022, provides for the possibility of using a *Regulated Asset Base* (RAB) model to finance future nuclear projects. The RAB model is a proven funding model that has already been used to fund other leading infrastructure in the UK, such as water, gas and electricity networks. In this context, a company is licenced by a regulator to charge a regulated price to consumers in exchange for the provision of the infrastructure.

The Sizewell C project was designated as eligible for the RAB model in November 2022. Under a *generation licence* (RAB) granted to Sizewell C by the UK electricity and gas regulator *Ofgem*, the project will receive an authorised revenue from the start of construction, which will be financed by the electricity suppliers who will be charged the cost of the project as users of the electricity system. Electricity suppliers in turn will bill UK consumers for the cost.

The regulatory authority will set an authorised revenue level for the project to enable it to recover costs (during the construction and operation phases) and to remunerate capital invested in an incentive regulatory framework to carry out the project. The development costs incurred up to the entry into force of the RAB licence should be included in the RAB and recovered upon signature of the *Revenue Collection Agreement* to be concluded between Sizewell C and Low Carbon Contracts Company Ltd.

(1) https://www.gov.uk/government/publications/autumn-budget-2024-a-gad-technical-bulletin/autumn-budget-2024-gad-technical-bulletin#:~:text=Investment,-The%20government%20has&text=This%20settlement%20provides%20%C2%A32.7,the%20clean%20energy%20superpower%20mission.

In addition to the RAB model, the Sizewell C project will benefit from a set of *Government Support Package* (*GSP*) measures to protect investors and lenders against certain low-probability, high-impact risks. The combination of the RAB model and the GSP is designed to share the construction and operation risks of the project between consumers, taxpayers and investors, thereby reducing the financing cost.

The RAB and GSP terms for the Sizewell C project are currently being finalised with the UK government and potential investors. A formal consultation process was launched in November 2023 on the terms and conditions of the RAB model for Sizewell C. Another consultation on the methodology for determining the initial weighted average cost of capital of the proposed economic licence for Sizewell C was launched in March 2024.

Financing of the construction of the plant

In September 2023, the UK Government launched a process to seek additional funding from private investors for the construction of the Sizewell C nuclear power plant. In October 2024, the UK Government confirmed that the Sizewell C project's capital and debt raising process would soon enter its final phase. As with other major multi-year government commitments, a "final investment decision on the continuation of the project will be made in the expenditure review phase 2"[(1)], which is expected to be completed in 2025.

Final Investment Decision (FID)

The decision to build the plant remains subject to the approval of a final investment decision. Sizewell C and its shareholders, EDF and the UK Government, are working together to finalise the remaining steps leading to this final investment decision, expected in 2025, subject to compliance with the following conditions:

- securing project funding, including finalisation of the RAB and GSP licences, and finalisation of the ongoing process to seek additional funding from private investors;
- an agreement with the British government on the baseline and the cost at completion of the project.

Conditions for EDF's participation in the final investment decision

EDF's contribution to the financing of construction is subject to compliance with certain conditions, including:

- a stake in the project of up to 19,99%, including a ceiling for the financial exposure in value terms;
- Expected return on capital as an investor, in line with the market return on this type of asset, the risk allocation profile and EDF's investment policy.

Failure to comply with these conditions (without prejudice to a satisfactory allocation of risks) would result in the Group not making a final investment decision (see Section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs").

The amount and timing of EDF's capital injection as a shareholder, in the event of a final investment decision, have not yet been approved.

EDF and its subsidiaries will provide the design of the British EPR, the key heavy equipment via Framatome, the steam turbines via Arabelle Solutions, the fuel assemblies for at least the first cycles, as well as services related to the Sizewell C project.

Bradwell B

The project was not developed at all in 2024.

1.4.5.2 Italy

1.4.5.2.1 EDF group market and footprint in Italy

Italy is one of the EDF group's four key markets in Europe alongside France, the United Kingdom and Belgium. The Group is mainly present in Italy through its 97.172% shareholding in Edison[(2)].

Edison is a leading energy company, with over 140 years of history which makes it one of the oldest operator in the sector.

Today Edison employs over 6,000 people operating mainly in Italy and Spain in the fields of renewable and low-carbon production, natural gas procurement and sales on the wholesale market, sustainable mobility, and through Edison Energia and Edison NEXT in the sale of power, gas and value-added services for customers, companies, territories and Public Administration. The Group is at the forefront of the energy transition in Italy in line in particular with the UN Sustainable Development Goals (SDGs) and European decarbonisation policies.

1.4.5.2.2 Edison's strategy

Edison's is a leader in sustainable energy transition with a strategy focused on three main pillars:

1. Lead growth in renewables and in the supply of flexibility to the grid,
2. Ensure security of supply by adapting Edison's Gas Activities to the evolution of Italian's demand and promote green gas production,
3. Support its customers through their decarbonisation journey with value-added services.

In that context its main 2030 targets are: increasing its renewable installed capacity from 2 to 5GW, maintaining a 20% market share in Italian gas sales while diversifying its supply sources and having at least 5% of its portfolio coming from green gases, reaching 4 million customer contracts and being a leader in energy efficiency services to accompany large customers and public administrations entities (cities, schools, hospitals,...) on their energy transition journey.

By 2030 Edison wants to have 40% of its power production decarbonised in order to reach an industrial portfolio with 70% of its EBITDA stemming from renewables, flexibility and downstream activities compared to an average of 35% over the period 2020-2022. This will be achieved through an ambitious investment plan 85% of which aligned with the United Nations' SDGs and approximately 75% aligned with EU taxonomy regulation. This development will be financed through operating cash flows and a debt level in line with an investment grade rating. By 2040 Edison will aim for over 90% of its power production to be decarbonised the use of further renewables and new technologies such as CO_2 capture and new nuclear power, if the conditions are met for its development in Italy.

More specifically Edison's main axes of development are as follows:

- **Renewable energy and flexibility:** Edison aims to increase its renewable energy generation by promoting specific investments in hydro, wind and solar power projects to increase its electricity generation portfolio in Italy with a view to reach 5GW capacity by 2030 while reducing its carbon emissions. Simultaneously, Edison aims to develop tools for managing flexibility such as additional storage and hydropower pumped storage capacity to support the development of intermittent unscheduled renewable energies.

(1) https://www.gov.uk/government/publications/autumn-budget-2024/autumn-budget-2024-html
(2) Equity stake; 99.473% share of voting rights.

Edison intends to focus on highly efficient and flexible thermoelectric plants and on CO_2 capture and storage (CCS) systems to decarbonise its gas-fired power generation portfolio. Looking ahead to 2040, Edison believes that nuclear energy will play a key role in achieving the EU's carbon neutrality targets. Small Modular Reactors (SMRs) technology in particular can be used to produce both electricity and heat, responding in a highly flexible way to the needs of energy-intensive industries and territories.

- **Gas/green gas:** Edison will maintain its key role in the Country's energy security and independence with a flexible and increasingly decarbonised gas portfolio, thanks to green gases such as hydrogen and biomethane. Edison's goal for 2030 is to continue to meet 20% of Italian's gas demand with green gases accounting for about 5% of its portfolio. Edison will adapt its long-term gas portfolio to the decreasing Italian market needs while diversifying its gas sources geographically and through flexible LT LNG contracts and developing green gases (biomethane and H2).
- **Customers and services:** Edison's goal is a constant growth of customer portfolio to reach 4 million contracts (for B2C and B2B segments) by 2030 and the development of a leading platform of Value-Added services and Energy Services for all its customers: B2C, B2B and B2G. Edison also aims to develop its platform by helping customers and territories strengthen their competitiveness, efficiency, environmental sustainability and individual well-being. Edison promotes sustainable mobility, both with electric mobility solutions and by encouraging the development of facilities for the sale of LNG for heavy-duty land and sea transport.

Edison is also the EDF group's gas platform. Since 2017 the company has had a service agreement with EDF enabling it to provide integrated management for all EDF group's assets and to develop EDF's long term gas sourcing business (in particular, the procurement of pipeline gas and LNG, contract management, medium to long-term optimisation and transportation).

In the last years, Group's position in the gas value chain has been refocused following a strategic realignment towards energy transition businesses. In this context in 2023 Edison completed the disposal of all its Exploration & Production (E&P) assets and in July 2024 signed an agreement for the sale of 100% of Edison Stoccaggio to the Snam Group after a competitive process.

However, the Group maintains a relevant presence in gas activities from midstream to downstream.

The Group also benefits from short to medium term optimisation skills of EDF Trading in particular *via* its access to physical and financial wholesale market worldwide.

In June 2024, S&P affirmed Edison's rating BBB/A-2 and revised the outlook to positive from stable. This rating action reflected an equivalent change in the outlook of EDF SA and the continuing strong operational and financial performance of Edison. Edison's credit rating is Baa3 with a stable outlook for Moody's.

With the return to a price scenario more in line with the pre-Covid situation and given its strong liquidity profile, in 2024 Edison cancelled its 1 billion euros revolving credit guaranteed by SACE signed in 2023 to face the severe tensions on working capital triggered by the energy crisis of 2022.

Regarding land regeneration, Edison has set aside, over the last 3 years, more than €1 billion provisions for environmental remediation. To carry out these activities, Edison ReGea was established as a vehicle of advanced skills and competences.

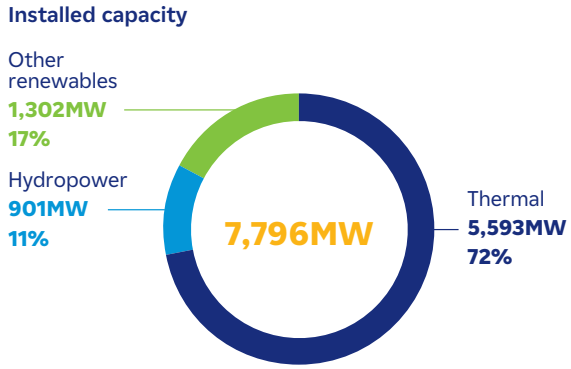
Edison is also a leader on the social responsibility field through in particular its EOS Foundation - Edison Orizzonte Sociale ETS which was established in 2021 with the aim of supporting local communities and social innovation across Italy.

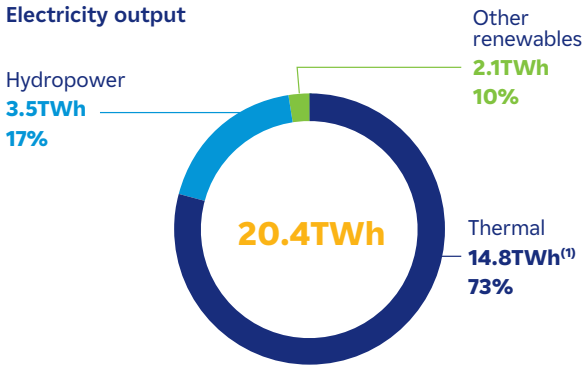
Furthermore, Edison has recently announced a plan of "housing support" addressed to its young employees: it provides financial support in order to rent a furnished two-room apartment, in an area close to workplace and well connected by public transport.

Finally Sustainalytics reviewed Edison ESG valuation for the year 2024 assessing a level of 23 (MEDIUM RISK) after a 24.9 grade provided in 2023 confirming a strong quality of ESG risk management. This puts Edison in the first third of the rated utilities across the world based on Sustainalytics' methodology. Furthermore Edison 2024 S&P Global ESG Score reached 54/100 a 9 point increased compared to its 2023 score and Edison also received an update of its sustainability assessment from Ecovadis, obtaining the Platinum medal, with a score of 88 points out of 100 and ranking in the top 1% of companies assessed (compared to 75/100 in 2023).

1.4.5.2.3 Edison's business

INSTALLED CAPACITY AND OUTPUT OF EDISON[1] – 2024





(1) On a consolidated basis, energy efficiency services included.

NB: The values expressed are rounded.

(1) Energy efficiency services included.

1.4.5.2.3.1 Electricity generation

Power generation in 2024

With 7.8GW of installed capacity mostly distributed across the country, Edison covers 7.5% of the Italian electricity production (7.7% including energy efficiency services which produced 0.7TWh for a total Edison Electricity output of 20.4TWh).

It is an integrated operator along the electricity value chain with activities from power generation to plant operation & maintenance and sales to end customers.

In 2024, Edison (excluding energy efficiency services) sold 37.1TWh of electricity in Italy (compared with 36.4TWh in 2023, i.e. +2.1%), of which 17.4TWh were purchased on the markets and 19.7TWh were generated (+5% compared to last year). The increase in Edison's power generation in 2024 was mainly due to the increase in hydro generation (3.4TWh *i.e.* +46.1% compared to 2023) mainly due to higher level of rainfall. This increase more than offsets the lower wind and PV production throughout 2024, despite the positive contribution of new PV plants that came into operation during the year.

The generation fleet

Edison's generation fleet (excluding energy efficiency services) is currently made up of 124 hydropower plants, 11 thermal power plants (CCGT), 53 wind farms and 60 photovoltaic plants. Combined-Cycle Gas Turbines account for 72.2% of electricity generated in volumes, while hydropower accounts for 17.4% and combined wind and other renewable energies 10.4%.

In order to guarantee the flexibility and security of the national electricity system, Edison started the operations of two new state-of-the-art combined-cycle thermoelectric power plant: Marghera Levante CCGT plant (780MW) in 2023 and Presenzano CCGT plant (770MW) in 2024. These two installations are highly flexible and efficient (with energy efficiency of up to 63%) and have a lower environmental impact ensuring (i) a reduction in specific carbon dioxide emissions up to 30% of the average current Italian thermoelectric park, (ii) nitrogen oxides (NOx) emissions more than 60% lower than existing plants of similar size, as well as (iii) limited use of water resources due to the adoption of air cooling systems . The two power plants benefit from the fixed contribution of €75,000/MW for 15 years linked to the capacity market. This is an important milestone for the security of the Italian energy system, ensuring a highly flexible, lower-carbon production that balances the intermittent nature of renewable sources, thus contributing to the achievement of the country's decarbonisation targets set by the PNIEC[1].

Edison aims to continue its expansion in renewables through both organic growth and partnerships with third-party developers.

In 2024, Aidone PV plant (41MW) was inaugurated and 7 new PV plants were built in Piedmont for a total capacity of 45MW confirming Edison's aim to be one of the reference players in this sector.

Edison has a large renewables pipeline under development (over 2GW) and under construction (c.400MW).

In that context Edison has recently started the repowering of 4 plants in Abruzzo: the replacement of these wind turbines will result in doubling the power generated.

Edison shows its interest in renewables not only through its important investment plan but also through offtake Power Purchase Agreements (PPAs). Offtake PPAs are an important stimulus for the market to build new renewable megawatts and accelerate the path to decarbonisation.

In 2024 Edison signed a PPA for purchasing power from third parties at a fixed price on a long-term basis which will produce an average of 50GWh per year. The plants will be installed in the Northern Italy.

Edison is also interested in the development of ambitious and innovative projects such as floating offshore wind plants, hydro pumping and nuclear generation.

In June, Edison joined a Special Purpose Vehicle for the development of a 975MW floating offshore wind power project in Italy: Edison has acquired a 50% stake in Wind Energy Pozzallo S.R.L. with Blunova (Carlo Maresca Group) owning the residual 50%. The floating wind offshore plant, to be located over 25 km from the Sicilian shore, is currently in the authorization phase with Italian Ministry of the Environment (MASE).

In the hydro-electric sector, Edison continues to grow with the purchase and development some mini-hydro projects and has presented its offer for the reassignment of the hydroelectric concessions of Codera Ratti-Dongo, in the tender procedure launched by Lombardy Region. It is also working on the development of hydroelectric pumping projects in collaboration with Webuild, with the aim to grow the Italian hydro power supply chain, to increase the Country's energy autonomy and its economic development.

(1) *Piano Nazionale Integrato per l'Energia e il Clima.*

Looking ahead to 2040, Edison believes that nuclear energy will play a key role in achieving the EU's carbon neutrality targets. Small modular reactor (SMR) represents a technological innovation that could be safely implemented on a large scale and which would support the long-term decarbonization targets while minimizing investment. In this regard it should be noted that in 2024 EDF, Edison, Federacciai, Ansaldo Energia and Ansaldo Nucleare signed a Memorandum of Understanding for the use of nuclear energy to boost the competitiveness and decarbonisation of the Italian steel industry. Furthermore, Edison, Framatome and Politecnico di Milano signed a cooperation agreement for scientific and technological research and training in nuclear energy.

Outside of Italy, in December Edison BoD approved Helleniq offer for its 50% of the Greek operator Elpedison which owns two CCGT plants: one in Thessaloniki (426MW) and the other in Thisvi (410MW) and a substantial portfolio of end-customers. This marked the end for this Joint Venture which started over 15 years ago and will allow Edison to receive up to 195m€ of proceeds to finance its growth in low-CO_2 emission activities. Completion of the transaction is subject to approval of the competent regulatory authorities.

Lastly, Edison holds a 20% stake in Kraftwerke Hinterrhein AG, which operates 626MW of hydropower in Switzerland and a 49% stake in Dolomiti Edison Energy, with hydro plants in Trentino.

1.4.5.2.3.2 Gas business

EDF group, through Edison, benefits from a relevant presence from midstream to downstream.

Edison is Italy's second largest importer of natural gas and the first long-term importer of LNG with *circa* 22% market share. It is also the first player in SSLNG. Edison aims to maintain its position in Italy adapting its long-term gas portfolio to the decreasing Italian market needs.

Edison's Italian gas sourcing portfolio is based on a series of long-term agreements. As at the end of 2024, Edison's sources were:

- approximately 13.4 billion m^3 almost entirely *via* gas pipelines imports from Libya, Azerbaijan and Algeria and LNG from Qatar;
- 4.3 billion m^3 bought on the market, through short-term contracts.

In 2024, total sales of gas amounted to 17.6 billion m^3 (compared with 14.9 billion m^3 in 2023) as a result of the resumption of business activity after the stress caused by the war in Ukraine in 2022 and 2023 and the risks associated with the sharp reduction in gas supplies from Russia. Edison has made intragroup sales to its distributors (Edison Energia and Edison Next) for 5.8 billion m^3 of gas to satisfy the needs of its industrial and residential customers. It also delivered 4.1 billion m^3 for thermal production needs in Italy (this includes the needs of Edison-owned plants) and 7.7 billion m^3 on the wholesale market.

In 2024, no gas was imported from Russia.

Edison and the U.S. LNG supplier Venture Global signed a 20-year contract for LNG cargos in September 2017. Despite that contract, Venture Global has not commenced deliveries to Edison, alleging technical problems at the Facility. As a consequence, Edison initiated an arbitration proceeding against Venture Global at the London Court of International Arbitration in London, for breach of contract.

Edison also diversifies its portfolio with increasing shares of green gas, accompanying its customers in their decarbonization path.

The Group is one of the main players in biomethane in Italy with an integrated value chain from production to sale: 0.5% of its gas portfolio is covered by green gas. It has 8 biogas/ biomethane plants, of which 3 in operation, 4 in authorisation and 1 under construction. . Edison, since the construction of the first plants in the country in 2018, has helped producers to sell biomethane on long-term horizons, taking it from production sites and reselling it in the transport sector.

In November 2024 Edison signed a long-term contract (BPA, Biomethane Purchase Agreement, for 15 years) with the company Kanadevia Inova, for the withdrawal of biomethane produced from agricultural waste. Kanadevia Inova will build a biomethane plant and Edison will sell the production to its energy-consuming customers.

Gas infrastructures

Edison contributes to the development of gas import infrastructure projects through IGI Poseidon in which Edison owns a 50% stake[1]. IGI Poseidon is promoting the following three projects:

- Eastmed, an interconnection project between Greece and the eastern Mediterranean which will provide direct access to gas resources in the eastern Mediterranean (Israel, Cyprus), connecting them to the Greek, Italian and other European markets. The project is based on a 10bcm/year offshore/onshore line, expandable up to 20bcm/year, whose viability and sustainability have been demonstrated from a technological and economic point of view by engineering surveys carried out since 2014. The pipeline would also be suitable for hydrogen transport, meeting the needs of ecological transition. The project is included in the EU's VI list of Projects of Common Interest (PCI);
- Poseidon, an interconnection between Greece and Italy, which would allow available gas resources to be transferred from Greece to Italy by connecting to Eastmed. The project is a mature asset with finalised engineering activities and has obtained the required permits in Greece and Italy. In May 2020, it was declared a project of national importance for Greece;
- IGB, a 182km gas pipeline linking Greece and Bulgaria, which is operated by ICGB and is jointly owned by BEH[2] and IGI-Poseidon. This infrastructure has a capacity of 3 billion m^3 of gas and was commercially launched in October 2022. Its commissioning opens up a new strategic supply route for the countries of Southeast Europe in terms of security and provides a diversification alternative to Russian gas. The gas pipeline received funding of €110 million from the European Investment Bank (EIB).

Edison also has access to 80% of the Rovigo long-term offshore regasification terminal's capacity (6.4 billion m^3 per year) which it uses to import LNG from Qatar.

For Edison, LNG is a strategic vector not only for meeting the demand of the Italian gas network, but also for its role in the decarbonisation of truck and maritime transport. In 2021 Edison created the first integrated logistics chain dedicated to small scale LNG, through the construction and commissioning of a 20,000 m^3 small-scale depot in Ravenna (in partnership with PIR and Scale Gas) and an LNG carrier dedicated to its supply. In July 2024, Edison used this LNG carrier, called Ravenna Knutsen for the first ship-to-ship LNG bunkering operation in the Adriatic Sea.

In order to complete its positioning in the sustainable mobility market, Edison is developing an additional facility in Brindisi and is targeting a second LNG vessel for the supply of the second deposit and enabling access to emerging bunkering market.

(1) See also section 1.4.6.2.2 "Gas assets and projects - Infrastructures".
(2) *Bulgarian Energy Holding.*

1.4.5.2.3.3 Sales and marketing

Edison Energia sold power to end customers for a total amount of 15.4TWh, up 11.9% compared to 2023. Power sales amounted to 4.3TWh to B2C and 11.1TWh to B2B. Edison Energia sold gas to end customers for a total amount of 5.8 billion m^3, up 12.1% compared to 2023. Gas sales amounted to 0.6 billion m^3 to B2C and 5.2TWh to B2B.

Edison Energia is the company in Edison Group dedicated to the sale of electricity and gas to residential, small businesses and large industrial customers. It also offers value-added services through a wide range of repair, installation, maintenance and insurance products for the protection of in-house installations.

In 2024, Edison Energia reached 2.97 million industrial, residential, SME and Value Added Services contract (+37.9% vs 31.12.2023) thanks to solid organic growth and the entry of new customers acquired through the auctions for the liberalisation of B2C power market, called by the Italian regulatory authority ARERA. Edison accelerates towards its 4 million contracts target by 2030, announced in 2023.

In September 2024, Edison Energia launched an innovative B2C platform for the management of private home called "Risolve". In this way, Edison Energia complements the traditional electricity and gas supply with a platform of services for the home ranging from assistance for household contingencies to the installation of photovoltaic panels and heat pumps, from heating and air conditioning systems to electric mobility, from insurance to consumption monitoring. The platform also includes a Wi-Fi offer. The consumer can find in Edison Energia a reliable partner for all household utilities and the only partner for the management of home services able to intervene 24 hours on 24, 7 days a week, thanks to a network of more than 2,000 technicians and 1,000 shops spread throughout the country.

To sell its electricity, gas and value-added service products to consumers and small businesses, Edison has adopted a multi-channel marketing approach that focuses on both physical and digital approaches:

- Edison uses a network of technical partners and installers throughout the country, as well as its own shops and those of its partners. The physical channel is a source of new power and gas contract and a relevant service provider for Value Added Services. In 2024 Edison exceeded 1,000 sales points in Italy.
- Edison has increased the number of digital interactions, allowing the customer to be aware of its consumption and self-manage its contracts (through digital private area and app). Moreover, digital sales channels registered a strong growth in the last four years, confirming the changes in customer habits and the importance of digital presence as a boost for both online and offline sales.
- Edison has also a strong focus on after-sales management through telephone channels, with high quality customer care and a dedicated service & delivery contact centres to provide Value added Service support.

Energy self-consumption communities both condominiums and collective communities are also one of the lever to accelerate forward energy efficiency and electrification. These communities are associations of users who share the energy they produce from renewable sources to cover their own consumption.

On the B2B side Edison Energia continued its development and signed a Power Purchase Agreement (PPA) with Verallia and won a tender with Rete Ferroviaria Italiana for the supply of electricity from renewable sources.

Furthermore, it is also committed in sustainable mobility: it supports electric mobility and encourages the switch from traditional fuels to more sustainable ones. Edison Energia is active both in the development and operation of fuel stations for light and heavy vehicles and in the supply of natural gas and LNG (also in the form of biomethane and Bio-LNG) to fuel stations, logistics, transport or local public transport companies.

In 2024, Edison Energia signed an agreement with TUA (Trasporto Unico Abruzzese) for the supply of biomethane to the regional bus fleet and with LC3 Trasporti for the supply of bio-LNG and electricity from renewable sources to its freight transport vehicles.

1.4.5.2.3.4 Energy services

Edison manages energy and environmental services to B2B and B2G customers through Edison NEXT.

Edison NEXT is strongly committed to support its customers (industrial, tertiary, public administration) on their ecological transition journey, leveraging on a unique platform of innovative services and solutions. It is active in Italy, Spain and Poland.

Main services include the design, installation and management of sustainable self-generation units, including co/trigeneration plants, solar power plants, thermal power plants for industrial heat generation, HVAC plants, compressed air plants, fluid distribution systems (electricity, gas, hot and refrigerated air, compressed air, industrial gas, water) and industrial water treatment plants. The range of services is completed by consulting services, as energy audits (as requested by law), environmental securities management, white certificates management, energy permits and incentives procedures management, etc.. Transition solutions are designed based on customer needs and projects are developed alongside the customers often in the form of industrial partnerships or performance agreements.

Below some examples of how Edison NEXT supports industrial companies on their path to energy transition.

- 5-year agreement with AFV Beltrame Group for energy consumption monitoring in its plants in Italy and abroad through an innovative energy intelligence platform that will enable the monitoring, management and optimisation of energy consumption using data science models.
- Development of a 6.1MW photovoltaic plant at Bekaert site close to Cagliari; the contract also includes maintenance and energy management to monitor the performance of the plant and ensure high performance over time.
- Development of a green hydrogen and production system for Iris Ceramic.
- Development of an Industrial Renewable Energy Community (CER) in Trecenta (RO): it is the first industrial-based CER with 7 rooftop photovoltaic systems. It will assure members both economic benefits, such as the incentive tariff and significant savings on energy expenditure as well as environmental ones, such as reduction of CO_2 emissions.
- Development of a Renewable Energy Community (CER) in the province of Turin which benefits from PV plants built on its district heating site in Alpignano.
- Installation of a heat and power plant which supports Cuneo's Michelin plant along its decarbonization journey. This state of the art 23MWe structure will allow to reduce annual CO_2 emissions by 18,000 tons.

Contracts for the construction of new photovoltaic plants have grown from 137.3MW in 2023 to 186.5MW at the end of 2024 (+35.8%).

To further support Edison NEXT development in the Italian market with clients in industrial and tertiary segments, in November 2024 Edison NEXT and Intesa Sanpaolo have signed an agreement to promote the use of renewable energies and foster pathways for decarbonisation of energy consumption for the client of the Bank.

Edison NEXT and Intesa will both support companies in the implementation of decarbonization solutions, each with its own competence, by assessing needs and support the design of the solutions.

Edison NEXT also offers a wide range of solutions to support the decarbonization of communities, local areas and public authorities: services range from public lighting and energy services for buildings to urban regeneration. Today Edison NEXT supports more than 300 municipalities and manages around 1.3 million public lighting points.

As part of the commitment to support local communities on their decarbonization path, Edison NEXT is also involved in the development of renewables district heating systems. The heat distributed by district heating networks increased by 59.5% at 124.6GWh also driven by the acquisition of Prometheus Energia Srl carried out in the second half of 2023.

Edison NEXT is also committed in the development of sustainable mobility (e-mobility, hydrogen) by supporting companies and municipalities in the development of integrated solutions (e.g. hydrogen production, hydrogen fuel stations, e-mobility charging stations).

- As an example in 2024 Edison NEXT and SEA, Milan Airports, started to collaborate to develop a green hydrogen fuelling station at the Cargo City of Malpensa to decarbonize logistics. Hydrogen mobility is "zero-emission" so it will allow a strong reduction of CO_2 emissions.
- Edison NEXT is also developing six hydrogen fuelling stations (nearby Venice, Verona and Piacenza and three around Vercelli, Frosinone and Foggia. They will serve mainly trucks and buses in highly trafficked areas and positioned along TEN-T corridors (Trans-European Networks of Transport).
- Edison NEXT is implementing an e-mobility project for Arcese Group's logistic.

In this context Edison NEXT has been recently awarded with a 5.2 million euros funding from the European Union thanks to EU's CEF-Transport financing programme and 2.3 million euros funding from Next Generation EU programme to upgrade the fast and ultra-fast electric charging network in Italy.

Edison takes also part to Puglia Green Hydrogen Valley which is one of the largest initiatives for the production of green hydrogen on large scale in Europe. It consists in the construction of two plants in Brindisi and Taranto, for an electrolysis capacity of 160MW. It is expected that, once fully operational, the plants will be able to produce about 250 million cubic meters of green hydrogen per year. The project was selected for IPCEI (Major Projects of Common European Interest) funding up to 370 million euros, confirming its strategic nature.

Stellantis is a major customer of Edison Next, particularly it supports the company in the management of electrical systems, industrial gases, heat and water treatment at its production sites in Italy. During 2024, a dispute arose over certain invoices issued to Stellantis which led Edison Next to open an arbitration process. In parallel to this legal proceeding the two companies have also begun bilateral negotiations to try to commercially resolve the dispute.

In Poland, Stellantis exercised its right to terminate the existing contract and has already started the execution of the buy-back of the assets, which will be definitely completed by 31 December 2024.

1.4.5.2.3.5 Regulated activities – Gas storage

In 2024 Edison signed an agreement for the sale of 100% of Edison Stoccaggio to SNAM.

Edison Stoccaggio owns three natural gas storage facilities: Cellino (TE), Collalto (TV) and San Potito e Cotignola (RA) for a total capacity of about 1 billion cubic meters per year. Closing of the transaction is subject to clearance by the relevant Antitrust authorities and authorisation by the Consiglio dei Ministri in line with the Golden Power procedure and is expected within the first quarter of 2025. This sale is consistent with Company's strategic plan to 2030 to refocus its investments towards energy transition businesses.

1.4.5.3 Other international

1.4.5.3.1 Northern Europe

Belgium

The Benelux area (Belgium, the Netherlands and Luxembourg) contains interfaces with the Franco-German electricity grid and the UK. Benelux constitutes an important nerve centre for the European gas market due to its many import and transit infrastructures, such as the Zeebrugge hub and the nearby Dunkirk methane terminal.

EDF Belgium

As part of a long-term nuclear energy cooperation agreement with Electrabel, EDF holds 50% in undivided co-ownership of the Tihange 1 nuclear power plant, through its wholly-owned Belgian subsidiary EDF Belgium. The capacity attributed to EDF represents 481MW (or 2% of Belgian generation capacity). EDF Belgium's share of Tihange 1 output is sold to EDF (under a long-term contract that was renewed at the end of 2015 for 10 additional years), and EDF then sells the electricity to Luminus at a market price. The Tihange 1 nuclear power plant is scheduled to continue operating until 1 October 2025.

Luminus

At the end of 2024, the EDF group held 68.63% of Luminus through its subsidiary EDF Belgium. Luminus is the second-largest player in the Belgian energy market and holds a balanced upstream/downstream portfolio. It has a market share of around 25% in the supply of gas and electricity, and operates almost 10% of Belgium's generation capacity, with 2,251MW installed at the end of 2024. Luminus' electricity output reached 4.2TWh in 2024. The company employs over 2,800 people.

Luminus has the ambition of developing its wind power fleet and accelerating the rollout of its energy services, to provide its customers with innovative, sustainable solutions, whilst continuing its focus on reducing costs and rationalising its thermal power generation fleet.

Luminus owns 10.2% (419MW) of Belgium's Tihange 2 and 3 nuclear power plants (commissioned in 1983 and 1985 respectively) and Doel 3 and 4 plants (commissioned in 1982 and 1985 respectively), which have a 40-year operating lifespan. Doel 3 was permanently closed on 23 September 2022, and Tihange 2 was permanently closed on 31 January 2023. In the second half of 2023, Engie and the Belgian government signed a letter of intent setting out the conditions for a 10-year extension to the lifespan of the Doel 4 and Tihange 3 reactors from November 2025.

Luminus is also the beneficiary of a nuclear power allocation contract entitling it to 100MW from the two unit of the Chooz B power plant.

Luminus possesses a thermal generation fleet comprising several power plants (combined-cycle and open-cycle) with total installed capacity of 1,208MW. In April 2022, the Belgian federal government selected the Seraing new combined-cycle gas turbine (CCGT) power plant project for inclusion in the CRM (Capacity Remuneration Mechanism). This project involves the construction of a gas-steam turbine (GST) power plant with total capacity of approximately 870MW. The new generation unit will be located next to the existing open-cycle power plant in the Val business park in Seraing. Work on this new power plant started in autumn 2022 and commissioning of the new unit is expected in the second half of 2025. The project also includes conversion of the existing open-cycle power plant to operate alongside the new unit. The conversion is under way and should be completed in early 2025.

In addition to the above, Luminus has renewable energy operations. The company operates seven hydropower plants, and owned around 100 onshore wind farms at the end of 2024, with a total 295 turbines across Wallonia and Flanders. Luminus has been a leader in onshore wind power in Belgium since the end of 2015, and its installed wind capacity was 764MW at the end of 2024. Luminus erected 12 more wind turbines in 2024 with combined capacity of 39MW.

Luminus supplies electricity and gas to around 2.2 million customers in Belgium, giving it a market share of 25% and making it the country's second-largest supplier. It is increasing its market share through a multi-brand approach: in addition to the main brand, *Luminus*, the company has developed a green brand *Bolt* and a 100% digital brand *Energie.be*, and launched the *Energiek* brand in the Netherlands.

Luminus is also active in the energy services segment for residential customers through its subsidiaries Rami Services, Dauvister, and Insaver. The principal services offered are boiler installation and maintenance, installing solar panels, and providing "Home Assistance" services in the event of unexpected damage at home. Over 2024, Dauvister and Insaver installed 309 solar panels (1.7MWp) and 860 solar panels (5MWp) solar panels respectively for B2C customers.

For industrial customers, Luminus works with partners[1] to offer comprehensive integrated electricity and heating solutions. Its subsidiary Luminus Solutions (owned 51% by Luminus and 49% by Dalkia) provides energy efficiency services for administrative buildings, hospitals, schools, sports halls, swimming pools and apartment complexes under energy performance contracts.

In 2024, Luminus continued its strategy of expansion by reinforcement of its regional divisions, notably in connection with its subsidiary ATS.

Luminus Cities (formerly Citelum Belgique) completed the work to replace Wallonia's motorway network lighting with LED technology, which began in 2020. The digital component of the project will be finalised in 2025. The 20-year PPP (public-private partnership) agreement for the design, modernisation, funding, management, and maintenance of 100,000 lights which was awarded in 2019 to the LuWa consortium (comprising Luminus Cities as lead contractor, Luminus, CFE, and DIF), has now entered its operation/maintenance phase. This operation cuts energy consumption by 76% and will avoid the equivalent of 166,000 tonnes of CO_2 emissions in total over the period 2020-2040. Luminus Cities has also diversified into the installation of electric vehicle charging points (both AC and DC). In 2024, this new activity represented 16% of the company's total business activity.

Germany

EDF has had operations in Germany for over 25 years. With around 3,800 employees and over 100 researchers, the EDF group in Germany engages in a large number of activities, particularly relating to renewable energies, low-carbon hydrogen, batteries, nuclear engineering and energy services.

EDF group entities operating in Germany

- EDF Deutschland GmbH, a wholly-owned subsidiary of EDF International SAS based in Berlin, is in charge of the Group's business activities in Germany. It focuses on promotion and development of the Group's businesses, especially new business models for energy and innovative solutions to support the German energy transition (*Energiewende*). EDF Deutschland also represents the Group in relations with German political and economic opinion leaders.
- In 2020 Hynamics, a Group subsidiary in charge of proposing an effective low-carbon hydrogen offering for industry and mobility, set up its German subsidiary Hynamics Deutschland GmbH. Hynamics Deutschland is developing several projects for industrial uses of renewable hydrogen, fully in line with the German government's decarbonisation strategy.
- EDF Renewables had 164MW of gross installed onshore wind capacity in Germany at the end of 2024. EDF Renewables offers battery storage and solar electricity sales (onsite PPAs - Power Purchase Agreements) exclusively for industrial and commercial sites in Germany. It owns and operates a 2MW portfolio of electricity storage systems, distributed across five industrial sites. It has around ten new sites under construction or secured, with total capacity of around 15MW of electricity storage and 5MWp of solar electricity.
- The EDF group owns 100% of the German company Energy2market (e2m), based in Leipzig. e2M is an aggregator of renewable generation and local flexibility, operating a Virtual Power Plant (VPP) totalling around 5,000 distributed units with installed capacity of around 4GW, thus integrating renewable energies into the German market. See section 1.4.6.1.3 "Other service activities of the EDF group".
- EDF Energiewende & Neue Ressourcen GmbH is a wholly-owned subsidiary of the EDF group with headquarters in Berlin and operations throughout Germany. Its business model concerns the supply, maintenance and supervision of energy management and optimisation products and services for commercial and industrial companies, public services and renewable energy development companies. These products and services provide customers with access to low-carbon on-site generation solutions, and also facilitate management of electricity distribution networks.
- Framatome's German subsidiary is headquartered in Erlangen (Bavaria). With nearly 3,000 employees, it is the company's second-largest engineering site. Its main business is maintaining, prolonging and upgrading nuclear plants (especially Instrumentation & Control systems) all over the world. This site also contributes to EPR reactor construction projects in France and the United Kingdom, having already participated in the construction of EPR reactors in Finland and China. Framatome is active in the new businesses of electricity and hydrogen storage in Germany. Framatome's subsidiary Advanced Nuclear Fuels GmbH (ANF) produces fuel assemblies for PWRs (pressurised water reactors) and BWRs (boiling water reactors) for the European market.
- EDF Trading is the wholesale trading branch for the entire EDF group. It operates in the German electricity, gas, CO_2 and green certificate markets. It also operates in the green energy markets for short-, medium- and long-term products, PPAs and wholesale trading related to BESS (battery energy storage systems).
- the Franco-German research centre EIFER (the European Institute for Energy Research by EDF and KIT) was founded by EDF and KIT[2] in 2002. It aims to strengthen collaboration through joint projects addressing industrial issues. EIFER offers innovative low-carbon energy solutions to support the sustainable development of cities, local communities and industries. EIFER is based in Karlsruhe and has more than 100 employees.

Principal investments

- EDF Deutschland holds a 25% stake in HYPION GmbH, a company that develops hydrogen-related projects in the north of Germany.
- EDF Deutschland also holds a 50% stake in HYPION Motion Neumünster GmbH & Co. KG, a company that designs and operates service stations, including hydrogen refuelling stations, in northern Germany. HYPION Neumünster GmbH & Co. KG has a hydrogen station in Neumünster.
- The EDF Group owns 50% of a run-of-river hydropower plant located at Iffezheim on the Rhine River (148MW, five turbines).
- The Group also has a salt cavity natural gas storage facility located in Etzel in Lower Saxony. The aboveground facilities are operated through a 50/50 joint venture with EnBW (see section 1.4.6.2.2 "Gas assets and projects"). Through its subsidiary EDF Gas Deutschland, EDF also holds a 16% stake in the gas pipeline BEP (Bunde-Etzel-Pipelinegesellschaft).

(1) ATS, Dauvister and Newelec.
(2) Karlsruhe Institute of Technology.

Denmark

EDF Danmark, a wholly-owned subsidiary of EDF International, is pursuing its activities in public lighting and the development of offerings focusing on infrastructure decarbonisation and digitisation.

As part of this approach, EDF Danmark has positioned itself in the electric mobility market to install and operate electric vehicle charging stations. It had nearly 1,600 charging points by the end of 2024.

1.4.5.3.2 Europe and Central Asia

Central Asia

The Group's thermal, hydropower, networks and systems engineering teams all provide services in this region.

In Uzbekistan, at the end of 2021, a consortium formed by EDF, Nebras (Qatar) and Sojitz (Japan) was selected by the Uzbek authorities to finance and build a 1,600MW combined-cycle gas turbine power plant at the Syrdarya site and operate it for 25 years. Kyuden (Japan) also joined the consortium at the end of 2021. This project benefits from a shaping contract with the State-owned NEGU (National Electric Grid of Uzbekistan), which supplies the gas and receives the electricity in return. The contract is backed by a guarantee from the Uzbek government. Construction of the plant began in December 2023, with commissioning expected during 2026.

In late 2022, EDF set up its subsidiary EDF ICA (EDF In Central Asia) in Uzbekistan. It is also developing other projects, particularly in hydropower and distribution, to support the country's energy transition.

Since 2023, EDF has been part of a consortium composed of Stone City Energy (the Netherlands), Nebras (Qatar) and Siemens (Germany) formed to finance, build and operate a 1,600MW combined-cycle gas power plant at the Surkhandaria site in southern Uzbekistan.

1.4.5.3.3 Southern Europe

Spain

EDF International SAS holds 31.48% of the share capital of Elcogas, which is currently in liquidation. Elcogas owned a 320MW IGCC (Integrated Gasification Combined-Cycle) power plant.

The Group is also present in Spain through the local subsidiary Edison Next Spain, which specialises in energy and environmental services for businesses and local authorities.

EDF Trading operates in the Spanish market from its trading platform in London.

Framatome Spain is active in Spain through engineering and maintenance contracts with firms that own nuclear reactors.

On 31 May 2024, EDF acquired the nuclear activities of GE Steam Power from GE Vernova, which has operations in Spain with a team of 11 people. The activities acquired concern conventional islands of nuclear power plants (including the Arabelle turbine and the Gigatop alternator), with the exception of service activities in the Americas.

EDF is also present in Spain through the Madrid-based company EDF Peninsula Iberica, which is in charge of promoting and developing the Group's businesses and new activities for the energy transition in Spain and Portugal.

1.4.5.3.4 North America

The EDF group operates throughout the North American continent, with a strong presence in the United States.

EDF's activities in North America mainly include:

- **Renewable energies**, with a gross installed capacity of 6.6GW, mainly located in the United States through EDF Renewables North America, a wholly-owned American subsidiary of EDF Renewables. Equally, EDF Renewables Services (a wholly-owned subsidiary of EDF Renewables North America) manages close to 14.6GW in North America through operation and maintenance contracts on its own account or on behalf of third parties;
- **Energy transition and decarbonization solutions.** EDF partnered with Abraxas Power Corp to develop the EVREC (Exploits Valley Renewable Energy Corporation) Project, a green hydrogen and ammonia production/export facility that will be powered by more than 3GW of wind energy. Upon completion, the facility is projected to produce up to 200k tons of green hydrogen and 1 million tons of green ammonia, annually. EDF also partnered with Climate Adaptive Infrastructure to acquire Rye Development Acquisition, LLC, a leading US pumped storage hydropower (PSH) developer. The portfolio includes the 287MW Lewis Ridge Pumped Storage development project in Bell County, Kentucky. Upon completion, it will be among the first PSH projects to be constructed in the U.S. in 30 years and the first built on former coal mine land. The project will be capable of providing 8 hours of storage as a flexible storage solution for intermittent power generation on the grid such as solar and wind. Recognizing PSH as a proven long-duration energy storage option that can improve the electric power grid's reliability and stability, the U.S. Department of Energy's Office of Clean Energy Demonstration awarded the project a grant of up to $81 million in federal cost sharing;
- **Trading** throughout the entire value chain in North American gas and electricity markets through EDF Trading North America. Also see section 1.4.6.4 "Optimisation and trading: EDF Trading;
- **Energy services, local management of energy and energy efficiency, and public lighting** under the management of Dalkia and its subsidiaries Dalkia Energy Solutions, Aegis Energy Services and Dalkia US Chiller Services. Also see section 1.4.6.1.1 "Dalkia;"
- **R&D and Innovation,** as part of EDF Innovation Lab. Also see section 1.5.1.6 "EDF R&D's scientific partnerships and international research"
- **Nuclear energy**, which has been providing clean, reliable, low-carbon electricity in North America for the last 60 years. Framatome's mission is to maintain and modernize North America's operating nuclear power plants, supply them with the fuel they need, support the potential construction of new plants, and potential re-start of nuclear units that were previously shut down but not decommissioned. Framatome holds a large share of this market, and is thus a stakeholder in nuclear power generation, which reached 775TWh in 2023 in the U.S[1]. Also see section 1.4.1.1.4 "Activities related to nuclear generation: Framatome". Framatome also owns 50% of IsoGen Corp., a joint venture with Kinectrics Inc., which is engaged in the production of medical isotopes at nuclear reactors operated by Bruce Power in Canada.

New activities are carried out by subsidiaries of EDF Pulse Holding and EDF Inc.:

- Exaion offers an eco-responsible, competitive and sovereign cloud offering of blockchain and high-performance computing solutions. It has a subsidiary in Canada, created in July 2022;
- Metroscope develops artificial intelligence solutions for operations and maintenance of industrial assets. It has a subsidiary, Metroscope Inc, in the United States, set up in September 2023 to deliver and support the company's diagnostic solution in North America;
- Nexalis offers an EDF-developed software solution to connect energy assets to the cloud and an Enterprise SCADA (Supervisory Control and Data Acquisition) system. Utilizing its license to the Gensys software developed and owned by EDF SA, Nexalis will commercialize the software solution to the third party market. Nexalis will primarily target the North America market.

(1) For sourcing information, this link may be referenced from DOE.: 5 Fast Facts About Nuclear Energy | Department of Energy.

1.4.5.3.5 South America

In South America, the EDF group is present in the Brazilian, Colombian, Peruvian and Chilean markets and is extending its ambitions in certain countries in the region, in which it is prospecting for development opportunities.

Brazil

Since April 2014, the Group has held 100% of EDF Norte Fluminense SA (EDF NF). EDF NF built and has operated, since the end of 2004, the Combined-Cycle Gas plant of Norte Fluminense, with installed capacity of 827MW, located in the region of Macaé, State of Rio de Janeiro. A 20-year Power Purchase Agreement (PPA) for 725MW is in place with Light, the distribution company for the city of Rio de Janeiro, which will terminate on 8 December 2024. EDF NF supplies the equivalent of almost 25% of the electricity energy consumed in the Rio de Janeiro metropolitan area (2,5 million of clients).

In addition, on December 2014, through EDF Norte Fluminense, EDF acquired a 51% stake in Sinop Energia, responsible for building, maintaining and operating the Sinop hydropower plant. Located in Mato Grosso and 70km away from the city of Sinop, it has an extension of 342km^2, built on the Teles Pires River. The plant began operations in 2019 with an installed capacity of 401.9MW supplying the equivalent of 50% of the State of Mato Grosso (1.6 million clients). EDF has signed a contract for the operation and maintenance of the plant, which since October 2021 has been operated remotely by EDF teams located at CCG Norte Fluminense, 2500km away.

In 2021, EDF signed a contract for the construction assistance, operation, and maintenance of the Marlim Azul CCG plant for a 10-year term.

On 16 December 2022, EDF NF won the auction for its first project in the energy transmission segment, expanding its operations in the sector and reinforcing its contribution to the country's energy security. The project includes the construction of 1.6km of transmission lines and a 345/138 kV substation.

In the renewable energy field, the EDF Renewables subsidiary has a portfolio of:

- 400MWp of solar energy from Pirapora power plant (one of the largest solar power plant of South America located at Minas Gerais State);
- 824MW of wind energy in operation and 261MW under construction in the states of Bahia.

In June 2022, Edison sold 50% of its subsidiary Ibiritermo, referring to a 226MW CCGT in the state of Minas Gerais.

Chile

Via its subsidiary EDF Chile, created in 2014, the Group has a 50% shareholding of GM Holdings(1). GM Holdings operates 3 thermal generation assets and a solar plant, totalling 1,130MW.

In July 2024, CEME 1, Chile's largest solar plant with a capacity of 480MW, was inaugurated and started its commercial operation, reinforcing GM Holdings' position as a key player in Chile's energy sector.

GMH is currently developing an additional 200MW of solar capacity and 460MW of battery storage capacity at CEME 1, which will boost the plant's efficiency and supply renewable energy to Chile's energy system in a more consistent and reliable way.

Moreover, EDF is developing green hydrogen projects in the south of Chile and has been prospecting for development opportunities and working on the predevelopment phase of energy storage assets, including batteries and pumped hydro storage projects.

The EDF group is also present in Chile through EDF Renewables which has two projects in operation:

- the Santiago Solar photovoltaic project (115MWp) which is jointly held with AME which started operation in January 2018;
- the Cabo Leones 1 wind farm, a joint project with Grupo Ibereólica Renovables which came online in June 2018 with a capacity of 115MW, which was expanded up to 175MW in 2022.

EDF Renewables has a large-scale development portfolio of renewable generation projects, with focus on wind, solar and batteries.

Peru

Since 2018, the Group is present in Peru *via* its subsidiary EDF Peru SAC which is prospecting for development opportunities and working on the development phase of power generation assets, especially from photovoltaic, hydraulic sources and gas.

A first realization took place in 2021 with the award of several PPAs to supply, through our joint company Amazonas Energía Solar with our partner Novum Solar, electricity based on hybrid solar-diesel plants to some off grid cities of Loreto Region in the Peruvian Amazon Area, those cities being currently supplied only by diesel generators, with a high cost of generation and a very high level of CO_2 emissions.

At the end of 2024, 5 plants are operating: Purus, Atalaya, San Lorenzo, Requena and Tamshiyacu. The 5 remaining projects are moving forward with a construction phase planning to start in 2025 and 2026.

In 2024, EDF Peru acquired with its partner AC Capitales the existing hydropower plant of Huanchor with 20MW capacity, which makes it possible to EDF to enter in the electricity wholesale market.

Regarding large hydro, EDF Peru SAC started the prequalification of construction companies for its hydro project Araza, a Greenfield – 195MW run of river hydro plant, for which the EPC tender (Engineering Procurement and Construction) is planned in 2025.

EDF Peru SAC is also developing the Chontayacu Alto y Bajo project, a new run-of-river plant with a capacity of 259MW.

In addition, EDF RE is also present in Peru through Naupac Generación Renovable Peru SAC, its local investment entity:

- in 2021, Naupac won an auction to replace up to 200GWh/y of generation based on heavy fuels with renewable energy in the city of Iquitos (largest isolated city in the world) and will build and operate a hybrid plant whose commissioning is planned by 2028;
- it is also developing the Pescadores project, a wind farm located in the Arequipa region whose commissioning is planned in 2028. The project is currently undergoing its permitting approval process.

Colombia

Since 2020, the Group is present in Colombia *via* EDF Renewables Colombia SAS and EDF Colombia SAS which work on the development stage of power generation assets, especially of unconventional renewable energy (solar and biomass), and of green hydrogen generation facilities.

In 2022, an agreement was signed between Colombia Reforestadora de la Costa SAS ("Refocosta"), a 100% subsidiary of Valorem SAS, and EDF Colombia SAS for the construction of a 28MW biomass plant held through their joint subsidiary Refoenergy Villanueva SAS. The construction activities started in March 2023 and have reached a progress of circa 83% at the end of October 2024, in line with a Commencement Operation Date (COD) expected by June 2025.

(1) Alongside BiobioGenera (50%) of which AME is the controlling shareholder.

At the end of 2024, a 15-year electricity sales agreement was signed with Nitro Energy, enabling the construction of two 1MW solar projects. These projects will be built in partnership with Ongresso Energy, the Colombian subsidiary of Swiss company Ongresso AG, which is active in renewable energies and carbon offset schemes. These projects will be commissioned by the end of 2025.

Other biomass plants are also under development.

Finally, EDF Colombia has begun to play an active role in developing a medium-scale green hydrogen production project with Ecopetrol SA, which has been launched in 2022. It has been awarded a consultancy contract with CENIT, an Ecopetrol group company, for the blending of green hydrogen with natural gas in their gas pipelines.

1.4.5.3.6 Asia-Pacific

The EDF group's activities in the Asia-Pacific region are focused on China and high-growth countries. where building a presence in the power generation, networks and services sectors is an industrial challenge for the Group. In nuclear power, the Group is pursuing new projects in addition to the Taishan EPR.

1.4.5.3.6.1 China

The EDF group has had operations in China for over 40 years, and is now one of the country's largest foreign investors in electricity generation and energy services. EDF has around 3.66GW of net installed capacity[1], mainly via stakes in the Taishan EPR power plant, the Dongtai IV and V offshore wind farms, and coal-fired power plants, and through operation of heating and cooling networks.

In 2024, 51.6% of electricity from assets held by EDF in China was carbon-free, above the Chinese national average of 53.9%.

The EDF group is developing partnerships with leading Chinese electricity companies. Such partnerships open up new prospects for cooperation in nuclear power, renewable energies, hydrogen and innovation in general.

For the risks to which the Group is exposed, see section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs" and risk 1E "Risks related to operational continuity of supply chains and contractual relations".

Partnership agreements

EDF is developing ventures in cooperation with key players in the Chinese nuclear industry that bring benefits for the Group's businesses. The general partnership agreement between EDF and CGN was signed in 2007, and supplemented in 2014 by implementation agreements for operations & maintenance, engineering, suppliers and R&D. This agreement was renewed in April 2023 during a visit to China by the French President Emmanuel Macron.

The partnership with CGN ultimately led to the signature by EDF and CGN of the final contracts for the Hinkley Point C power plant in the United Kingdom, on 29 September 2016. An agreement covering development of the UK Hualong reactor technology was also signed on the same day.

In 2010, the Group and China National Nuclear Corporation (CNNC) signed a partnership framework agreement, which was extended in March 2014 and renewed in 2019, to develop cooperation along deeper, global lines. Under a specific sub-agreement signed in September 2022, a joint prospective study was conducted of how expanding nuclear energy in France and China could contribute to achieving net zero objectives: this resulted in the 'Blue Book', published in 2024. The partnership framework agreement between EDF and CNNC was renewed in May 2024 for five years. It is supplemented by several specific agreements, including a collaboration agreement concerning construction methods for new power plants.

In order to develop and deepen these partnerships, EDF has set up an entity to help improve the Group's industrial performance, while involving French industry and supporting Group projects in partnership with the Chinese nuclear industry. The experts in this entity are a source of technical exchanges that benefit the Group's industrial businesses and projects; in particular, they endeavour to promote French codes and standards, and the Group's own nuclear safety standards.

An agreement between the nuclear equipment design and construction standard development body AFCEN[2] (chaired by EDF) and China's NEA (National Energy Administration) was thus signed in November 2017. The purpose of this agreement is to promote mutual recognition of nuclear codes and standards, and to establish a basis for cooperation between the French and Chinese nuclear industries, so that they can operate jointly on the international nuclear market.

EDF also chairs the France China Electricity Partnership (PFCE), an association created in 1997, which ratified its closer ties with the French Nuclear Energy Industry Group GIFEN in 2024 in order to become the GIFEN's representative in China. The PFCE exists to nurture and enrich the longstanding relationship between the French and Chinese nuclear industries, and to energize exchanges between them, for the benefit of France's new nuclear projects.

In 2022, the EDF group signed a master cooperation agreement with Chinese electricity group State Power Investment Corporation (SPIC) to develop joint low-carbon energy projects. In application of this agreement, in April 2023 the CEOs of the two groups signed a cooperation agreement for concrete, innovative low-carbon projects. In May 2024, during the Chinese President's State visit to France, a cooperation agreement was signed concerning green hydrogen and joint projects in third countries.

Nuclear power generation

The Daya Bay, Ling Ao and Taishan EPR power plants

EDF led the design, construction and commissioning of the Daya Bay power plant (two 1,000MW nuclear reactors) in 1994. It assisted the Chinese group China General Nuclear Power Co. (CGN) in construction of the Ling Ao power plant, phase I (two 1,000MW reactors, commissioned respectively in 2002 and 2003) and phase II (two additional 1,000MW reactors, commissioned respectively in 2010 and 2011).

EDF is currently providing assistance to the CGN group regarding operation of its entire nuclear fleet. The performances of these plants since they were commissioned form one of the Group's leading achievements in China, and a reflection of the cooperation between France and China.

EDF owns 30% of Taishan Nuclear Power Joint-Venture Company Ltd (TNPJVC), formed to fund, build and operate two 1,750MW EPR nuclear reactors in Taishan in Guangdong province. TNPJVC is the operator of this power plant. Through this transaction, the Group became the first and so far only foreign investor in Chinese nuclear generation. Reactor 1 began commercial operation on 13 December 2018, and reactor 2 on 7 September 2019.

Conclusion of the technical issue encountered at Taishan's reactor 1

Monitoring of the Taishan reactor 1 gradually revealed atypical changes in radiochemical parameters, leading to the suspicion that the fuel assembly rods had become unsealed[3]. TNPJVC, the plant operator, shut down the reactor in August 2021.

Analyses carried out following inspection of the fuel assemblies and the reactor vessel showed that the origin of the sealing issue was due to degradation to the fuel rod cladding caused by mechanical wear[4]. These same inspections also revealed a phenomenon of localised wear, this time related to hydraulic stresses, between the assemblies and a component surrounding the core.

(1) Share proportional to EDF's investment.
(2) *Association française pour les règles de conception, de construction et de surveillance en exploitation des chaudières électronucléaires.*
(3) See the EDF press releases of 14 June 2021 "Information relating to reactor No. 1 of Taishan nuclear power plant" and 22 July 2021 "EDF's communication regarding the Taishan Nuclear Power Plant's No. 1 reactor".
(4) See the EDF press release of 12 January 2022 "Update on the Flamanville EPR".

Following an in-depth investigation, the Chinese safety authority gave its approval to restart the reactor, which was connected to the grid on 15 August 2022 and operated in a stable and safe manner until a new scheduled shutdown, for refuelling and maintenance, on 30 January 2023. During this outage, in accordance with an examination programme previously drawn up by the operator TNPJVC, in-depth inspections of the fuel and the reactor were again carried out. The reactor was reconnected to the grid on 27 November 2023.

Clear lessons were learned from these analyses and investigations, and technical measures were defined to avoid exposure to similar phenomena during the future operation of other EPR reactors. Concerning the impact of this experience on the start-up of the Flamanville EPR, see section 1.4.1.1.2 "Nuclear power generation in France" – "Flamanville 3 EPR", paragraph on "Lessons learned from Taishan". See also section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs", paragraph on "Risks related to the Taishan EPRs (China)".

Generation by the Taishan EPRs

In 2024, the two Taishan EPR reactors generated 22.7TWh, an increase of 52.28% compared to 2023. Reactor 1 has been in its third operating cycle since 27 November 2023. Reactor 2 has been in its fourth operating cycle since 5 July 2024, following a scheduled shutdown for refuelling and maintenance from 30 April to 5 July 2024. The two units are operating in a stable and safe manner

Tariff conditions applicable to Chinese nuclear power plants

On 20 March 2019, China's National Development and Reform Commission (NDRC) set a temporary tariff of RMB435/MWh, applicable until the end of 2021. It was then extended on 22 December 2021 pending publication of the new tariff mechanism for China's third-generation nuclear power plants, especially Taishan. No other indications had been published by the authorities as at the end of 2024 (see section 2.2.1 "Operational performance risks", risk 1A "Risks related to management of large, complex industrial projects, including EPRs", paragraph on "Risks related to the Taishan EPRs (China)").

Framatome

Framatome has had operations in China for over 35 years, and is notably the designer of the Taishan power plant units 1 and 2. It supplies certain equipment and technological building blocks for the Hualong project (reactor coolant pumps, I&C, fuel, etc.). Framatome does business in China through the joint ventures FDJV (with Dongfang Electric Corporation) and CAST (with China National Nuclear Corporation). It also operates through its fully-owned subsidiary Framatome Nuclear Services (FNS).

Arabelle Solutions

Arabelle Solutions has operated in China for over 27 years. It provides construction services (engineering and equipment) and maintenance services (maintenance and lifespan extension) for turbine-generator assemblies in nuclear plant conventional islands. These world-class nuclear turbine island technologies and essential life-cycle services and solutions are used in more than 30 units in China with multiple reactor types (M310, CPR1000, EPR, AP1000, etc.). Arabelle Solutions operates in China through a joint venture, named Arabelle (Wuhan) Engineering Technology Co., Ltd. ,with the Central Southern China Electric Power Design Institute (CSEPDI, 20% minority shareholder). Arabelle Solutions has been cooperating with Dongfang Electric Corporation (DEC) in the Chinese market for around 20 years under a technology transfer agreement.

Renewable energies

Through EDF Renewables' Chinese subsidiary, the EDF group has interests in a number of onshore wind, offshore wind and solar power plants with total installed capacity in operation of just over 1,316MW gross (792MW net) at 31 December 2024. Its portfolio of projects under development also amounts to several hundred megawatts.

In 2018, EDF Renewables diversified into distributed solar power with a new subsidiary formed to develop solar roofing solutions for industrial customers.

In 2019 and 2021, EDF and its partner Guohua (a subsidiary of China Energy Investment) respectively commissioned the Dongtai IV (302MW) and Dongtai V (200MW) offshore wind farms off the coast of Jiangsu province.

At the end of 2023, EDF Renewables commissioned the Rongshui 3-4 wind farm (96MW) in Guangxi. In 2024, EDF Renewables commissioned the Jinchang solar farm (130MW) in Gansu, and the company is also continuing construction of the Qinnan wind farm (155MW) in Guangxi, with commissioning scheduled for 2025.

Energy services

In the city of Sanmenxia (Henan province), EDF, through a 65%-owned joint venture, operates a concession agreement for the construction and operation of an urban heating network using fatal heat recovered from its partner Datang's thermal power plants.

In the city of Lingbao (Henan province), EDF, through a 65%-owned joint venture, operates a heating network powered by a 35MW biomass cogeneration power plant. An agreement was signed at the end of the year for changes to the partnership between EDF and the city of Lingbao.

In the city of Sanya (Hainan province), EDF holds 30% of a joint venture formed with a local partner to build and operate a cooling network, which has supplied air conditioning to hotels, hospitals and shopping centres in the area since 2021.

EDF has operated the urban air conditioning network in the business district of Jinan (Shandong province) since 2021, under a 25-year contract with Jinan Energy Group.

EDF was active in China's public lighting market from 2009, managing 180,000 lights for the city of Kunming (the capital of Yunnan province, with 8.6 million inhabitants). At the end of the 15-year concession, EDF transferred this activity to a new concession operator as of 31 December 2024.

Coal-fired power generation

Shandong Zhonghua Power Company Ltd. (SZPC)

The EDF group held 19.6% of SZPC, a joint venture which owned three thermal power plants in Shandong province. The other shareholders were China Energy Investment Group and the Hong Kong electricity producer CLP. These power plants were commissioned between 1987 and 2004, with total capacity of 3,060MW. From 31 December 2021, SZPC began to gradually transfer its generation units to the China Energy Investment (CEI) group. An agreement to end the joint venture was signed in September 2024, specifying that the shares in SZPC would be transferred to China Energy Investment on 30 September 2024. The administrative procedures to finalise the transfer of the shares to CEI are in progress.

Datang Sanmenxia Power Generation Company Ltd. (DSPC)

The EDF group holds 35% of DSPC, the company that owns the Sanmenxia 2 "supercritical coal" power plant in Henan province. This plant was commissioned in 2007 and has installed capacity of 2 × 600MW. After several years of operation, retrofits were carried out to increase the capacity to 2 x 630MW.

Fuzhou Power Generation Company (FZPC)

The EDF group holds 49% of FZPC, a joint venture formed in 2014 with a subsidiary of the Datang group to build and operate an "ultra-supercritical" power plant (2 × 1,000MW) in Jiangxi province. This technology makes it possible to achieve high temperature and pressure levels in the boiler, resulting in higher efficiency than in a conventional power plant (almost 44% for Fuzhou). It also reduces fuel consumption and CO_2 emissions per kilowatt-hour generated The first unit was commissioned in December 2015, and the second in April 2016.

Research & Development (R&D) activities

R&D centre activities in China concern low-carbon electricity generation and storage, renewable energies, hydrogen, innovative electricity grids, local multi-energy systems, energy engineering, electric mobility and open innovation. Benefiting from the highly dynamic and innovative Chinese ecosystem, EDF's Chinese R&D centre is working on applications of digital technology and artificial intelligence for energy businesses. The China R&D Centre has established a network of collaborations with leading Chinese academic and industrial partners.

1.4.5.3.6.2 Rest of the Asia-Pacific Region

The EDF group's activities in the Asia-Pacific region focus on development of the electricity sector, particularly through involvement in projects for the design, construction and operation of new gas-fired thermal and hydropower plants in countries offering Independent Power Plant (IPP) opportunities. EDF is also active in renewable energies, nuclear power, energy storage, smart cities, grids, electric mobility, hydrogen and innovation.

EDF's International Division for the Asia-Pacific region (EDF Asia Pacific) is based in Tokyo and has two subsidiaries in operation, one in Laos (where EDF owns and operates a 1,070MW hydropower plant jointly with Laotian and Thai partners) and one in Vietnam (where it owns a 715MW combined cycle power plant jointly with Japanese partners), plus local development offices in India, Australia, Singapore, Vietnam and Japan, which owns

Vietnam

At the end of 2024, EDF held 56.25% of Mekong Energy Company Ltd. (MECO), which owns Phu My 2.2, a 715MW combined-cycle gas turbine (CCGT) power plant[1]. This is the first IPP project in Vietnam financed exclusively by foreign investors. The BOT (Build, Operate, Transfer) contract has a term of 20 years. In 2005, EDF completed turnkey delivery of the power plant, and its operation is now managed by MECO. The BOT contract will be transferred in February 2025 to Électricité du Vietnam (EVN).

EDF has also been appointed leader of the consortium[2] responsible for studying the Son My 1 CCGT project (2,250MW) for a high-efficiency environmentally-optimised power plant, with a 20-year operating lifespan once built. The proposed site for this plant is north-east of Ho Chi Minh City in Binh Thuan province. A memorandum of understanding was signed with the Vietnamese Ministry of Industry and Trade (MOIT) in November 2018 and amended in December 2020, defining the general framework for development of the project. In 2021, the project was granted an "in-principle investment decision" from the MOIT. The working schedule for 2025/2026 will consist of obtaining final MOIT approval for the feasibility study and moving negotiations forward for a concession agreement, a power purchase agreement (PPA) and other contractual documents required for the investment decision. The estimated commissioning date of the first unit is late 2029.

Laos

At 31 December 2024, EDF Invest held 40% of Nam Theun 2 Power Company (NTPC). NTPC owns the Nam Theun 2 hydropower complex which has installed capacity of 1,070MW. Nam Theun 2 was built by the EDF group under a turnkey contract and commissioned in 2010[3]. NTPC operates the plant under a 25-year concession agreement concluded with the government of Laos.

A Memorandum of Understanding was signed with the Laotian government in October 2024 to study a pumped-storage project (500-1,000MW) near the existing Nam Theun 2 reservoir.

India

Regarding nuclear power operations in India, see section 1.4.1.1.3.3 "International developments" for details of the cooperation agreement for the project to construct six EPR reactors in Jaitapur.

EDF continues to develop its smart metering business by participating in tenders across India. More than 1.7 million smart meters had been successfully installed by the end of 2024, and EDF has also secured a portfolio of 3.3 million smart meters through tenders won in 2024.

EDF's other areas of focus in India are the development of hydropower projects, particularly pumped-storage projects, which will be the cornerstone of India's low-CO_2 energy transition.

EDF Renewables has continued to develop its photovoltaic and wind energy businesses, and at 31 December 2024 was operating 571MW gross (459MW net) of wind power and 663MWp gross (331.5MWp net) of solar power in India. In 2023, EDF Renewables commissioned the 112 turbines of the Kabini project (SECI V) in Gujarat State with total 302MW capacity. EDF Renewables is developing its solar power activity through EDEN Renewables India, its joint subsidiary with TotalEnergies. EDEN is continuing to develop solar projects, essentially in Rajasthan state. As of 31 December 2024, 390MW of solar facilities and 130MW of wind facilities were under construction.

Japan

EDF founded a Japanese subsidiary, EDF Japan KK, in July 2022. This entity has business development activities in Japan (hydrogen imports, downstream hydrogen applications, batteries). Low-carbon hydrogen-based projects will be leveraged to support similar projects in Asia and globally.

EDF Japan wants to develop its battery storage business, notably by responding to calls for tenders launched in Japan. Other initiatives, such as electricity generation from biomass combustion, transmission or development of pumped-storage systems, and hydropower plants, are also under consideration.

Australia

EDF opened a subsidiary, EDF Australia Pacific Pty Ltd., in Australia in March 2023. Development focuses on pumped-storage systems, transmission networks and other innovative projects to support the country's energy transition.

EDF has acquired a 300MW pumped-storage project in New South Wales, and other opportunities in New South Wales and Queensland are being explored. EDF also signed an agreement in 2023 with the Australian company Vast to co-finance and co-develop generation projects for the production of green hydrogen and CO_2-neutral fuels.

EDF Renewables has a portfolio of around 4GW of onshore, offshore and solar power projects under development in Australia.

This includes the Banana Range wind project, whose first 230MW phase is at an advanced stage of development, having obtained permits and authorisations. Construction is scheduled to begin in the first quarter of 2025.

The 1,400MW NSW Newcastle Offshore Wind (NOW) project has submitted its application for a licence, which is expected to be issued in the third quarter of 2025, with construction due to begin in 2029-2030.

(1) The other shareholders are TEPCO (JERA) and SGM2 (Sumitomo).
(2) Consisting of EDF, Pacific Corporation and two Japanese partners Sojitz Corporation and Kyushu Electric Power Co. with stakes of 37.5%, 25%, 18.75% and 18.75% respectively.
(3) The other shareholders are the Thai company EGCO (Electricity Generating Public Company Limited), which holds 35%, and a State-owned Laotian company, LHSE (Lao Holding State Enterprise), which holds 25%.

Singapore

The Singapore subsidiary EDF HQ Singapore Pte. Ltd., set up in 2018, is part of the country's development and innovation ecosystem of smart grids, electric mobility, hydrogen and interconnections.

EDF HQ Singapore Pte. Ltd. also provides project development support (commercial development, financing and human resources) for the other subsidiaries in Asia.

In 2014 EDF opened its sixth international R&D centre, EDF Lab Singapore Pte. Ltd. (the "Asia-Pacific Lab"). Its purpose is to support the development of international subsidiaries' projects in the region, identify matters of future interest for the Group and contribute to building international recognition for the Group's R&D. The Asia-Pacific Lab is currently focusing on three core topics:

- smart grids (including MASERA, the multi-energy testbed developed by EDF's R&D in South-East Asia);
- electric mobility & hydrogen;
- energy markets.

Through its close links with the academic world, the Lab is involved in the "Descartes" digital energy research project, partly funded by the Singaporean authorities. This is a five-year research project led by the CNRS in conjunction with 25 partner universities and five industrial supervisors, including the Lab as supervisor of the Digital Energy section of the project. The aim is to develop a hybrid artificial intelligence platform to improve decision-making for critical urban systems (energy, air quality, transport and other systems).

1.4.5.3.7 Africa

The Group is expanding on the African continent, supporting countries where energy demand is high. It operates selectively and appropriately for each geographic area, while building long-term partnerships in multiple business lines.

EDF is also intensifying its action in the supply of competitive off-grid energy. The EDF group has more than 20 years' relevant experience in Africa. Since 2017, it has joined forces with innovative start-ups to supply affordable power and services to meet the needs of customers in rural areas and urban outskirts. These solutions range from the sale of individual solar kits to mini-grids and solar pumps for farmers. Thanks to these solutions, over 2.5 million people in sub-Saharan Africa can now access lighting and various services that require electricity.

South Africa

- The EDF group has had operations in South Africa since 1978, starting with the construction of the Koeberg nuclear power plant, and now assists the national electricity supplier Eskom in the plant's operation and maintenance. Framatome is also a major supplier to Eskom (general maintenance and fuel oil), as is Arabelle Solutions (maintenance of turbo-alternators).
- In 2007 the EDF group set up a subsidiary, EDF Development South Africa, in Johannesburg, to prepare for the relaunch of South Africa's nuclear programme. This subsidiary is also responsible for developing EDF's business activities in Southern Africa, particularly generation projects and sales of services relating to thermal and hydropower engineering, transmission and distribution. In December 2018, EDF Development South Africa acquired 30% of the South African engineering company GIBB Power, to support development of the engineering business in Southern Africa.
- The EDF group's renewable energy activities in South Africa began in 2011 with the acquisition of 84% of Innowind, with the objective of taking part in renewable energy tenders organised by the South African government. Three wind farm projects (Chaba, Grassridge, Waainek) were won in 2012 and one (Riverbank) in 2015, totalling 142MW. All four projects are now in operation.

  In 2021, EDF Renewables South Africa was awarded several significant contracts through government tenders.

  In the first quarter of 2022, EDF took the final investment decision for a 75MW hybrid wind, solar and battery project (Umoyilanga). The financial closing and start of construction took place in late November 2023.

  In 2022, EDF Renewables announced the creation of a joint venture (Envusa Energy) with Anglo American to develop up to 5GW of renewable energy projects. Envusa aims to become both a renewable energy generator and an aggregator that will resell electricity directly on the market through agreements signed with corporate buyers (including the Anglo mines).

  In February 2023, EDF Renewables South Africa successfully completed the financial closing for two wind power projects totalling 280MW (Hartebeesthoek and Umsobomvu) and one 240MWac solar power project (Mooi Plaats) that were part of the Envusa tender. Commissioning is expected in mid-2025.

  At 31 December 2024, EDF Renewables had 145MW of gross onshore wind power in operation and 770MW gross under construction; 355MW in solar under construction; and 75MW of batteries under construction.
- In August 2022, the Group acquired a 50% stake in DPA Southern Africa to develop solar projects for commercial and industrial (C&I) customers in South Africa (project portfolio of over 80MW).
- In partnership with the South African developer Mulilo, EDF won three battery energy storage projects (Oasis) totalling 257MW/1,024MWh in the first cycle of South Africa's Battery Energy Storage Independent Power Producer Procurement Programme. These storage facilities will be used to reinforce network stability. The financial closing for the three projects was completed in mid-November 2024[1]. In December 2024, EDF was also awarded a 77MW project in the second cycle of this same programme.
- In the off-grid sector, KES (Kukhanya Energy Services [Pty] Limited), a company established in 2002 and 65%-owned by EDF International, sells and operates solar kits for low-income residential customers.

Mozambique

- The Group has been an active provider of engineering services in Mozambique since the late 1980s. It has established close partnerships with EDM (Electricidade de Moçambique), formalised by the signature of a memorandum of understanding in 2017 which was renewed in November 2021 for three years.
- In July 2022, EDF International Networks was selected to execute a contract to reduce non-technical losses on EDM's distribution network (funded by the French Development Agency AFD). The project officially began in June 2023, and the contract expires at the end of 2025. The mid-term assessment was positive.
- In May 2023 the consortium composed of EDF, TotalEnergies and Sumitomo was selected as the preferred bidder for the Mphanda Nkuwa hydropower project (1,500MW). In December 2023, the consortium signed the Joint Development Agreement with local stakeholders, and the master agreement setting out the principles of the Concession Agreement to be signed with the government of Mozambique in 2025. The project company is being created, and the first hires have taken place (notably for the Environmental & Social functions). EDF is also providing technical support to EDM for development of the transmission line between the new plant and Maputo (1,300 km), including selection of the route and technology (high voltage direct current / high voltage alternating current).

(1) See the EDF press release of 20 November 2024 "OASIS 1 Battery energy storage systems projects all achieve Financial Close".

- EDF CIST (*Centre Ingénierie Système Transport*) won a technical assistance contract with EDM to supervise project management assistance for the development of the new national dispatching facility, which should start in the first quarter of 2025. This is EDF CIST's second contract in Mozambique, after the project management assistance contract with Globelec for construction of the Temane thermal power plant in the centre of the country (ongoing since 2022 and due to be completed in 2025).

Morocco

- The EDF group has been active in Morocco since the 1970s. To help support its development in the region, it set up EDF Maroc in 1997 and EDF Renewables Maroc in 2012.
- The Group has formed special partnerships with the National Office of Electricity and Drinking Water (ONEE) and the Moroccan Agency for Sustainable Energy (MASEN), several electricity distribution authorities, and industrial players. The types of operation range from hydropower, thermal and renewable energy generation to networks and flexibility and storage resources, as well as training and multi-axis cooperation.
- The Group is contributing to decarbonisation of the Moroccan energy mix, notably in the rollout of the national strategy for the development of renewable energies. This strategy aims to reach 52% (10GW) of installed renewables capacity by 2030, whether with institutional public contractors or private partners, particularly industrial entities.
- Projects carried out with public contractors:
  - > After winning the ONEE tender for the development, funding, construction and operation & maintenance of the Taza wind farm (150MW), the consortium led by EDF Renewables[1] commissioned phase 1 of this project (87MW) in July 2022. The consortium has started discussions about phase 2 with MASEN and ONEE, with the goal of commissioning this second phase in 2028.
  - > At the end of a call for tenders launched by MASEN, in 2018 EDF Renewables, as part of a consortium[2], was chosen to design, build, operate and maintain the first phase of the Noor Midelt solar complex. This 800MW project is a hybrid power plant with an initial design combining concentrated solar power and solar photovoltaic power. The power purchase agreement between the consortium and MASEN was signed in 2020. Discussions are continuing with MASEN, at its own initiative, to change the technical design to a solar photovoltaic power plant with installed capacity exceeding 600MWp and over 1,000MWh of BESS (battery energy storage systems); this would make Noor Midelt EDF's largest BESS project in the world.
  - > EDF Renewables Morocco, in partnership with MASEN, began construction of the new Koudia Al Baïda wind farm (100MW) in July 2022. This project is a repowering of the existing 50MW wind farm in north Morocco, the first project of its kind in Africa. This installation was commissioned in 2024.
- Projects carried out with private contractors:
  - > EDF Maroc's own teams have been developing solar-photovoltaic-based self-generation solutions for the Moroccan Commerce & Industry market since 2022 under "Design, Build and Operate" contracts or long-term "Power Lease Agreements". Three projects were commissioned, with total capacity of around 5MWp. EDF is continuing its development in this segment and has been selected for other projects, which should see it commission an additional 2MW of capacity in early 2025.
- Structural projects in the development phase:
  - > EDF has submitted a bid for three projects led by MASEN:
    - Nassim Nord 400MW: the pre-qualification stage for two wind power projects: 150MW Koudia Extension and 250MW Dar Echaoui;
    - Noor Midelt 2 and 3: a solar photovoltaic + BESS project with a total injection limit of 230MWac and a battery storage component of 460MWh (i.e. 2 hours of storage).
  - > Following the publication of the "Green Hydrogen Morocco Offer", EDF submitted an application to reserve 30,000ha of land for the first phase of the programme. The preliminary scale of the project comprises a renewable energy capacity, a BESS component and several hundred MW of electrolysis.
  - > EDF has submitted its expression of interest and pre-qualification file for the construction of a high voltage direct current (HVDC) line. This project includes the construction of two very high-voltage gas-insulated power evacuation substations, two DC/AC converter stations and 4 x 1400km per line with total transmission capacity of 3GW, to be completed in two phases.
- Greenfield projects: EDF is making progress on the development and construction of several hundred MW of wind turbines in the private energy market, either under wheeling agreements (governed by Law 13.09 on renewable energies), or for self-generation.

Senegal

The Group has operations in Senegal, where it owns 100% of ERA, operator of the rural electrification concession covering the Kaffrine-Tambacounda-Kédougou regions. In an electricity sector undergoing major institutional changes (a new electricity code was adopted in July 2021), the question of the economic sustainability of the electrification concession model remains central, especially in issues of tariff revision. ERA submitted a request to the regulator for an exceptional tariff review, and this had a favourable outcome, paving the way for a partial or total sale of the capital to a strategic investor.

Cameroon

- The EDF group began doing business in Cameroon in 2014 for the construction of the Nachtigal hydroelectric dam. Nachtigal Hydro Power Company (NHPC), formed in July 2016, is 40% owned by EDF International[3]. NHPC is in charge of the design, funding, construction and operation of the 420MW Nachtigal hydropower facility on the Sanaga river north of Yaoundé, and the power transmission line between Nachtigal and Yaoundé, which was completed in 2021. In April 2017, NHPC signed a power generation concession agreement for a term of 35 years starting from commercial commissioning, expected in early 2025. In May 2024, the first megawatt-hours were generated following the successful coupling of the first generator (60MW) to the Southern Interconnected Grid. In late 2024, five generators (totalling 300MW) were in service and a sixth generator was successfully coupled to the grid at the end of December 2024. Commercial commissioning (with seven generators) is scheduled for the first quarter of 2025. EDF has signed a project management assistance contract with NHPC to ensure successful completion of the project. The Nachtigal hydropower facility is a design-critical project for Cameroon and will supply approximately one-third of its electricity needs.

(1) In partnership with the Japanese group Mitsui & Co.
(2) With Masdar and Green of Africa.
(3) The other shareholders are IFC (20%), the State of Cameroon (15%), Africa50 (15%) and STOA (10%).

- Following the memorandum of understanding signed with the government of Cameroon awarding EDF exclusive development of the Kikot-Mbebe hydropower project on the Sanaga River, discussions between the government of Cameroon and EDF led to signature of an agreement in June 2021 for joint development of this project. A further milestone for this project was reached on 25 September 2023 when the 50/50 joint venture Kikot-Mbebe Hydro Power Company (KHPC) was set up by EDF International and the government of Cameroon. KHPC will be responsible for development, construction and operation of the Kikot-Mbebe hydropower facility. This renewable energy infrastructure with installed capacity of 500MW, channelling the abundant waters of the Sanaga river, will be the largest dam in the country, about 100km downstream of the Nachtigal dam. The Kikot-Mbebe construction site is expected to start work by 2026.
- The EDF group continues to act as consultant to Eneo, Cameroon's incumbent electricity distribution operator.
- To develop its off-grid activities in Cameroon, the EDF group has the backing of UPOWA, a company which specialises in marketing solar kits and was taken over by the Group in December 2023.
- In May 2024, ARIC, a Côte d'Ivoirian company owned by the EDF group that has specialised in air conditioning, industrial and commercial refrigeration and energy efficiency for over 30 years, set up a branch in Cameroon to develop its activities in Central Africa.

Egypt

- EDF Renewables and its partner Elsewedy Electric jointly developed the 130MWp Benban solar project in Egypt, which has been in operation since 2018.
- In 2024, the EDF Renewables and Zero Waste consortium signed an exclusivity agreement (Memorandum of Understanding) with the French Ministry of Renewable Energy and Electricity to develop a green hydrogen project. The consortium will invest around €2 billion in the first phase, with the total cost of the three-phase project estimated at €7 billion. A preliminary feasibility study identified the required land: 420km^2 for the generation of renewable energy at Ras Shuqair and 1.2 million m^2 for the generation facility, as well as its own electricity transmission corridor.
- In 2024, EDF's Thermal and Transmission Engineering Centre (CI2T) began endurance testing of the new National optimisation, control and dispatching centre for the Egyptian electricity system. The CI2T handled project design, as well as site monitoring during the construction phase. The new centre manages the electricity grid in real time, with the existing control centre used as a backup. The CI2T also continued in 2024 to oversee and review the design of the Nile Delta Regional Dispatch Centre based in Talkha, Egypt, which is due to be commissioned in late 2025.

Côte d'Ivoire

- The EDF group is jointly[1] developing the Biovéa project for a 46MW biomass power plant. An agreement on the electricity transfer price was signed with the Côte d'Ivoire government in November 2017, and the concession agreement was signed in December 2019. Financial closing and the start of construction work on the power plant took place at the end of 2022, with commissioning planned for late 2025. Discussions were initiated with the Côte d'Ivoire authorities with a view to replicating the project at four identified sites.
- In 2019, EDF International became a 49% shareholder of Conergies Group (the holding company of the subsidiaries ARIC in Côte d'Ivoire and RICA in Mali). This company has extensive expertise in development and innovation for heating, ventilation, and industrial and solar cooling in West Africa. In 2024, in order to support the company's growth, a restructuring was carried out leading to EDF taking control (65%) of the Côte d'Ivoirian subsidiary AR, which became the new development vehicle for these activities in Western and Central Africa.
- In 2016, the Group created a local subsidiary to support its development strategy in Côte d'Ivoire and its subregion. In October 2016, it also set up ZECI, renamed TEVIA in 2023 and wholly-owned by EDF since the end of 2024, to roll out an off-grid project to install and maintain solar kits for rural and peri-urban households. In January 2023, to supplement its off-grid solar pump offerings, the Group and its partner Kenyan Sunculture formed a 50/50 joint venture, Greeno.

Ghana

Development of ZEGHA, a company that markets solar kits and has been 30%-owned by EDF International since December 2017, was stopped in 2020 and the company is being closed permanently.

Togo

- The Group has operations in Togo through Bboxx EDF Togo, a joint venture created with the British company Bboxx. Bboxx EDF Togo sells, installs and maintains solar kits for rural households. A partnership for the rollout of solar pumps was also set up in 2020 with the Kenyan company SunCulture (owned by EDF International via an indirect investment) and the Togolese government.
- In early 2020, the EDF group opened a branch in Togo to support its development strategy and ensure continued provision of engineering services.
- In consortium with Meridiam, EDF was awarded the Scaling Solar Togo project, involving financing, construction, operation and maintenance of a 64MWp solar power plant. The project was signed during the COP28 summit. Financing is expected to be finalised in the first quarter of 2025, with construction starting immediately afterwards and lasting 15 months.

Kenya

- Since July 2018, the EDF group has been involved in the development of the Kenyan company SunCulture. Its purpose is to sell, install and maintain solar pumps for farmers, mainly in Kenya. EDF assists SunCulture with its international development through a 13.1% stake held in Savant Group, SunCulture's parent company.
- In 2021, the Group also acquired an indirect stake in Bboxx Capital Kenya Limited, which sells, installs and maintains solar kits for rural households.
- Since February 2021, the EDF group has owned 50% of DPA Kenya[2]. This company specialises in distributed solar power for the business market. DPA Kenya develops solutions ranging from design to maintenance and financing. Nearly 8MW are currently in operation.
- As Kenya revives its nuclear project ambitions, the Group has expressed its interest to the government.

(1) In partnership with SIFCA, a Côte d'Ivoirian agro-industrial group operating in West Africa, and the investment fund Meridiam.
(2) Formerly Econet Energy Kenya.

Malawi

In August 2022, the government of Malawi, IFC (International Finance Corporation) and the consortium formed by EDF and SCATEC signed a Relationship Agreement that gives the consortium a 55% stake in the 350MW Mpatamanga hydropower project in Malawi[1]. In September 2022, the consortium was officially appointed Strategic Sponsor of the project. After commissioning, planned for 2029, Mpatamanga will provide electricity to around 2 million people and avoid 520,000 tonnes of CO_2 emissions per year. EDF and SCATEC will lead the development, construction and operation phases.

Eswatini (formerly Swaziland)

At the end of 2023 the EDF group responded via a partnership[2] to the Eswatini government's call for tenders to develop a 25MW biomass power plant. EDF and its partner Montigny were selected for this project on 10 December 2024.

Zambia

EDF International holds a 12% stake, acquired in 2020, in Standard Microgrid Initiatives Limited, a start-up that is developing and installing mini-grids using a solution involving standardised containers and smart meters.

1.4.5.3.8 Middle East

The EDF group has development, project monitoring and asset management activities in the Middle East. A commercial activity is also being developed through Dalkia's service activities, as well as thermal, transmission and hydropower engineering services. The Group has a regional entity based in the United Arab Emirates, covering its activities in the zone. The Group has offices in Doha in Qatar, Riyadh in Saudi Arabia, where the regional headquarters are located, Bahrain, and Abu Dhabi and Dubai in the United Arab Emirates. More recently it has added offices in Manah and Salalah in Oman.

These development activities in the Middle East are carried out on behalf of governmental or private companies that the EDF group supports in their energy transition processes. The challenge over the next few years is to remain part of the Middle Eastern countries' net zero visions, in order to continue to develop the Group's activities across the entire electricity value chain (low-carbon generation, networks, flexibilities).

The major projects in the zone are located in the United Arab Emirates, including the following in Abu Dhabi in 2024:

- implementation of the $3.8 billion Lightning project covering development, construction and operation of a high-voltage direct current (HVDC-VSC) submarine transmission system, a first in the Middle East and North Africa region. This major project, conducted in partnership with KEPCO and KYUSHU, involves connecting ADNOC[3] offshore oil and gas production facilities to a cleaner and more efficient energy source provided by the Abu Dhabi land-based electricity grid. The project will make it possible to reduce ADNOC's carbon footprint on these offshore sites by more than 30%, while supporting the UAE Net Zero by 2050 Strategic Initiative. The project is under construction, with delivery scheduled for 2026;
- Emerge, a joint venture created in 2021 by EDF and Masdar, is currently developing a portfolio of several contracts for a total 320MW of distributed solar projects (including 100MW in operation or under construction). Emerge's offering is aimed primarily at commercial and industrial customers in the Emirates and Saudi Arabia, thus helping these countries to meet their ambitious energy transition targets;
- commissioning and operation, as part of a consortium[4], of the Al Dhafra PV2 solar photovoltaic project. With installed capacity of 2.1GW, this solar power plant, which was commissioned in June 2023, is currently one of the most powerful in the world and avoids 2.4 million tonnes of CO_2 emissions per year;
- the award and financial closing, as part of a consortium[5], of the Ajban PV3 solar photovoltaic project. This project, with a capacity of 1.8GWp, is due to be commissioned in early 2026. It will avoid 2.4 million tonnes of CO_2 emission per year;
- commissioning (phases 1, 2 and 3) and continuation of works (phases 4 and 5) for the renovation of Abu Dhabi's public lighting (133,000 lights) in a consortium with Engie (the Nojoom project). An extension of the existing contract for the addition of 55,000 lights in Al Ain is under way.

Other major projects are located in Dubai with the customer DEWA:

- EDF Renewables developed a solar photovoltaic power plant known as "DEWA III" together with Masdar and the customer DEWA (Dubai Electricity and Water Authority). With installed capacity of 1,066MWp, this plant avoids 2.4 million tonnes of CO_2. The output of DEWA III supplies 160,000 households in Dubai with low-carbon electricity;
- a project management assistance contract for the construction of a pumped-storage hydropower facility (250MW, with a storage capacity of 1,500MWh). Its construction in the Hatta mountains in Dubai, began in mid-2019 under a turnkey contract for the customer DEWA (and should be completed in the first half of 2025). The total cost of the project is around US$500 million (equity financed by DEWA);
- a project management assistance agreement for the construction of a 3 x 233MWe thermal power plant in Al Aweer. Handover of the facilities began in June 2024 and acceptance was completed in December 2024.

Other major projects:

- in the United Arab Emirates, the EDF group aims to establish a long-term relationship with NAWAH Energy Company (Nawah). It is the operator of the Barakah nuclear power plant and a subsidiary of Emirates Nuclear Energy Corporation (ENEC). In 2018, a long-term master agreement was signed under which EDF will support Nawah in the operation and maintenance of the Barakah power plant, providing a wide range of services covering several areas including safety, radiation protection, fuel cycle management and environmental monitoring. Two agreements were signed in June 2021 between Framatome and Nawah for the provision of maintenance and cybersecurity services. Framatome also supports ENEC in the development of new local industrial capacities in order to maintain the Barakah units;
- another major engineering consultancy project is currently in progress in Doha for Kahramaa (Qatar General Electricity and Water Corporation). It involves the construction of electricity substations and high-voltage cable networks, particularly the power evacuation substations for Al Kharsaa, Qatar's largest solar power plant which was commissioned in 2022. Several projects of high technical and strategic value, including development of renewable energies and improvement of transmission network efficiency, have been successfully completed with this customer;
- continuing its growth momentum in the region, in June 2022 Dalkia acquired US Chiller Services, a company based mainly in the Middle East (UAE, Qatar and Bahrain) and the United States. This company has 330 employees and specialises in the operation and maintenance of large cooling plants. Meanwhile, Dalkia is continuing its development the region in energy efficiency, operation and maintenance of cooling units, heating, ventilation and air

(1) IFC: International Finance Corporation.
(2) With the Montigny group.
(3) Abu Dhabi National Oil Company.
(4) Consortium made up of EDF Renewables and Jinko Power (China). The two developers were joined at the financial closing by local partners Taqa and Masdar.
(5) Consortium made up of EDF Renewables and Kowepo (South Korea). The two developers were joined at the financial closing by local partner Masdar.

conditioning, electricity systems (commercial and industrial solar power, public lighting), and decarbonisation. It has won several projects and recently moved all its teams in the United Arab Emirates to a single office in Dubai. Dalkia Middle East currently has 450 employees in the region in four countries: the United Arab Emirates, Saudi Arabia, Bahrain and Qatar;

- in general, EDF's thermal and transmission engineering departments, which have been active in the Middle East since 1995 (first in the United Arab Emirates, then in Qatar, Bahrain and Egypt, and more recently in Saudi Arabia), provide project management assistance services to local electricity companies. Currently, the portfolio of thermal and transmission engineering services sold to third parties in the Middle East comprises around twenty active projects. The flagship projects concern management assistance for the construction of three combustion turbines (the Aweer project), reinforcement of an extra-high voltage cable link in a ventilated tunnel in the United Arab Emirates, and consolidation of the electricity interconnector between the United Arab Emirates and Saudi Arabia.

The main projects in Saudi Arabia are the following:

- EDF signed a 25-year concession contract[1] with Red Sea Global, the developer of the AMAALA tourism complex, to develop, design, finance, supply, install, operate and maintain the water and electricity facilities for the complex which is being built along the Red Sea coast. This off-grid project includes a solar power plant (250MWp) and its energy storage batteries (770MWh), biodiesel combustion engines (40MW), 33/132kV substations, 132kV power lines (50km), underground cabling, a seawater desalination plant powered by green electricity, and a wastewater treatment plant for recycling as irrigation water;
- in partnership with other entities[2], EDF Renewables continues to develop a portfolio of renewable projects in Saudi Arabia (comprising development, financing, construction and operation). Three projects awarded through tenders organised by the Saudi Ministry of Energy are already in operation or under development: the Dumat Al Jandal wind power project which, with installed capacity of 400MW, is the largest wind farm in the Middle East and began commercial operation in July 2022; the South Jeddah solar photovoltaic plant, with installed capacity of 388MW, which began commercial operation in July 2022; and the Al Henakiyah solar photovoltaic project, with installed capacity of 1.2GW, which is currently in construction;
- at the end of 2023, EDF won a project management assistance contract on behalf of the GCCIA (Gulf Cooperation Countil Interconnection Authority, based in Dammam, Saudi Arabia) to design, issue an EPC (Engineering, Procurement and Construction) tender, select the EPC provider and monitor construction of the interconnection reinforcement between Saudi Arabia and the United Arab Emirates (100km of overhead line and three 400kV substation extensions). In 2024, EDF also won a technical assistance contract with the governmental entity KACARE (King Abdullah City for Atomic and Renewable Energy) to study how the electricity system is affected by the integration of nuclear power plants in Saudi Arabia;
- Dalkia opened its first company in Saudi Arabia in early 2021 and is very active in the region. It has a 10-year contract to operate the cooling plant in the new district of Riyadh MISK City, where Dalkia has set up its DESC (Dalkia Energy Savings Centre), the first to be opened outside France, and has signed several energy efficiency contracts worth a total $50 million with Tarshid (the National Energy Services Company, owned by the Public Investment Fund) for Saudi government sites. The Group is currently participating with local partners in calls for tenders concerning BOOT (Build, Own, Operate and Transfer) contracts for cooling plants in Saudi Arabia's mega projects. In 2024, Dalkia received the award for best O&M company in the Middle East for cold production systems in Riyadh;
- Emerge is continuing its growth in Saudi Arabia, with a portfolio of around 100MW of solar power project opportunities in development; two feasibility studies for large industrial groups were awarded to Emerge in order to transform them into an electricity purchase agreement;
- EDF is a member of the consortium[3] that won two decarbonised combined-cycle power plant projects, Taiba-2 and Qassim-2, with combined capacity of 3.96GW, in October 2023. Financial closing was reached and construction work began in 2024;
- in late 2023 a consortium comprising EDF, Tractebel Engineering and Artelia won the tender to carry out all preliminary studies for the construction of a pumped-storage hydropower facility named NESTOR. After this contract was awarded to the consortium, a service agreement was signed with Neom Energy & Water Company in January 2024[4].

The main projects in Oman are the following:

- in 2023, EDF Renewables and its partners[5] were awarded the Manah-1 project following a call for tenders by Nama PWP, a public body in charge of developing water and electricity production facilities in Oman. The project covers the development, financing, construction and operation of a 500MW solar photovoltaic power plant power plant which should be commissioned in March 2025, and will be EDF Renewables' first renewable energy structure in Oman;
- EDF and EDF Renewables, in partnership with YAMNA and J-Power, qualified for the Hydrom tender for development of a 150ktpa green hydrogen project in the Salalah region of Oman. EDF won a block in April 2024 as part of a consortium[6] which was awarded 341km^2 of land for a 47-year period. To generate a minimum of 150ktpa/year, this project comprises around 3.9GW of solar generation capacity, 1.3GW of wind generation capacity and 2.2GW of electrolysis capacity. Development began in May 2024, with the aim of reaching an investment decision at the end of 2027 and starting generation by 2030/2031.

Activity in Israel

The EDF group has been present in Israel since 2010 through its subsidiary EDF Renewables. At the end of 2024, it operated grid-connected solar power projects with total gross capacity of 616MWp (including 35MW of floating projects, and two solar projects totalling 22MWp coupled with 45MWh of batteries. EDF Renewables is building a new 13MWp floating solar power project and 11 additional ground-based solar power projects with total gross capacity of 99MWp, including 220MWh of storage. The ongoing war on the country's borders has led to a freeze on 67MW of wind power projects in northern Israel, several delays in solar plant construction, and a minor impact on projects in operation. Development activity continued with several notable successes, in rooftop and canopy solar systems for municipalities, but above all with selection of EDF for the Ashalim 3 (110MWp) and Dimona (285MWp) solar power projects, the two largest renewable energy tenders ever organised in Israel. EDF Renewables is preparing to reach the financial closing for these two BOT (Build, Operate and Transfer) projects with the State by the end of 2025, so that construction can start in 2026. During 2025, it will begin to build around 25MW of floating solar power projects, 15MW of rooftop and canopy solar systems, and 170MWp of ground-mounted solar power projects combined with storage at medium and high voltages.

(1) In a consortium with EDF, Masdar, Korea East-West Power (EWP) and Suez.
(2) Consortium comprising EDF Renewables, Masdar and Nesma Renewables.
(3) Comprising EDF, Al Jomaih Energy and Water Co., Ajlan & Bros Co. and Buhur for Investment Company.
(4) See also section 3.3.2.1.1 "Corporate social responsibility".
(5) Consortium comprising EDF Renewables and Kowepo (South Korea).
(6) Comprising EDF, JPOWER (Japanese offtaker) and YAMNA (new English platform for the development of green H2 projects founded in 2022).

1.4.6 *Energy services and other activities*

In a regulatory and societal environment that is making the fight against climate change a top priority, the EDF group, in line with its *raison d'être*, aspires to achieve significant growth in energy services in order to deliver high-performance, innovative and sustainable solutions to its customers.

These services address the very varied issues raised by local authorities, businesses and residential customers: distributed energy generation, low-carbon heating networks, green hydrogen, smart lighting, electric mobility, smart building management, energy saving advice, and energy efficiency. The range of solutions offered by the Group is innovative and responds to customers' new concerns: reducing carbon emissions and improving energy performance.

1.4.6.1 Energy services

The services offered by EDF draw on the Group's expertise, particularly in R&D, and are provided through several subsidiaries and divisions.

1.4.6.1.1 Dalkia

Dalkia has been a 99.94%-owned subsidiary of the EDF Group since July 2014. It is a leading player in the European energy services market, offering a comprehensive range of services. Dalkia has a strong commercial presence in France and is expanding internationally in four geographical areas (the United Kingdom, the United States, Poland and the Middle East).

Dalkia provides its customers with expertise to develop, produce, and manage more environmentally-friendly and economical energy systems. Drawing on nearly 80 years of experience in managing heating and cooling networks, optimising industrial utilities, improving the energy performance of buildings and harnessing local and renewable energies, Dalkia offers its customers tailor-made solutions to support them in their energy transition by reducing their energy consumption.

Including its subsidiaries, Dalkia manages over 330 heating and cooling networks and over 90,000 energy facilities in France and other countries.

Dalkia helped its customers to avoid 4.5 million tonnes[1] of CO_2 emissions in 2024.

Dalkia and the rise of renewable and low-carbon energies

Dalkia's core business is to harness local energies for heating and cooling networks or industrial processes. Dalkia uses existing local sources of energy to provide its customers – both businesses and local authorities – with sustainable energy solutions:

- the development of renewable energies is a key priority for Dalkia, particularly through the use of renewable and recovered energy from sources such as biomass, biogas, geothermal systems, thalossothermal energy and recovered energy (e.g. fatal heat);
- Dalkia promotes the production of energy from recycled waste in a circular economy approach: this limits the use of fossil energies and contributes to the achievement of its customers' decarbonisation goals;
- additionally, Dalkia favours non-fossil low-carbon solutions such as heat pumps, including high-temperature heat pumps for industry.

Dalkia and energy savings

Dalkia's second business line is "energy savings", largely through energy performance contracts:

- Dalkia enhances energy efficiency through smart buildings with increasingly low consumption levels, and retrofitting work to make buildings more energy-efficient;
- Dalkia also optimises its customers' consumption by processing their data in the Dalkia Energy Savings Centres, which are energy performance analysis centres that combine digital and human intelligence;
- Dalkia develops energy performance contracts that combine energy efficiency actions, renewable heat, heat pumps and solar power, and integrate digital solutions to manage multi-energy ecosystems.

Dalkia's main subsidiaries in France

Dalkia Froid Solutions

Dalkia Froid Solutions, a wholly-owned subsidiary of Dalkia with over 1,500 employees, specialises in industrial and commercial chilling solutions and HVAC (heating, ventilation, and air conditioning). Its purpose is to supply its customers with the desired temperatures, optimising energy consumption while protecting the environment through end-to-end management of the process: consultancy, design, installation, and maintenance.

Dalkia Air Solutions

Dalkia Air Solutions, a wholly-owned subsidiary of Dalkia with more than 120 employees, provides a comprehensive range of audit, design, installation and maintenance services for compressed air, nitrogen and breathing-air systems serving all sectors of industry. Compressed air is a working fluid with high electricity content and offers energy-saving potential.

Dalkia EN

Dalkia EN *(Expertise Nucléaire)* is a wholly-owned Dalkia subsidiary dedicated to the nuclear environment. It has nearly 900 employees working in two business lines:

- maintenance of nuclear power plants' emergency generators, and cooling and ventilation systems;
- coordinating contractors and building maintenance for nuclear and thermal power plants.

Dalkia Electrotechnics Holding

Dalkia Electrotechnics Holding, a wholly-owned subsidiary of Dalkia with over 1,300 employees, itself has three subsidiaries in the electrical engineering sector:

- Dalkia Electrotechnics IG, which mainly serves EDF group subsidiaries in work relating to HVA and HVB installations, HVA transformers and rotating machinery;
- Dalkia Electrotechnics Fab, which manufactures and leases HVA substations (in concrete and metal enclosures);
- Dalkia Electrotechnics, which carries out the "services & works" activities (HVA substations, HVA loops, low-voltage distribution, automated mechanisms, electric mobility, engines, public lighting, traffic lights, video protection) for private and public customers.

(1) 4.3 million tonnes excluding CO_2 emissions avoided by gas co-generation.

CRAM

CRAM is a wholly-owned subsidiary of Dalkia, located primarily in north-western France (Normandy, Picardy and Île-de-France). It participates in, proposes and executes projects concerning operations and maintenance, management and construction of heating and ventilation systems. The company has more than 750 employees and manages over 7,600 installations.

Dalkia's main subsidiaries outside France

Dalkia Polska, Dalkia Polska Solutions and Dalkia Polska Energia (Poland)

- Dalkia Polska has 330 employees and offers a full range of energy services, from management and optimisation of heating and cooling networks to the use of local energy resources, as well as energy efficiency services for buildings and industrial facilities.
- Dalkia Polska Solutions designs, builds and maintains technical installations (ventilation, heating, air conditioning, fire protection, etc.) for commercial buildings and industrial sites. It also provides innovative solutions for managing the energy performance of buildings.
- Dalkia Polska Energia essentially specialises in the production and distribution of heat in the region of Katowice (in Upper Silesia, Poland). It has recognised expertise in using energy recovered from mine gas instead of coal in heating networks and electricity distribution facilities.

Dalkia UK (United Kingdom)

Dalkia Group Limited (United Kingdom) is jointly owned by Dalkia and EDF Energy and specialises in major HVAC and electrical engineering works, technical facility maintenance, and data acquisition and control systems integration. Dalkia Group Limited provides services in the construction, industry and tertiary sectors, and to public authorities. Dalkia Group Limited has six entities (Dalkia Operations Holding Limited, Dalkia Engineering Holding Ltd, ESSCI Technical Facilities Management Ltd, Dalkia Energy Services Ltd, Dalkia Holding Ltd and ESSCI Ireland Ltd) and 4,000 employees.

Dalkia Energy Solutions (United States)

- Based in Massachusetts, Dalkia Energy Solutions offers companies and industrial customers advisory services, project management assistance and energy efficiency work under an all-round approach.
- Dalkia Energy US bought the entire stock of US Chiller Services LLC on 21 June 2022[1] and has 170 employees.
- Aegis Energy Services, based in Massachusetts, specialises in small gas cogeneration power plants and equipment, which it designs, builds, commissions and maintains.

Dalkia Middle East (Middle East)

- Dalkia Middle East Energy Company Limited (Saudi Arabia) was incorporated in 2021 and has operations relating to power plants and cooling networks, energy performance contracts and multi-technique maintenance.
- Dalkia Middle East (a French holding company) holds 100% of the shares of the following companies: Dalkia US Chiller Services (Dubai) and Dalkia US Chiller Services WLL (Qatar). These companies specialise in operation and maintenance, and work and repairs for chillers and heating, ventilation and air conditioning (HVAC) equipment. Dalkia Middle East employs 450 people in the Middle East.

1.4.6.1.2 EDF Pulse Holding

The Innovation and Pulse Programmes Division

The EDF group's Innovation and Pulse Programmes Division (DIPP) has three core functions:

- Strategic framework: establishing an annual strategic framework for the EDF group[2] that identifies priority areas for innovation and key projects, and the associated action plans. This framework is prepared in close collaboration with R&D and the EDF group's business lines;
- Performance and development: centralising expertise in innovation tools and methods to support the Group's business lines via the Pulse programmes, and defining value creation indicators for innovation activities;
- New businesses: identifying and developing new growth levers for the EDF group through the following three programmes:
  - the EDF Pulse Incubation programme for the development of intrapreneurship projects,
  - the EDF Pulse Ventures programme for investment in start-ups and innovation funds,
  - the EDF Pulse Pilot programme, to finance First-of-a-Kind industrial projects, based on promising technologies for the Group.

Investments in start-ups, pilot projects and investment funds are held by EDF Pulse Holding, a dedicated vehicle wholly-owned by EDF. The development of EDF Pulse Holding's portfolio is directly linked to the activities of the EDF Pulse Pilot, EDF Pulse Incubation and EDF Pulse Ventures programmes (details of the last two are given below).

EDF Pulse Incubation

The EDF Pulse Incubation programme designs and develops new businesses and services inspired by the ideas and know-how of the Group's own employees. The incubation programme provides bespoke support for employees and enlists in-house and third-party experts to test, create, and develop business models, and offer professional development for intrapreneur employees. As well as helping intrapreneur employees, this support benefits the EDF group as a whole, since it contributes to the Group's evolution and employee upskilling. Thanks to close contact between the EDF Pulse Incubation and EDF Pulse Ventures programmes, the incubated projects benefit from an investment-driven vision with constant consideration of the market situations.

These intrapreneurial projects may result in a new EDF group subsidiary. This has already happened, for example in the case of:

- **Oklima**, which develops projects that contribute to carbon sequestration or the reduction of greenhouse gas emissions;
- **Hynamics**, which develops low-carbon electrolytic hydrogen production and marketing projects;
- **Yxir**, which develops and markets an AI-based service offering enabling industrial entities to control product and service quality.

EDF Pulse Ventures

The EDF Pulse Ventures programme exists to identify innovative new activities and solutions outside the EDF group. Its action develops EDF Pulse Holding's portfolio of investments in start-ups and venture capital funds, by taking (mainly minority) shareholdings.

The goal of the programme is to explore new business for the Group, de-risk it and create synergies between the start-ups in EDF Pulse Holding's portfolio and the Group's own functions.

(1) See Dalkia's press release of 21 June 2022 "Dalkia reaches a major milestone in its development in the Middle East with the acquisition of US Chiller Services companies".
(2) Apart from Enedis and RTE.

Since 2017, close to €540 million gross has been invested through the EDF Pulse Incubation and EDF Pulse Ventures programmes, in 35 in-house and external start-ups and 21 investment funds, primarily in France, but also in Europe and North America.

New additions to the EDF Pulse Holding portfolio in 2024

Chemdoc Water Technologies

Chemdoc Water Technologies is a start-up that designs and assembles containerised systems for filtering, purifying and demineralising water derived from surface water and recycled wastewater. Through its membrane filtration modules, Chemdoc Water Technologies is able to supply water of different qualities: demineralised water, ultrapure water, process water and ingredient water. EDF Pulse Holding acquired a stake in this start-up during a €4.5 million round of funding.

NatureMetrics

NatureMetrics is a British start-up specialising in the measurement and monitoring of biodiversity using environmental DNA technology (eDNA). NatureMetrics measures the traces of DNA left by organisms in water, soil and air, to detect the species present in a given area. EDF Pulse Holding acquired a stake in this start-up during a $25 million round of funding.

1.4.6.1.3 Other service activities of the EDF group

Other EDF group entities and subsidiaries complete the range of energy services offered by EDF. They are active in specific areas, and target different customer categories (residential, small and large businesses, and local authorities). They cover a broad spectrum of activities including research, building work, equipment maintenance, use management, investment financing and assistance with obtaining permits and subsidies.

Datanumia

To help customers manage their energy and fluid consumption, the EDF group provides facility monitoring and management services. Its wholly-owned subsidiary Datanumia develops innovative digital solutions enabling every type of customer (residential, business and local government) to make use of energy data to optimise their energy consumption and carbon footprint.

Datanumia has a particular specialisation in energy intelligence for buildings and industrial processes. The company assists businesses and local authorities in the energy transition throughout the energy management value chain, through a range of bespoke solutions (including energy performance management, energy audits, and compliance assistance regarding France's Tertiary Sector Decree). Datanumia processes more than 10 million data units daily for 80,000 sites. As a specialist in the IoT (Internet of Things), it collects data from over 60,000 smart objects every day, and provides energy management for over 120 million m^2 of building space.

Datanumia also designs and implements solutions for individuals to monitor and control their energy consumption. For example, it offers EDF customers a range of innovative digital solutions in the *EDF&Moi* app enabling them to monitor and understand their electricity and gas consumption in detail, and control the most energy-intensive equipment. This app currently has over 8 million active residential customer users. In 2022, Datanumia also developed a solution allowing residential customers to monitor their electricity consumption in real time.

Sowee

On 31 October 2024, Sowee ceased to be a subsidiary and became part of EDF. As a result, EDF now sells the *Station Connectée* smart station and its associated services under the Sowee by EDF brand to customers on market-price contracts, and also offers them the managed load shedding option.

Customers can use this smart station to control their heating remotely, without having to change their installation. It also facilitates access to useful everyday services such as information on air quality both indoors (CO_2 and humidity) and outdoors, weather forecasts, a calendar, the probability of rain, etc.

IZIVIA

IZIVIA is a wholly-owned subsidiary of the EDF group and a respected player in France's electric mobility sector. IZIVIA provides electric vehicle charging solutions for businesses and local authorities. It sells turnkey electric vehicle recharging infrastructures (EVCI) covering design, supply, operation, maintenance, and vehicle charging services for drivers, and invests with financial partners in its own charging networks for supermarket and restaurant car parks or public roads.

IZIVIA is a leader in public and in-company charging solutions in France. It operates and oversees 28,000 charging points and has one of the best qualities of service on the market.

IZI Confort

IZI Confort is a wholly-owned subsidiary of the EDF group. It installs, maintains and repairs individual heating, air-conditioning and ventilation equipment: heat pumps, gas/oil boilers, air conditioners, heat pump water heaters, mechanical ventilation systems, etc.

With almost 1,200 employees throughout France, IZI Confort completes more than 800,000 call-outs a year, meeting the needs of individuals, public and private collective customers, and businesses.

IZI Confort serves and grows its customer base through 75 local offices and digital channels. It is continuing to expand its heat pump sales and maintenance business in order to help customers in their decarbonisation efforts, in keeping with EDF's *raison d'être*.

IZI by EDF

IZI by EDF is EDF's specialist brand for low-carbon heating, home energy retrofit, and home EV charging services to individuals and very small businesses, regardless of whether they are EDF customers.

IZI by EDF is rolling out a full-service offering for sustainable homes and electric mobility:

- it is a leader in the sale and installation of water source heat pumps;
- it is developing a complete range of offerings for home energy retrofits, including replacement of doors and windows, insulation of attics and floors, ventilation and external wall insulation, thanks to the acquisition of *Les ECO-Isolateurs* group at the end of 2022;
- it is a leader in the installation of domestic electric vehicle charging points in individual homes, and has a full-service offering for the rollout of charging stations for collective housing.

In 2024, IZI by EDF continued its growth in electric mobility offerings for individual homes and collective housing, as well as in its new multi-unit energy retrofit offering.

Business in heat pumps and external wall insulation declined, reflecting the collapse of the heat pump market, and the change in subsidies from 1 January 2024, when grants for single-unit insulation were discontinued.

A simplification of the reform on 15 May 2024, which reinstated those single-unit grants, gradually revived the momentum for external wall insulation activities. The heat pump market has shown signs of a slight recovery since September 2024.

Through IZI by EDF, EDF acts as a general and lead contractor for its customers. It is responsible and accountable for successful service completion, and seriously committed to quality in its work and customer relations: it only engages rigorously selected and qualified subcontractors, and it manages customers' subsidies and deducts them quoted estimates, including for large-scale energy retrofits. IZI by EDF also provides optimised financing solutions with its partner Domofinanc for the amount payable by the customer.

EDF Solutions Solaires

EDF Solutions Solaires (formerly EDF ENR) is a wholly-owned subsidiary of the EDF group that was founded in 2007. It develops distributed solar power solutions combining solar power generation, management and storage for companies and individuals. EDF Solutions Solaires is the leader in its market, with a market share of 15% and over 100,000 installations completed for residential customers, and a market share of nearly 10% in the business and local authorities customer market thanks to exclusive technical and financial solutions and its synergies with the various entities of the Customers, Services & Regions division.

To keep close to its customers, EDF Solutions Solaires' technical and sales teams are spread throughout France, with branches in each of the mainland regions and all of the French overseas *départements* and regions through its subsidiary Sunzil. EDF Solutions Solaires currently employs almost 1,300 people, including 200 overseas.

Local Energy Management

In 2019, the EDF group set up a new entity, Local Energy Management (LEM), to speed up the development of innovative distributed energy management offerings. LEM provides coordination for companies that are expanding through intrapreneurship or acquisition-based growth (Agregio Solutions, Dreev and e2m). Its activities cover:

- aggregating, managing, and making use of local flexibilities, both upstream (intermittent energy production from wind and solar farms, flexible storage or generation facilities) and downstream (consumer load-shedding capacities);
- marketing of renewable energy output through new supply models such as Power Purchase Agreements (procurement of renewable energy from a renewable producer), or directly on the wholesale markets through a Virtual Power Plant system;
- smart charging solutions for electric mobility;
- software solutions for energy optimisation in local electricity systems based on forecasting and storage;
- supplying turnkey storage infrastructures (Storemate) and their Energy Management Systems (EMS).

Agregio Solutions

EDF's wholly-owned subsidiary Agregio Solutions resulted from a merger between Agregio and EDF Store&Forecast. It is an aggregator that targets three types of customers:

- producers of renewable electricity (wind power, solar power, etc.): Agregio Solutions offers these customers tailored services designed to optimise and sell/deliver their output, capacity guarantees and renewable energy guarantees of origin on the electricity markets or to consumers, while securing their long-term revenue streams;
- electricity consumers (industries, companies, *etc.*): Agregio Solutions seeks consumers who are willing to load-shed or modulate their consumption in exchange for remuneration, depending on the needs of the electricity system;
- managers of storage facilities: Agregio Solutions can provide centralised storage infrastructures and optimises storage systems for the energy markets.

Energy2market (e2m)

Energy2market (e2m) is an aggregator of renewable energy output and local flexibilities. It manages and operates more than 4,700 distributed energy generation and flexibility sites connected in Germany (wind farms, solar farms, cogeneration sites, biomass plants, storage batteries, etc.), with total installed capacity of over 4GW.

At the end of 2024, the EDF group was one of the European leaders on these new markets, with a portfolio of over 10GW of distributed energy assets.

1.4.6.2 Gas business

The EDF group's gas strategy aims to ensure the security of gas supply for its 6.6 million customers[1], its cogeneration plants and its gas power plants.

Thus, the EDF group is present on the natural gas market in France and across Europe, mainly through Edison, EDF Energy, and Luminus. Since August 2017, Edison has become the EDF group's gas platform under a service agreement to manage the assets of the Group[2].

EDF also relies on EDF Trading for its short-term operations relating to transactions in the EU, US and United Kingdom wholesale markets.

The optimisation of EDF's LNG asset portfolio flexibility is managed by JERA Global Markets, a joint venture between EDF Trading Limited (33.33%) and JERA Trading International Pte (66.67%).

1.4.6.2.1 Natural gas end-market

In Europe, on 31 December 2024, the downstream customer portfolios were as follows:

- France (EDF and Électricité de Strasbourg): around 2.6 million customers (ranging from retail to key accounts), with a total volume sold of around 51.5TWh;
- Italy (Edison): around 1.1 million customers, with a total volume sold of around 68.6TWh of gas;
- United Kingdom (EDF Energy[3]): around 2.2 million customers, with a volume sold of around 32.3TWh;
- Belgium (Luminus): around 0.7 million customers, with a total volume sold of around 13.5TWh.

(1) Customers are broken down by number of delivery points at end 2023.
(2) See section 1.4.5.2.2 "Edison's strategy".
(3) Excluding Northern Ireland.

1.4.6.2.2 Gas assets and projects

Supply sources

In Europe, the Group's gas and LNG supply comes from:

- short- and medium-term wholesale gas markets; and
- a diversified portfolio of long-term contracts, originating from Qatar, the United States, the North Sea, North Africa and Azerbaijan.

In the United States, the supply mainly originates from the wholesale gas markets and is exported in the form of LNG *via* long-term liquefaction and transport contracts. In the rest of the world, specific contracts have been signed to ensure the supply of the Group's gas power plants and end customer consumption.

With the aim of maintaining its market share, the Group optimises and diversifies its portfolio of medium and long-term sources of gas. In particular, EDF has entered into medium and long-term LNG contracts, primarily with the goal of diversification the sources of its gas, increasing delivery flexibility and of optimising its available regasification capacity at the Dunkerque LNG terminal.

In May 2023, Edison initiated an arbitration proceeding against Venture Global at the London Court of International Arbitration in London, for the failure of LNG deliveries from the U.S.A.

Infrastructures

Gas pipelines and Liquefied natural gas (LNG) regasification terminals

Apart from its various rights to transport capacity in the European network, the EDF group participates, through its subsidiary, Edison, in infrastructure projects for gas importation(1).

In line with the Group's Gas strategy, EDF is the main long term shipper at the Dunkerque LNG terminal.

Through Edison, EDF has access to 80% of the regasification capacity at the Rovigo offshore terminal's, *i.e.* 6.4 billion m^3 per year(1) which is used for LNG deliveries from Qatar.

The Group also holds regasification capacities in Zeebrugge terminal (Belgium) and Piombino (Italy).

Small scale LNG

Edison has developed the first integrated small scale LNG supply chain in Italy with the aim to provide LNG to heavy duty road and maritime transport(1) sectors contributing to reduce CO_2 emissions in these "hard to abate" sectors. Edison has completed construction of the first coastal storage facility in Ravenna which became commercially available in 2021, with capacity of over 1 million m^3 of LNG per year (with Edison entitled to use 85% of it). Supply of LNG to the deposit is via a dedicated small-scale LNG carrier. Edison is also evaluating the ability to develop a second storage facility in the South of Italy (Brindisi).

Storage

In Germany, the EDF group has storage for natural gas in salt cavities located in Etzel. EDF has around 180 million m^3 of volume capacity. The aboveground facilities are operated through a 50/50 joint venture with EnBW.

With respect to storage activities of the Group in Italy and in the United Kingdom, see respectively, sections 1.4.5.2.3.5 "Regulated activities - gas storage" and 1.4.5.1.2.2 "Nuclear production" - "Thermal generation and gas storage".

In 2024 Edison signed an agreement with SNAM for the sale of 100% of Edison Stoccaggio.

The Group also holds storage rights in the Netherlands, Belgium and France.

1.4.6.3 EDF's Hydrogen business

The EDF Group is active in the hydrogen and hydrogen derivatives market and aims to become a world leader among suppliers of electricity (renewable, nuclear or low-carbon grid)(2) for low-carbon electrolytic hydrogen and e-fuels projects, as well as a leading European low-carbon electrolytic hydrogen producer, by 2035.

Production of low-carbon hydrogen to advance decarbonisation of industry and transport

The development of a hydrogen business to support the decarbonisation of uses in industry and transport is part of the Group's strategy. Greater use of low-carbon hydrogen will complement direct electrification and play a key role in achieving carbon neutrality, particularly through in-depth decarbonisation of industrial processes, relating for example to chemicals (production of ammonia and methanol), refining and steelmaking.

Low-carbon hydrogen produced by water electrolysis also has a major role to play in the decarbonisation of heavy-duty mobility. It can already help to cut local ecosystems' carbon emissions (from buses, refuse collection vehicles, trucks, trains in non-electrified areas, etc.). In future, hydrogen derivatives such as e-fuels will be able to do the same for air and sea transport.

The EDF group is well-placed to take a strong position on the hydrogen value chain

- **Expertise**

EDF can draw on its expertise in electrolytic hydrogen, developed over many years by EDF's R&D as part of its innovation policy. The earliest R&D in this field by EDF dates back to the 1970s. Also, since 2003, electrolytic hydrogen has been central to the know-how developed by EIFER(3) and at the electrolyser test platform commissioned in 2020 at EDF's R&D site *EDF Lab Les Renardières*.

In 2018, EDF took a stake in French electrolyser manufacturer McPhy, to strengthen the Group's industrial expertise in this area.

In 2019, EDF set up Hynamics, a wholly-owned subsidiary that markets hydrogen-based decarbonisation solutions for industry and heavy-duty transport. Building on its investor and O&M model, Hynamics offers turnkey solutions for customers in France and more broadly in Europe.

In 2021, EDF became a contributor to the Hy24 hydrogen investment fund.

- **Positioning on the value chain**

EDF is positioning itself as an investor, designer and operator of an optimised electric hydrogen plant.

Upstream, the EDF group can draw on its low-carbon electricity generation fleet (nuclear and renewable energy plants located in over twenty countries), its know-how in contract and energy management, and its ability to put together integrated projects, for instance by optimising the coupling of hydrogen production with renewable electricity production in the most favourable areas.

(1) See section 1.4.5.2.3.2 "Gas business".
(2) Currently, 95% of hydrogen is produced using fossil fuels; since this process generates CO_2, it is referred to as "grey" hydrogen. Hydrogen (H_2) can either be created from methane by means of steam reforming, or by splitting a water molecule (H_2O) by electrolysis, *i.e.* using an electric current. Hydrogen is considered either "green" when the electrolysis uses renewable energy, or "low-carbon" when the electrolysis uses nuclear power. As a result, "green" or low-carbon hydrogen represents an interesting solution for decarbonising sectors where direct electrification is not possible. This is true of the refining, chemical and heavy transport industries.
(3) EDF's joint research centre with the Karlsruhe Institute of Technology (Karlsruher Institut für Technologie, KIT) in Germany.

For the production of hydrogen, the Group already has expertise and operational know-how thanks to the first projects developed and commissioned by Hynamics.

In the derivatives/e-fuels segments[1], EDF is positioned as a co-investor in e-fuel project consortia but does not take direct operational responsibility in the manufacture of hydrogen derivatives and does not provide any particular expertise in this field. EDF can also draw on the Group's engineering teams' expertise in integration of major industrial projects, and its experience in industrial safety management and project development, all in line with its CSR commitments.

The Group is already developing projects, and has a significant portfolio of several dozen electrolytic hydrogen projects.

Hydrogen projects in France

Projects for industry and the production of synthetic molecules

In partnership with the cement group Holcim, the research body IFP Énergies Nouvelles and Axens, the Take Kair project aims to create France's first low-carbon synthetic kerosene production chain based on captured biogenic CO_2 combined with hydrogen produced by water electrolysis. The preliminary public consultation was launched in December 2024.

Two other Hynamics projects have been selected as Hydrogen IPCEIs[2] and notified to the European Commission. These projects are respectively with fertiliser manufacturer LAT Nitrogen and Domo Chemicals, which operate two of the largest fossil hydrogen consumption sites in France, located respectively in the Ottmarsheim-Chalampé chemical platform in Alsace and in the heart of Lyon's "chemical valley".

Mobility projects

Hynamics was the successful bidder in the French Ecological Transition Agency ADEME's[3] calls for mobility projects concerning hydrogen supplies for buses in the Auxerrois and Grand Belfort urban districts.

As a result, Hynamics and Transdev have opened AuxHYGen, one of France's largest renewable hydrogen production and distribution stations, in Auxerre. With a capacity of 1MW, the AuxHYGen station can produce up to 400kg of green hydrogen per day through water electrolysis, avoiding 2,200 tonnes of CO_2 emissions every year. By 2026, the installation will power the regional hydrogen trains to be introduced by national passenger train operator *SNCF Voyageurs* in the Bourgogne-Franche-Comté region. The 1MW Grand Belfort production and distribution station was also inaugurated in early 2024.

On 13 September 2022, the Mob'HyZEE project was one of the winners of the European Commission's 'Connecting Europe Facility - Transport' funding programme. This hydrogen station project led by Hynamics will receive €10.2 million of subsidies, and the total investment amounts to almost €40 million. It will help to strengthen the development of low-carbon hydrogen distribution infrastructures in France along a north-south axis, with one station in Dunkirk, two in the Paris region and one in Cannes, all to be commissioned by the end of 2025.

Hydrogen projects in Germany

The Hyscale100 project for e-fuel production was notified by the German State to the European Commission in 2022, in response to the IPCEI-H2 call for projects. This project concerns the deployment of several hundred MW of electrolysis by 2030 to meet the low-carbon hydrogen needs of German industry.

Hydrogen projects in United Kingdom

In 2022, EDF Renewables UK and Hynamics announced plans to make major investments in the Teesside hydrogen project, supporting local and national government efforts to regenerate the Tees Valley by investing in decarbonisation. Tees Green Hydrogen is a pioneering project that will supply hydrogen for local industrial uses in order to support decarbonisation efforts. It received a grant under the Hydrogen Production Business Model, a UK government programme launched as part of its Net Zero Hydrogen Fund. In its initial phase, the Tees Green Hydrogen electrolyser will be 7.5MW in size, but it is designed to be able to scale up to 300MW by 2030. Also pending the allocation of national subsidies, Hynamics UK and the Irish energy company ESB signed an agreement in October 2024 for the development of an electrolyser to decarbonise industry at the port of Barry in Wales.

Hydrogen projects in Italy

Edison is developing several electrolytic hydrogen generation projects in Italy (see section 1.4.5.2 "Italy").

Hydrogen projects outside Europe

With strong input from EDF Renewables and the International Division, the Group is also making progress on projects combining renewable energies and international hydrogen production outside Europe, mainly in North and South America and the Middle East for export to Asia and Europe and/or for local markets. These geographical zones have significant development potential and particularly favourable conditions for renewable energy.

1.4.6.4 Optimisation and trading: EDF Trading

EDF Trading (EDFT) is the EDF group's interface to the wholesale energy markets providing market, optimisation and risk management services to EDF group as well as third parties. The company operates across Europe, North America and Asia in the wholesale markets for electricity, natural gas and LPG. EDFT also provides counterparties and customers with access to financial oil and environmental products. EDFT carries out LNG, coal and related freight activities, through JERA Global Markets in partnership with JERA of Japan.

EDF Trading's registered office is located in London. The company has around 800 employees globally and its regulated activities are authorized by the UK's financial market regulator, the Financial Conduct Authority.

Among other things, EDFT provides a full range of wholesale market services to EDF DOAAT (see section 1.4.3 "Optimisation in France") and EDF Customers Division in France and serves as a route to market for other entities of EDF group.

European Electricity market

EDF Trading is a leading participant in the European electricity wholesale market trading 1,215TWh annually. The company provides a full range of risk management services to EDF group's asset operators and to third parties. It has a wide geographic footprint and scale of activity which makes it able to adapt quickly to changes in the market and to develop new business and take advantage of market opportunities where appropriate.

Japanese Power market

EDF Trading commenced physical trading of Japanese Power in 2023 after setting up an office in Tokyo and plans to continue developing its physical and financial Japanese power business as the Japanese power market evolves.

(1) Synthetic fuels (also known as e-fuels) such as e-methanol, e-ammonia and e-kerosene can be produced from hydrogen. Using such fuels is increasingly being considered to help decarbonise sea and air transport.
(2) IPCEI: Important Projects of Common European Interest.
(3) ADEME: French Environmental and Energy Management Agency.

European Gas market

EDF Trading is a leading participant in the European gas wholesale market trading around 958bcm annually[1]. It optimises EDF entities' gas assets including transmission rights, long-term supply contracts and re-gasification and storage capacities. This enables EDFT to support the EDF group and third parties with complete gas wholesale market solutions.

North American wholesale markets

EDF Trading North America is a leader in the wholesale energy markets in North America, where it benefits from broad geographical coverage, offering solutions to counterparties and customers across the entire North American energy value chain. It provides energy management solutions, natural gas supply, and real-time services for electricity producers in the USA. As one of the leading suppliers of generation services for power plants in the USA, EDF Trading North America manages 28GW for over 120 facilities owned by third party power generators[2]. For retail energy aggregators, it provides supply services on the wholesale market, as well as services to interface with Independent System Operators (ISOs) in various states in North America.

Environmental products

EDF Trading is committed to the environmental products marketplace and, in line with the EDF *raison d'être*, it offers a broad range of multi-commodity hedging solutions that support the EDF group and third parties decarbonization targets around the world. EDF Trading is active in the compliance and voluntary carbon markets, guarantees of origin certificates in Europe, Renewable Energy Certificates in the US, and International Renewable Energy Certificates in the rest of the world. In addition, it is a recognised provider of risk management products in the European weather market. EDF Trading is also active in the green fuels traded market.

International markets

EDF Trading operates in the global LNG wholesale market through its partnership with JERA, the Japanese utility. EDF Trading holds a 33% financial stake in JERA Global markets, a leading seaborne energy trader,

1.4.6.5 Other affiliates

EDF Trading Logistics

EDF Trading Logistics acts as EDF's vehicle for fuel oil and solid and liquid biomass purchases. It organises fuel oil, solid and liquid biomass and coal procurement logistics for all of the EDF group's thermal power plants in mainland France, Corsica and France's overseas *départements* and regions, in close collaboration with the Upstream/Downstream Optimisation & Trading Division (DOAAT), EDF PEI and EDF SEI. It controls the coal terminals in the ports of Le Havre and Montoir-de-Bretagne. In 2024, it managed the delivery of nearly 917,000 tonnes of fuel oil and 273,000 tonnes of liquid biomass.

Additionally, EDF Trading Logistics is the Group's expert in managing risks related to the transportation of fuel oil (hazardous materials), for which it holds ISO 14001 certification that was renewed on 4 November 2022, with a follow-up audit on 3 October 2024. It also participates in management of environmental crises arising in connection with fuel oil transport.

1.5 Research & Development (R&D), patents and licences

The EDF group's Research & Development (R&D) activities are carried out by the Research & Development Division of EDF (EDF R&D), and certain Group subsidiaries. These activities are complementary and are in line with the Group's *raison d'être* and the strategic orientations of the "*Ambitions 2035*" corporate plan. The R&D Charter for coordinating activities has been established at Group level.

The EDF group's R&D is both integrated and cross-disciplinary, to encourage synergies and method transfers between the different divisions. It is competent for all the Group's fields of activity, with subject-, function- and project-specific skills, and integrative skills for large-scale systems.

EDF R&D's workforce consists of 1,842 employees in France, plus 140 PhD students and 91 work-study students of 49 different nationalities. Worldwide, it also has 266 employees on local contracts and 17 expatriates.

EDF R&D is organised on a multi-site basis, with several sites in France and other countries, mainly Germany, the United Kingdom, Italy, the United States, China and Singapore. EDF R&D's main centre is at Palaiseau on the Paris-Saclay Marcel Boiteux science campus.

The main mission of the EDF group's R&D is to provide day-to-day support to the Group's businesses and subsidiaries by contributing its high-level expertise and its high-performance experimentation and simulation capabilities. It also helps to build the Group's future, by anticipating the major changes and challenges to come.

Its research areas are structured around five strategic axes, the first four of which are those of the "*Ambitions 2035*" corporate plan:

- supporting customers as they reduce their carbon footprint;
- generating more low-carbon electricity (nuclear and renewables);
- developing the networks to meet the challenges of the energy transition;
- developing flexibility solutions to meet the needs of the electricity system;
- accelerating the digital transformation.

In 2024, the EDF group's total R&D budget was €752 million, comprising the EDF R&D budget of €533 million and the R&D carried out by certain subsidiaries, mainly Framatome, Enedis, EDF Energy and Arabelle Solutions. This is one of the largest R&D budgets of any major global electricity company. In France, EDF R&D's entire operating budget is dedicated to decarbonisation and the energy systems transition.

1.5.1 R&D programmes

EDF R&D's work serves all the Group's functions. It explores technological solutions that can improve their performance, and prepare for the Group's future in the longer term. It contributes to making EDF a world-leading industrial group in low-carbon electricity systems.

Network research for Enedis is carried out under a service agreement which contains obligations guaranteeing the protection of commercially sensitive information and compliance with the principle of the distributor's management independence. Enedis also runs its own R&D programme, independently of EDF.

(1) 2023 data.
(2) 2023 data.

1.5.1.1 Supporting customers as they reduce their carbon footprint

The goal of achieving carbon neutrality by 2050, and the 2022 energy crisis caused by the Ukrainian conflict, have led EDF to step up work to electrify customers' uses and make the best possible use of sources of flexibility.

EDF R&D supports the entities in charge of residential customers, business customers, industrial customers and local authorities, helping them to:

- contribute to electrification of uses and develop energy efficiency services for industry, the tertiary sector, local government and residential users;
- develop electric, battery-powered, hydrogen and e-fuel mobility services;
- prepare for the impacts of the large-scale integration of new technologies (new uses, decentralised generation facilities) on electricity systems;
- support changes in the Group's functions as the electricity sector and market organisation evolve.

1.5.1.2 Generating more low-carbon electricity (nuclear and renewables)

In centralised generation by nuclear, hydropower and other renewables (wind, offshore wind, solar power, etc.) and thermal power plants, EDF's R&D is developing tools and methods to:

- improve the safety of generation facilities;
- optimise their operating lifespan;
- raise their performance in terms of output and environmental impact.

1.5.1.2.1 Consolidating and sustaining nuclear generation with a very low-carbon footprint

EDF

EDF R&D is working to protect EDF's industrial assets through actions in line with its policy to improve the safety of facilities. The aim is to enhance performance and extend their operating lifespan beyond 60 years.

To support these programmes, R&D is developing digital simulation tools and experimental test resources. It also designs tools able to handle the new challenges posed by digital data mass growth, IT security and new information and communication technologies.

R&D is pursuing the development of digital initiatives, prioritising close partnership-based collaboration with the other stakeholders in the nuclear industry.

In addition, EDF's R&D is developing high added-value codes for nuclear, mechanical, hydraulic and thermo-hydraulic calculation.

Framatome

Framatome's R&D aims to develop expert knowledge of the most advanced technologies, in order to attain the highest standards of safety and performance for its activities as a designer and supplier of nuclear steam supply systems, nuclear equipment and services, and fuels.

This R&D activity is primarily carried out by Framatome's own development teams and technical centres, in partnership with EDF R&D. International partnerships have also been set up.

1.5.1.2.2 Supporting the development of low-carbon renewable energies, energy storage and low-carbon hydrogen

One major avenue of research for EDF's R&D is support for the rise of low-carbon renewable energies in France and internationally. For renewable energies, energy storage and low-carbon hydrogen and its derivatives, the goal of this research is to:

- identify technological breakthroughs that offer a significant competitive advantage; and
- help the most promising technologies emerge industrially, working in partnership with academics, industry and start-ups.

EDF is studying a wide range of low-carbon renewable energies, low-carbon hydrogen technologies and storage solutions: hydropower, solar power, onshore and offshore wind power, biomass, electrochemical batteries, renewable heat, and more.

For offshore wind power, its R&D division is developing specific tools to model the hydrodynamic and mechanical dimensions of fixed and floating offshore wind turbines.

EDF R&D is also working to develop tools and methods to enhance operational performance and optimise the cost of projects concerning renewable energy generation systems, energy storage, and systems for hydrogen production by electrolysis using EDF group low-carbon electricity.

1.5.1.2.3 Environmental performance of EDF's infrastructures

Climate change, the marked decline in biodiversity and the Earth's limited resources are making a low-carbon energy mix absolutely necessary. EDF R&D takes action to:

- contribute to determining how changes to the regulatory environment should be implemented;
- prove that EDF's generation facilities are on a par with the best available techniques (BAT) at an economically acceptable cost, and to leverage these BAT in new projects;
- identify and control EDF's impacts on the aquatic and terrestrial environments;
- be able to anticipate and adapt to the impacts of climate change: for example, forecasting changes in the availability and quality of local water resources, and assessing the robustness of power plant heat sinks in view of these changes;
- contribute to leveraging EDF's positive actions with stakeholders, including in regions and local areas.

1.5.1.3 Developing the networks to meet the challenges of the energy transition

The energy transition to a decarbonised economy in Europe hinges on large-scale integration of intermittent, distributed low-carbon renewable energies, especially in the distribution network. This integration requires smart grids to be developed, so as to have the capacity to manage a more decentralised electricity system with a much higher number of stakeholders. The major challenges are technical, economic and regulatory in nature, which means taking on new challenges such as:

- developing transmission and interconnection networks at European level, and reinforcing European wholesale market coupling in order to optimise electricity exchanges;
- managing the intermittency of generation sources using low-carbon renewable energies, and pushing back the boundaries relating to local energy flow management and electricity grid stability that limit integration of renewables into electricity systems, especially in isolated areas;

- integrating new uses of electricity by optimising the generation mix and grid requirements, and exploring flexibility levers and the way they are structured;
- optimising distributed energy systems (demand-side management, distributed generation and storage, etc.) and safely integrating them into larger-scale energy management systems;
- adapting the control of electricity systems in order to cope with the lower system inertia resulting from increasing use of power electronics to connect uses and new generation sources.

These challenges require research on the transmission and distribution grid equipment, generation and energy storage installations and their communication functions and protocols, management equipment and practices, and also the economy of electric uses and services and related markets.

1.5.1.4 Developing flexibility solutions to meet the needs of the electricity system

The rise of intermittent renewable energies (wind and solar power) and new uses of electricity (electric vehicles, heat pumps, hydrogen, etc.) in electricity systems is changing the management of the balance between generation and consumption in those systems. Since generation and consumption must be balanced at all times, both supply-side and demand-side upward and downward flexibility levers are needed to cope with variations in injections and withdrawals, whether they are predictable or uncertain.

In this context, the R&D work is aiming to:

- develop models for forecasting renewable energy generation and demand over different time horizons;
- anticipate the future flexibility needs of electricity systems by developing models of low-carbon electricity systems including detailed representation of the technical constraints on generation, consumption and networks, as well as the impact of weather and climate hazards on the management of the electricity system;
- develop flexibility levers at existing generation facilities, energy storage solutions and appropriate management systems;
- develop flexibility in uses (e.g. smart charging), and notably define the algorithm required to manage this flexibility;
- develop tools for forecasting the supply-demand balance and optimising market flexibilities as closely as possible to provide support for the entities in charge of optimisation and trading;
- identify business models for deriving income from flexibility, and develop relevant pricing.

1.5.1.5 Accelerating the digital transformation

The digital transition impacts the entire electricity system, and is a key driver of the electricity and climate transitions described above. Information technology research focuses on:

- understanding and anticipating the impacts on the Group's businesses and the possible disruptions that may be caused by the current boom in technologies such as artificial intelligence (AI), quantum computing, the Internet of Things (IoT), mobile networks including 5G and satellites, cybersecurity for industrial systems, blockchain technologies, virtual reality, etc.;
- maintaining and developing a cross-disciplinary ecosystem of high-performance scientific computing to support the studies conducted by EDF R&D and the engineering divisions.

1.5.1.6 EDF R&D's scientific partnerships and international research

To conduct its research and development programmes, EDF R&D forms a large number of scientific partnerships both in France and internationally. The goals of these partnerships are to give EDF access to the highest international levels in disciplines that are central to the EDF group's key challenges, to supplement its in-house skills, and to direct academic research towards R&D that is relevant for the EDF group.

EDF R&D's partnership policy takes several concrete forms, both nationally and internationally.

France

EDF R&D has entered into framework agreements with major public research organisations in France. The main academic partners are the CEA (the French Atomic Energy Commission) and the CNRS (the French national research agency), as well as national research organisations such as INRAE, IFPEN, BRGM, INRIA, CSTB and IFREMER.

Over the last few years, the R&D team has also set up around twenty joint laboratories and teams with academic partners and technical or industrial centres, such as HYNES (studying water and the environment) and SEIDO Lab (dedicated to the Internet of Things).

Partnership framework agreements have also been signed with various industrial and/or academic stakeholders.

Several partnerships are part of the Paris-Saclay science campus ecosystem, for example:

- the SEISM Scientific Interest Group on earthquakes (GIS SEISM), whose members are the higher education institutions CentraleSupélec and ENS Paris-Saclay, the CNRS, France's national geological research agency BRGM and EDF;
- the Institute of Mechanical Science and Industrial Applications IMSIA, a joint research unit of the National School of Advanced Engineering ENSTA, the CNRS, the CEA, and EDF.

R&D a member of the Energy Transition Institutes which were set up as part of France's "Investments for the Future" programme. These institutes include the Ile-de-France Photovoltaic Institute (IPVF); *France Énergies Marines*, which focuses on marine energies and offshore wind power, Efficacity, which conducts research into energy efficiency; and the Supergrid Institute, which specialises in the electricity networks of the future.

Finally, EDF is a founding member of several European associations with EU recognition, such as Nugenia (Nuclear generation II & III alliance), the SNETP (Sustainable nuclear energy technology platform) for nuclear power, and EASE (European association for storage of energy) for energy storage.

Germany

In the early 2000s, EDF set up EIFER, a European Economic Interest Group in Germany, together, with the Karlsruhe Institute of Technology (KIT). EIFER is the leading centre for hydrogen and e-fuel research. EIFER's teams are also fully engaged with topics relating to local distributed energy systems, and analysis of changes in the German energy market.

United Kingdom

The EDF R&D UK Centre consolidates the Group's position in the UK research ecosystem, particularly through renewable energy research with Strathclyde University and nuclear power research with Manchester University, Imperial College (London), the National Nuclear Laboratory (NNL) and the University of Bristol.

EDF R&D UK provides direct support to EDF's activities relating to:

- existing nuclear installations (extension of the lifespan of AGR (Advanced gas-cooled reactor), and decommissioning following announcement of the planned shutdown of several reactors);
- new projects such as Hinkley Point C;
- generation IV reactors.

The centre is also fully mobilised in research concerning digital clients and offshore wind power projects.

Italy

In Italy, Edison's Research, Development & Technological Innovation Division (RD&TI) provides medium- to long-term support for strategy and, in the shorter term, the development of new services and offerings from Edison. The teams and R&Dlaboratories are mainly located in innovation units in the two Italian Polytechnic Universities of Milan and Turin, thus nurturing cooperation and embedding Edison RD&TI in Italy's innovation and research world.

Asia

The R&D centre based in Beijing is a valuable asset for contributing to large-scale Chinese demonstrators developed by partners (such as CGN, CNNC, and State Grid Corporation of China) for smart grids and nuclear facilities. It also benefits from China's highly advanced ecosystem of innovative construction methods (digital technologies, additive manufacturing[1], etc.). This centre actively supports EDF China's commercial activities for local multi-energy systems combining electricity, biomass, hydrogen and heating and cooling networks.

The Singapore R&D centre focuses more especially on the industrialisation of affordable microgrid solutions using renewable energy, which are developed and tested with its demonstrator on Semakau Island off the coast of Singapore. This centre is also engaged alongside academic partners and local industry in a range of projects:

- feasibility studies for electricity interconnections in the Southeast Asia sub-region;
- electric mobility projects in Singapore;
- green hydrogen production projects for an industrial hub.

United States

The EDF group has had an R&D centre in Silicon Valley for several years. This centre supports business development in the United States and contributes to innovation in the Group, working in areas that include:

- direct support to the subsidiary EDF Renewables North America;
- market design to inform the choice of development projects for the Group's business units in the United States;
- assessment of new business models for the Group in the United States.

1.5.2 *Intellectual property policy*

Intellectual property plays a key role in protecting the EDF group's technologies and know-how from competition, and leveraging these assets through licensing agreements. Expanding the patent portfolio is thus a priority, with a view to making the best use of the Group's innovation capabilities and technological expertise. The portfolio consists of both patents and court-certified software and know-how.

At the end of 2024, EDF SA and Enedis held a portfolio of 783 patented innovations, protected by 2,172 industrial property titles in and outside France. Framatome's portfolio comprised 543 patented innovations protected by approximately 3,100 titles. In 2024, EDF submitted 58 patent applications (60 in 2023) and Framatome submitted 29 (32 in 2023).

(1) Additive manufacturing, more commonly known as "3D printing", refers to all the processes involved in manufacturing a physical object from a digital object by adding together materials.

2.

Risks and control framework

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2.1 Risk management and business control

This section presents the business control and risk management systems applicable to the Group for 2024. These systems, developed and implemented with due respect for the management independence of network infrastructure operators, are in line with the framework defined by the corpus of Group policies.

They also comply with the general principles set out in the French Financial Market Authority AMF Risk management and internal control system reference framework of 22 July 2010. They are based on developments in the main international reference frameworks, particularly COSO-2013.

2.1.1 Control environment

Framework and objectives

The EDF group organises its business and risk control through around forty Group policies, validated and signed by the Executive Committee. This corpus defines all of the long-term and cross-functional requirements to be implemented in all of the Group's controlled entities and subsidiaries. Regular updates are made to adapt requirements to changes in regulations and strategic policy orientations. They are fully in line with the Group's *raison d'être*.

The objectives of the Group's business and risk control system, defined in the Group "Operating principles/Risk management and internal control" policy, are:

- **to identify and periodically reassess the significant risks and opportunities** likely to impact the Group's goals, in order to make sure that relevant, effective action plans exist;
- **to constantly ensure:**
  - compliance with laws and regulations, including those relating to the management independence of network infrastructure operators,
  - smooth running of processes and projects,
  - reliability in financial and non-financial information,
  - respect of Group policies,
  - control of all kinds of risks and activities.

Organisation

The organisation structure of EDF's Executive Management is described in section 4.3.1 "Members of the Executive Committee". Each Executive Committee member is responsible for implementing all actions necessary for controlling the risks within their scope.

Board of Directors

The Board of Directors regularly examines opportunities and risks and the measures taken as a result, in the light of its defined strategy.

Risk and Audit Committee of the Board of Directors

The mission of the Risk and Audit Committee, which reports to the Board of Directors, is to monitor the effectiveness of the internal control, risk management and internal audit systems. Risks related to long-term nuclear commitments are specifically monitored by the nuclear Commitments Monitoring Committee.

Executive Committee Commitments Committee

The Group Executive Committee Commitments Committee (CECEG) closely examines the most significant projects in terms of the scale of the commitments and/or the risks involved before the Executive Committee makes a decision (see section 2.1.3.4 "Approval of capital commitments").

Risk Committee of the Executive Committee

The Executive Committee meets at least twice a year as a Risk Committee. Among other matters it reviews the Group's risk mapping, the results of internal control activities, and audit activities (annual audit programme, results). It identifies the priority risks for the Group, shares the related mitigation strategy and designates the members of the Executive Committee who are the risk sponsors.

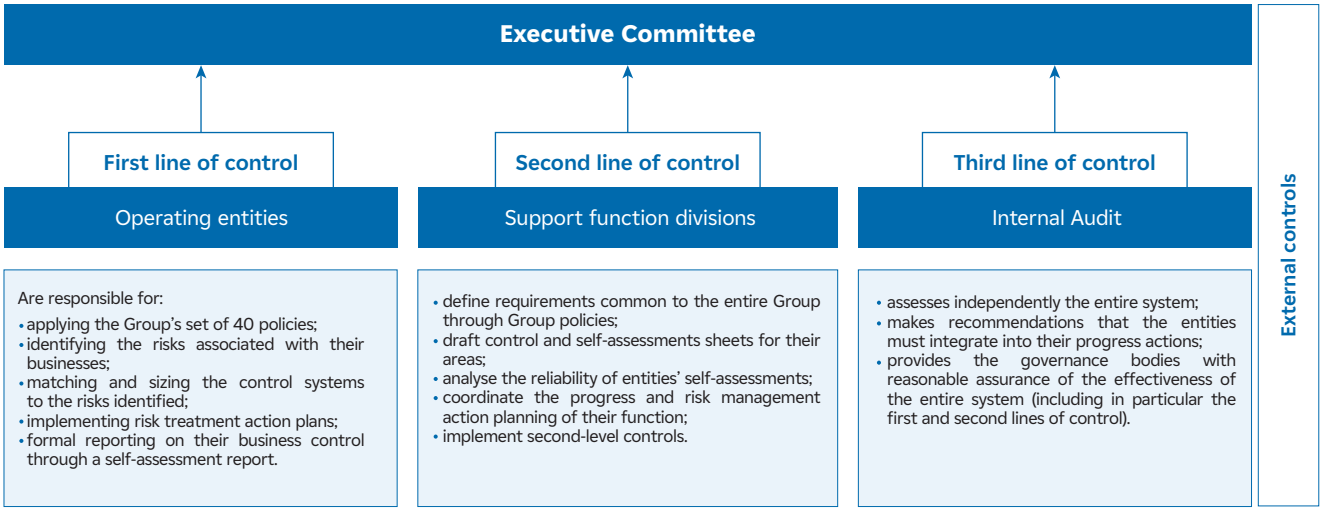
Scope

The control objectives and principles are applied by the entities and subsidiaries themselves within the scope of control (which excludes subsidiaries that are regulated infrastructure operators). They are responsible for implementation of these objectives and principles in their own controlled entities and subsidiaries.

For the regulated infrastructure operators and other significant affiliates, EDF representatives in their governing bodies make sure that a business and risk control system is put in place, and that there is regular reporting on risk mapping, internal control and audit activities (audit programme and main results). They may also conduct periodic audits of the respective entities to check the effectiveness and appropriateness of each of these systems. The applicable principles are adapted in the case of the regulated infrastructure operators, to ensure compliance with their management independence obligations.

2.1.2 Principles of execution

The system is based on three lines of control to provide the Group's executive managers and governing bodies with appropriate assurance that the main risks are identified and covered.



First line of control: management of operations

Report on the Group entities' business and risk control

Each Group entity (53 entities in 2024, covering the scope of EDF and its controlled subsidiaries) prepares an annual report on its business and risk control, including a self-assessment of the components of its internal control framework. Each report gives rise to an undertaking validated by the Director of the entity concerning the level of control achieved and an action plan.

The entities' self-assessments evaluate the control of all their "business line" activities and the other cross-functional requirements identified in Group policies, in line with their risk mapping. Their reports include self-assessments of their management of requirements relating to internal accounting and financial control, in line with the AMF framework (see section 2.1.3.5 "Reliability of financial information – internal accounting and financial control").

Entity risk mapping

The entities and subsidiaries produce an annual risk map using a shared Group methodology. Their risk mapping process is based on:

- the principle of management accountability;
- a typology of risks including all types of risk: operational, political and regulatory, financial and strategic;
- a qualitative method to assess, for each risk:
  - the impact (multi-criteria assessment, including internal and external consequences),
  - the probability,
  - and the level of control;
- action plans for dealing with risks and an evaluation of their effectiveness, for which management is accountable.

Numerous discussions take place between the Group Risk Division and the entities and subsidiaries to review the relevance of risks, their assessment, and the soundness of the control actions undertaken.

Methods and tools: several methodological documents and tools are made available to the entities and subsidiaries to support these processes:

- a methodological guide to risk analysis;
- a set of internal control standards (internal control guide and a detailed self-assessment framework);
- a software package, ICAR (based on the Acuredge tool by Devoteam) to report on their risk mapping, internal control self-assessment and the monitoring of their action plans.

Second line of control: risk management and business control

The second line of control comprises the Group's support functions, which lead and coordinate the implementation of Group policies for which they are responsible.

Group policies (the list below describes the topics covered by the policies and the related instructions)

- **Management & Operation**
  - > Operating principles/Risk management and internal control
  - > Governance of subsidiaries and affiliates
  - > EDF group project management
  - > Crisis management and business continuity
- **Ethics & Compliance Policy** and related instructions
- **Safety & Security**
  - > Nuclear safety
  - > Asset security against malicious acts
- **Corporate Social Responsibility Policy**
- **Human Resources**
  - > Health and safety
  - > Remuneration & employee benefits
  - > Talents
  - > Experts
  - > Skill development in France
  - > Group mobility
- **Supplier Policy** and related instructions
- **Real Estate & General Services**
  - > Group travel
  - > Non industrial properties in France
- **Group Legal risk management policy** and related instructions
- **Finance & Markets** and related instructions
  - > Business and financial performance management
  - > Financing, cash management, and financial risk control
  - > Obligations
  - > Energy market risks
  - > Tax and customs
  - > Insurance
  - > Financial and accounting reporting and related instructions
- **Communication**
  - > Communication/Institutional relations/Partnerships
  - > Financial communication
- **Information Systems & Digital Transformation**
  - > IS governance
  - > Data management
  - > Information System security

The "Risks, internal control, crisis" (RCIC) function was set up in 2024 in application of a change in the "Operating principles/Risk management and internal control" policy, and is coordinated by the Director of the Group Risk Division. This function comprises representatives from the entities, subsidiaries and Group Risk Division who work in risk, internal control, market risk, financial risk and crisis management/business continuity. The main mission of the RCIC function is to prescribe, advise, control and coordinate the management of risks, internal control and crises, at all levels of the Group, under the principles of subsidiarity and accountability for the implementation of actions.

Group risk mapping

The Group's risk mapping comprises:

- risks related to the Group's operational performance and management of its major projects;
- risks specific to the Group's nuclear activities;
- risks associated with the political and regulatory context and legal issues;
- financial and market risks;
- strategic risks and risks related to the Group's transformation.

These risks are described in section 2.2 "Risks to which the Group is exposed". Some risks are also detailed in chapter 3 "Sustainability Statement and Vigilance Plan", particularly risks related to climate and environmental issues, the duty of vigilance, and human health and safety.

Based on the risk maps and business control reports drawn up by the Group's entities and subsidiaries (first line of control), supplemented by cross-reviews with the second line of control and with the Internal Audit Division, the Group Risk Division draws up a consolidated map of major risks. This map, supplemented by an overall assessment of internal control, provides management executives and the governance bodies with a consolidated, prioritised and regularly updated view of the major risks, and their level of control. It is validated by the Risk Committee and presented to the Board of Directors after examination by the Board's Risk and Audit Committee.

Risk management, the CSRD and the duty of vigilance

The multi-criteria risk assessment approach, covering both the internal and external consequences of risks, ensures consistency between the Group's risk mapping (see section 2.2 "Risks to which the Group is exposed"), the risk component of the Vigilance Plan (see section 3.6 "Vigilance plan"), and the double materiality analyses (see section 3.1.4 "Double materiality assessment process").

Third line of control: the Group's audit function

The Group's audit function comprises all of the Group's internal audit resources. Pursuant to a decision of the Chairman and Chief Executive Officer, this function is coordinated by the Group Audit Director. It includes the Internal Audit Department (IAD, reporting to the General Secretary) and audit teams specific to each of the main French and foreign subsidiaries. The relations between the IAD and the audit teams of the regulated infrastructure operators, and their respective prerogatives, are defined so as to ensure compliance with the principle of management independence. The IAD is responsible for functional coordination of the audit resources. At the end of 2024, the Group's audit function consisted of 70 FTE (full-time equivalent) employees.

Operating standards for EDF and controlled subsidiaries

The IAD applies the international standards defined by the Institute of Internal Auditors, and monitors compliance.

The remits, powers and responsibilities of the auditors, and the rights and duties of the audited parties, are defined in a charter. This charter sets out the fundamental principles of audits, the procedures for drawing up the audit programme, the types of assurance assignments to be conducted, and the duties of the audited parties and auditors. It includes a code of ethics applicable to the audit function, which is designed to promote an ethical culture, and reminds auditors that they must respect and apply certain fundamental principles relevant to the profession and practice of internal auditing.

The IAD has direct access to the Chairman and Chief Executive Officer. It reports on its assignments to the Risk and Audit Committee, which issues an opinion on the risk-based internal audit, reviews the performance of audits and verifies that the resources dedicated to internal audits are adequate for the workload.

Auditors are all trained in the same methodology, in line with international standards, and are evaluated at the end of each assignment. The IAD's processes for all its activities (from establishing the audit programme to monitoring action plans) are outlined and managed. The internal audit function regularly undergoes a voluntary external assessment by a certified auditor. The last such assessment, carried out in 2024, confirmed that the internal audit function continues to comply with international standards for the professional practice of internal auditing. This compliance is the result of rigorous monitoring of audit procedures, regular assessments and the continuous integration of recommended best practices.

Operating procedures

The Group's audit function conducts audits of the entities and controlled subsidiaries, Business Units, projects and cross-cutting functions, policies and risks. These audits include a review of internal control robustness and are carried out every three to five years depending on their level of significance. The IAD is the sole entity with powers to conduct corporate cross-functional BU/project audits. The subsidiaries' Audit Departments only conduct audits within their own scope.

The audit programme is based on the Group's risk mapping, and is part of the strategic priorities of the corporate plan "*Ambitions 2035*".

All audits give rise to recommendations which, after validation by the audited parties and their management, are translated into action plans. The action plans proposed are forwarded to the IAD for its opinion, and the IAD then monitors them, starting no later than six months after issuance of its audit report.

A half-yearly summary report presents the main findings of corporate audits and action plan monitoring. It also provides an audit overview of the Group's level of risk control. This report is presented by the IAD to the Chairman and Chief Executive Officer, the Executive Committee, and then to the Risk and Audit Committee and the Board of Directors.

External controls

The EDF group is subject to the supervision of the AMF. As a State-owned company, EDF is also subject to control by the French Court of Auditors *(Cour des Comptes)*, the economic and financial controllers of France's Finance Inspectorate, and the Economic Affairs Committees or *ad hoc* Inquiry Committees of the French National Assembly and Senate.

In accordance with the law, the Statutory Auditors certify the annual financial statements (corporate financial statements and consolidated financial statements) and perform a limited review of the Group's condensed consolidated half-year financial statements. Their report on the annual financial statements includes verifications of the corporate governance information required by Articles L. 225-37-6 of the French Commercial Code.

In view of its business activities, EDF is also subject to control, in France, by the Energy Regulation Commission (CRE) and the French Nuclear Safety Authority (ASN).

2.1.3 Principal business control programmes

The business control programmes exist to ensure that the Group meets the requirements set out in its policies validated by the Executive Committee (see panel in section 2.2.1 "Operational performance risks"), and are selected according to the major risks.

2.1.3.1 The Group Ethics and Compliance programme

The Group Ethics and Compliance Division implements the Group Ethics and Compliance programme on the basis of the following rules (see section 3.1 "General information"):

- the Group Ethics and Compliance Policy (PECG) lays down the main rules which Managers must know and comply with, and ensure compliance in their entities, in strict accordance with the relevant entity risks. The PECG is backed up by instruction memoranda and guides designed to support its application, including monitoring the integrity of business relations, financial ethics, protection of personal data, anti-fraud measures, the rules governing gifts and invitations, the prevention of conflicts of interest and the duty of vigilance. The PECG is the highest policy, above the Group Ethics Charter and the Ethics and Compliance code of conduct. It is updated as and when new regulations become applicable, and is subject to audit;
- the Group Ethics Charter is founded on the Group's three values (respect, solidarity, responsibility), and defines the requirements that should guide Group employees' actions and conduct on a daily basis;
- the Ethics and Compliance code of conduct, reviewed in 2023, is reflected in the entities' internal regulations and is the reference document for the prevention of corruption. It applies to all employees (in application of France's "Sapin II" Law);
- the EDF group's instruction memorandum on whistleblowing, compliance and duty of vigilance allows Group employees and external or occasional workers, as well as third parties, to report irregularities of the kind defined in the "Sapin II" law of 9 December 2016 on transparency, the fight against corruption and the modernisation of economic life, the "Duty of Vigilance" law of 27 March 2017 on the duty of vigilance of parent companies and corporate contractors, or the French Labour Code (see section 3.3.1.2 "The EDF group whistleblowing procedure").

2.1.3.2 The Asset Security and Information Systems programme

For several years now, the EDF group has had an Information and Information Systems Security programme covered by the policies on Asset Security against Malicious Acts and Information System security. In 2024, the criticality of the cybersecurity risk was increased to "high". The main strategic focuses of business control aim to:

- legitimise and strengthen governance and management;
- generalise the culture of security throughout the Group;
- make the most critical functions secure, working in close collaboration with the business lines;
- anticipate, reinforce and maintain uniformity in surveillance and the incident response capacity.

The main cybersecurity risk control actions implemented in 2024 are described in section 2.2.1 "Operational performance risks", risk 1C "Risk of attacks against assets, including cyber attacks".

2.1.3.3 The health and safety programme

The EDF group's health and safety programme is described in section 3.3.1.1.2 "The rights of Group employees and workers in the value chain".

2.1.3.4 Approval of capital commitments

The EDF group's Capital Commitments policy sets the management, governance and control framework for decisions on commitments. This policy applies to all capital commitment projects, regardless of their amount, for all EDF entities and subsidiaries excluding regulated subsidiaries, and in compliance with the governance principles for listed companies. Before each commitment decision, the proposed projects undergo a risk analysis using a standard method available to the entire Group. Where relevant, capital commitment projects are reviewed by the Board of Directors as described in sections 4.2.2.3 "Powers and duties of the Board of Directors" and 4.2.2.9 "Activity of the Board of Directors in 2024".

Strategic projects (above the thresholds defined in the Capital Commitments policy) are reviewed by the Group Executive Committee Commitments Committee (CECEG).

Strategic disposal projects are examined separately, and are supervised by the Disposals Committee to ensure confidentiality and a rapid response.

2.1.3.5 Reliability of financial information – internal accounting and financial control

The EDF group has organised its financial risk control around the following functions:

Performance oversight and reporting, with the following principal tasks:

- contributing to performance oversight for the Group's entities;
- contributing to budget monitoring for the divisions and controlled subsidiaries;
- preparing and disseminating financial management methods and processes, developing a management culture in the Group;
- overseeing the management cycle processes, summarising them and recommending decisions to the divisions and subsidiaries;
- developing medium- and long-term financial trajectories, to contribute to appropriate resource allocation.

Accounting:

- preparing EDF's corporate financial statements;
- preparing the Group's consolidated financial statements;
- ensuring accounting compliance;
- coordinating the Group's internal accounting and financial control system.

Tax matters:

- ensuring the consistency of tax practices, meeting the requirements detailed in the Group tax policy;
- ensuring that legal tax and customs reporting and declaration obligations are properly fulfilled;
- monitoring the accounts and the deferred tax position, and the periodic review the accounts;
- identifying and controlling the Group's tax risks.

Finance and investments:

- coordinating the actions inherent to the Group's balance sheet and financial result, with the main aim of controlling the exposure to financial risks of the Group's hedging assets, debt, and overall balance sheet;
- managing investments and acquisition and disposal transactions, as well as listed and unlisted dedicated assets. The Group Risk Division prepares an annual risk mandate and specific working rules which define the principles for managing the risks and acceptable risk limits for this portfolio;
- appraising the investment projects presented to the CECEG, to anticipate impacts and improve the reliability of the financial trajectories for the Group's balance sheet and income statement, as defined by the Capital Commitments policy;
- contributing to portfolio reviews and economic and financial optimisation analyses;
- ensuring that the Group is financed in accordance with the Financing, Treasury and Financial Risk Control policy;
- verifying that the principles of the policy are correctly applied. The positions of the trading room in charge of cash management are monitored by the Group Risk Division.

The Financing, Treasury and Financial Risk Control policy requires Group entities to continuously and systematically identify financial risks (particularly liquidity, interest rate, foreign exchange and counterparty risks). The Group Risk Division exercises a second-level control of these risks:

- verifying that the principles of the policy are correctly applied;
- controlling the positions of the trading room in charge of cash management. For these activities, there is a system of indicators and risk limits which are checked daily. Where applicable, the Markets Committee conducts a quarterly check and review of requests for exemptions from the working rules, and requests to invest in new financial products.

The policy for setting up, managing and controlling the financial risks of EDF's dedicated assets applies to the portfolio of dedicated assets managed by the Performance, Impact, Investment and Finance Division. The Group Risk Division prepares an annual risk mandate and specific working rules which define the principles for managing the risks and acceptable risk limits for this portfolio.

Standards and rules applied

The accounting standards used by the EDF group comply with the international standards published by the International Accounting Standards Board (IASB) and approved by the European Union. These international standards are IAS (International Accounting Standards), IFRS (International Financial Reporting Standards) and SIC and IFRIC interpretations. The accounting rules and methods are specified in the Group's accounting principles manual and summarised in the notes to the consolidated financial statements at 31 December 2024.

The principles applicable to the preparation of accounting and financial information and its reporting to the Group's Finance Division are defined in the Accounting and Financial Reporting policy. The specific internal control procedures are described in the Group's "Internal accounting and financial control" instructions. The control objectives to be implemented by the entities are updated each year and included in the Group's internal control guide, and results are assessed by the entities in their internal control self-assessment reports.

The Financial Management Directors of the Business Lines and Subsidiaries sit on their respective entities' Management Committees. Except in the regulated infrastructure operators, they are appointed and assessed jointly by operational management and the management of the Finance function. Sharing instructions and ensuring consistent implementation across all Group entities is facilitated by a network of correspondents from the Operational Divisions and subsidiaries.

Each EDF Operational or Functional Director co-signs a letter of representation with their Finance Management Director on the completeness of the accounting information for which they are responsible. This letter is sent twice a year to the Performance, Impact, Investment and Finance Division. Each EDF Operational or Functional Director makes an annual commitment regarding the quality of the internal accounting and financial control system of the entity under their responsibility, and the improvement goals for the next period, set out in a commitment letter sent to the Director of EDF SA Accounting and Group Tax In return, each Director receives a letter containing an assessment of their entity's accounting and tax quality signed by the Director of EDF SA Accounting and Group Tax, which is based various evaluation criteria.

For accounting quality, a set of indicators is prescribed for EDF's Departments and Divisions to assess compliance points for the accounting information in each process. Each subsidiary is responsible for implementing the Group's Internal accounting and financial control instructions.

Preparation and control procedures for the consolidated financial statements

The consolidated financial statements are prepared by the Consolidation Department of the Group Trajectory, Performance and Reporting Steering Division based on data entered locally by each entity (parent company entities and subsidiaries) in accordance with Group standards and closing instructions.

The scope of consolidation is determined after identifying all companies of significance that are controlled, jointly controlled or under significant influence. The non-significant nature of investments in entities that could potentially be included in the scope of consolidation is reviewed regularly and submitted for assessment by the Statutory Auditors every year. The scope applied in the Group's consolidated financial statements is shown in the notes to the consolidated financial statements at 31 December 2024 (see chapter 6 "Financial statements").

The half-year consolidated financial statements are presented to the Risk and Audit Committee and then approved by the Board of Directors. The annual consolidated financial statements at 31 December are reviewed by the Risk and Audit Committee, then approved by the Board of Directors and lastly by the shareholders at the General Meeting.

Instructions are drawn up at the end of each half-year and annual reporting period, setting out the main deliverables required.

Management forecasts and outturns are generated using a single set of standards and systems that are shared by the accounting and management teams. This enhances the consistency of the Group's management. It facilitates dialogue at all levels of the organisation, and contributes to the quality of the information produced.

Preparation and control procedures for EDF SA's financial statements

EDF SA's financial statements are prepared by the Parent Company Financial Statements Department of the EDF SA Accounting and Group Tax Division. The annual corporate financial statements cover a financial year ending 31 December. They are approved by the Board of Directors of EDF, and then by the shareholders at the General Meeting.

Most of EDF's transaction accounting is done by the shared accounting & consulting service centre (CSP2C) of the Tertiary Services Department[1]. "Governance pacts" set out the respective responsibilities of the Departments, the Accounting and Consolidation Division and the CSP2C or, where applicable, other accounting operators.

Preparatory meetings are organised with EDF's Divisions to plan ahead for certain accounting procedures and improve the reliability of the accounting and financial information published.

2.1.3.6 Crisis management and business continuity

The crisis management measures taken in the event of an exceptional incident can be costly, over and above the costs of repairing damage caused by a disaster and the loss of earnings due to disruption to the supply of goods and services by the Group.

EDF has a Crisis Management and Business Continuity policy to address this risk. This policy defines the organisational principles and arrangements required for its implementation, and notably includes:

- ensuring that crisis management units and permanent whistleblowing and warning systems exist;
- checking that crisis management procedures exist and are regularly updated and relevant to the risks involved;
- defining coordination procedures with all stakeholders for times of crisis;
- ensuring that business continuity plans exist and are updated at each entity, and ensuring that the lessons learned from crises and crisis exercises are systematically given due consideration in order to avoid or limit the consequences of similar crises and thus enhance the business continuity plans;
- checking that professional development actions are implemented for all parties in the crisis.

An accumulation of successive crises with local impacts (Storm Ciarán) and international impacts (continuing sanctions linked to the Russia-Ukraine conflict, the Israel-Palestine conflict) are putting the application of this policy to the test, and have so far confirmed its robustness. A programme of crisis exercises regularly tests the effectiveness of crisis management measures and their overall coherence.

Through intensified preparation for crises, coupled with experience from successive past crises, the body of crisis management documents has been reinforced, notably as regards coverage of all subjects and the level of detail to be addressed in the business continuity plans:

- a new version of the Pandemic Plan was drawn up in 2022, integrating COVID experience;
- coordination work was done on the Information systems dimension in 2021 to ensure consistency and mutual understanding between the IS part of the functions' business continuity plans and the IS business continuity plan, and this continued with a cyber exercise conducted in 2023;
- levers were activated to generate margins in a strained electricity system, combined with preparation for temporary unavailability of electricity in 2022 or 2023, given the great pressure on the electricity markets;
- preparatory work was conducted on specific contexts likely to impact business continuity and the implementation of dedicated action plans; in 2024 for example, a plan was drawn up to manage the constraints related to the events of the Paris Olympic and Paralympic Games.

2.1.3.7 Insurance

In order to protect its assets and limit the impact of certain events on its financial position, the EDF group has dedicated insurance programmes that cover its major risks relating to property damage, civil liability and personal insurance. Nuclear risks are subject to a specific civil liability regime described below.

(1) Excluding payroll accounting for the Nuclear Fuel Division, the Island Energy Systems, the Decommissioning and Waste Projects Division and the Talent Manager Training Department.

Organisation

The Group Insurance Division is responsible for preparing the EDF group's Insurance policy (while upholding the management independence of the regulated infrastructure operators) and managing and monitoring its implementation throughout the Group, in order to optimise the overall costs of its insurable risks[1].

The Insurance Managers of the entities and controlled subsidiaries included in the Group's insurance programmes have several duties including:

- ensuring that all risks are insured;
- scheduling preventive inspections and overseeing implementation of the resulting recommendations;
- updating the declared values and activities;
- analysing their claims history and participating in claims management.

This work, carried out in close collaboration with the Group Insurance Division, supports continuous improvement of the quality of information on insurable risks as programmes are renewed and preventive inspections are conducted (evaluation of maximum possible losses or MPL). For risk prevention, the Group Insurance Division establishes and oversees implementation of the site inspection programmes.

Group Insurance Policy

Purpose: the Group's Insurance policy specifies the risks that the Group chooses to transfer to the market, and the general principles for optimising these transfers:

- mass purchasing through Group insurance programmes;
- distribution between traditional markets and other types of cover;
- individual entity and Group deductibles;
- optimisation of intermediation expenses.

Principles of execution:

A Strategic Insurance Principles Committee has existed since 2011 to give the business lines and Insurance Division information to support discussion of changes to the Insurance policy and how it should be implemented, particularly as regards the main features of the programmes.

The Group Insurance Division and the Group Risk Division perform an annual analysis of the Group risk mapping, and the insurance cover in place. This shared view puts EDF in a position to improve and if necessary extend the cover of its insurable risks, in accordance with the Group's insurance principles.

The goal of the Group's insurance programmes is to include the controlled subsidiaries as broadly as possible, firstly to homogenise risk cover and streamline its management, and secondly to control the corresponding insurance costs.

Insurance contracts include exclusions, limits and sub-limits, in accordance with standard market practices.

This policy is now applied at Arabelle Solutions, which was integrated into the Group's insurance programmes as soon as the acquisition transaction was completed.

Use of captive insurance companies and mutual insurance companies

Like all major French and international groups, EDF uses captive insurance companies and mutual insurance companies to supplement cover provided by the traditional insurance markets.

The EDF group's captive insurance companies[2] are:

- Wagram Insurance Company DAC, an insurance company founded in 2003 in Dublin, which is involved in most of the Group's insurance programmes;
- Océane Re, a reinsurance company established in 2003 in Luxembourg, which is involved in most of the Group's insurance programmes;
- EDF is also a member of the mutual insurance company Everen, to cover the risks of damage to assets (excluding overhead networks) owned or operated under concession by the Group (EDF and its consolidated subsidiaries). Everen is a mutual insurance company specifically for energy sector businesses, and provides its members with cover for property damage. The scope covered includes nuclear power plants (the conventional portion), fossil-fired power plants, hydropower facilities, network substations, and exploration and production assets.

The Group's damage insurance programmes combine this cover from Everen with cover provided by captive insurance companies and market insurers.

The EDF group is also a member of European Liability Insurance for the Nuclear Industry (ELINI), the European Mutual Association for Nuclear Insurance (EMANI), the Nuclear Industry Reinsurance Association (NIRA) and Blue Re, which are mutual insurance companies that manage nuclear risk cover for European nuclear power operators.

Captive and mutual insurance companies enable the EDF group to reduce the cost of its insurance programmes and benefit from additional protection.

Civil liability insurance (excluding nuclear civil liability)

EDF has a general civil liability insurance programme protecting EDF, Enedis and their controlled subsidiaries against the financial consequences of civil liability (excluding nuclear damage) that may be incurred by the entities due to damage caused to third parties in the course of their business. The actions and measures taken to prevent industrial and environmental risks and mitigate their effects are described at the beginning of this section in the paragraph titled "Second line of control: risk management and business control".

This cover is purchased on the insurance and reinsurance markets to the extent of the capacity available at acceptable financial terms. Maximum cover is €1 billion. Subsidiaries generally opt for lower deductibles that are more consistent with their financial capacity.

Civil liability insurance for corporate officers

EDF has a civil liability insurance programme protecting corporate officers and executives of EDF, Enedis and their controlled subsidiaries against the financial consequences of civil liability claims arising in connection with their management functions.

Damage insurance (excluding nuclear assets)

Conventional damage insurance programme

The conventional damage programme covers virtually all EDF subsidiaries, particularly EDF Energy, Edison, Dalkia, and the distribution network operator Enedis.

Wagram Insurance Company DAC and other insurers and reinsurers provide extensions of cover for property damage and business interruption in addition to the cover provided by Everen, increasing the maximum cover to €1 billion.

This programme covers most subsidiaries for business interruption in the event of property damage, but not EDF SA. The actions and measures taken to prevent industrial and environmental risks and mitigate their effects are described at the beginning of this section in the paragraph titled "Second line of control: risk management and business control".

(1) Risks transferable to the insurance markets.
(2) Framatome and EDF Energy have their own captive insurance companies to meet their own needs.

Framatome has its own insurance programme for damage and resulting business interruptions affecting all its installations except fuel production facilities, up to a limit of €505 million, with a deductible not exceeding €0.5 million for damage and €1 million for business interruption.

EDF Renewables has set up dedicated insurance programmes for its assets, covering the risks of damage and business interruption.

Insurance of "construction" risks

EDF has insurance policies covering specific construction risks (general worksite risks, and general assembly and testing risks). These policies are not part of a Group programme but are purchased on an ad hoc basis for major construction projects such as the Flamanville 3 and Hinkley Point C EPRs, or construction of combined-cycle power plants, dams, etc.

Insurance of cyber risks

Cyber risk insurance was put in place on 1 July 2017. This €80 million cover protects EDF and the Group's subsidiaries against expenses incurred to resolve major disruptions caused by a cyber-attack on the Group's information systems.

Specific insurance for nuclear facility operators

The civil liability of operators of nuclear installations is governed by several international conventions, particularly the Paris Convention of 29 July 1960 on Third-Party Liability in the Field of Nuclear Energy and the Brussels Convention of 31 January 1963 Supplementary to the Paris Convention. The Paris Convention introduced a special regime of "strict liability" (liability without fault) for nuclear damage, limited as to amount and duration[1], and exclusively focused on the nuclear facility operator. These Conventions apply to the signatory countries that have ratified them, including France and the United Kingdom.

Protocols to amend the Paris and Brussels Conventions were signed on 12 February 2004 and took effect on 1 January 2022. They require higher amounts of compensation than the original conventions, in order to cover a greater number of victims and types of damage eligible for compensation. The State where the nuclear facility of the operator liable for any damage is located must pay any amounts in excess of the operator's €700 million liability, up to €1,200 million (provided that this State is a Contracting Party to the Brussels Convention). Above that amount, the Member States that are contracting parties to the Brussels Convention are liable, up to a maximum amount of €1,500 million. In addition, for personal injury only, the time limit for bringing actions for compensation was raised from 10 years to 30 years from the date of the incident. The definition of "nuclear damage" changed and now includes, in addition to personal injury and property damage, economic losses, the cost of preventive measures, the cost of measures to rehabilitate impaired environments, and certain other losses resulting from damage to the environment.

These conventions also stipulate that the operator is required to have insurance or other financial security for the liability amounts established, in order to guarantee sufficient available funds.

In France, the civil liability obligations of nuclear facility operators have been transposed into the French Environment Code. The limits for the civil liability of nuclear facility operators are set at €700 million for nuclear damage caused by each nuclear incident (€70 million for low-risk facilities) and €80 million per nuclear incident for the transport of nuclear substances[2].

EDF set up a "Nuclear Civil Liability Insurance Programme" following a call for tenders. Through this programme the Group meets its obligations under the revised Paris Convention, while controlling their financial impact. Provision of this insurance is shared between the nuclear insurance market (AXA, reinsured by the French nuclear pool Assuratome), the Group's captive insurance companies, and ELINI.

In the United Kingdom, EDF Energy has a programme that meets the requirements of the updated Paris Convention, subscribed with the British nuclear insurance pool NRI, the Group's captive insurance companies and ELINI. The obligations of UK operators are being gradually increased from €700 million to €1,200 million over a 5-year period from 1 January 2022.

Insurance for damage to nuclear facilities

The cover obtained through EDF's membership of the mutual insurance company Everen provides protection against material damage in the cold zone in France and the United Kingdom, excluding the consequences of a nuclear incident, amounting to 60% of US$450 million after a deductible of US$15 million.

Furthermore, the Board of Everen decided to modify the exclusion of the nuclear hot zone from 1 January 2023 and allow coverage of certain major maintenance operations when the fuel has been removed.

The insurance covering nuclear facilities is as follows:

- in France, the protection provided by Everen is supplemented by insurance cover for the consequences of a nuclear incident (including site decontamination costs) of up to €80 million after a deductible of up to €20 million, provided by EMANI, Axa and Allianz (all of which are reinsured by Assuratome), and Wagram Insurance Company DAC (reinsured by Océane Re);
- in the United Kingdom, the protection provided by Everen is supplemented by an insurance programme covering the consequences of a nuclear incident, including site decontamination costs. The programme's capacity is up to £1 billion depending on plant technology and status, and it is provided by EMANI, NRI and Northcourt, a panel of specialist British insurers.

Framatome is insured by EMANI for damage and consequential business interruption affecting facilities involved in fuel production, up to a limit of €650 million, with a deductible not exceeding €5 million for damage, and 90 days for business interruption.

Premiums

The total amount of Group insurance premiums for all types of cover was €324 million in 2024.

(1) Except for countries that are contracting parties and have opted for unlimited liability (e.g. Germany, Switzerland, Sweden).
(2) Articles L. 597-4 and L. 597-8 of the French Environment Code.

2.2 Risks to which the Group is exposed

The Group operates in a fast-changing environment that entails numerous risks of various kinds: they may be regulatory, strategic or operational. Some are exogenous, while others are endogenous and inherent to the Group's businesses. Their consequences may affect the Group's operating results and financial position, and its ability to finance its strategy or development. They may also affect its internal or external stakeholders, its environment, or its reputation.

The Group presents below the specific risks to which it considers itself exposed, and the principal actions to control them without overriding the management independence of regulated infrastructure operators. No description is provided for non-specific risks, but they are also given due consideration.

The Group's risks must be considered as a whole, as some of them may be interdependent.

Risks are divided into five categories described in sections 2.2.1 to 2.2.5:

- section 2.2.1 "Operational performance risks" describes the risks related to the Group's operations in its various industrial projects and activities. In particular, this section describes the Group's risk relating to current and/or future EPR projects, which is a major risk;
- section 2.2.2 "Specific nuclear operation risks" supplements section 2.2.1 for activities specifically related to the Group's nuclear activity;
- section 2.2.3 "Market regulation, political and legal risks" describes the risks related to changes in public policy and regulations in the countries and territories where the Group operates, as well as the legal risks to which the Group is exposed;
- section 2.2.4 "Financial and market risks" describes the risks arising from exposure to the energy markets in which the Group operates, as well as risks related to changes in the financial markets and the reliability of the related information;
- section 2.2.5 "Group transformation and strategic risks" describes the risks related to the Group's ability to adapt, particularly in terms of strategy and skills, in response to the needs for transformation brought about by climate change, new competition, and technological and societal changes.

The risks are presented in detail in each relevant section for their respective category. They are numbered to clarify the link between the summary table and the detailed descriptions that follow.

Link with the double materiality analysis. The goal here is to explain the link between the "risks" identified in this section, and the "Impacts, risks and opportunities" (IRO) identified in sections 3.1.3 "Strategy, material impacts, risks and opportunities and CSR policy" and 3.1.4 "Double materiality assessment process".

Some of the risks in this section relate to environmental, social and governance (ESG) matters. Under the Group's risk mapping methodology referred to in the previous section, they may have:

- internal consequences (in which case they are considered as "risks" for the purposes of the Sustainability statement);
- external consequences (in which case they are considered as potential negative "impacts" for the purposes of the Sustainability statement).

The two analyses are consistent with each other: in short, the IROs (risks or negative impacts in the Sustainability statement) provide a breakdown of the ESG dimension of the risks described in this section. The correspondence between risks and the IROs is detailed in the table below, and also in section 3.1.4 "Double materiality assessment process".

All the risks identified in this document have been selected because they are significant in terms of the scale of their estimated impact on the Group. They are also ranked based on a qualitative assessment of their criticality that simultaneously considers the significance of the potential impact for the Group, the probability of occurrence and the level of control, in light of the actions undertaken. This ranking produces a three-level scale for all risks: high, intermediate or moderate criticality. The risk categories themselves are not ranked.

As a general rule, the scope of exposure is France, Belgium, Italy, the United Kingdom and all countries where the Group is present. When the scope of exposure is smaller, this is specified in the table and in the risk description.

Exposure to risk may vary according depending on the period considered. The potential impact of these risks may produce effects at very different time horizons, from the very short term (less than a year), to the medium term (a few years) or even the very long term (several decades or more) depending on the nature of the relevant industrial activities, which may span a century or more.

Control measures have been put in place to manage risks. Some of these measures such as internal control and the capital commitment approval process apply to all risks (see section 2.1 "Risk management and business control"); others are specific to each risk.

Table of risks - numbers, names and criticality

The criticality assessment takes account of the control actions undertaken.

Category	Risk	Correspondence in chapter 3[1]	Criticality
1. Operational performance risks	1A – Risks related to management of large, complex industrial projects, including EPRs	S1-S2-S3	■■■
	1B – Risk of non-achievement of objectives concerning operation and/or lifespan extensions of nuclear power plants (France and the United Kingdom)	S1-S2-G1	■■■
	1C – Risk of attacks against assets, including cyber-attacks	G1	■■■
	1D – Risks to health or safety at work (employees and contractors)	Cross-cutting S-S1-S2	■■
	1E – Risks related to operational continuity of supply chains and contractual relations	E4-S1-S2-G1	■■
	1F – Hydropower safety risks	Cross-cutting S	■■
	1G – Supply/demand imbalance risk for EDF	1G	■■
	1H – Blackout risk	1G	■
	1I – Industrial safety risks and impact on environmental assets, including biodiversity	Cross-cutting E-E2-E4-E5 Cross-cutting S	 ■
2. Specific nuclear operation risks	2A – Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations	E5	■■
	2B – Risks related to control of the fuel cycle	S1- S2	■■
	2C – Nuclear safety risks at plants in operation resulting in nuclear civil liability	Cross-cutting S	■■
3. Market regulation, political and legal risks	3A – Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes	S4-G1	■■■
	3B – Risks related to changes in the legislative and regulatory framework for hydropower concessions		■■
	3C – Risks related to changes in the legislative and regulatory framework for electricity distribution concessions		■■
	3D – Ethics or compliance risks	S1-S2-S4-G1	■
	3E – Litigation risk		■
4. Financial and market risks	4A – Energy market risk		■■■
	4B – Risk related to the Group's balance sheet assets and liabilities		■■
	4C – Financial market risk		■■
	4D – Interest rate risk		■■
	4E – Liquidity risk		■■
	4F – Counterparty risk		■■
	4G – Foreign exchange risk		■
5. Group transformation and strategic risks	5A – Skill adaptation risks	S1- S2	■■
	5B – Climate change adaptation: physical risks and transition risks	E1-E3	■■
	5C – Transformation capability risk in the face of disruptive change	S1- S2	■■
	5D – Long-term employee benefit obligations risk		■■

Criticality: ■■■ *high* ■■ *intermediate* ■ *moderate*

(1) This column indicates any IROs identified in application of the European Sustainability Reporting Standards (ESRS) that correspond to the risk. Details of the correspondence are provided in section 3.1.4.2 "Correspondence between the IROs (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD)".

2.2.1 Operational performance risks

1A – Risks related to management of large, complex industrial projects, including EPRs

SUMMARY

The Group carries out very large-scale projects. These projects represent a major risk for the Group in terms of the potential financial impact on its balance sheet and the implications for its development strategy. In particular, the success of EPR projects depends on specific industrial, regulatory and financial factors.

Criticality: ■ ■ ■ High

a) Context

As part of its business, the Group carries out projects (as project owner and/or project manager) that are highly complex, particularly the current EPR projects at Flamanville 3 in France and Hinkley Point C (HPC) in the United Kingdom, but also future projects such as the EPR2 projects in France. These projects require significant investment and lengthy regulatory approval and review procedures.

The success of these projects will determine the future of the French nuclear industry. These projects pose major risks for the Group, notably with regard to its financial results and balance sheet.

The Group's other large-scale projects currently under way are:

- major projects concerning the existing nuclear fleet (the *Grand Carénage* industrial refurbishment programme, see section 2.2.1 "Operational performance risks", risk 1B "Risk of non-achievement of objectives for operation and/or extended lifespans of nuclear power plants (France and the United Kingdom)" and decommissioning projects, see section 2.2.2 "Specific nuclear operation risks", risk 2A "Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations");
- offshore renewable energy projects (offshore wind power);
- international hydropower projects.

b) Main risks

b1) Cross-cutting risks

These projects are exposed to numerous technical and operational risks relating to their industrial implementation, which could result in start-up delays entailing higher costs, or a possible reconsideration of certain technical choices. This could ultimately reduce the expected profitability, or even cause additional impairment of assets.

Given their scale, these projects have an extremely significant impact on the Group's earnings and balance sheet, particularly its equity and financing capacity, as well as on its development strategy.

Other technical, industrial, operational, economic, regulatory, political, environmental or acceptability risks also exist which could jeopardise project schedules, costs and profitability.

Risks of technical or operational non-performance

The technical and operational risks associated with large and complex industrial projects expose the Group to major uncertainties in the execution and operation of these projects. These risks could have a major impact on the Group's business, earnings, asset values, financial position, reputation, organisation and outlook.

In addition to or as a result of these uncertainties, the Group may also be in breach of its contractual obligations.

Strategic risks

The Group's strategic ambition is to be involved in new nuclear build projects in France and internationally. The risk with these projects is that investment decisions might not be made or might be made in poor technical, regulatory or financial conditions, thus preventing the Group from successfully implementing its strategic goal.

Risks related to financing and the regulatory framework

New reactor construction projects, particularly in France and the United Kingdom, require considerable investment, an appropriate market organisation and acceptable financing and revenue conditions. Securing the necessary funding may be delayed or compromised by the economic and institutional environment, or the state of progress on projects.

In the United Kingdom, the post-Brexit situation may lead to changes in the conditions of project execution and profitability, and may not provide sufficient conditions for attracting investment to the Group's future projects in the United Kingdom. Notably, it may affect labour availability and on-site productivity.

In addition, the classification of nuclear activities in the European taxonomy is subject to restrictive conditions, and the regulation does not include the fuel cycle. This could be an insufficient signal of recognition of nuclear power as a form of low-carbon electricity, with potential consequences for access to funding for new projects. These factors could impact the Group's ability to finance future major nuclear projects (see section "Market regulation, political and legal risks", risk 3A "Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes").

External risks – political and geopolitical risks, administrative procedure risks

All these projects are large-scale and of long duration. They involve many industrial partners. Relations with partners working on projects with EDF may also be a source of difficulties.

For example, trade tensions between the United States and China could have impacts on some of these projects given the technologies and partnerships involved (see risk 1E "Risks related to operational continuity of supply chains and contractual relations"). These risks are exacerbated by a resurgence of geopolitical tensions, accompanied by potential international sanctions and tax measures following the establishment of the new US administration in January 2025.

Among other things, these projects require administrative authorisations, licences or permits which may be subject to administrative challenges, withdrawals or delays in issuance.

Risks related to CSR issues

A very large number of stakeholders are involved in the Group's major projects, which may, for example, need to be combined with regional development projects, or experience difficulties with acceptance by local populations. In addition, all major projects are exposed to the challenge of respecting the Group's commitments to workers' rights throughout the value chain.

Cyclical risks

Inflationary pressures could lead to higher project costs (see notably risk 1E "Risks related to operational continuity and contractual relations") and could also affect the financial strength of actors along the supply chain.

Other risks

Other issues and risks specific to nuclear activities (nuclear safety, control of operations and maintenance activities, long-term commitments, the fuel cycle) are described in section 2.2.2 "Specific nuclear operation risks".

b2) Risks specific to the principal projects and associated control actions

Risks related to the Flamanville 3 EPR (France)

Achievement of the announced project schedule and cost targets for Flamanville is now conditional on completion of the tests prior to the reactor reaching 100% of its nominal power (see section 1.4.1.1.2 "Nuclear power generation in France" - "Flamanville 3 EPR").

The project could face additional costs and delays in the event of a contingency (such as damage to equipment) during the tests still to be carried out in the successive phases of the reactor ramp-up. However, the risk for the overall schedule and cost at completion is considered moderate.

Risks related to the Taishan EPRs (China)

In China, the Group has a 30% stake in TNPJVC (Taishan Nuclear Power Joint Venture Company Limited) alongside its Chinese partner CGN and Guangdong Energy Group (19%). Taishan 1 was the first EPR reactor to be coupled to the grid on 29 June 2018. Commercial commissioning took place on 13 December 2018 for Taishan 1, and on 7 September 2019 for Taishan 2 (see section 1.4.1.1.3.2 "Other New Nuclear Build").

The profitability of these assets is linked to the purchase tariff for electricity produced by Taishan and could be affected if tariff decisions are not favourable. On 20 March 2019, a temporary tariff was set by the National Development and Reform Commission (NDRC) at RMB 435/MWh until the end of 2021, for a guaranteed annual volume of generation offtake equivalent to 7,500 hours of full-power operation. Any surplus above this volume is sold at the market price. As with all scalable generation facilities in China, the actual use of the Taishan power plant is decided by the provincial electricity grid operator, which in the case of Taishan is Guangdong province. The temporary tariff was extended on 22 December 2021 until publication of the new tariff mechanism applied to China's generation III nuclear power plants, particularly Taishan. The authorities had issued no further publication by the end of 2024.

The profitability of these assets is also subject to the risk of changes in the volume of sales at this tariff, as the Chinese electricity market is growing.

The financing agreements put in place by TNPJVC include provisions to secure repayment of the joint venture's financial liabilities. In certain situations, these provisions may temporarily limit dividend payouts. Should the company fail to generate a positive cumulative net result or a sufficient level of cash flow, the amount of dividends expected by EDF would be revised downwards, and this could result in recognition of additional impairment on the Taishan plant[1].

Risks related to the Hinkley Point C EPR (United Kingdom)

Control of the design and close monitoring of manufacturing and the major milestones of the Hinkley Point C (HPC) construction site will determine the profitability of the project, and the financing of any future projects in the United Kingdom.

The main risks until the completion of the project concern:

- the ability to secure the necessary skills and resources, particularly for electro-mechanical and ventilation assemblies (MEH) whose productivity rates are not meeting expectations;
- the ability to deliver qualified equipment in line with the start-up test timetable;
- control of project costs, which are sensitive to inflation, and compliance with the schedule;
- the ability to effectively manage supply chain issues caused by the geopolitical and macroeconomic climate.

A review of the project was finalised in January 2024[2] and led to a revised schedule and cost estimate for construction of the two reactors (see section 1.4.5.1.2.4 "The New Nuclear Industry").

Several scenarios are considered:

- the first scenario, around which the project is organised, corresponds to a target of starting production in unit 1 in 2029. This schedule is notably based on a target productivity for electromechanical assemblies, underpinned by the implementation of action plans currently being developed;
- a second scenario (base case), taking into account certain risks inherent in the success of these action plans, the build-up of these facilities and the testing schedule, will lead to unit 1 production starting in 2030;
- finally, given the complexity of the project, an unfavourable scenario could lead to a start of the electricity production of unit 1 in 2031, i.e. 12 months more than the base case.

In the first two scenarios, the project's costs at completion are now estimated at between £31 billion and £34 billion in 2015 values. The cost of civil engineering and the longer duration of the electromechanical phase (and its impact on other work) are the two main reasons for this construction cost revision. The unfavourable schedule scenario would result in an additional cost of around £1 billion in 2015 values.

In 2024, performance in civil engineering and electromechanical works did not produce the expected results. Action plans have been put in place and the project remains within the cost and timing scope of the first two scenarios above.

Moreover, as the financing requirements for the HPC project exceeded the contractual commitment of the shareholders (committed equity), the shareholders were asked to provide additional equity (voluntary equity). The Group is currently the only contributor of voluntary equity, and is actively seeking funding solutions until HPC is commissioned.

(1) The value of TNPJVC's share of equity in EDF's 2023 financial statements was €940 million – see section 6.1, note 12.2.1 "Taishan financial indicators" to the consolidated financial statements for the financial year ended 31 December 2024.
(2) See the EDF press release of 23 January 2024 "Hinkley Point C Update"

The profitability and financing of the HPC project are sensitive to:

- delays in construction or difficulties in the commercial commissioning of the HPC EPR units beyond 31 October 2036, which could result in loss of the revenue protection afforded to these works via the CfD (see section 1.4.5.1.2.4 "The New Nuclear Industry");
- inflation and changes in electricity market prices beyond the term of the Contract for Difference (CfD);
- the exchange rate between the pound sterling and the Euro. A gradual hedging strategy for this risk is in place at the HPC project and Group levels.

CGN's non-contribution to voluntary equity could entail a need for alternative debt or equity financing that could affect EDF's profitability (dilution risk).

Risks related to fleet upgrading in France (EPR2)

In France, an inadequate market organisation and the failure to obtain, or a delay in obtaining, the authorisations required to continue development of the EPR2 reactor could have an impact on the Group's financial position, notably because of the development costs incurred upstream of the decision, which EDF could ultimately have to bear. Any factor likely to delay the launch of the project could lead to interruptions in engineering activities, and difficulties in maintaining skills and mobilising the supply chain, which would be detrimental to the industrial control and performance of the programme.

The main challenge is to ensure that the conditions are fulfilled for a decision to launch the programme, and its transposition into the legal and financial framework necessary for its execution.

This requires several preliminary steps, principally:

- consolidating the cost at completion and schedule estimates, based on a sufficiently mature design;
- following the programme's structuring with the creation in 2022 of a dedicated project owner (Nuclear Programmes Department), defining the financing, regulation and governance plan to which the French State and EDF will commit;
- if necessary, notification by the French State to the European Commission of the programme's structuring arrangements, in view of State aid regulations;
- obtaining administrative authorisations within a timescale compatible with the programme schedule.

Risks related to the Sizewell C EPRs (United Kingdom)

Sizewell C and its shareholders, EDF and the UK government, are working together to finalise the remaining steps leading to the final investment decision for the Sizewell C project, which is expected in 2025 subject mainly to the following conditions:

- securing financing for the project, including finalising the Regulated Asset Base (RAB) licence and the Government Support Package (GSP), and finalising the currently ongoing process of seeking additional funding from private investors (see section 1.4.5.1.2.4 "The New Nuclear Industry");
- an agreement with the UK government on the baseline schedule and the cost of completing the project;
- obtaining all the outstanding required authorisations, particularly subsidy control clearance.

EDF's contribution to the financing of Sizewell's construction is subject to certain conditions, including:

- reducing its shareholding in Sizewell C to a level not exceeding 19.99%;
- the ability to deconsolidate the project from the EDF group's financial statements (including in the calculation of economic debt by credit rating agencies);
- an expected return on capital, as an investor holding a maximum stake of 19.99%, in line with EDF's investment policy.

EDF's commitment to fund Sizewell C up until the date of the financial investment decision (FID) is subject to a cap which was reached in December 2023, without any obligation to fund the project beyond that amount.

If these conditions are not fulfilled (without prejudice to satisfactory risk allocation), the Group will not make a final investment decision.

The main actions to create favourable circumstances for the FID include:

- working with the UK government to finalise the steps leading to this FID. The UK government is now the majority shareholder. In October 2024, it confirmed that the process of raising equity and debt for Sizewell C would soon reach its final phase;
- working with actors along the supply chain to develop an appropriate contractual strategy, including the replication strategy;
- a detailed review of the cost and schedule, considering experience gained from the HPC project.

Risks related to the Jaitapur project (India)

Following the submission of a binding technical and commercial offer in April 2021, EDF, with the support of the French government, is continuing its discussions with Indian stakeholders in a Special Task Force set up at the request of the two countries' governments, with a view to supplying all the studies and equipment for the nuclear island, the conventional island, the auxiliary systems, and the heat sinks and galleries for six EPR-technology units (see section 1.4.5.3.6.1 "China").

EDF does not plan to invest in the project. The client, NPCIL, will be the general project manager and integrator in the execution phase (notably bearing the risks of licensing, construction, assembly and overall integration).

The Jaitapur project has the risk profile of a supplier of engineering services and plant and equipment supplies. Its value therefore lies in achievement of the margin included in the price of the services sold. Like all large, complex industrial projects, this project involves technical, industrial and cost control risks for entities under the responsibility of EDF and its partners, as well as a risk of missing milestones defined in advance based on the expected revenue model. In addition to the country risk, which includes a substantial tax dimension, conditions relating to nuclear civil liability rules in India and establishing a secure project financing plan must be met before the final contracts are signed.

Risks related to the Dukovany project (Czech Republic)

EDF is taking part in the competitive tender process formally launched in March 2022 in the Czech Republic by electricity supplier ČEZ, its project company Elektrárna Dukovany II and the Czech government.

EDF submitted three binding offers covering engineering studies, equipment supply, and the construction and commissioning of one to four EPR1200 reactors for the Dukovany and Temelin sites, plus the supply of the first fuel core and five further loads for each unit: (i) a conditional binding offer made on 30 November 2022; (ii) an updated binding offer on 31 October 2023, and (iii) an additional binding offer on 30 April 2024 for one to four EPR1200 reactors (see Section 1.4.1.1.3.3 "International developments").

On 17 July 2024, the Czech government chose the South Korean company KHNP as its preferred bidder, initiating exclusive negotiations between ČEZ and KHNP. However, EDF has not yet been formally eliminated, and its offer remains valid (the rules of the tender allow a change of preferred bidder).

EDF decided to challenge the selection of KHNP at the national level through the Czech Competition Authority, and before the European Commission. These two procedures are ongoing.

In the event that EDF's latest offer is reconsidered, EDF may have to update its content in accordance with the tender process, and possibly adjust its exposure to the commercial consequences of a potential change in the level of risks (technical, industrial risks and risks related to cost and timing control).

c) Cross-cutting control actions

New organisation of nuclear activities

A new organisation structure for nuclear activities was put in place on 1 April 2024 (see section 1.4.1.1.1 "Nuclear organisation and governance").

The vigilance plan and CSR issues

In accordance with EDF's vigilance plan, project management takes into consideration every project's potential impacts on human rights, the environment, health and safety throughout the value chain, and the CSR issues of dialogue and consultation with stakeholders, local and regional development, development of industrial sectors, ethics and responsible land management (see chapter 3 "Sustainability Statement and Vigilance Plan").

Control actions specific to Framatome and Arabelle Solutions

The success of EPR projects, the competitiveness of the nuclear industry in France and the Group's international development all depend on quality and contractual compliance in Framatome's and Arabelle Solutions' production of studies, components and services. The industrial performance of these entities is strategic for EDF as a nuclear operator in France and the UK.

Framatome and Arabelle Solutions can also expose the Group to risk through their operations in and outside France for nuclear operators other than EDF, or other customers. The Group's exposure may be financial (including counterparty risk) or concern risks to its reputation.

1B – Risk of non-achievement of objectives for operation and/or extended lifespans of nuclear power plants (France and United Kingdom)

SUMMARY

The Group might fail to meet its nuclear power plants' operating objectives regarding safety and availability, notably in the event that repairs or modifications to the French nuclear fleet are made following inspection or detection of defects. It might not continue operating its reactors beyond the currently planned end of operation date, and potentially not even be authorised to operate them up to that date in France and the United Kingdom. In addition, the Group might be unable to control the cost and timing of modifications to its current fleet (under the *Grand Carénage* industrial refurbishment programme in France) in order to extend its operation, and this constitutes a major risk for the Group.

Criticality: ■ ■ ■ High

a) Context

The fleet of nuclear reactors that the Group currently operates in France is highly standardised (see section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation"). This enables the Group to achieve economies of scale, apply improvements made in its newest reactors to the rest of the fleet and, in the event of malfunction on one reactor, to anticipate the measures to be taken for the other reactors. The Group has been aiming for several years to continue operating its nuclear fleet in France significantly beyond 40 years.

During the periodic reviews carried out during the 10-year inspections and after the Fukushima accident in Japan, the Group drew up a major industrial refurbishment programme (the *Grand Carénage* programme), which was approved in principle by the Board of Directors in 2015.

On 15 December 2021, EDF announced that a phenomenon known as "stress corrosion" had been detected on pipe welds in the safety injection system (SIS) during the 10-year inspection of reactor No. 1 at the Civaux power plant. Similar defects were detected in other power plants, on auxiliary circuits to the principal primary circuit. Addressing this phenomenon gave rise to an inspection and repair programme that had an impact on nuclear power output. The inspection programme is continuing as planned.

In the United Kingdom, the currently planned operating lifespan for the reactors of EDF Energy's existing nuclear fleet ranges from 42 to 44 calendar years for advanced gas-cooled reactors (AGR), and is 40 years for Sizewell B's pressurised water reactor (PWR). Since the acquisition of British Energy by EDF, the operating lifespan of AGR reactors has been extended by around seven years on average. The objective for the PWR plant is to continue its operation for 20 years after the 40 years currently planned (see section 1.4.5.1.2.2 "Nuclear production"). The two reactors at Dungeness B were permanently shut down in June 2021, the Hunterston B reactors in November 2021, and the Hinkley Point B reactors in July and August 2022.

b) Main risks

Nuclear fleet in France

- Standardisation of the fleet entails the risk of a malfunction common to several reactors, or a given type or series of reactors (see section 1.4.1.1.2 "Nuclear power generation in France").
- The Group may have to make repairs or significant, costly modifications to all or some of its plants. Events may occur that affect the operation of the fleet or its output, which could lead to a temporary shutdown or closure of all or part of the fleet.
- The detection of "stress corrosion" mentioned above led to reactor shutdowns in order to carry out extensive checks and replace the portions of piping affected by the phenomenon. The remainder of the inspection programme could result in targeted repairs and replacements.
- At each reactor, during the 10-year inspections, EDF carries out studies and makes changes to improve the level of safety and demonstrate the reactor's ability to operate for a further 10 years. After receiving a report on the inspection's findings for each reactor, the ASN states its position on the measures taken by the operator and may issue additional requirements. These include studies of non-replaceable equipment, namely reactor vessels and containment buildings, to demonstrate their ability to perform their function for another 10 years after the inspection.

These studies, which are based on data available in France and internationally[1], can confirm the safety margins available for the target extended operating lifespans but may also oblige EDF to take additional protective measures for the existing nuclear fleet which could affect its performance.

- In its decision of 23 February 2021 on the generic phase of the fourth 10-year inspections of the 900MWe series, the ASN found that the measures planned by EDF, combined with its responses to the requirements issued by the ASN, would make it possible to achieve the particularly ambitious objectives of these inspections and that the safety improvements made opened up the prospect of extending operation of the 900MWe reactors for a further 10 years following their fourth 10-year inspections, subject to implementation of additional measures. These new requirements entail an increase in investments and a supplementary industrial workload of around 25% for the already very large-scale initial programme, increasing the risk associated with industrial operators' ability to meet their requirements within the stipulated deadlines.
- In accordance with the French Environment Code, the report containing the findings of inspections after the 35th year of operation and the description of the measures proposed by EDF are submitted to a public enquiry, and afterwards the ASN states its position on the continued operation of the reactor. For Tricastin 1, whose fourth 10-year inspection (the first for its series) ended with its recoupling on 23 December 2019, the report on the inspection's findings was submitted to the ASN in February 2020, and was the subject of a public inquiry from 13 January to 14 February 2022. The ASN's position on the continued operation of Tricastin 1 beyond its fourth 10-year inspection was issued in 2023. At the end of 2024, the fourth 10-year inspections had been completed for 21 reactors, namely Tricastin 1, Tricastin 2, Tricastin 3, Tricastin 4, Bugey 2, Bugey 3, Bugey 4, Bugey 5, Dampierre 1, Dampierre 2, Dampierre 3, Dampierre 4, Gravelines 1, Gravelines 2, Gravelines 3, Gravelines 4, Blayais 1, Blayais 2, Blayais 3, Saint-Laurent B2 and Chinon B1, and one more was in progress (Cruas 3). Each ASN opinion on a reactor may include specific requirements in addition to the requirements contained in a generic opinion, impacting industrial workload and costs.
- In 2016, the Board of Directors approved the extension of the depreciation period in the consolidated financial statements for the 900MW PWR plants, except Fessenheim, from 40 to 50 years, without prejudice to the decisions of the ASN on the measures proposed by EDF for each individual reactor after each 10-year inspection. The risk that the ASN may object to continuing operation of a reactor for another 10 years cannot be ruled out, but an important step was taken with the generic opinion issued by the ASN on 23 February 2021.
- Extending the lifespans of the other series in France's nuclear fleet (1,300MW and 1,450MW), which are more recent, is an industrial objective for the Group. In 2021, the Board of Directors approved the extension of the depreciation period in the consolidated financial statements for the 1,300MW PWR plants from 40 to 50 years (see section 6.1, note 1.3.4.1 "Depreciation periods of nuclear power plants in France" to the consolidated financial statements for the financial year ended 31 December 2024). This accounting estimate does not affect the ASN's positions on continued operation, which will be taken for each individual reactor after each 10-year inspection, as provided for by law.
- Studies were launched in late 2022 for the fifth 10-year inspections of the 900MWe series (to begin in 2029), taking into consideration the major challenge of adapting to climate change, an in-depth compliance review of the facilities, and the potential impacts of ageing.

  Following the public consultation launched at the end of October 2024, the ASN stated a position on 10 December 2024 on the general guidelines adopted by EDF for these fifth 10-year inspections, which it considers relevant and consistent with the current state of knowledge. The fifth 10-year inspections should make it possible to consolidate the significant safety improvements made to the reactors during their fourth 10-year inspections, and strengthen the consideration given to the effects of climate change.

  At the end of its ongoing examination, the ASNR will issue a position in mid-2028 on the continued operation of the 900MWe reactors for a further 10 years, based on the conclusions of the generic phase of the fifth 10-year inspections.
- The potential uncertainties regarding the *Grand Carénage* programme include a possible delay in processing of the authorisations required to start operations, especially as regards authorisations from the ASN. They may also concern the manufacture and delivery on site of new equipment, or performance of on-site work when a large number of industrial operations are taking place at the same time. In addition, the competent authorities could object to the expected extensions to plant operation. These extensions may also be issued subject to conditions with financial impacts, especially regarding required investments, that could affect the Group's strategy with respect to extending its reactors' operating lifespan, or the Group's ability to pursue its overall investment strategy. These events could have a significant negative impact on the Group's financial position.
- Risks of anomalies in components, equipment or parts of equipment delivered by EDF's contractors and suppliers (see section 7.1.5 "Litigation") could, after analysis and confirmation, require justification or correction of the anomalies and potentially prolong extended shutdowns in the nuclear fleet. In a letter dated 26 March 2024, the ASN reminded EDF of its expectations regarding prevention of and action against counterfeiting, falsification, and fraud in factories manufacturing equipment for nuclear power plants. This letter is part of EDF's action plan detailed in its letter of 19 March 2024, which was considered as an appropriate first step[2] (see section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation").

Nuclear fleet in the United Kingdom

- Given the nuclear safety rules applicable in the United Kingdom and AGR reactor technology in particular, when the time comes EDF Energy may not obtain the necessary authorisations from the Office for Nuclear Regulation (ONR) to operate its existing nuclear reactors until the currently planned (AGR) or potential (Sizewell B) end of operation date, or may obtain such authorisations under conditions entailing significant expenditure or investment for the Group.

(1) Six reactors in the United States have been licensed to operate for up to 80 years. For 10 others, the licence renewal application is being examined (and six more are planned by the end of 2025): see *The Nuclear Regulatory Commission (NRC) staff has defined subsequent license renewal (SLR) to be the period of extended operation from 60 years to 80 years* (www.nrc.gov/reactors/operating/licensing/renewal/subsequent-license-renewal.html).
(2) www.asn.fr/l-asn-informe/actualites/contrefacons-falsifications-et-suspicions-de-fraude-l-asn-rappelle-ses-exigences-a-edf (French only)

- The ongoing analysis of graphite ageing in the AGR power plants may lead to prolonged unavailability or early shutdown of the reactors. The cracking of graphite subjected to irradiation must be carefully monitored, with inspections carried out regularly and controlled by the ONR, to ensure that there is sufficient knowledge of the core to justify continued operation. Following decisions taken in August 2020 and November 2020, Hunterston B was permanently shut down in January 2022, and Hinkley Point B in August 2022. Following a review of the lifespans of AGR reactors, which was based on the results of graphite inspections and ended in December 2024, the projected final shutdown dates for Heysham 1 and Hartlepool have been deferred by one year to 2027 +/- 1 year. Similarly, the projected final shutdown dates for Heysham 2 and Torness have been deferred by two years to 2030 +/- 2 years.
- In the event of a risk of early shutdown for the other AGR plants, an accelerated defuelling strategy would be implemented. In such circumstances a review of the value of the assets could be required.
- In view of the advancing age of the British fleet and the technical difficulties relating to graphite ageing, the future level of generation from the AGR reactors currently in service remains highly uncertain.

Other nuclear facilities

- The Group is also financially exposed to risks associated with nuclear reactors where EDF is not the operator but a shareholder (Belgium, China). The Group may need to contribute, in proportion to its investment, to costly repairs or modifications to these reactors, or to events that may have an impact on their operating lifespan, output or availability. As in France and the United Kingdom, the nuclear safety authorities in these countries may take decisions that require additional work or controls, particularly as regards making use of international experience and taking early action to address potential precursor events. The Group is also exposed in terms of the value of its assets.

Other risks

- Despite the quality of the Group's operation and modifications of its nuclear facilities, some of these facilities may have to be subjected to special operating conditions to reinforce their safety margins in operation, either at the initiative of the nuclear operator accountable for nuclear safety or at the request of the ASN.
- Finally, any serious nuclear accident not involving the Group but with widespread consequences worldwide could lead the safety authorities to require new reactor upgrades applicable to reactors owned by the Group and in which it has investments.

c) Control actions

The action plans for this risk are carried out by all the operational nuclear fleet engineering and operating teams, particularly in connection with the START 2025 project and the *Grand Carénage* programme (see section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation").

During the 10-year inspections, the periodic safety review leads to reinforcement of the level of safety considering international best practices, the condition of the facilities, the experience gained from operation, and developments in the knowledge and rules applicable to similar facilities.

To cope with the high number of 10-year inspections completed each year (six in 2023, five in 2024) and the increasing burden on the industrial fabric, EDF works with the main suppliers to its plants currently in operation to develop a multi-year vision of the industrial workload. This enables the entire nuclear industry to take the necessary measures (in terms of resources, contractual arrangements, standardisation, etc.) to ensure a successful industrial programme for the fleet in operation.

As part of the new organisation of nuclear activities established on 1 April 2024 (see section 1.4.1.1.1 "Nuclear organisation and governance"), the Group is implementing actions designed to restore the French nuclear industry to the highest level of rigor, quality and excellence, ready to take on major projects and meet the needs of the existing nuclear fleets in France and the United Kingdom.

Regarding the stress corrosion phenomenon, EDF sent the ASN a strategy for inspecting and repairing all its reactors to address the risk of stress corrosion, covering the years 2023-2025. The ASN stated its position on this strategy on 25 April 2023 and deemed the timetable appropriate. At the end of 2024, EDF sent the ASN its monitoring and maintenance strategy, and the ASN is expected to state its position during 2025.

By the end of 2024, the areas considered most sensitive to stress corrosion had been inspected and systematic replacement of the most sensitive pipes in the 1300 P'4 and N4 series was completed. Inspections of the other areas will continue and depending on their results, may give rise to repairs. The reactor inspection programme will continue in 2025 with a similar volume of checks to 2024.

Nuclear generation output in France in 2024 totalled 361.7TWh (compared to 279TWh in 2022, when the impact of stress corrosion-related work was highest).

See also section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation" - "Repairs of stress corrosion detected on the auxiliary circuits of a number of nuclear reactors".

In the United Kingdom, risk control is also based on:

- ongoing interactions with the regulator on safety cases relating to the operating lifespan of facilities, assessment by the regulator and licensing requirements;
- the programme for managing graphite and monitoring its ageing in the AGR fleet, with frequent graphite inspections, particularly at Heysham 2 and Torness;
- Sizewell B's long-term operating programme, to manage production of the business case to support the decision on the investment programme required for extending the operating lifespan;
- reviews, where necessary, of the AGR plants' operating lifespan and preparations for defuelling in the event of early closure;
- strategies for preventive monitoring and maintenance of facilities so as to respond early to problems that could lead to loss of generation.

1C – Risk of attacks against assets, including cyber-attacks

SUMMARY

The Group is exposed to risks of failure by or damage to its tangible and intangible assets, including its information system. In particular, these risks may arise from malicious acts, including cybercrime.

Criticality: ■ ■ ■ High

a) Attacks against assets

Main risks

The Group's assets consist of its workforce and its tangible and intangible assets. The facilities or assets operated by the Group or its employees could be targets for malicious acts of any kind, which could have negative consequences for the Group's operational activity, financial position, legal position, assets or reputation.

The Group would be forced to make additional investments or incur additional costs if the laws and regulations on protection of sensitive sites and critical infrastructures were made more stringent.

Control actions

The particularly vital importance of the Group's power generation and its status have gradually led to the implementation of a system covering the entire security chain, from detection to protective intervention, including diagnosis, deterrence and prevention.

This system is made up of:

- a lead entity responsible for security and business intelligence, the Security and Business Intelligence Division. Its sole permanent function consists coordination, support/advice, awareness-raising and information in security-related matters for the Group's divisions, entities and subsidiaries, together with the relevant State departments. This Division is the point of contact for the supervisory authorities regarding all activities associated with national defence;
- a Director of Security and Business Intelligence, who is always a person seconded from the French Ministry of the Interior, and an officer from the *Gendarmerie;*
- a strong network of contacts in the business lines, with asset security managers and supervisors, and teams in charge of the security or protection of business lines or subsidiaries.

This system is based on the Asset Security against Malicious Acts policy to prevent risks and limit their impacts in the event of an attack. This policy is based on the following fundamental principles:

- compliance with laws and regulations, and with the Group's ethical rules;
- implementation of security measures proportionate to the risks, with a triple concern for coordination, consistency and efficiency;
- strong involvement in managerial coordination and a contribution from all Group employees;
- incorporation of asset security into the Group's management processes.

This policy is supplemented by procedures for the protection of people, property assets and intangible assets, together with instructions and an IT tool for collecting security incidents.

In 2024, the main asset protection actions were:

- preparing for implementation of the EU's NIS 2 (Network & Information Security 2) Directive in liaison with the French National Agency for Information Systems Security (ANSSI), and Critical Entities Resilience (CER) Directive in liaison with EDF's supervisory authority;
- ensuring compliance with changes in France's "PCMNIT" regulations (for protection and control of nuclear materials, their facilities and their transport);
- establishing a Security Management Steering Committee composed of Executive Committee-level asset security managers;
- coordinating asset security managers, providing training for new asset security managers, and on-demand support (regarding security of premises, foreign projects and security, etc.), and organising events on topical issues;
- preparing security reviews of the entities for summary presentation to the Executive Committee;
- overhauling the security standards for tertiary buildings, clarifying governance and providing a self-assessment tool for sites;
- organising seminars on internal threats;
- participating in awareness-raising campaigns in the business lines, together with the Group Information Systems Division: cyber risk, radicalisation risks, etc.;
- running an awareness-raising campaign for project teams on the security measures for the Paris 2024 Olympic and Paralympic Games;
- taking "Asset security" matters into account during the development of IT applications.

b) Information System failure, including due to cyber-attacks

Main risks

The Group operates multiple interconnected and complex information systems that are essential to its commercial and industrial activity, the preservation of its human, industrial and business assets, and the protection of personal data (of customers and employees). These systems must adapt to a rapidly changing context (the digital transition, new ways to share work as an extended enterprise with suppliers, changes in regulations, the increase in working from home, etc.).

Information systems and the data they host or carry could, like the Group's other assets, be targets for external attacks or malicious acts of any kind. An attack or malicious act against these systems could have consequences for people and/or property, lead to the Group being held liable for measures deemed insufficient, and hinder business line operations to a greater or lesser extent. The Group is obliged to make investments or incur additional costs when laws and regulations on the protection of sensitive sites and critical infrastructures become more stringent.

The frequency and sophistication of information system hacking and data corruption incidents are increasing worldwide. The impact of a malicious attack - or any other failure resulting in the unavailability of information systems - may have a negative impact on the Group's operational activity, financial position, legal situation, assets or reputation.

Control actions

The Asset Security against Malicious Acts policy includes requirements relating to the classification and protection of information. French data protection law[1] sets out the requirements of the GDPR concerning the protection of personal data. The Information system security policy transposes those requirements for the information systems and the data they contain, in order to prevent cyber-attack risks and limit their impacts in the event of an incident. An IT and Telecommunications Resources Charter applies to all users (employees or partners) of EDF SA's information systems, and is incorporated into the Company's internal rules.

These policies are implemented through:

- cybersecurity governance at the highest level of the Group, with the Executive Committee and the Risk and Audit Committee of the Board of Directors;
- a compliance system consisting of monitoring the maturity of application of the Group's cybersecurity standards, internal control, and a cyber audit plan covering both infrastructures and business line information systems;
- operational resources building on dedicated cybersecurity services and skills, contributing to threat analysis, observation and classification of vulnerabilities, remedial action plans, cyber-monitoring, investigations, systematic alert verification, and incident response.

These measures are supplemented by Information system security training tailored to different profiles (users, project managers, application developers, information system security managers, etc.) and regular awareness-raising campaigns designed for employees.

In 2024, the main actions taken for cybersecurity, protection of intangible assets and, more generally, the company's resilience to the risks of attack on its information systems were the following:

- adapting risk assessment and control resources in its cybersecurity activities;
- reinforcing cyber-monitoring, particularly of the most critical systems;
- improving the effectiveness of detection methods;
- conducting phishing tests concerning employees and subcontractors of EDF SA before the Paris 2024 Olympic and Paralympic Games;
- providing acculturation tools such as the "D-Code Cyber" e-learning course for Group employees;
- improving and industrialising response capabilities in case of a successful attack: adapting crisis management and reinforcing forward planning, notably for post-incident reconstruction;
- renewing the Group's cyber insurance.

From 1 January 2025 the cyber skills of the central functions will be grouped together, for homogeneous general control of the Group's processes and support, while maintaining a network of local contacts with the business lines.

1D – Risks to health and safety at work (employees and subcontractors)

SUMMARY

The Group is exposed to risks concerning health and safety in the workplace, for its own employees and its subcontractors.

Criticality: ■■ Intermediate

a) Main risks

Human resources and the related skills are extremely important for the Group and its subcontractors. The industrial nature and diversity of the Group's activities reinforce the crucial importance of complying with health and safety rules and taking into account the various risks that may affect people working in the Group's industrial facilities, in order to protect health and safety in the workplace.

The risk of work-related accidents or illnesses cannot be ruled out for the Group's areas of activity, including across the entire value chain. The occurrence of such events could give rise to legal action against the Group, including in the criminal courts, which could lead to criminal sanctions and/or the payment of potentially significant damages,.

b) Control actions

The Group takes all necessary steps to ensure that it complies with the health and safety laws and regulations in the various countries where it operates, and considers that it takes appropriate measures to protect the health and safety of its own employees and its subcontractors' employees.

Each Group entity has action plans for continuous improvement of health and safety at work. Actions covering the Group as a whole are also carried out, such as definition and promotion of life-saving rules and the BEST (*Bâtir ensemble l'excellence en santé sécurité au travail*) framework for health and safety management, and a one-day shutdown on 17 October 2024 for each team to reflect on improving and strengthening safety actions where they work (see section 3.3.1.1.2 "The rights of Group employees and workers in the value chain").

(1) *Loi informatique et libertés.*

1E – Risks related to operational continuity of supply chains and contractual relations

SUMMARY

The Group is exposed to risks relating to contract performance and the operational sustainability of supply chains and contractual relations with its suppliers, together with the risk of price volatility, the availability risk (discontinuance or shortage of supplies), and the logistics risk for materials, equipment or services that it purchases to meet the needs of its business lines. These risks may be exacerbated by crises and conflicts between nations or blocs of nations, such as the Russia-Ukraine conflict, particularly when major sources of raw materials, or production plants essential for continuity of supply to the Group or to its industrial partners, are located in the territories concerned.

Criticality: ■ ■ Intermediate

a) Main risks

Access to critical materials or products for the Group

The Group's requirements for critical materials or products may concern markets that cover a small territory or are subject to growing pressures, notably due to the industrial offering structure and trends, or greater competition from new uses. This pressure is driven primarily by the growing needs of information systems and players in the energy sector, especially needs associated with the climate transition. These market pressures may increase procurement costs for certain critical products or services, and lead some suppliers to reduce their offering in response to shrinking margins. This risk is currently heightened due to inflationary pressures on the price of raw materials and components needed for operations.

Essentially in the fields of nuclear, hydropower and renewable energy generation, electricity storage and electric mobility, the Group uses technologies that require materials and components for which access may be highly sensitive[1]. For certain raw materials, scarcity or conditions of access may become critical for the Group due to geological, geopolitical, industrial or regulatory restrictions, or for reasons related to competition, particularly in an energy transition context. Some crises, such as the Covid pandemic, may also exacerbate or generate difficulties regarding access to certain products, materials or services required for the Group's activities, and may make execution of certain services particularly complex, or even delay their completion. Growth in electricity storage, renewable energies and the market penetration of low-carbon electricity, for example, could complicate access to certain materials: lithium for batteries, ferromagnetic rare earths for wind power, indium or selenium for solar energy. These difficulties could limit the Group's ability to achieve its growth objectives. In addition, control of the conditions under which raw or semi-worked materials are extracted, processed, packaged or made available for the Group's requirements may be concerned by measures that will need greater knowledge of regulatory requirements and a reinforced duty of vigilance.

Supplier panels

In certain fields, the Group currently depends on a limited number of industrial players that possess specific skills and the required experience. This situation reduces competition in these markets where EDF is a buyer, creating a risk for the Group of exposure to default by one or more of these suppliers or subcontractors with specific expertise. Apart from the large groups, most of the Group's industrial suppliers are small and medium-sized French companies. The trend towards financial fragility observed over the last 10 years or so and sustained by successive international crises continues, but the number of bankruptcies is small and the firms concerned are generally taken over and have a chance to revive their business.

Contractual relations and partnerships

Relations with partners working on projects with EDF may also be a source of difficulties. Trade tensions between the United States and China could have an impact on the management of some of the Group's activities and projects, given the materials, technologies and partnerships involved.

These risks may be aggravated by conflicts between nations or blocs of nations, particularly to date the Russia-Ukraine conflict, when major sources of raw materials, or production plants essential for continuity of supply to the Group or to its industrial partners, are located in the territories concerned.

b) Control actions

In 2021, the Group adopted a new Suppliers policy which aims to secure project performance objectives by making sure projects can draw on panels of suppliers meeting their needs, and by derisking situations of supplier default, quality crisis or contractual deadlocks.

As part of the new organisation of nuclear activities established on 1 April 2024 (see section 1.4.1.1.1 "Nuclear organisation and governance"), the Group is implementing actions relating notably to skill reinforcement in the sector (through the "welding training plan" and initiatives in liaison with professional and educational bodies), and improvement of supplier selection and qualification processes, by taking account of workers' rights and human rights (see section 3.3.3 "ESRS S2 - Workers in the value chain") and more generally all CSR issues. These actions also include the development of more partnership-based contractual relations. For example, the Group has had a "Supplier policy team" for the nuclear sector which coordinates the actions of the entities involved in supplier relations. The GIFEN[2] is also a key player in relaying the Group's industrial policy.

For the Group's contracts with suppliers of equipment or services, improved contracting processes and contract management, notably involving the implementation of scrutiny processes at each stage, are a major factor in controlling operations, deadlines and the associated costs.

The Contract Management function, led by the Contract Management Department, aims to improve risk management and create business opportunities through contract management This function requests input from the divisional Contract Managers throughout the contracting process. It provides an additional line of defence in contract management, in liaison with the Group's senior managers and divisions.

(1) The topic of uranium supply is not considered here. It is covered in risk 2B "Risks related to control of the fuel cycle".
(2) The GIFEN *(Groupement des industriels français de l'énergie nucléaire* or French Nuclear Energy Industry Group) is an association of all the actors of the French nuclear industry, set up in 2018 to maintain the sector's appeal and skills.

In response to the laws and regulations adopted by certain countries, including the United States and China, and to ensure compliance with their legislation and decisions, the EDF group (EDF, NNB, Framatome, etc.) has taken precautionary measures in the organisation of its nuclear projects, particularly in the United Kingdom.

1F – Hydropower safety risks

SUMMARY

The hydropower facilities operated by the Group present risks with potentially serious consequences for people, property and the environment that could have a financial and reputational impact on the Group.

Criticality: ■ ■ Intermediate

Hydropower safety comprises all the measures taken when designing and operating plants to protect people and property against the risks and hazards associated with water and the presence or operation of facilities.

a) Main risks

The Group's hydropower facilities present specific risks with potentially very serious consequences: dam failure, overflow during floods, operating manoeuvres.

b) Control actions

Hydropower safety is the major, constant concern of the producer. It involves three main activities:

- measures to prevent the major risk of failure of a hydropower structure, through regular monitoring and maintenance of facilities under the supervision of the public authorities: in France, mainly the Regional Environment, Land Use and Housing Authorities (DREAL). 67 of the largest dams are subject to a special administrative procedure implemented by the competent prefect;
- management of the structures during periods of exceptionally high water levels, to keep the facilities and surrounding communities safe;
- control of operational risks: varying water levels in reservoirs, and water flows downstream of the structures.

EDF watches over and regularly maintains its dams, notably through continuous monitoring. Real-time readings and analyses at each site of multiple data (settlement, pressure and leakage measurements, combined with visual inspection of the concrete and verification of mechanical parts, etc.) give EDF regular assessments of the condition of the dams it operates. In Grenoble and Toulouse, EDF teams can analyse the largest or least accessible dams remotely and in real time, thanks to a series of sensors.

For each of the "large dams", pursuant to French regulations, a hazard assessment study comprising a complete examination is conducted every 10 or 15 years respectively for class A and class B dams. This study requires draining or an inspection of the submerged parts using underwater equipment. These operations are carried out under the strict supervision of the public authorities (the Hydraulic Structures Control and Safety Department of each DREAL).

At the organisational level, the Inspector for Hydropower Safety prepares an annual report for the Chairman and CEO of EDF, to whom he or she reports directly, as well as reporting to actors involved in hydropower safety (see section 1.4.1.3.1.3 "Hydropower safety"). This report is drawn up after analyses, inspections and assessments by the Inspector, and its purpose is to issue an opinion on the level of hydropower safety in the Group's installations, and to provide a basis for reflection and progress to improve and consolidate safety. The report is published on the Group's website.

1G – Supply/demand imbalance risk for EDF

SUMMARY

Lower output by the nuclear fleet, combined with the return of large numbers of customers from alternative suppliers to EDF, may create an electricity supply/demand imbalance at EDF that could result in significant purchasing requirements on the wholesale markets. Such a situation could entail financial consequences for the Group.

Criticality: ■ ■ Intermediate

a) Context

The risk of an imbalance between electricity supply and demand at EDF over the winter of 2024-2025 is lower than the two previous winters, notably due to better forecast winter availability of EDF's nuclear power plants and continuation of the energy sufficiency effect on consumption observed since the summer of 2022.

The improvement in availability is notably due to the gradual elimination of the impact of repair work on the circuits affected by stress corrosion. In addition, despite persistent uncertainties about the geopolitical context, market prices have fallen, reducing the impact of any electricity purchases on the markets by EDF in the event of generation contingencies.

Given the temperature sensitivity of consumption by some of EDF's customers, a supply/demand imbalance is most likely to arise during a period of significantly cold weather and could be made worse if low winds affect wind power output and the liquidity of short-term markets. This risk can only therefore be predicted a few days ahead, based on weather forecasts.

b) Main risks

If a supply/demand imbalance arises, EDF may be compelled to purchase very sizeable energy volumes on short-term markets, at very high prices. If market liquidity is insufficient to allow EDF to make the purchases necessary for balancing, the financial risks are greater because they depend on the imbalance settlement price, which can be much higher than market prices. There are also potential consequences for EDF's image if a supply-demand imbalance in France led to load shedding and could be attributed to an imbalance in the EDF portfolio. However, the probability of such an imbalance is much lower than for the winter of 2022-2023.

c) Control actions

RTE's control of the risk of serious supply/demand imbalance is based on the design and implementation of rules and market mechanisms: capacity mechanism, balance responsible entity/adjustment mechanism organisation, tenders). RTE can also use "post-market" levers: interruptions of supply to large industrial sites (in return for remuneration), back-up contracts with other European network operators, reducing voltage levels, etc. Only after all these levers have proved insufficient can RTE apply targeted, rotating load shedding. Post-market levers and targeted load shedding must not be considered as blackouts; on the contrary, their purpose is to prevent blackouts. RTE has set up the EcoWatt system to encourage voluntary reductions in consumption at certain key times. Finally, RTE has also defined and implemented measures to limit the scale of incidents in terms of the area affected and the time to restore normal service (through a defence plan, which may also lead to targeted load shedding, a network recovery plan, and crisis exercises). EDF, going further than its regulatory obligations and its duties as a balance responsible entity, participates in control of this risk through its commitment to respond to RTE's tenders to build up reserves, to enter into contracts with RTE to enable coordinated planning of generation unit outages and work on the network, and to contribute to smooth operation by the capacity mechanism. During its preparations for winter, in accordance with its usual processes EDF identified the levers to be put in place to control this risk, by influencing both supply and demand. To maximise the available generation capacity in winter, EDF optimised the schedule for nuclear reactor outages, bringing them forward or deferring them to free up the high demand weeks as far as possible.

1H – Blackout risk

SUMMARY

A blackout, *i.e.* a widespread electricity network incident, in an area served by the Group could have consequences for the Group's activities, financial position and reputation.

Criticality: ■ Moderate

a) Main risks

The Group could be faced with a blackout (a widespread electricity network incident) of considerable scale, or be implicated in such an incident, even if the triggering event occurred on a network not operated by EDF or was attributable to a third party.

Unlike the risk of a supply/demand imbalance, the potential causes of a blackout are rapidly-occurring phenomena: accidental power-supply or transmission failure, cascading failures in the transmission network, interconnection problems. The initiating event is usually a major breakdown of equipment that is essential for transmission (or more rarely, generation) occurring in specific, aggravating circumstances that trigger automatic protective devices, leading to rapid deactivation of a significant portion of the electricity system.

Unforeseeable power cuts of this kind could create major disruption in all or some of the country, potentially lasting several hours. A blackout could thus negatively impact the Group's reputation with customers and all its stakeholders, as well as affecting its financial position.

b) Control actions

Controlling this risk is the core of RTE's mission as the entity responsible for managing the French electricity system 24 hours a day, and balancing electricity supply and demand in France, particularly in real time. The resources implemented by RTE are part of the framework defined by France's public authorities. They comply with the policies common to European TSOs (Transmission System Operators), established within the European Network of Transmission System Operators for Electricity (ENTSO-E).

EDF's contribution to risk control, over and above its regulatory obligations and in accordance with its public service contract and its duties as a balance responsible entity, lies in its commitment to:

- respond to RTE's tenders to build up reserves;
- enter into contracts with RTE to enable coordinated planning of generation unit shutdowns and work on the networks;
- ensure that the performances of its power plants and the related automated mechanisms comply with the standards and contractualised commitments between EDF and RTE.

1I – Industrial safety risks and impact on environmental assets, including biodiversity

SUMMARY

The Group operates facilities where chronic, incidental or accidental events could have serious consequences for the human or natural environment, particularly as regards biodiversity and environmental capital (air, soil and water).

Criticality: ■ Moderate

a) Main risks

The Group operates or has operated facilities which, in the course of their operation or decommissioning, may be the cause of chronic or incidental events, or of industrial accidents giving rise to environmental impacts (risks of air, soil or water pollution) or health risks.

This risk is discussed further in chapter 3 "Sustainability Statement and Vigilance Plan").

- All of the Group's facilities and projects are concerned by the issues of controlling potential pollution or damage to biodiversity. The main themes relate to water withdrawal, liquid discharges (pollution, temperatures), and gaseous discharges (dust, SOX, NOx) in relation to climate change, protection of biodiversity, and control of waste production. This is particularly the case in France, where EDF is a user of major land and natural resources. The challenge is especially important given that the energy transition and regulatory changes are introducing more stringent requirements for protecting biodiversity, controlling pollution and, more generally, managing all the impacts on our environmental assets.
- The Group operates around 40 "Seveso classified" facilities under the European Directive for the prevention and management of major industrial risks. They are essentially storage or warehousing facilities for oil, gas or chemicals. An industrial safety failure could have a negative impact on the Group's operational activity, financial or legal position with regard to its duty of vigilance, environmental assets, or reputation, potentially affecting the Group's ability to respond to its CSR issues.
- In addition, the Group's facilities may be located in industrial areas where there are other activities with the same type of risks. Accidents at neighbouring facilities belonging to other operators and not under the Group's control could have an impact on the Group's facilities.

Measures taken for industrial safety and to control these risks may not be fully effective, and that could have consequences for people, property, and the environment, for which the Group could be held liable.

The Group's civil liability and damage insurance cover could prove to be inadequate in the event of a major accident, and the Group could find itself unable to maintain a level of cover at least equal to current levels in the long run.

Risks specific to nuclear facilities are detailed further in section 2.2.2 "Specific nuclear operation risks". The risks specific to hydropower facilities are detailed in section 2.2.1 "Operational performance risks".

b) Control actions

- Risk control studies are carried out at each industrial site. They take into account potential health and environmental impacts: compliance with regulations, actions for continuous improvement of prevention and protection measures concerning soil, water, air and potential health effects. These studies and control actions are reviewed at least every 10 years, during the regular inspections of installations. They are also reviewed when significant changes are made to the installations or their operating methods which may require an update of the risk control study and the potential impact on the environment.
- Risk studies and control actions include avoidance, mitigation and offsetting measures when necessary.
- Facility safety monitoring and control measures are implemented internally as part of dedicated programmes, but also by the decentralised State services during inspections.
- Risk studies and control actions take account of past experiences. For example, the lessons learned from the fire of 26 September 2019 at the Seveso-classified Lubrizol plant in Rouen were included in the analyses. The additional post-Lubrizol orders on the storage of flammable liquids and toxic materials are implemented in the Group's industrial installations classified for environmental protection (ICPEs).
- EDF's industrial and natural risks network ensures that the new requirements are monitored, appropriated and applied at the sites.
- Furthermore, the Group mobilises significant resources for biodiversity through its CSR commitments relating to the preservation of the planet's resources (see section 3.2 "Environmental information").

2.2.2 Specific nuclear operation risks

2A – Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations

SUMMARY

The financial provisions set aside by the EDF group to cover expenses relating to the decommissioning of nuclear facilities in France and the processing and ultimate disposal of radioactive waste, including long-lived waste resulting from spent fuel processing and decommissioning, are exposed to technical, cost and scheduling risks which could make them insufficient. In order to control these risks, EDF has instituted a dedicated team to lead decommissioning and waste management projects covered by these provisions. The 2020-2021 audit by the Directorate-General for Energy and Climate (DGEC) on the decommissioning of permanently shut-down facilities, and the 2021 ASN inspection of the management of UNGG reactor decommissioning projects confirmed both the scenarios examined and the relevance of the organisation and management of EDF's projects. However, there are still a number of exogenous factors that could have an impact on the costs of decommissioning and long-term waste management, chiefly the risk of inflation, pressure on the industrial fabric and skills, possible changes in the Cigéo tax status, etc. These risk factors could adversely affect the estimated expenses, requiring upward revision of the related provisions and the value of the dedicated assets held to cover them, with a negative impact on the Group's cash flow, earnings and outlook. In addition, these operations must address the CSR issue of waste management and the circular economy.

Criticality: ■ ■ *Intermediate*

a) Decommissioning of permanently shut-down facilities

In France, the Environment Code requires every basic nuclear installation operator to prudently estimate the decommissioning expenses for their facilities, as well as the spent fuel and radioactive waste management expenses, including the cost of transport away from the site. The law also requires provisions corresponding to these expenses to be established, and "dedicated assets" to be built up to cover these provisions. This obligation applies both to installations that have already been closed down but are not yet fully decommissioned and not yet formally declassified by the authorities, and to installations in operation, in anticipation of their future decommissioning.

Currently, the decommissioning operations for EDF's nuclear facilities in France (see section 1.4.1.1.2.3 "The challenges of nuclear operations") principally concern reactors that were constructed, operated and have now been permanently shut down. These operations cover four different reactor technologies: a heavy water reactor (Brennilis), a sodium-cooled fast-neutron reactor (Superphenix at Creys-Malville), graphite-moderated gas-cooled reactors (UNGG reactors at Chinon, Saint-Laurent and Bugey) and pressurised water reactors (PWRs) at Chooz A and Fessenheim.

In the United Kingdom, two reactors at Dungeness were permanently shut down in June 2021, the Hunterston B reactors in November 2021 and January 2022, and the Hinkley Point B reactors in June and August 2022. Under the agreements concluded when British Energy was restructured, the costs of decommissioning EDF Energy Nuclear Generation Group Ltd.'s existing nuclear power plants will be paid by the Nuclear Liabilities Fund (NLF), and if the assets of this Fund prove insufficient, these costs will be borne by the UK Government (see section 1.4.5.1.2.2 "Nuclear production"). In June 2021 an agreement was reached with the UK Government's Department for Business, Energy & Industrial Strategy (BEIS), specifying EDF Energy's role in the defuelling phase, how and when costs will be recovered, and the terms under which the plants will be transferred to the government. This agreement updated the Nuclear Liabilities Fund Agreement (NLFA).

Main risks

- The decommissioning operations under way in France are a first for EDF, and apart from the PWR, they concern reactor technologies for which there is little or no international experience. They therefore require development of new methods and technologies that are riskier than technologies for which feedback already exists.
- By construction, any financial provision to cover a future expense involves some risk, relating for example to changes in the administrative, regulatory, technical, economic, or other context.
- These uncertainties and contingencies could lead to revisions of the amounts provisioned. The provisions set aside may not cover the costs actually incurred when the time comes. In the United Kingdom, the agreements in force stipulate that for the NLF to cover expenses related to fuel unloading and evacuation, those expenses must be evidenced by EDF Energy and approved by the French government; otherwise, EDF Energy will remain liable for such expenses.
- For nuclear power plants which EDF does not operate, but in which it is a shareholder (China and Belgium), the Group is exposed financially in proportion to its contribution to future decommissioning costs.

Control actions

- For the present and future decommissioning of nuclear installations in France, and for long-term waste management, EDF has a dedicated team which defines the technical, cost and lead time aspects of projects covered by legally-required financial provisions.
- The studies and the estimate of future decommissioning costs for EDF's nuclear fleet currently in operation have been made as robust as possible by incorporating experience gained from the virtually-completed decommissioning of the Chooz A PWR reactor and information from the Fessenheim studies, together with early details of the preparation of the Fessenheim reactors for decommissioning.
- The Group regularly updates the key assumptions underlying its provisions (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets"to the consolidated financial statements for the financial year ended 31 December 2024). These assumptions are presented in the three-yearly report drawn up by EDF pursuant to the French Environment Code, describing its estimation of decommissioning and waste management expenses, the methods used to calculate the corresponding provisions, and the options adopted regarding the composition and management of the assets allocated to cover these provisions. This report, together with its annual updating document, is submitted for assessment by the competent authority, the French General Directorate for Energy & Climate (DGEC).

- In accordance with the French Environment Code, the amount of EDF's financial provisions is subject to control by the DGEC, which notably verifies the adequacy of the provisioned expenses and sets a limit for the discount rate used in calculating provisions.
- The 2020-2021 audit by the DGEC on the decommissioning of permanently shut-down facilities (excluding PWRs) and the 2021 ASN inspection of the management of UNGG reactor decommissioning projects confirmed both the scenarios examined and the relevance of the organisation and management of projects by the Decommissioning and Waste Projects Division. The inspection found that *"the annual estimation and revision process is robust, and provides good traceability for the assumptions used and the original data. The provisions are coherent with the basic scenarios of the projects and cover the full scope of expenses for the scope audited"*.
- Governance for ensuring secure financing of nuclear expenses has been strengthened through the development of a Group policy, validated by the Board of Directors on 30 June 2021, and the creation in 2021 of a Nuclear Expense Assessment Control Function in accordance with Decree 2020-830 of 1 July 2020.
- In the United Kingdom, the risk related to decommissioning cost recovery has been significantly reduced by an agreement with the government. Additional risk control actions are:
  - > maintaining the quality of relations with the government and the Nuclear Decommissioning Authority (NDA);
  - > strengthening monitoring and contract compliance arrangements, as well as reporting and performance management.

Plans are being drawn up to transfer the reactors to be dismantled, in the best possible conditions, to Nuclear Restoration Services (NRS, formerly Magnox), which will complete the dismantling once the fuel has been removed.

b) Waste management

In France, EDF is responsible for all radioactive waste produced during:

- the operation of the nuclear facilities operated by the Group;
- processing operations for spent fuel from reactors operated by EDF;
- decommissioning operations at the nuclear facilities operated by the Group (see section 1.4.1.1.2.3 "The challenges of nuclear operations – Storage of conditioned final radioactive waste").

EDF has therefore set aside financial provisions for long-term waste management (the legal framework is presented in paragraph a) above). For each category of waste (high, medium, low or very low level), a specific management channel is identified.

Most of the provision for the long-term waste management concerns high-level waste (HLW) and long-lived intermediate-level waste (ILW-LL). It is based on the assumption of geological disposal, which is the international benchmark for the ultimate disposal of high-level and long-lived intermediate-level radioactive waste, and on the work carried out in 2006 with ANDRA, the public authorities and other producers of radioactive waste (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024, and section 1.4.1.1.2.3 "The challenges of nuclear operations").

The reference cost of the storage/disposal project for high-level waste (HLW) and long-lived intermediate-level waste (ILW-LL), which is the basis for establishing the associated provisions, is defined in the Order of 15 January 2016. Pursuant to this decision, at least at each key stage of the project's development (authorisation to create the facility, commissioning, end of the "pilot industrial phase", safety reviews) in accordance with the opinion of the ASNR. ANDRA is to remit an updated file on the costing of Cigéo in April 2025 to the DGEC, the ASNR and the competent parliamentary commissions. This will be followed by consultation of stakeholders, including producers of waste, and the State will then define the new "objective cost" of Cigeo by September 2025.

Law 2006-739 of 28 June 2006 also provides for a dedicated storage facility for long-lived low-level waste (LLW-LL), such as the graphite from UNGG reactors. The overall industrial plan for the management of all LLW-LL is being defined as part of the French National Plan for the Management of Radioactive Materials and Waste (PNGMDR[1]) (see section 1.4.1.1.2.3 "The challenges of nuclear operations").

In the United Kingdom, the agreements signed with the authorities (see section 1.4.5.1.2.2 "Nuclear production") stipulate that responsibility and some of the costs associated with the management of certain radioactive waste are transferred to the UK government. The supplementary agreement with the government concluded in 2021 clarifies how the costs associated with waste management will be recovered.

Main risks

- As a nuclear operator, the Group is legally responsible for ensuring that its own waste processing and disposal facilities are safe.
- As a producer of radioactive waste, the Group is legally responsible for identifying the appropriate waste management channels. When these channels are operated by other entities, the Group could be held liable in the event of an accident involving prejudice to third parties or to the environment if its waste does not comply with the specifications defined by the operators of the facilities concerned.
- For the geological storage facility project developed by ANDRA for HLW and ILW-MM (Cigéo), risks of cost overruns remain in both the design and construction phases. Work on the tax status of this project is still forthcoming.
- For the storage of long-lived low-level waste (LLW-LL), provisions may need to be updated in line with the conclusions of studies carried out as part of the National Plan for the Management of Radioactive Materials and Waste (PNGMDR) or in connection with the design of the future storage site being developed by ANDRA.
- Pursuant to the British Energy restructuring agreements, EDF Energy Nuclear Generation Ltd. remains financially, technically and legally responsible for the management, storage and reprocessing of waste outside the scope of these agreements.
- Failure to control the costs and timeframes for completion of processing and ultimate storage solutions concerning waste for which the Group is responsible would have a negative impact on the Group's financial position and reputation.
- For nuclear power plants which EDF does not operate, but in which it is a shareholder (Belgium, China), the Group is exposed financially in proportion to its contribution to future spent fuel and waste management expenses.

Control actions

- The control strategy for these risks consists in developing and securing radioactive waste processing channels to meet the present and future needs of the Group's nuclear facility decommissioning and operating projects. To this end, the Cyclife subsidiaries are continuing to consolidate their organisation in order to offer a range of suitable waste processing solutions.
- For Cigéo (the geological storage facility project being developed by ANDRA for HLW and ILW-LL), the control strategy consists in securing the project by proposing technical optimisations to ANDRA and providing support for the development strategy and implementation of the storage, in order to respect the target cost of €25 billion[2] (see section 1.4.1.1.2.3 "The challenges of nuclear operations").

(1) *Plan national de gestion des matières et des déchets radioactifs.*
(2) Economic cost in 2011.

To this end, a cooperation agreement between EDF and ANDRA was signed at the end of 2020. As of the beginning of 2025, work on the update of the costing file is still being finalised. EDF has nonetheless updated the Cigéo provision in the 2024 financial statements to take account of information that is sufficiently certain and was not included in the 2016 cost calculation (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024, and section 1.4.1.1.2.3 "The challenges of nuclear operations").

- The Group continues to participate, as a producer, in the various working groups on graphite waste storage. EDF is actively involved in the Steering Committee of the PNGMDR.
- In the United Kingdom, the establishment of arrangements for the management of spent fuel from AGR and PWR reactors continues:
  - through its safety and sustainable development policies, EDF Energy implements actions for continuous improvement and minimisation of the quantities of spent fuel and waste generated;
  - the arrangements for management of spent fuel from the AGRs were defined at the time of British Energy's restructuring. Spent fuel from AGRs is removed to the Sellafield reprocessing site for long-term storage. EDF Energy finances this storage (as well as the reprocessing carried out in previous years);
  - spent fuel from the Sizewell B PWR is stored on site in a dedicated dry storage facility. This will ensure safe storage of all spent fuel generated during the lifespan of Sizewell B. After this long-term surface storage, the spent fuel from the Sizewell B PWR will be transferred to the UK's future geological storage facility. This strategy is approved by the NDA and financed by the Nuclear Liabilities Fund.

c) Provisions and management of dedicated assets

Context

Note 15.1 "Provisions related to nuclear generation and dedicated assets in France" to the consolidated financial statements for the financial year ended 31 December 2024, presents the amounts of expenses estimated under 2024 year-end economic conditions, and the corresponding provisions for:

- future decommissioning of the nuclear electricity generation fleet in operation in France and permanently shut-down facilities;
- management of the last fuel cores;
- long-term waste management and the recovery and conditioning of waste present in the facilities.

This note also provides analyses of the sensitivity of the Group's provisions and income to a change in the discount rate for the various categories of provisions. All these provisions together total dozens of billions of euros.

Note 17.1 "Other provisions for decommissioning" to the consolidated financial statements at 31 December 2024 presents the same information for Framatome and Cyclife France and their basic nuclear installations in France.

Note 15.1.2 "EDF's dedicated assets" to the consolidated financial statements at 31 December 2024 presents the realisable value at 31 December 2024 of EDF's dedicated asset portfolio held to cover the costs of long-term obligations in the nuclear industry (concerning radioactive waste and decommissioning). In the United Kingdom, funds for nuclear commitments concerning the existing nuclear fleet are managed by an independent body set up by the UK government (Nuclear Liabilities Fund – NLF). For the commitments relating to HPC, the funds will be managed by FundCo, a trust) that is independent of HPC's shareholders (EDF Energy and CGN) and the UK government. The operator therefore has no covering assets to manage (see section 1.4.5.1.2.2 "Nuclear production").

Main risks

- The risks and uncertainties relating to these provisions could have a significant negative impact on the Group's financial position.
- In the event of a significant change in the provisions that determine the reference amount of dedicated assets, additional provisions could be necessary to adjust the value of those assets and this would have a significant negative impact on EDF's financial position. Also, stricter regulations at national or European level (especially any that might impact the amount of dedicated assets to be established by EDF[1]) could lead to more stringent requirements regarding dedicated assets, and have a significant impact on EDF's financial position.
- Although these assets are built up and managed in accordance with strict prudential rules, price fluctuations on the financial markets or changes in valuation could have a material adverse impact on the value of dedicated assets (for a sensitivity analysis, see section 5.1.7.1.6 "Management of financial risk on EDF SA's dedicated asset portfolio"). This could lead EDF to allocate additional amounts to restore the value of these assets. Such events could have a significantly negative effect on the Group's financial position.
- In the event the dedicated assets are unavailable or insufficient to cover the disbursement schedules of the Group's long-term obligations, this could have a negative impact on the Group's financial position and reputation.

Governance arrangements

To control its provisions and manage its dedicated assets, the Group has put in place specific governance arrangements:

- the Nuclear Expense Assessment Control Function, in accordance with Decree 2020-830 of 1 July 2020;
- the Dedicated Asset Portfolio Operational Management Committee;
- the Board of Directors' Nuclear Commitments Monitoring Committee (CSEN).

(1) The report of the French Court of Auditors to the Senate Finance Committee on the closure and decommissioning of nuclear power plants, published on 4 March 2020, recommended that the costs of all preparatory operations for decommissioning, post-operating expenses, and the cost of taxes, levies and insurance premiums directly attributable to sites in decommissioning should be phased into the long-term expense categories.

2B – Risks related to control of the fuel cycle

SUMMARY

In addition to the risks associated with control of nuclear safety (risk 2C), the operation of existing nuclear facilities (risk 1B) and Nuclear New Build projects (risk 1A), the Group is exposed in the course of nuclear operations to risks related to control of the nuclear fuel cycle.

Criticality: ■ ■ Intermediate

a) Context

The Group's operating costs include nuclear fuel purchases.

EDF procures uranium, conversion and enrichment services, fuel assembly supplies and spent fuel reprocessing operations for its nuclear fleet in France and the United Kingdom.

In France, EDF has set aside financial provisions for spent nuclear fuel management operations (transport, reprocessing, conditioning for recycling) (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024) based on the price and volume conditions laid down in the framework agreement signed with Orano in December 2008, which is applied through successive implementation agreements (see section 1.4.1.1.2.3 "The challenges of nuclear operations"). These provisions amount to approximately €16 billion. Note 15.1.1.5 "Discount rate, inflation and sensitivity analyses" and note 15.1 "Provisions related to nuclear generation and dedicated assets in France" to the consolidated financial statements for the financial year ended 31 December 2024 show the correspondence between the "costs based on year-end economic conditions" (the cost estimates at 31 December 2024), and the "amounts in provisions at present value".

b) Main risks

Nuclear fuel procurement

Prices and volumes are subject to fluctuations that depend on factors beyond the Group's control, including political and economic factors (for example profitability prospects for mining investments, a supply/demand imbalance or supply-side shortage due for example to an operating incident in a uranium mine or fuel cycle facility, a delay in commissioning a new mine, or an event leading to institutional instability in a fuel-producing country, or restrictions/sanctions/embargoes, etc.

Nuclear fuel logistics

The storage and transport of new or spent nuclear fuel is an industrial activity that requires specific safety and security measures. These requirements could become more stringent, generating additional difficulties and costs for the Group.

In the event of default or failure in these industrial logistics, the Group could slow down or even suspend all or some electricity generation operations at the affected sites, either due to the non-delivery of new fuel assemblies or because storage facilities are saturated. This could have a negative impact on the Group's financial position (see section 1.4.1.1.2.3 "The challenges of nuclear operations").

The constraints on the transport of nuclear materials remain substantial, particularly given the increase in security and regulatory requirements.

In view of the risk of saturation at existing storage pools, and the risk that in the long term, multi-recycling in the Group's Generation III PWRs and recycling in Generation IV ("GEN IV") reactors will be impossible, the fuel cycle could be jeopardised. This would have both operational and financial consequences.

Provisions for spent fuel management

The amount of the financial provisions currently set aside for the period not covered by the current agreement with Orano takes into account the terms of the implementation agreement for the period 2024-2026.

c) Control actions

The fuel procurement risk control strategy consists in progressively securing the fuel supply portfolio through competitive, diversified and long-term contracts in line with the objectives for covering requirements presented to the Board of Directors. Fixed-price contracts are preferred, or contracts including a limited market-price component, always structured to reduce exposure to the market.

For fuel transport risks, the control actions implemented by EDF include strengthening the unpredictability of transport and reinforcing contacts with the authorities (HFDS/IRSN/ASN), prevention and reduction of potential impacts on the fleet, and development of alternative levers (earlier deliveries, inter-reactor transfer, etc.).

Controlling spent fuel storage capacities is essential to preserve the balance of the closed fuel cycle. An industrial plan for Orano's future fuel storage facilities at La Hague, including the commissioning of new storage capacities (see section 1.4.1.1.2.3 "The challenges of nuclear operations"), is currently under consideration by EDF and Orano. In the meantime, Orano plans to densify its existing pools on the site and is developing a temporary dry storage solution for spent fuel.

EDF's strategy for the fuel cycle is to maintain the long-term perspective of a closed fuel cycle based on GEN IV reactors.

Finally, in accordance with EDF's vigilance plan, control of this risk takes account of the potential impacts on human rights, and the health and safety of workers throughout the value chain (see chapter 3 "Sustainability Statement and Vigilance Plan").

2C – Nuclear safety risks during operation resulting in nuclear civil liability

SUMMARY

In addition to controlling industrial performance, given the importance of nuclear generation in the EDF group, the way EDF exercises its responsibility as a nuclear operator – with nuclear safety being the number one priority – determines the Group's overall performance. As a result of its nuclear operations, the Group is exposed to nuclear civil liability risks.

Criticality: ■ ■ Intermediate

a) Context

The primary responsibility for nuclear safety lies with the nuclear operator throughout the nuclear reactor operating cycle. This principle, and the principle of control, are reaffirmed in the EDF group's Nuclear Safety policy. Exercising this nuclear operator's responsibility relates to the "nuclear safety, health and security" aspect of the Group's CSR policy (section 3.3.2.1.2 "Health and safety prevention policy"). The Chairman and Chief Executive Officer delegates this responsibility to the Group Senior Executive Vice-President with responsibility for the Nuclear and Thermal Generation Division and Group Senior Executive Vice-President with responsibility for the Projects and Construction Division; it is then sub-delegated to the Directors of the Divisions involved, who in turn sub-delegate it to the Unit Managers.

b) Main risks

Control of nuclear safety

The top priority assigned to nuclear safety, as defined in the Group's Nuclear Safety Policy, is a factor in the industrial performance of the nuclear business as a whole. Nuclear safety is enhanced when the nuclear operator gives due consideration to design, and the designer gives due consideration to operations. Failure to control safety during operation could have major or even vital consequences for the value of the Group's industrial assets, its financial position and its development prospects, and even for the continuation of its industrial activity.

Any serious event related to the Group's nuclear activities, with a potential or actual impact on the population or a local environment, could lead to significantly stricter operating constraints for the Group's industrial sites, or result in partial or total suspension of the Group's nuclear operations. Such an event could have a significant negative impact on the Group's activities, financial position, strategy and reputation.

Nuclear civil liability

The nuclear civil liability regime applicable to nuclear facility operators in States that are parties to the Paris Convention, and the related insurance, are described in section 2.1.3.7 "Insurance". This regime is based on the principle of the operator's strict liability. This means that if an event occurs that causes nuclear damage, the Group would automatically be liable up to a maximum amount set by the law applicable in the country, regardless of the source of the event that caused the damage and any safety measures that may have been taken.

In countries where the Group operates nuclear facilities, statutory liability limits may be increased or repealed. For example, the protocols amending the Paris and Brussels Conventions which took effect on 1 January 2022 raised these limits and substantially broadened the types of damage covered. The nuclear operator's liability in France is €700 million for nuclear damage per nuclear accident, and €80 million for transport of nuclear substances per nuclear accident. When they come into force, the other amendments included in these protocols are likely to increase the cost of insurance further, and insurance covering this liability may not always be available or maintained. Insurance cover for the Group's nuclear operator's civil liability and for the transport of nuclear substances is described in section 2.1.3.7 "Insurance".

Physical damage to EDF's nuclear facilities is covered by insurance programmes (see section 2.1.3.7 "Insurance"). Despite this cover, any event that might cause significant damage to a nuclear facility belonging to the Group could have an adverse impact on the Group's business and financial position.

Finally, the Group cannot guarantee that the insurers that cover its nuclear civil liability and physical damage to its facilities will always have available capacity or that the costs of cover will not significantly increase, particularly in light of the impacts on the insurance market of events such as the nuclear accident of March 2011 in Japan.

c) Control actions

In view of these risks, and pursuant to the Group's policy, each Group company operating nuclear facilities acts within the framework of the laws and regulations specific to the country in which it operates, and is obliged to comply with them. Each one ensures the nuclear safety of its facilities and constantly improves safety levels through its own methods, skills and values. The Group develops common principles intended to obtain the best level of incident prevention and protection of workers, the public and the environment. These principles apply to all stages of activity, for new projects, existing power plants, and sites being decommissioned. The Group closely involves its industrial partners in the achievement of these objectives.

Each company is responsible for running its nuclear operations, and sets the appropriate delegations for each decision and action level. The Group guarantees allocation of the necessary resources for nuclear safety.

Each site, each company, and the Group as a whole, has an internal team in charge of independent safety assessments. These teams report to the manager concerned, independently of other managerial functions. They also have a duty to alert the next hierarchy level if the reaction from the level directly concerned is not as expected.

The Group's nuclear operator companies undergo regular inspections by international bodies (WANO[1] peer reviews and inspections by the OSART from the IAEA[2]).

Clear, transparent reporting and communication on events and their possible impacts are promoted within the Group. This high standard of dialogue is sought and maintained with employees and their representatives, subcontractors, the supervisory authorities (the ASN in France, the ONR in the United Kingdom), local government and all other nuclear safety stakeholders.

The Nuclear Safety Council, chaired by the Chairman & Chief Executive Officer of EDF, meets several times a year and, periodically reviews the annual nuclear safety assessment of the EDF group. A General Inspector for nuclear safety and radiation protection (IGSNR) is appointed by the Chairman and Chief Executive Officer to whom he/she reports. He/she carries out inspection assignments at all of the EDF group's nuclear activities, and issues an annual opinion on safety at EDF. The inspector's report is presented to and discussed by the Nuclear Safety Council before being made public (see section 1.4.1.1.4.3 "Basic Nuclear Installations (INB)").

(1) WANO: World Association of Nuclear Operators.
(2) OSART: Operational Safety Analysis Review Team; IAEA: International Atomic Energy Agency.

2.2.3 *Market regulation, political and legal risks*

3A – Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes

SUMMARY

Public energy policies and sectoral regulation are evolving both in France and at European level, even at short notice, and expose EDF's business sector to a significant legislative and regulatory risk. In France in particular these changes can have an impact on electricity supply and demand, market architecture, the "TURPE" public electricity network access tariffs, regulated sales tariffs, energy taxes and corporate taxes. Through the European taxonomy, they may also affect the framework for energy savings certificates, CO_2 emission quotas or the mechanisms for financing the Group's investments.

At the European level, the architecture of the electricity market has evolved, notably with the aim of making electricity prices less dependent on fluctuations in gas prices, and to create more favourable conditions for upstream investments (in low-carbon electricity generation) and downstream investments (in electrification of uses). The electrification rate in final energy demand is still stagnating in Europe and remains too low to meet the climate objectives set by the European Union. This is why an ambitious drive for electrification of uses in buildings, industry and transport, making the most of all low-carbon electricity generation facilities, is one of the priorities supported by the EDF group. An electrification plan has been announced by the European Commission with this in mind.

In France, the post-ARENH scheme measures were announced on 14 November 2023[1]. In 2024, EDF began to roll out the new commercial policy to which it had committed. Measures relating to the mechanism for capturing/redistributing a portion of nuclear revenues to consumers have been included in the Finance Law for 2025.

The market context has changed, with prices returning to close to pre-crisis levels, and increasingly frequent negative spot prices.

The consequences of regulatory changes are potentially significant for the Group, as they may affect its financial position, limit its ability to finance its strategy or meet its climate protection commitments, or hinder its development against competitors.

Criticality: ■ ■ ■ High

a) Critical context and main risks

France's national critical context for this risk (laws, regulations, political orientations), which is a vector of risks for the Group, is as follows:

- **Review of the French Energy and Climate Strategy (SFEC)**

After several rounds of dialogue and consultation with stakeholders in the sector from 2021 to the end of 2023, at the end of 2024 the French government launched consultations on the Multi-Year Energy Programme (PPE), the National Low Carbon Strategy (SNBC) and the National Climate Change Adaptation Plan (PNACC). In the preparatory documents, the government adopted an energy trajectory for 2030 that is more ambitious than the trajectory in the previous PPE, and addresses the triple challenge of energy sovereignty, competitiveness and acceleration of the fight against climate change in order to achieve carbon neutrality by 2050. France is thus asserting its ambition to be "the first major industrial country in the world to emerge from its dependence on fossil energies". The target reduction in gross GHG emissions by 2030 is 50% compared to 1990, and the main levers put forward to achieve this are:

- a 30% reduction in energy consumption, and more specifically fossil fuel consumption, which France aims to cut by 45% in 2030 compared to 2012;
- energy savings and transfers of use to low-carbon electricity and renewable heat to result in 60% decarbonised energy consumption by 2030;
- according to the government, the relaunch of nuclear power (preparation of the EPR2 construction programme, development of the SMR sector, extension of reactor operating lifespans where possible) and the expansion of renewable energies should make it possible to produce 560TWh of low-carbon electricity by 2030 and 640TWh by 2035;
- it should be noted that the decarbonisation trajectories for 2050 have not yet been set: generation output does not meet the consumption forecasts for that time horizon, and new scenarios will be needed to finalise the trajectories.

Risks:

The ambition of electrification is described implicitly throughout the consultation documents but does not stand out sufficiently as the top priority. Without concrete incentives, electricity consumption may not change as fast as is desirable to achieve Net Zero. This could also lead to a lasting situation of overcapacity and low prices.

- **Taxes**

The excise duty rates on electricity were set by Decree on 26 December 2024 with effect from 1 February 2025 (at €33.7/MWh for residential customers and similar, €26.2/MWh for small and medium-sized businesses and €22.5/MWh for electricity-intensive customers). The excise duty on gas is set at its pre-crisis level and is only increased by inflation.

(1) At a press conference by Bruno Le Maire, Agnès Pannier-Runacher and Luc Rémont.

Risks:

Electricity will remain significantly more taxed than fossil energies (twice as highly-taxed as gas despite almost four times less CO_2/kWh). The respective excise duty rates for electricity and gas thus run counter to the goal of electrification despite its central importance to the decarbonisation policy to achieve Net Zero. This generates a risk that the inconsistency between the price signal and the goals of the national energy and climate policy will not immediately encourage investment in solutions to replace fossil fuels with low-carbon electricity.

- **The ARENH scheme (regulated access to historic nuclear electricity)**

In 2023 and 2024, the "maximum total volume of electricity that can be sold" by EDF to alternative suppliers under the ARENH scheme returned to its level of 100TWh per year, after an exceptional increase to 120TWh in 2022. As a result, if suppliers' ARENH applications exceed 100TWh during the year, the volume sold to them under the ARENH scheme is "cropped";

Since 2024, the calculation of ARENH entitlements has been revised downwards via the "allocation coefficient", to adjust the power consumed to the share of historical nuclear power in the French energy mix[1]. In practice, this does not change the quantities of ARENH electricity available to alternative suppliers, but it reduces "cropping" and improves visibility for all players. It also has the effect of reducing the ARENH volumes available to suppliers to cover network operators' losses (these volumes are not subject to cropping).

2024 also saw the completion of a reform aimed at ensuring that the amounts of the CP1 price supplement are now paid to the French State rather than to alternative suppliers[2]. This ended a windfall effect that had benefited alternative suppliers in 2022.

Risks:

Given the market price levels for 2025, the risks of trade-off decisions between ARENH and market electricity were avoided for 2025, the last year of the ARENH scheme The risks of misuse of the scheme, of the kind observed in previous years, have apparently been largely eliminated.

- **The post-ARENH framework**

The post-ARENH framework to apply from 2026 is a market framework in which EDF freely sells its nuclear power output under a commercial policy that prioritises use of medium- and long-term contracts, to meet the need for price visibility expressed by consumers while securing its revenue streams.

Additionally, to stabilise the prices paid by consumers, a system of taxation of revenues from the existing nuclear power fleet above certain price thresholds is being introduced for redistribution to consumers.

Risks:

- *To provide customers with additional protection in high-price periods, the new framework, which is now defined in article 17 of France's Finance Law for 2025, requires payment by EDF of a portion of its historical nuclear power plants' net annual energy revenues derived from use of nuclear fuel when they exceed a certain level. Two thresholds are set for this contribution: a taxation threshold and a capping threshold, above which the contribution rate will be 50% and 90% respectively. These thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain vigilant regarding respect of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros).*
- *The authorities pay particular attention to the functioning and liquidity of the market in the medium term; while the company shares the concern for efficient, fair market operation over that horizon, it is exposed to the risk of inappropriate or disproportionate measures that would be detrimental.*

- **"TURPE" Network access tariffs**

The CRE's consultation phase on the TURPE 7 HTA-BT (Distribution) and HTB (Transmission) tariffs for the period beginning 1 August 2025 ended in November 2024. EDF participated as a shareholder of Enedis and RTE, as a user of the networks, and as a network operator in the non-interconnected zones.

One issue common to both tariffs is the fair remuneration of network operators at a time of sharply increasing investments for the upcoming period (tripling for RTE, up by 50% for Enedis), with many projects to be carried out, and riskier projects in the case of RTE such as the connection of offshore wind turbines or underwater high-voltage direct current lines.

During the TURPE 6 tariff period, the debt accumulated on network tariffs (in the expense and income adjustment account – CRCP) has reached record levels (over €3 billion receivables for Enedis). In view of this situation, France's Energy Regulation Commission (CRE) decided to increase the TURPE 6 tariffs by 9.6% for transmission and 7.7% for distribution (including transmission) from 1 February 2025. These increases will make it possible to start clearing the deficits accumulated up to the end of 2023 from that date, and avoid successive decreases and increases in the regulated electricity sales tariff including taxes. The CRE also decided that there will be no change in the TURPE 7 tariff on 1 August 2025. In the event that the fund for electrification charges FACÉ (*Fonds d'Amortissements des Charges d'Électrification*) is transferred from charges covered by the TURPE tariff to the French State budget at 1 August 2025, the TURPE Distribution tariff will be reduced by 1.92%.

Another issue common to both tariffs is the effective control and forecasting of network losses in a rapidly changing sector. The strategy of hedging these losses by the network operators allows to limit the exposure to changes in market prices on forward products up to four years in advance, depending on the terms set with the CRE.

A specific issue concerning the TURPE HTB (Transmission) tariff, in addition to fair remuneration, is the connection of large consumers, which must be accelerated to support the goal of electrifying the economy.

Risks:

- *The principal risk is potential difficulties in making investments, for financial or industrial reasons (supply risks in a context of competition for materials, notably with other European transmission network operators), or reasons to do with skills and human resources.*
- *Finally, there is a risk that a tariff receivable will arise (in the CRCP) due to market exposure of all purchases to compensate for network losses.*

(1) The Decree of 27 July 2023 published in the *Journal officiel* of 24 August 2023 lowered the allocation coefficient from 0.964 to 0.844 from 2024.
(2) Decree 2024-556 of 18 June 2024.

- **Public service charges and income**

In France, public service missions are assigned to EDF by the law[1], which also provides for full compensation of the related charges via the State's General Budget. Nevertheless, financial flows may be deferred from one year to the next, since the French State may accelerate or defer its regularising payments to EDF if the charges recorded are above or below forecasts.

On 11 July 2024, as it does every year, the CRE determined the amount of public service charges to be compensated in 2025. Given the significant price movements observed on the markets, the CRE's decision also included a recalculation of the charges to be compensated for 2024, as allowed by an exceptional provision in the Finance Law for 2024. For EDF, these charges amounted to €3.9 billion (including the "tariff shields"), compared to a forecast of -€0.5 billion in July the previous year. The difference between these two valuations is mainly due to the decrease in market prices in 2023 and 2024.

This new calculation, requested and granted to EDF, thus resulted in a positive amount of charges to be compensated for 2024 (amount owed by the State to EDF) such that the compensation matched the true charges as closely as possible.

The forecast charges for 2025 are estimated by the CRE at €6.9 billion for EDF, "back" to a significant, positive level after two years when they were negative or lower, due to the very high levels reached by electricity market prices.

Finally, France's Finance Law for 2025 provides for charges relating to the non-interconnected zones (€3 billion forecast for 2025) to funded separately, via allocation of a portion of excise revenues collected on heating energy. This separate mechanism could be introduced from 1 August 2025.

Risks:

As compensation is paid to EDF in twelve instalments from February year N to January year N+1, there is a risk that compensation could be deferred from one year to the next.

- **The increasing frequency of negative prices**

Episodes of negative prices increased in number in France and Europe in 2024 due to the effect of steady, significant renewable energy output, decorrelated from market price signals.

Specifically, the rise of renewable energies currently benefits from two major public support mechanisms: purchase obligations and additional remuneration, depending on the facilities. The purchase obligation mechanism gives producers an incentive to maximise their generation without ever stopping. This results in their electricity output being offered on the wholesale market "at any price", and consequently contributes to the emergence of negative prices.

In an economically efficient operation, wind and solar power generation resources should be provided on the market at their variable cost, which is close to zero. France's Finance Law for 2025 contains an amendment of purchase obligation contracts for facilities of more than 10MW, in order to improve their market integration and make sure they suspend operation when it is not economically profitable.

Risks:

There is a risk that the measures taken by the public authorities will come too late and have no effect on the spring and summer of 2025, or will be insufficient (for example: setting excessively high power thresholds for existing installations to switch to the 'flexible' purchase obligations at too high a level, or for future installations covered by purchase obligations to switch to the flexible tariff, setting the purchase tariff for the surplus from small installations covered by the purchase obligations for self-consumption).

- **The capacity obligation mechanism**

Having been authorised by the European Commission for a 10-year period expiring in mid-2026, the capacity mechanism is being overhauled. This will make it possible to correct the main pitfalls observed since its implementation in 2017 by moving to a mechanism that sets a national capacity requirement, to be filled in advance by a centralised auction organised several years ahead. The revised system also plans to introduce an intermediate auction dedicated to flexibilities (load shedding, storage), as it must enable the development of new low-carbon thermal plants that need multi-year visibility and deliver a different service from the service provided by energy storage assets or load shedding.

Risks:

The legislative provisions necessary for the continuation and modernisation of the post-2026 capacity mechanism have been adopted in the Finance Law for 2025. There is a risk of delay in the effective implementation of the new system by mid-2026. There is also a risk in the temptation to introduce differentiated price caps between new and existing generation technologies or different generation technologies which could have a negative impact on nuclear energy in particular.

- **Energy savings certificate scheme**

The French energy savings certificates component in bills is currently estimated at €6.2/MWh for electricity, €6.3/MWh for gas, and €0.06/litre for fuels (around €6/MWh). This cost is expected to more than double in the sixth energy savings certificate period (2026-2030) due to doubling of the energy savings obligations (this is the assumption currently used by the working groups), and a short supply of energy savings certificates which would lead to a significant increase in their price.

Risks:

One significant risk is that the distribution of the obligation will continue to penalise electricity and make it less competitive than carbon-based fossil fuels. EDF is pushing for part of the obligation to include the carbon content of energy, so that the level of the obligation remains stable for electricity and the increase in the obligation falls on fossil fuels, since France has declared that exiting fossil fuels is the priority.

Another risk is that the system does not sufficiently recognise the merits of electricity solutions at the time when they should be supported to achieve the electrification objectives of the French Energy and Climate Strategy.

- **Biogas production certificates**

In order to support the development of the biomethane sector, Decree 2024-718 and the Ministerial Order of 6 July 2024 introduced new biogas production certificate (CPB) obligations for natural gas suppliers in France. This off-budget system supports large biogas production facilities above a production threshold of 25GWh/year, in addition to purchase tariffs and public tenders. Gas suppliers can acquire CPBs either by producing biogas directly, or by purchasing biogas from methane producers or on a secondary market that is still in development. Demanding initial obligations have been defined for the period 2026-2028, at a time when the rate of new projects in the methanisation sector is slowing down following the reductions in purchase tariffs in 2020-2021. If the annual CPB targets are not met, natural gas suppliers are exposed to payment of an administrative fine, the cost of which is passed on to consumers. CPB obligations for 2028-2035 must now be defined in 2025, based on the PPE3 biogas objectives.

(1) Notably Articles L. 121-1 and following of the French Energy Code.

Risks:

As the second-largest obligated supplier in France, EDF must meet a very ambitious CPB obligation even though the company is not positioned upstream of the biomethane sector. Fulfilling the CPB obligations is considered difficult in view of the technically and economically accessible supply of biomethane. This exposes EDF to the risk of a fine during the first years of the system's rollout. These risks would be increased if large suppliers were excluded from the platform facilitating access to the resource, which is currently being set up. Biomethane prices are also three to four times higher than natural gas prices. As upward impact on gas supply offerings is to be expected as the CPB obligation increases, whether or not it is met.

- **Energy poverty**

Although the reduction in France's regulated electricity sales tariffs for 2025 is significant (-15% for residential customers), it will not make up for the sharp increase over the last three years. In the meantime, the value of the *chèque énergie* energy vouchers has not changed and conditions for benefiting from them have deteriorated.

Risks:

The absence of progress or new measures for payment support could be detrimental to vulnerable households, and to the company due to a growing number unpaid bills, and this could hinder the success of electrification and the image of electricity.

The European context is also a critical factor

In a context of multiple crises, war in Ukraine, intense international competition and institutional renewal within the European Union, 2024 saw the adoption of several European measures, regulations and agreements which are significant for the Group, including the reform of the electricity market, the Net Zero Industry Act (NZIA), and finalisation of the components of the "gas and hydrogen" package. Moreover, there are significant risks related to changes in CO_2 prices.

- **The European agreement on electricity market design reform**

The amendments to the 2019 Electricity regulation and Electricity directive in order to reform electricity market design were published in the Official Journal of the EU on 26 June 2024. The reform notably aims to introduce a long-term dimension (PPAs, CFD, futures markets) in a market currently focused on the short term, to address certain malfunctions observed in the retail markets during the energy price crisis (supplier practices in terms of hedging, fixed-price offers, backup suppliers, power reduction) or to address the subject of flexibility (levers and methods of support for non-fossil flexibility). Since this publication, implementation work has been undertaken at European and/or national level. However, proposals from the European Commission are still expected on the precise design of the futures markets.

Risks:

Risk of revision of the text on market design. Given the competitiveness problems faced by certain industrial sectors, some players point to the impact of higher energy prices in the EU and are campaigning for measures to limit this differential, which could call into question the reform of 2024.

- **Price of CO_2**

The prices of the Emissions Trading Scheme (EU ETS 1, mainly covering the energy and large industrial sectors since 2005) are highly volatile. On average, prices were around €60-70 per tonne in 2024, not high enough to trigger decarbonisation actions. An effective target for decarbonising power generation and accelerating the electrification of uses would be a CO_2 price level that allows gas-fired power plants in Europe to be used before coal-fired power plants: this would correspond to a CO_2 price in the €80-100/t range or above (depending on gas and coal prices).

A reform of the emissions trading scheme (EU-ETS 2) was adopted in 2023. It extends the scheme to emissions from the building and transport sectors, and will come into force in 2027. The initial price ranges mentioned for this part of the scheme would be around €50/tonne, with projections of at least double that in 2030. This should result in two separate CO_2 prices depending on the trading scheme. To date, no transposition of this ETS 2 directive (2023/959) has been undertaken, but downstream players need visibility to include this price in their offerings.

Risks:

CO_2 prices that are so low as to lead to the use of coal-fired power rather than gas-fired plants in Europe constitute a first level of risk. Prices at an insufficient level that would not act as an incentive for decarbonisation of uses constitute a second level of risk. Some actors object to use of price signals, but alternative instruments (standards, subsidies) generate additional costs, which may undermine acceptance of the energy transition. Finally, the acceptability of measures to increase the carbon price requires appropriate responses to the challenges of protecting the most vulnerable households and the competitiveness of businesses.

- **The Net Zero Industry Act (NZIA) (2024/1735)**

This regulation aims to improve European production capacities for several technologies identified as strategic for the ecological transition and the resilience of the energy system. The NZIA provides a regulatory framework to consolidate these value chains in Europe, notably through administrative simplification and by taking greater account of non-price criteria in public contracts. Implementing and delegated acts for the NZIA are expected to specify the requirements related to these criteria in public contracts and renewable energy tenders.

Risks:

Risk of over-transposition in the application of implementing and delegated acts of the NZIA regulation. France appears to be more ambitious than its European partners in the interpretation and implementation of resilience and sustainability criteria, which may ultimately make projects more costly and their deployment more complex.

Risk that the European funds planned to support these sectors will not ultimately be released.

Risk that some of the Net Zero technologies (including nuclear) are not treated the same way as others.

- **The "gas and hydrogen" package**

The "gas and hydrogen" package was published in the Official Journal of the EU in June 2024. Among other things, it gives the European Commission a mandate to prepare a delegated act, expected in the first quarter of 2025, defining the accounting rules and emission reduction thresholds for the various low-carbon hydrogen production methods. It must notably cover the rules applicable to grid-based electricity generation (electrolysis), particularly via long-term nuclear electricity purchase contracts, or the rules for fossil gas reforming with carbon capture (CCUS).

Risks:

Risk that the Commission will postpone adoption of the proposed delegated act.

Risk that the methodologies proposed in this delegated act do not recognise the decarbonised nature of hydrogen production using grid electricity in France or nuclear electricity in general.

Risk – ultimately – that industrial projects counting on nuclear PPAs may be delayed and hinder the emergence of a sector.

- **Other risks identified in the European context**

- **Clean Industrial Deal**: the new European political context tends to focus on policies that promote competitiveness, particular through a "Clean Industrial Deal" announced for the beginning of 2025. There is a risk that competitiveness issues are being prioritised to the detriment of an ambitious electrification based on a technology-neutral approach to achieve the European Union's climate objectives, despite the announcement of an electrification plan by the European Commission.

- **Internal combustion engines**: also in this context, there is a risk that the laws banning the sale of new internal combustion engines from 2035 could be called into question, and that could affect the trajectory of electrification of mobility.
- **Development of environmental rules**: environmental protection (water, air, soil, chemicals, etc.) is at the heart of the EDF group's concerns. The development of rules on such matters must take into account industrial constraints, the safety of facilities, the risks affecting supply chains and the operation of low-carbon electricity generation plants, which are essential to achieving the European Union's climate objectives.

b) Control actions

Control actions are necessarily limited for these risks, which arise from decisions external to the Company. They include the following:

- monitoring the political, legislative and regulatory context in France, Europe and in the regions where the Group operates;
- analysis of the potential consequences of published, pending or potential legal instruments in order to identify their impact on the Group, notably as regards the post-ARENH context, customer support measures, regulated sales tariffs, etc. The aim is to provide inputs for the action plan to reinforce the Group's balance sheet structure;
- discussions with public authorities and elected officials, in France and in Europe, to share views on the potential direct and indirect impacts of the pending legal instruments for EDF and the Group;
- contributing to public consultations on relevant pending laws and regulations at the national and European level;
- EDF's participation in the High Energy Council (CSE);
- EDF's participation in industry associations and think tanks in France and at the European level;
- the institution of operational measures for compliance with laws and regulations posing a significant challenge or identified impact for EDF or the Group;
- energy market risk and financial risk control policies;
- to mitigate the risk of a tariff receivable (in the CRCP) due to market exposure of all purchases to compensate for network losses, dialogue with the State, arguing for an increase in the annual CRCP clearance coefficient from +/-2% for the TURPE 6 to +/-3% for the TURPE 7 tariff;
- regular dialogue with State services on the issue of financing public energy service charges, in order to stabilise implementation of the compensation mechanism;
- to reduce the occurrence of negative prices that are detrimental to both the company and public service charges, levers have been identified. It is desirable to develop incentives encouraging consumers to use electricity in the afternoon, and on the supply side, it is desirable to develop the existing and future support framework so that facilities have incentives to suspend operation whenever that is the most economical choice.

3B – Risks related to changes in the legislative and regulatory framework for hydropower concessions

SUMMARY

Most of the Group's hydropower generation activities take place in France under concessions or licence agreements. Therefore, the Group does not always own the assets it operates. In France, changes in the legislative and regulatory framework, notably for renewal of concessions (regime for facilities with installed capacity above 4.5MW), changes in the economic conditions of concession specifications, and the conditions for tendering procedures could have an impact on the Group's earnings.

Criticality: ■ ■ Intermediate

a) Main risks

The challenges associated with the renewal of hydropower concessions in France are detailed in section 1.4.1.3.1.4 "Challenges relating to hydropower generation".

At 31 December 2024, the French State had not renewed 36 expired concession agreements, representing total installed capacity of 3,647MW. These concessions are subject to the "rolling extension" regime: the French Energy Code stipulates that at the expiry date of a concession, if no new concession has been established the concession is extended on the existing terms until such time as a new concession is granted. This regime simply ensures that operations can continue until the renewal is effective.

France has received two formal warnings from the European Commission (EC). In the first, dated 22 October 2015, the EC considered the fact that most hydropower concessions in France are attributed to and reserved for EDF as an infringement of Articles 102 and 106 of the Treaty on the Functioning of the European Union (TFEU), since these measures reinforced EDF's dominant position on the French retail electricity supply markets. On 7 March 2019, the EC sent France a second formal warning, citing its non-compliance with European public procurement law when renewing concessions.

There is a risk that the EDF group may not have all of its concessions renewed, or only under less favourable economic conditions. In addition, the compensation that should be paid by the State in the event of early termination of a concession may not fully cover the loss of revenue borne by the Group. Future regulations or discussions with the European Commission could also move in a direction that is unfavourable for the Group. These factors could have an adverse impact on its activities and financial position.

Discussions between France and the European Commission (EC) are still under way concerning the resolution of two formal notices on the subject of concession renewals. This situation is preventing the development of hydropower assets. The French government is considering a legal solution that would allow such development, which is necessary for the electricity system.

In other countries, principally Italy, depending on the local context it is possible that hydropower concessions may be terminated, or else renewed for the Group but with changes to the financial terms and conditions of the concession specifications, which would have an adverse impact on the Group's activities and financial position.

b) Control actions

EDF is a responsible concession operator, engaging in dialogue and co-construction with all its stakeholders, chiefly regarding the management of water resources and support for local economic development in the regions.

This consultation is conducted on a daily basis by close collaboration with actors from the economic, political and trade-association sectors in the geographical areas concerned, and through dialogue with the people living near the facilities.

In France, the Group's integration into the local economy involves maximising local economic impact by making 78% of all its purchases in the hydropower regions, which benefits the local industrial fabric (EDF's supplier panels list more than 62 local companies in trades specific to the hydropower sector) (see section 1.4.1.3.1 "Hydropower generation in France").

3C – Risks related to changes in the legislative and regulatory framework for electricity distribution concessions

SUMMARY

Enedis carries out its distribution activities under public service concessions (independently of any interest in electricity generation or supply activities) and does not own most of the assets it operates. Changes in the legislative and regulatory framework and the concession specifications could have an impact on the Group's earnings.

Criticality: ■ ■ Intermediate

a) Context

In France, the law stipulates that Enedis and the Local Distribution Companies (LDCs) have exclusive rights in their respective service areas (and EDF has these rights for areas not interconnected with the French mainland network) to carry out the mission of developing and operating the public electricity distribution networks. Under these exclusive rights, EDF and the LDCs also exercise a mission to supply energy in their service areas at the regulated tariffs.

Since the powers of authorities responsible for organising public electricity distribution (AODE) are conferred by law upon local authorities (municipalities or associations of several cooperating municipalities) and these AODEs are the owners of the assets constituting the public electricity distribution network (except source substations), the law requires Enedis to enter into concession agreements with them, for periods generally ranging from 25 to 30 years.

Consequently, Enedis carries out its public service missions (network maintenance, upgrades and development, metering, connections, etc.) both under the law (the French Energy Code designates the operators of the electricity distribution networks and specifies their missions) and under these concessions. Also in application of the law, these concession agreements are for energy supply at the regulated sales tariffs; they are therefore between three parties (the AODEs, the distribution network operator and the regulated-tariff supplier).

Enedis operates independently of any interest in electricity generation or supply activities.

b) Main risks

Due to the exclusive rights granted to Enedis and EDF, when a concession agreement is to be renewed no other operator can bid for it. The current process for renewing concession agreements with all of the AODEs is based on a concession agreement model drawn up in December 2017 by the French National Federation of Licensing Authorities FNCCR, France Urbaine, Enedis and EDF.

Although two decisions of the French Council of State in July and September 2020 confirmed that the exclusive rights granted to Enedis and EDF are compatible with European Union law and with the constitutional principle of the administrative freedom of local authorities, the possibility that this situation might be changed by legislation, or following a court ruling, cannot be ruled out.

c) Control actions

- Monitoring and responding to European and national laws and regulations, whether sector-specific or not.
- Close observation of any dispute that could challenge the public electricity distribution model.

3D – Ethics or compliance risks

SUMMARY

Prohibited unlawful, unethical practices by employees or third parties in the course of business (particularly breaches of human rights or fundamental freedoms) could expose the EDF group to civil or criminal sanctions with a significant financial or reputational impact.

Criticality: ■ Moderate

a) Main risks

The increasingly international nature of the Group's activities and the strengthening of regulatory frameworks prohibiting unethical business practices are likely to expose the Group, its employees or third parties acting on behalf of the Group to breaches of its ethical commitments, or non-compliance that could damage its reputation or lead to civil or criminal sanctions and impact the Group's financial performance.

b) Control actions

To prevent risks of ethical breaches or non-compliance, 13 programmes have been set up covering the following topics:

- preventing the risk of corruption and influence peddling;
- preventing conflicts of interest;
- combating fraud;
- complying with international sanction programmes;

- preventing harassment and discrimination;
- preventing market abuse;
- preventing the risk of money laundering and financing of terrorism;
- complying with the European Market Infrastructure Regulation (EMIR) aiming to regulate financial markets;
- complying with the European REMIT regulation on wholesale energy market integrity and transparency;
- preventing breaches of competition law;
- personal data protection;
- export control (dual-use goods);
- the duty of vigilance (covering environmental, human rights and health and safety issues).

These programmes are described in section 3.4.2.3 "Group Ethics and Compliance policy".

3E – Litigation risk

SUMMARY

Proceedings or litigation could have a significant financial or reputational impact on the Group.

Criticality: ■ Moderate

a) Main risks

In the ordinary course of its business, the EDF group is involved in litigation, and the developments in or outcomes of litigations could have a material adverse effect on its earnings or financial position.

In particular, given its position on certain markets, the EDF group is subject in France to proceedings initiated by its competitors or by administrative authorities. The claims made against EDF may be substantial and could lead to payment of compensation or a fine, or even to court orders likely to have an impact on some of EDF's activities. The EDF group may also be involved in significant litigation relating to commercial or tax disputes, with outcomes that are inherently unpredictable.

b) Control actions

The EDF group considers that overall, it complies with all the specific regulations in force in all the countries where it operates, particularly as regards the conditions in which it carries out its nuclear activities. However, it cannot anticipate the opinion of the supervisory and administrative or judicial authorities to which any such matters are referred. These risks are subject to particular vigilance, notably through prevention policies (contractual policies, compliance policies, etc.) and a procedure for reporting information to the Group Legal Division on proven or potential significant litigation.

The main proceedings in which the EDF group is involved are described in section 6.1, note 21 "Contingent liabilities and assets" to the consolidated financial statements for the financial year ended 31 December 2024, and section 7.1.5 "Litigation".

2.2.4 Financial and market risks

Through its varied activities, the EDF group is exposed to numerous financial and market risks which could affect the Group's identifiable balance sheet assets and liabilities. This section describes these various risks, covering the risks relating to the Group's balance sheet assets and liabilities, interest rate risks, financial market risks, energy market risks, foreign exchange risks, counterparty risks and liquidity risks. All of these risks could affect the Group's ability to finance its investments. Financial and market risks are also discussed in the management report (see section 5.1.7 "Management and control of market risks") and the notes to the consolidated financial statements at 31 December 2024.

4A – Energy market risk

SUMMARY

When selling its output, the Group is directly or indirectly exposed to prices on the wholesale energy and capacity markets. With more than 400TWh exposed to changes in wholesale market prices across the Group from 2026, the volatility of the electricity and gas markets poses major uncertainties for EDF's future revenues.

Due to the financial security clauses of wholesale market transactions (margin calls and margin deposits), EDF also faces a significant cash flow risk due to changes in wholesale prices.

Criticality: ■ ■ ■ High

a) Context

In conducting its generation, distribution and sales and supply activities, the Group does business in energy markets, primarily in Europe. Accordingly, the Group is exposed to changes in wholesale market prices for electricity (energy prices and capacity guarantee guarantees for the countries concerned), gas, coal, petroleum products, and CO_2 emission quotas (see section 5.1.2 "Economic environment" for information on recent changes in these prices). These markets are correlated: a fall in the prices of gas, coal, petroleum products or CO_2 leads to a fall in electricity prices.

Wholesale prices for these commodities fluctuate with the supply-demand balance at global level (in the case of oil, coal and gas) or at European and national level (in the case of electricity). These markets can experience significant and unpredictable price fluctuations, in both directions, as well as liquidity crises.

b) Main risks

In France, ARENH-related risks and risk management will disappear when the ARENH scheme ends at the end of 2025; the final ARENH "cropping" for 2025 was known in December 2024, and the positions for 2025 (the last year with ARENH) were almost fully covered at the end of 2024.

Consequently, the Group's volume of business on the wholesale markets will increase from 2025, exposing it to much greater cash requirements than in previous years to cover margin calls and margin deposits, as well as counterparty risks in the event of default by its commercial partners.

These exposures may impact the Group's earnings and all of its financial indicators. At Group level, the volumes exposed to changes in wholesale prices exceed 400TWh.

EDF is therefore particularly exposed to low prices. Over the long term, an imbalance between growth in generation supply and growth in consumption or commodity prices would be likely to drive wholesale prices down.

c) Control actions

The Group manages its exposure to energy markets through a specific energy market risk policy, aimed at gradually reducing uncertainties regarding future years' financial results (see section 5.1.7 "Management and control of market risks" for more details of the associated principles and organisational measures). The increasing use of long-term contracts also helps to reduce the variability of revenues from one year to another. These actions thus make it possible to smooth the impact of price changes, but cannot neutralise it. Moreover, the Group remains subject to contingencies affecting its generation or its customers' consumption.

To achieve the desired level of hedging, the Group must strike the right balance between reducing contingencies associated with price fluctuations and contingencies associated with changes in the volume of the EDF portfolio.

4B – Risk related to the Group's balance sheet assets and liabilities

SUMMARY

The Group is exposed to risks related to changes in the accounting assets and liabilities that make up its balance sheet that result from changes in the economic and financial environment, the activities and markets in which the Group operates, or the accounting standards applied to value these assets and liabilities.

A significant decrease in the Group's assets or significant rise in its liabilities as a result of such changes could substantially harm the Group's financial position, notably by reducing its ability to tap the financial markets to finance its activities, and could affect its earnings and all the Group's financial indicators.

Criticality: ■ ■ Intermediate

a) Main risks

Preparation of the EDF group's financial statements requires the use of judgments, best estimates and assumptions in determining the value of assets and liabilities, and income and expenses. The main transactions for which the Group uses significant judgments and estimates are described in section 6.1, note 1.3.4 "Management judgements and estimates" to the consolidated financial statements for the financial year ended 31 December 2024.

In using these estimates, the Group is exposed to risks that concern all of its accounting assets and liabilities, principally the following items:

- **the value of its assets**, particularly the value of property, plant and equipment used in generation, resulting from long-term projects carried out by the Group as project owner or project manager. These assets are highly complex, especially the EPR projects under way in France (Flamanville 3, EPR2) and the United Kingdom (HPC, Sizewell). In view of the numerous technical and operational risks related to financing, and where applicable, risks relating to the regulatory framework (see section 2.2.1 "Operational performance risks"), together with the many uncertainties in the economic environment (price curves, interest rate levels, etc.), the value of the assets presented in the Group's balance sheet is subject to considerable risks of impairment that could substantially harm the Group's financial position and performance in the future;
- **the value of liabilities**, particularly the financial provisions recognised in the balance sheet, most importantly provisions related to the Group's nuclear activities in France, for future decommissioning of the existing nuclear fleet and for waste management. In view of the many risks specific to nuclear activities (described in section 2.2.2 "Specific nuclear operation risks"), the value of the provisions presented in the Group's balance sheet is subject to considerable risks of upward revision, which could cause substantial harm to the Group's financial position and performance in the future. In addition to the risks discussed in section 2.2.2, Risk 2A "Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations", the EDF group assesses the risks to its nuclear provisions that could arise from changes in the international accounting standards applied to prepare the Group's consolidated financial statements. In particular, the proposed amendments to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" under consideration by the IASB (the international standard-setter) could require adoption of a "risk-free" discount rate, which, depending on how it is calculated, could be very substantially lower than the discount rate currently prescribed and used by the Group to estimate its nuclear provisions. This change, which could be applied by 2027 or 2028, could, depending on how it is implemented, lead to a very significant re-estimation of the nuclear provisions in the Group's balance sheet. In that case, if the rate of coverage of provisions by dedicated assets were less than 100%, the regulations concerning dedicated assets could require EDF to make an additional allocation to those assets in cash, which would reduce the cash flow and increase the Group's economic debt (the regulations currently in force and the method for measuring nuclear provisions are described in notes 15.1.1.5 "Discount rate, inflation and sensitivity analyses" and 15.1.2.1 "Regulations" to the consolidated financial statements for the financial year ended 31 December 2024).

b) Control actions

Operational control actions for risks associated with the value of assets continued with the implementation of a control system and a robust governance structure (see risk 1A "Risks related to management of large, complex industrial projects, including EPRs"). Economic trends and market developments are monitored periodically and in-depth analyses of the value of its assets are carried out frequently to quickly detect any potential impairment and adapt the Group's strategy. On this last point, the Group manages its exposure to the risks related to the Group's balance sheet assets and liabilities through a specific financial and accounting reporting policy. At each reporting date, the EDF group's Performance, Impacts, Investments and Finance Division complies with this policy and ensures that it is correctly applied.

As part of this risk control, the EDF group verifies the recoverability of its asset values presented in the balance sheet when the consolidated financial statements are prepared. Impairment tests are carried out, in strict compliance with applicable accounting standards, under a process established by the Group's management that is adapted for the various group entities. The method applied and its results are described in a specific note to the financial statements (see section 6.1, note 10.7 "Impairment/reversals" to the consolidated financial statements for the financial year ended 31 December 2024). These points are paid particularly close attention by a number of stakeholders (Group governance, financial markets and analysts, the AMF, France's Court of Auditors).

The EDF group and its Performance, Impacts, Investments and Finance Division are also putting systems and resources in place to contribute to accounting plans involving significant issues for the Group, notably relating to changes in international accounting standards. For example, the Group is taking steps to address the emergence of the risk potentially arising from the IASB's proposed change to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" for the measurement of its nuclear provisions. It is analysing the implications for the Group's financial statements, and monitoring developments in the IASB's standard amendment process. The Group has also undertaken a number of initiatives with the stakeholders concerned (members of the IASB, preparers of financial statements, the departments of the French State, which is the Group's shareholder, etc.) to raise awareness of the challenges posed by such a plan, make proposals to the IASB and identify possible alternatives.

4C – Financial market risk

SUMMARY

Through its activities, the EDF group is exposed to risks related to the financial markets, particularly concerning assets held in the form of equities and bonds.

Criticality: ■ ■ Intermediate

Main risks

The Group is exposed to equity risks, primarily relating to shares included in the dedicated assets held to cover the cost of long-term nuclear obligations, external pension funds, and to a lesser extent, cash assets and investments held directly by the Group.

EDF is exposed to equity risks, interest rate risks and foreign exchange risks through its dedicated asset portfolio.

The market value of the listed equities in EDF's dedicated asset portfolio was €13,447 million at 31 December 2024. The volatility of these listed equities at 31 December 2024 was 11.36% based on 52 weekly performances, compared with 17.04% at the end of 2023. Applying this volatility to the value of listed equity assets at the same date, the Group estimates the annual volatility of the equities portion of dedicated assets at €1,528 million.

At 31 December 2024, the sensitivity of the listed bonds (€12,489 million) was 5.7, meaning that a uniform 100 base point rise in interest rates would result in a €708 million decline in market value. This sensitivity was 4.9 at 31 December 2023.

4D – Interest rate risk

SUMMARY

The Group is exposed to risks caused by movements in interest rates in the various countries in which it operates. These rates depend partly on decisions by the central banks.

Criticality: ■ ■ Intermediate

a) Risk of falling interest rates

Main risks

Interest rate decreases could affect the Group's economic debt, due to resulting changes in the value of the Group's financial assets and liabilities, and its discounted liabilities. The discount rates for pension and other specific employee benefit obligations (see section 6.1, note 16 "Provisions for employee benefits" to the consolidated financial statements for the financial year ended 31 December 2024) and the Group's long-term nuclear commitments (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024) are directly or indirectly linked to interest rates over different time horizons.

For the specific case of nuclear provisions in France, the discount rate could also be reduced over the next few years due to the effect of the regulatory discount rate limit, or the potential effect of the IASB's proposed change to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets", as mentioned above.

With regard to the discount rate, the Ministerial Order of 1 July 2020 on secure financing of nuclear expenses (which amended the initial Order of 21 March 2007) introduced new rules concerning the regulatory discount rate limit, which is expressed in real value: it is equal to the unrounded value representative of expectations concerning the real long-term interest rate used for the calculation of the ultimate forward rate (UFR) applicable on the date concerned as published by the European Insurance and Occupational Pensions Authority (EIOPA), plus 150 base points. This limit became applicable in 2024, in accordance with the Decree of 27 December 2023 on secure financing of nuclear expenses.

Furthermore, an increase in nuclear provisions due to a decrease in the discount rate could make additional allocations to dedicated assets necessary, and that would have an adverse effect on the Group's earnings, cash flow generation and net debt.

Nevertheless, an increase in provisions, especially provisions covered by dedicated assets, does not automatically lead to an increase in the amount to be allocated to dedicated assets at the dates in question, as that allocation depends mainly on:

- the return on dedicated assets and the resulting coverage rate of obligations;
- the timing of the allocation; the law provides that a period of up to five years may be allowed to make required allocations to dedicated assets, subject to approval by the administrative authority (the Minister for Energy and the Minister for the Economy acting jointly).

In view of the regulatory framework, no additional allocations are expected in respect of 2024 (as was the case for 2022), as the rate of coverage of nuclear provisions by dedicated assets is greater than 100%.

Moreover, for a given interest rate, expectations of higher inflation would result in a decrease in real interest rates, with similar effects to a decrease in interest rates on the Group's discounted liabilities, given that the future expenses reflected in these liabilities are considered to be indexed to inflation rates.

b) Risk of higher interest rates

Main risks

Interest rate rises could affect the Group's ability to obtain financing on optimal terms, or even its ability to obtain refinancing if market tightness is high, due to the risk related to changes in cash flows linked to variable-rate financial assets and liabilities. Furthermore, coupons payable or receivable on financial securities and derivatives held or debts issued by the Group may be directly indexed to variable interest rates.

As a result, a 0.5% increase in interest rates would have an effect of approximately €90 million on the pre-tax income, due to the increase in coupons on debt issued by the Group at variable or floating rates, offset by the increase in the Group's cash proceeds, leading to an unfavourable net impact on cash.

However, the unfavourable impacts of a rise in interest rates would in principle be more than offset by the favourable impacts of a rise in interest rates on long-term obligations (see previous point), with no immediate automatic effect on cash flow.

4E – Liquidity risk

SUMMARY

The Group must have sufficient financial resources at all times to finance its day-to-day business activities, the investments necessary for its expansion and the allocations to the portfolio of dedicated assets covering long-term nuclear obligations, as well as to deal with any exceptional events that may arise. Any downgrading of EDF's financial rating[1] could increase the cost of refinancing existing loans and have a negative impact on the Group's ability to obtain financing. At 31 December 2024, the Group's net financial debt amounted to €54,346 billion.

Criticality: ■ ■ Intermediate

a) Context

The Group's ability to raise new debt, refinance its existing debt or, more generally, raise funds on the financial markets, and the financing terms it can negotiate, depend on a number of factors including the Group entities' credit ratings by rating agencies. The Group's debt is periodically rated by independent rating agencies.

To meet its liquidity needs, the Group issues bonds and money market instruments, borrows from banks and takes on collateralised or uncollateralised debt.

The Group thus carried out the following transactions:

On 15 April 2024, EDF raised US$2.050 billion through three tranches of senior bonds:

- a US$650 billion bond with 5-year maturity and a fixed coupon of 5.650%;
- a US$650 billion bond with 10-year maturity and a fixed coupon of 5.950%;
- a US$750 billion bond with 40-year maturity and a fixed coupon of 6.000%;

On 13 May 2024, EDF raised CAD$ 750 billion through two tranches of senior bonds:

- a CAD$350 million bond with 10-year maturity and a fixed coupon of 5.379%.
- a CAD$400 million bond with 30-year maturity and a fixed coupon of 5.777%.

On 11 June 2024, EDF launched a €3.0 billion senior green bond issue in three tranches:

- a €1 billion bond with 7-year maturity and a fixed coupon of 4.125%, the net proceeds of which will be used to finance and/or refinance extension of the operating lifespan of existing nuclear reactors in France;
- a €750 million bond with 12-year maturity and a fixed coupon of 4.375%, the net proceeds of which will be used to finance and/or refinance renewable energy projects and hydropower projects;

(1) At the date of this Universal Registration Document, EDF's long-term rating is as follows: BBB with a stable outlook (S&P Global Ratings); Baa1 with a negative outlook (Moody's); BBB+ with a stable outlook (Fitch Ratings).

- a €1.25 billion bond with 20-year maturity and a fixed coupon of 4.750%, the net proceeds of which will be used to finance and/or refinance investments in electricity distribution, particularly for network adaptation to the needs of the energy transition.

On 26 June 2024, EDF issued a €100 million bond with 10-year maturity indexed to inflation, with a fixed real coupon of 1.874%.

On 21 August 2024, EDF also launched a CHF 310 million senior green bond issue, the net proceeds of which will be used to finance and/or refinance European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, in renewable energy and hydropower projects, comprising 2 tranches:

- a CHF 155 million bond with 5-year maturity and a fixed coupon of 1.5650%;
- a CHF 155 million bond with 8-year maturity and a fixed coupon of 1.7425%.

On 10 September 2024, EDF launched a multi-currency hybrid green bond issue, the net proceeds of which will be allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, for extending the operating lifespan of existing nuclear reactors in France, comprising three tranches:

- a €500 million bond with a fixed coupon of 5.125% and a first-call option for EDF after 5.25 years in 2029;
- a €650 million bond with a fixed coupon of 5.625% and a first-call option for EDF after 8 years in 2032;
- a £500 million bond with a fixed coupon of 7.375% and a first-call option for EDF after 11 years in 2035.

On 18 October 2024, EDF raised ¥35.8 billion, corresponding to approximately €220 million, through 2 senior bonds issued on the Japanese market ("Samurai bonds"):

- a ¥28.3 billion bond with 3-year maturity and a fixed coupon of 1.172%;
- a ¥7.5 billion bond with 5-year maturity and a fixed coupon of 1.423%.

On 31 October 2024, EDF issued a £500 million senior bond with 40-year maturity and a fixed coupon of 6.500%.

In April 2024, the Group also entered into a five-year loan for an amount of €300 million.

In May 2024, EDF set up green bank loans with maturities of three to five years for a total amount of approximately €5.8 billion, partly in US dollars and partly in euros. Most of these loans will be allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, for extending the operating lifespan of existing nuclear reactors in France.

In August 2024, EDF signed a €500 million 10-year bilateral credit facility with the EIB.

Finally, in 2024 EDF repaid more than €10.7 billion, US$1.7 billion and ¥23 billion of bank loans signed in 2022 and 2023.

b) Main risks

Any downgrading of EDF's financial rating could increase the cost of refinancing existing loans and have a negative impact on the Group's ability to obtain financing.

In addition, 2024 was marked by an improvement in the nuclear generation fleet's availability in France. On 5 June 2024, S&P raised its rating outlook for EDF from "stable" to "positive". 2024 also saw several revisions of France's credit rating. Given the expected state support, these revisions were taken into account for EDF's rating under a methodology specific to each agency. Fitch downgraded the outlook for France on 11 October 2024, then did the same in EDF's rating on 28 October 2024. S&P and Moody's downgraded their respective ratings of France on 31 May 2024 and 14 December 2024, with no impact on EDF's rating.

c) Control actions

The EDF group has a liquidity risk monitoring policy that includes monitoring indicators and risk mitigation measures.

The Group was able to meet its financing needs by conservative liquidity management and has obtained financing on satisfactory terms.

A range of specific levers are used to manage the Group's liquidity risk:

- In addition to the euro market, EDF also issues on the US dollar, Canadian dollar, yen, Swiss franc and pound sterling markets, which enables it to diversify its financing currencies and its investor base;
- on 12 July 2022, EDF published an update to its Green Financing Framework[1], enabling it to substantially increase its green issues, for which there is strong investor demand;
- centralising of financing for controlled subsidiaries at the level of the Group's Cash Management Department. Changes in subsidiaries' working capital are financed by this department through credit facilities provided for subsidiaries, which can thus have revolving credit from the Group. EDF and the investment subsidiary EDF Investissements Groupe (EDF IG), set up in partnership with the bank Natixis Belgique Investissements, also provide medium and long-term financing for EDF group operations outside France. This financing is arranged entirely independently by EDF and EDF IG: each company independently sets its own terms, which are the same as the subsidiary would have in an arm's length transaction on the market;
- the Group's cash pooling system, which centralises cash management for controlled subsidiaries. The subsidiaries' cash balances are made available to EDF in return for interest, so as to optimise the Group's cash management and provide subsidiaries with a system that guarantees them market-equivalent financial terms, and active management and diversification of Group financing sources. The Group has access to short-term resources on various markets through programmes for French commercial paper (*billets de trésorerie*) and US commercial paper (US CP). For EDF, the ceilings are €12 billion for the NeuCP programme (including €2 billion of "green" NEU CP and €2 billion of "green nuclear" NEU CP) and US$10 billion for US CP; the Group also has access to medium-term resources under a NEU MTN (Negotiable European Medium Term Notes) programme with a ceiling of €2 billion (including €500 million of "green" NEU MTN);
- transfer of securities from the cash portfolio to banking counterparties under cash repurchase agreements.

(1) www.edf.fr/en/the-edf-group/dedicated-sections/investors/debt/sustainable-finance

4F – Counterparty risk

SUMMARY

Like all economic operators, the Group is exposed to possible default by certain counterparties (partners, subcontractors, service providers, suppliers or customers).

Criticality: ■ ■ Intermediate

a) Main risks

Default by certain counterparties may impact the Group financially (for example due to loss of receivables, or additional costs generated by a change of supplier while a project is in progress).

b) Control actions

The Group remains vigilant regarding industrial and commercial counterparties which could be weakened when economic conditions are poor.

The Group also has a counterparty risk management policy which applies to EDF and all operationally controlled subsidiaries. Each of the entities concerned adapts the principles to its own challenges and activities, and implements specific risk mitigation actions. This policy includes quarterly consolidation of the Group's exposures.

At the end of September 2024, 88.8% of the Group's exposure concerned "investment grade" counterparties, mainly due to the predominance of exposures generated by the cash and asset management activity, as most short-term investments concern low-risk assets.

4G – Foreign exchange risk

SUMMARY

Due to the diversification of its activities and their geographical distribution, the Group is exposed to the risks of fluctuations in foreign exchange rates, which may impact currency translation adjustments, balance sheet items and the Group's financial expenses, equity and financial position.

Criticality: ■ Moderate

a) Main risks

Due to the diversity of its activities and geographical locations, the Group is exposed to the risk of exchange rate fluctuations, which may impact the translation differences affecting balance sheet items, Group financial expenses, equity, earnings and the internal rate of return (IRR) on projects.

As the Group is involved in long-term contracts, an unfavourable currency fluctuation could have consequences for project profitability. In the absence of hedging, currency fluctuations between the Euro and the currencies of the various international markets in which the Group operates can thus significantly affect the Group's earnings and make it difficult to compare performance from year to year. If the Euro rises (or falls) against another currency, the Euro value of the assets, liabilities, income and expenses initially recognised in that other currency will decline (or increase). Also, as the Group is likely to incur expenses in a currency other than that in which the corresponding sales are made, exchange rate fluctuations could result in an increase in expenses, expressed as a percentage of sales, which could affect the Group's profitability and income.

b) Control actions

To limit its exposure to foreign exchange risk, the Group has introduced the following management principles:

- local currency financing. To the extent possible given the local financial markets' capacities, each entity finances its activities in its own functional currency. When financing is contracted in other currencies, derivatives may be used to limit foreign exchange risk;
- matching of assets and liabilities. The net assets of subsidiaries located outside the Euro zone expose the Group to a foreign exchange risk. The foreign exchange risk concerning foreign currency assets in the consolidated balance sheet is managed by market hedging with debt issued or contracted in foreign currencies, or use of derivative financial instruments. The hedging of net assets in foreign currencies respects risk/return ratios, and hedging ratios vary depending on currency. When hedging instruments are not available or when their cost is prohibitive, these foreign exchange positions remain open and the risk on such positions is monitored by sensitivity calculations;
- hedging of operating cash flows in foreign currencies. In general, the operating cash flows of EDF and its subsidiaries are in their local currencies, with the exception of flows related to fuel purchases which are primarily in US dollars, and certain flows related to purchases of equipment, which concern lower amounts. Under the principles laid down in the strategic financial management framework, EDF and the main subsidiaries concerned by foreign exchange risks (EDF Energy, EDF Trading, Edison, EDF Renewables) are required to hedge firm or highly probable commitments related to these future operating cash flows.

2.2.5 Group transformation and strategic risks

5A – Skill adaptation risks

SUMMARY

The Group will have to contribute to a secure base of skills for the various sectors of the energy transition in a job market under pressure to cope with a significant volume of activity, particularly following the French President's Belfort speech of 10 February 2022 (these risks concern the existing fleet, EPR2, higher volume of connections, rising number of customers).

Criticality: ■ ■ Intermediate

a) Main risks

The EDF group's strategy, *raison d'être* and CSR commitments set out the challenges it faces in contributing to the energy transition. To succeed in its industrial projects, which are crucial for France's energy independence, the skill requirements of the EDF group and its industrial partners are estimated at around 20,000 additional jobs per year on average (i.e. 200,000 over 10 years), including 10,000 per year for the nuclear sector, and 10,000 jobs for the EDF group alone.

The Group is convinced that it will not succeed alone; it has therefore built a strategic action plan for skills together with companies and employees in the energy transition sectors.

b) Control actions

In view of the volumes of skills required, the low appeal of industrial trades, the risk of retaining skills in its own entities to meet their needs, and the tight employment market in France, the EDF group has decided to step up the actions implemented to develop and stabilise skills over the next 10 years. The Skills Project aims to develop and retain existing skills within the Group and prepare the necessary skills. This new dynamic involves all stakeholders: public authorities, the French Ministry of Education, France Travail (the French public employment service), and the industrial operators concerned, at both national and local levels.

The main actions will enable the Group to:

- reinforce overall coherence between the energy transition sectors, the Group's entities and business lines, and the regions. This coherence concerns careers guidance, attractiveness, sourcing, recruitment and training. It is structured at three levels: the national players in employment and education, the major industrial sectors, and the regions and their training campuses;
- scale up to meet the required volumes by identifying regional needs and planning resources in advance, attracting candidates to energy transition training courses and the EDF group, diversifying candidate sourcing strategies and offering loyalty-building career paths.

5B – Climate change adaptation: physical risks and transition risks

SUMMARY

The Group is exposed to physical effects of climate change, which could have consequences for its own industrial and tertiary facilities and more generally for the Group's financial position. The effects of climate change also present systemic challenges, including cross-cutting impacts on the EDF group and its external stakeholders. Moreover, the societal, technological and economic context might not be favourable for the low-carbon solutions promoted by the Group.

Criticality: ■ ■ Intermediate

The breakdown proposed by the Task Force on Climate-Related Financial Disclosures (TCFD), which EDF applies, puts climate change risks into two categories: risks of not adapting to the physical effects of climate change (termed "physical risks"), and risks induced by the transition to a low-carbon economy (termed "transition risks").

a) Principal physical risks

The operation of the EDF group's facilities is closely linked to natural resources (particularly water, wind and sunshine). The overall reliability of the electricity system depends on the resilience of generation facilities and network infrastructures to climate change, in the form of both chronic effects and an increase in the frequency and intensity of extreme weather events.

Extreme risks can potentially affect the safety and security of facilities and network infrastructure or generation output. Chronic risks can have consequences for working conditions, generation output, network transfer capacities and the natural resources used, particularly water resources (resource conflicts).

Due to this climate sensitivity and the many uncertainties associated with the effects of climate change, despite the control actions undertaken, climate change could have an adverse impact on the Group's business continuity, operational performance, and balance sheet and financial results. In particular, it could lead to additional expenses to adapt facilities. These risks could also result in impacts on the Group's external stakeholders (local residents, suppliers, community infrastructure, etc.).

b) Control actions to address physical risks

- Regular inspections are carried out at nuclear and hydropower facilities, incorporating both past experiences and projections related to climate change.
- As required by the Group's CSR policy, the Group's main operating entities regularly update their climate change adaptation plans. These plans are being reinforced for the nuclear entities in France and the United Kingdom, the hydropower and the island entities, and are based whenever possible on the IPCC scenarios, in order to examine the measures taken and to be taken. To this end, a guide to implementing climate change adaptation plans has been made available to the Group's entities.

- Since the 1990s, the EDF group has been building up specific R&D expertise on climate change issues, which it has put to use in collaborative academic research projects to support these actions.
- The Group carries out numerous monitoring and anticipation measures concerning extreme and chronic effects, so as to update its climate change adaptation plans for generation facilities and infrastructures, and to plan ahead for the impact on the supply/demand balance.
- The Group coordinates water uses internally and with external stakeholders.
- A programme called ADAPT has been set up in France to reinforce the long-term resilience of the Group's nuclear and thermal generation facilities in the face of climate change. This programme takes into account systemic challenges, risks and impacts relating to all internal and external stakeholders.
- The Group regularly renews its insurance cover for climate-related risks.

c) Principal transition risks

The context of transition towards decarbonisation is apparently favourable and promising for EDF's activities, in line with its *raison d'être* and strategy, but it generates several transition risks:

- the external, societal, competition, labour, economic or industrial context could be an obstacle to this strategy. In particular, the development of new nuclear generation facilities may not be recognised at societal and political level as a key enabler of the low-carbon transition;
- meeting emission reduction targets and more generally making the Group's low-carbon strategy a success will depend primarily on the success of fossil fuel power plant closures or decarbonisation, and the accelerated development of renewable generation facilities to complement nuclear and hydropower generation;
- in addition, new low-carbon energy solutions and the construction of new low-carbon electricity generation sites may raise societal questions, with conflicts for example over land use at a time when land artificialisation is being restricted, water in view of diminishing resources, and the use of rare minerals;
- in 2022, the Energy ministers of the G7 countries set themselves the target of decarbonising the power generation sector by 2040, in line with the International Energy Agency's Net Zero scenario published in 2021. This target has been adopted by many players, including the Science Based Targets initiative (SBTi) in its Net Zero standard. This situation is obliging EDF to explain the impacts of such a scenario for its own activities. The Group plays a critical role in the supply/demand balance of the electricity system, particularly in France. It may not be able to follow this decarbonisation trajectory, and that could result in reputational risks or stranded assets. To achieve this decarbonisation trajectory by 2040 for all activities, certain incentivisation conditions will be necessary, particularly concerning the robustness of the long-term CO_2 price and provision of support for all low-carbon technologies and their value chains;
- the European Directive on the reporting of non-financial data (CSRD, adopted in November 2022) sets all European companies the goal of following a trajectory aligned with the 1.5°C target and attaining carbon neutrality at European level by 2050. The lack of standardisation in existing labels poses a risk that the impact of EDF's activities may be unclear to its stakeholders. Moody's has given the EDF group a 1.5 °C Net Zero Assessment, but the SBTi still rates the Group as being on a "Well Below 2 °C" reduction pathway;
- new legislative or regulatory changes related to climate change, and any consequences of climate change-related legal action, could also have a negative impact on EDF's business and be a source of new legal or non-compliance risks;
- the Group may also have to deal with the emergence of disruptive new technologies or solutions that are part of the efforts to meet the transition objectives.

d) Control actions to address transition risks

- Carbon trajectory. In 2018, the Group set itself the objective of contributing to achieving carbon neutrality by 2050. In 2020, it committed to a trajectory of reducing all its emissions (Scopes 1, 2 and 3) by 2030, and to a climate transition plan. After halving its direct CO_2 emissions between 2017 and 2022, in 2023 the Group set new targets for 2025, 2030 and 2035, setting itself an ambitious short- and medium-term trajectory for the decarbonisation of its activities (see section 3.2.2.1.1.1 "A 'Net Zero Emissions' ambition supported by an ambitious carbon trajectory").
- Rollout of low-carbon solutions. The Group is active in all low-carbon solutions, for electricity generation (renewable and new nuclear), development of flexibilities (notably electricity storage), low-carbon electric mobility and development of decarbonisation solutions for industry.
- As the final step in its objective of contributing to achieving carbon neutrality, the Group is prioritising "negative emission" projects to offset its residual emissions by 2050.
- The 3A risk management actions relating to changes in public policy and the regulatory framework consist of: monitoring the political, legislative, regulatory and case law context; analysing the potential consequences of legislation and monitoring legal proceedings; dialogue with and presenting arguments to the public authorities.

e) Overall control actions – climate risk summaries and mapping

- Since the 1990s, the Group has had significant expertise in climate change, both in its R&D Division and its engineering centres. This expertise undergoes regular external reviews, for example as part of EDF's Scientific Council in 2019, and its Stakeholders Council in 2023 (these two bodies are described in section 3.2.2 "ESRS E1 - Climate change").
- A Group-wide climate risk map covering all physical and transitional risks, in line with TCFD recommendations, is regularly presented to the Risk and Audit Committee. It is based in particular on the operational entities' adaptation plans, and on R&D expertise. Climate risks are identified, assessed and updated annually in accordance with the Group's general risk mapping methodology (summarised in this chapter and detailed further in section 3.2.2.3 "Business model resilience to climate change: use of climate scenarios").
- Climate risk mapping is translated into an action plan for the carbon trajectory and climate change adaptation (the resilience plan), which is included in the corporate plan.
- A presentation to the Board of Directors was given in September 2023. It focused on the main achievements of the action plans, notably in terms of governance, the choice of scenarios for climate studies, and the completion of climate change adaptation plans for the Group's various business lines.

- An audit of the climate change adaptation of the EDF group's facilities was conducted in 2022, supplemented by an audit in 2024 on environmental and climate risks. The 2024 recommendations concern: harmonisation of climate change assumptions across the various group entities, further detail in the level of resilience expected for the electricity system, operational planning and costing of the adaptation plans. An action plan has been rolled out and is being monitored as part of the Group's resilience plan.
- A large number of measures are used internally to raise Group executives' awareness of climate issues and bring them to take concrete action (see section 3.1.2.3 "Integration of sustainability results into remuneration systems").

5C – Transformation capability risk in the face of disruptive change

SUMMARY

There is a risk that the Group's development strategy, changes in the scope of activities and synergies within the Group might not be implemented in accordance with the objectives defined by the Group.

Criticality: ■ ■ Intermediate

a) Context

- Changes in public policy and the regulatory framework in France and Europe with a significant impact on the Group's activities (France's Energy and Climate strategy (SFEC) and the tax on inframarginal rents); the European agreement on energy markets; post-ARENH measures in France from 1 January 2026.
- There is consensus among all stakeholders on the major role of electricity in the decarbonisation of economic activities by 2050, but it is difficult to implement.
- Emergence of new markets and new players, changes in the business models that may impact the energy markets. Changes in the competition environment of the markets where the Group operates, and new customer demands.
- Persistent volatility in energy prices; tensions over raw materials and critical materials.
- Crisis linked to the industrial contingency of stress corrosion (in the process of being resolved), in a context weakened by crises (Covid, Ukraine).
- Geopolitical tensions.
- The impact of climate change on the Group's activities.

Against this backdrop, competition is intensifying in all areas (energy generation, supply, services, and storage, international tenders) while the rules of the game are changing, notably with the new arrangements for post-ARENH market operation.

b) Main risks

In the context described above, the principal risk is that the Group's strategic goals may not be achieved. In particular:

- there is a risk that the transformations undertaken to meet the challenges and opportunities created in this context will be insufficient, or that the Group's business model will be called into question. The potential consequences of this risk are considered in terms of:
  - financing and profitability in the business model (taking into account the new electricity market organisation planned for France from 1 January 2026),
  - non-achievement of the targets for electrification of uses and decarbonisation, non-achievement of development objectives,
  - poorer upstream/downstream integration,
  - reduction in the cross-cutting synergies rolled out across the integrated Group,
  - lower ability to seize new opportunities (mobility, hydrogen, etc.) and loss of the Group's leading position in the energy industry,
  - inability to find the skills necessary for the development and implementation of energy transition projects in the industrial sectors concerned;
- there is a risk that nuclear costs and cost trends, as well as the Group's ability to finance its costs, could force the Group to reconsider the speed of its strategy rollout;
- even if the transformation was making good progress with adequate contractual arrangements, the Group might be unable to implement its decarbonisation projects on schedule and under satisfactory conditions. Low-carbon solutions might not fully meet the needs expressed by the Group's customers and stakeholders over the long term, and with the expected profitability;
- there is a risk that the individual and collective mobilisation of personnel may not be sufficient, and that the operating methods may not be not sufficiently effective, in view of the Group's challenges and external environment;
- there is a risk the Group may not achieved its digital transformation objectives.

c) Control actions

The following actions are in line with the Group's *raison d'être* and its CSR commitments, responding to the needs of its customers and stakeholders, in the face of changes in the external environment:

- continued development and rollout of low-carbon solutions: low-carbon electricity supply and services, notably energy efficiency and decarbonisation of uses by accelerating the implementation of solutions for the electrification of uses, low-carbon electricity generation, electricity storage solutions, low-carbon hydrogen projects, and flexibility solutions, on the principles of sustainable development and proximity to customers and regions. This strategy combines the search for growth drivers with the optimal use of existing assets. The strategy and levers of the Group's transformation are described in section 1.3 "Group strategy and objectives".
- sharing the "*Ambitions 2035*" corporate plan, to convey the Group's goals to employees through the following four strategic areas, and thus clarify its development trajectory to 2035:
  - supporting customers in reducing their carbon footprint,
  - producing more low-carbon electricity (nuclear and renewables),
  - developing networks to meet the challenges of the energy transition,
  - increasing flexibility solutions to meet the needs of the power system;

- introduction of development, adaptation and transformation programmes and performance plans. These programmes may be complemented by a strategic analysis of assets which may itself identify a need for additional financial agility, giving rise to disposals or acquisitions (see section 1.2.3 “Significant events”);
- actions to mobilise work teams and the Group's leaders through a transformation approach, promoting development of a shared mindset (“all in the same team, which is reinventing itself to achieve the expected results”) and the five top leadership qualities to achieve the “*Ambitions 2035*” goals.

5D – Long-term employee benefit obligations risk

SUMMARY

The Group may be required to meet significant obligations corresponding to pensions and other employee benefits.

Criticality: ■ ■ Intermediate

a) Main risks

The pension systems applicable in the various countries where the Group operates give rise to long-term obligations to pay benefits to Group employees under defined-benefit plans (see section 6.1, note 16 “Provisions for employee benefits” to the consolidated financial statements for the financial year ended 31 December 2024). In France, in addition to these pension obligations, the Group also has obligations for post-employment benefits and long-term benefits for employees currently in service.

The amounts of these obligations, the provisions set aside, the external or company pension funds set up and the additional contributions to compensate for funding shortfalls are estimated on the basis of actuarial assumptions, notably a discount rate that may vary depending on market conditions and, in the case of employee benefit obligations in France, the rules governing the benefits paid out of the standard national schemes and the amounts to be borne by the Group. Future adjustments to these assumptions and rules could increase the Group's current obligations regarding pensions and other employee benefits, and therefore lead to an increase in the corresponding provisions.

Therefore, any new pension reform in France could have an impact on the Group’s obligations.

In addition, if the value of the pension funds in the United Kingdom were to prove insufficient in view of the corresponding obligations, mainly as a result of calculation assumptions or changes in the financial markets, the Group might be required to pay additional contributions to the funds concerned, which would have a negative impact on its financial position.

b) Control actions

In order to cover these obligations, the Group has set up a pension fund (EDFG) in the United Kingdom, where funding of pension commitments is a regulatory requirement, and external pension funds in France, that partially cover its obligations. These funds are subject to an asset-liability management strategy aimed at controlling the risk of increases to the provisions arising from these obligations.

3.

Sustainability Statement and Vigilance plan

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In line with EDF's *raison d'être*, strategy, business model and related risk factors[1], chapter 3 presents the EDF group's issues, commitments, policies, actions and results in terms of non-financial performance and corporate social responsibility (CSR). The sustainability statement corresponds to sections 3.1 to 3.4.

3.1 General information

EDF's *raison d'être* is based on key issues, which, when deployed together, aim to ensure that the Group's action in the context of the energy transition can be carried out in a fair and inclusive manner. For a detailed explanation, see "A fair and inclusive energy transition, from strategy to action" published on the edf.fr website[2].

The EDF group's CSR objectives are consistent with the "*Ambitions 2035*" corporate plan and its *raison d'être*: the EDF group is committed to building the electricity system of tomorrow, operating within planetary boundaries and acting for a just transition.

(1) For details of the EDF group's *raison d'être*, see the introduction to the URD; for details of the EDF group's strategy, see section 1.3 "Group strategy and objectives"; for details of the EDF group's business model, see section 1.1 "Key figures and business model" and section 1.4 "Description of the Group's activities"; for details of the EDF group's risk factors, see chapter 2 "Risks and control framework".
(2) www.edf.fr/sites/groupe/files/2022-10/edfgroup_rse_transition-juste-et-inclusive_principes_2022_va.pdf

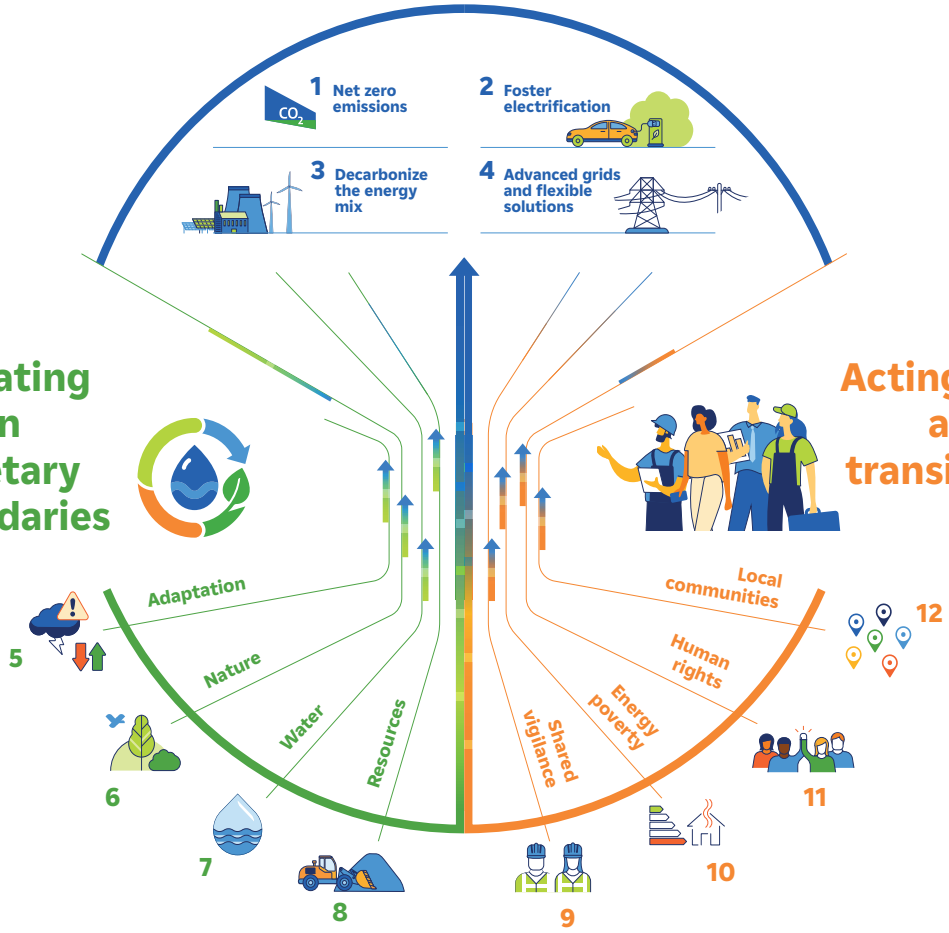
OUR **CSR COMMITMENTS**

Our *raison d'être:*

To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development.

As part of our *"Ambitions 2035"* strategic plan, **EDF has set out 3 main objectives and 12 CSR commitments.**

Building the electricity system of tomorrow



Our ambition: to be the generation making the transition

Building the electricity system of tomorrow

1. **Achieve net zero emissions** across all our activities by 2050.
2. **Foster electrification:** support our customers in adopting innovative, low-carbon solutions.
3. **Decarbonize the energy mix:** accelerate the displacement of fossil fuels with low-carbon electricity and heat, through our existing and future nuclear and renewable power plants.
4. **Develop advanced grids and flexible solutions** to meet the needs of the electricity system and drive the energy transition.

Operating within planetary boundaries

5. **Adaptation:** reinforce the capacity of our local operations to adapt to climate disruptions.
6. **Nature:** contribute to the regeneration of ecosystems and mitigate our negative impacts.
7. **Water:** contribute to preserving water resources to increase the resilience of ecosystems and to satisfy water demand in a concerted and sustainable manner.
8. **Resources:** commit to a circular model which requires fewer raw materials, as well as to the responsible management of our nuclear and conventional waste.

Acting for a just transition

9. **Shared vigilance:** safeguard the health and safety of all employees, partners and suppliers.
10. **Combat energy poverty.**
11. **Champion human rights** to promote greater inclusion, diversity and positive impact in our value chain.
12. **Promote thriving local communities:** maximise our positive impact on the territories where we operate through consultation with stakeholders and respect for their fundamental rights.

The following map indicates, for each CSR commitment, the sustainability issues resulting from the double materiality analysis, its contribution to the UN Sustainable Development Goals (SDGs), and the associated performance measurement.

Group CSR commitments and key indicators

Group commitments	ESRS	Material sustainability issues for EDF	Contribution to the SDGs	Policy, actions, results, metrics
		Cross-cutting sustainability issue: Governance		
BUILDING THE ELECTRICITY SYSTEM OF TOMORROW				
Achieve "Net Zero emissions"	E1	Climate change mitigation	7, 11, 13, 9	Section 3.2.2.1
Foster electrification	E1	Climate change mitigation		Section 3.2.2.1
Decarbonize the energy mix	E1	Climate change mitigation		Section 3.2.2.1
Develop advanced grids and flexible solutions	E1, S4	Climate change mitigation Electricity continuity and supply		Section 3.3.5.1
OPERATING WITHIN PLANETARY BOUNDARIES				
Adaptation	E1	Climate change adaptation	6, 12, 14, 15	Section 3.2.2.2
Nature	E2, E4	Impact on ecosystems Biodiversity loss Pollution of air, water and soil		Section 3.2.5
Water	E3	Freshwater withdrawal and consumption Sharing of water resources		Section 3.2.4
Resources	E5	Waste Resource inflows		Section 3.2.6
ACTING FOR A JUST TRANSITION				
Shared vigilance	S1, S2, S3, S4, G1	Health and safety for all Ethics, compliance and transparency of lobbying Personal data protection Safety and crisis management Effectiveness and integrity of whistleblowing systems	5, 12, 17, 8	Section 3.3.2.6
Combat energy poverty	S4	Social inclusion of consumers and/or end-users		Section 3.3.5.2
Human rights, inclusion, diversity and impact in the value chain	S1, S2, S3, G1	Equality, diversity and inclusion for all Human rights of company employees, workers in the value chain and affected communities Management of relationships with suppliers Skills development Social dialogue Employee attraction and retention		Section 3.3.2.7 Section 3.4.1.2
Promote thriving local communities	S3	Local development Dialogue and consultation with stakeholders		Section 3.3.4 Section 3.3.4

Key performance indicator	Scope	Unit	Objective				2022	2023	2024
Scope 1 emissions - Direct greenhouse gas emissions	Group	$MtCO_2e$ *vs* 2017	2027 -65%	2030 -70%	2035 -80%	2050 -90%		-63%	**-67%**
Scope 3 emissions	Group	$MtCO_2e$ *vs* 2019	2027 -30%	2030 -35%	2035 -45%			-39%	**-38%**
Avoided CO_2 emissions thanks to sales of innovative goods and services	Group	$MtCO_2$	2027 22	2030 30	2035 45		11.4	12.4	**13.4**
Carbon intensity: specific CO_2 emissions from electricity and heat generation	Group	gCO_2/kWh		2030 30	2035 22		50	37	**30**
Development of renewable energies	Group	Gross GW commissioned/ year on average			2035 8			2.9	**3.2**
Network development: average annual duration of outage as experienced by customers	Enedis	min	2025 62				59.5	72.9	**71.6**
Percentage of adaptation plans updated over the last two years	Group	%	2025 100%						**54%**
Restoration of ecosystems: renaturing of natural spaces	EDF SA	number of sites	2025 12	Group target to be defined					**6**
Water intensity: water consumed/electricity generation	Group	l/kWh	2027 <0.9	2030 <0.9	2035 <0.9		0.75	0.82	**0.86**
Work in progress to define an ambition to save natural uranium through the recycling of used fuel									
Annual rate of conventional waste directed towards a waste recovery industry	Group	%	2027 >90	2030 >90	2035 >90		88.4	85.3	**90.0**
Global Lost Time Incident Rate (LTIR)	Group	per million	2025 < 1.6	2030 < 1			1.9	1.7	**1.6**
Energy poverty: number of power limitations avoided compared to the number of power limitations implemented	EDF SA and Électricité de Strasbourg	%	Group target to be defined						**398,612 (avoided) / 426,938 (implemented)**
Gender balance: women among executives of the Group	Group	%		2030 40				24.0	**26.7%**
Payment terms	France[1] United Kingdom[2] Belgium[3] Italy[4]	days	2025 60	2030 60	2035 60				**< 60***
Annual local purchasing rate	EDF SA	%	Group target to be defined					94.5	**95.4%**
Annual rate of projects for which a dialogue and consultation process is engaged	Group	%	2025 100	2030 100	2035 100		100	100	**100%**

* In France: 60 days; in the United Kingdom: 42 days; in Italy: 38 days; in Belgium: 46 days

(1) including EDF SA, Framatome, Enedis, EDF Renewables, Électricité de Strasbourg and Dalkia.
(2) including EDF Energy, Dalkia in the United Kingdom and EDF Renewables in the United Kingdom.
(3) Luminus.
(4) Edison.

3.1.1 Basis for establishing the sustainability statement

The non-financial performance is a component of the Group's overall performance and contributes to a just and inclusive energy transition.

The sustainability-related information has been prepared in the context of the first-time application of the legal and regulatory requirements resulting from the transposition of the European Corporate Sustainability Reporting Directive (CSRD). This first year of application of the directive and the double materiality analysis that it requires is characterised by uncertainties regarding the interpretation of the texts, the absence of established practices and comparative data, and difficulties concerning data collection, particularly within the value chain.

In this context, the Group has endeavored to apply the normative requirements set by the ESRS(1), defined as applicable at the date of preparation of the sustainability statement, on the basis of the information available within the deadlines for preparing the sustainability statement.

In some cases, difficulties in accessing reliable data within these deadlines have forced the Group to use partial information and/or estimates:

- partial scopes (see section 3.1.1.1 "Scope") applied to some data. These partial scopes will be gradually extended to cover the entire Group scope;
- estimates (see sections 3.1.1.3 "Assessments concerning the value chain" and 3.1.1.4 "Sources of estimation and outcome uncertainty") that may be refined as the quality of the available data improves.

Lastly, in a continuous improvement approach, the Group may decide to modify certain reporting and communication practices, as well as the internal control system relating to the production of sustainability-related information, to take into account the best practices and recommendations in the market, as well as better knowledge of these new regulatory and normative provisions.

The method for drafting the sustainability statement is consolidated based on the CSR Directive (EU) 2022/2464 transposed in France in December 2023 by Order No. 2023-1142 of 6 December 2023 and Decree No. 2023-1394 of 30 December 2023.

3.1.1.1 Scope

Principles

Regarding environmental, social and societal indicators, the scope covered by the sustainability statement is based on the Group's financial consolidation scope. The list of the main companies included in the scope of consolidation is presented in section 6.1, note 3 "Scope of consolidation" to the consolidated financial statements for the financial year ended 31 December 2024. This scope includes EDF SA, as well as the controlled subsidiaries (full consolidation), in accordance with international accounting standards (IAS-IFRS). An analysis carried out by the Group concluded that the scope of financial consolidation is identical to the scope of operational control within the meaning of the ESRS, with the exception of Dalkia, where operational control situations have been identified.

The indicators of the sustainability statement relating to the value chain (Scope 3 greenhouse gases only in 2024) include equity-accounted investments and non-controlled interests up to the proportion held by the EDF group.

It should be noted that all Group's activities come under **a single large ESRS sector, namely the Energy sector**. This sector is defined according to Delegated Regulation (EU) 2023/2772 of 31 July 2023 and the NACE classification as a **sector with a high climate impact** (electricity generation and distribution sector).

The entities acquired during the financial year are included, where applicable, in the financial scope of consolidation in the year of acquisition if their acquisition was completed at least six months before the accounting closing date.

Applicable scope

In 2024, the scope of consolidation of the environmental, social and governance indicators included Arabelle Solutions (following the acquisition in May 2024 by EDF of the nuclear activities of GE Steam Power) and NUWARD, a subsidiary created in 2023 (already consolidated in financial consolidation) and dedicated to the development of the Small Modular Reactor.

The sustainability statement covers all the Group's activities, its consolidated subsidiaries and its geographic locations. It includes the information related to the upstream and downstream value chain that was identified as material during the double materiality analysis of the impacts, risks and opportunities.

There is no intentional omission of any information related to the Group's intellectual property, know-how or results of innovations. Moreover, the Group does not make any use of the exemption from publishing information related to imminent developments or matters under negotiation, in accordance with Articles 19 bis (3) and 29 bis (3) of Directive 2013/34/EU.

However, for this first year, a certain amount of quantitative data has not yet been collected, at Group level, or only partially. The Group is planning to collect this data on a Group-wide basis from 2025. The table below lists the mandatory indicators concerned and the extent of the collection scope for the year 2024, if applicable.

(1) European Sustainability Reporting Standards.

Mandatory data	Status of the mandatory data collection	2024 collection scope
E3: Recycled / reused water	Indicator collected on a partial scope	EDF SA / Nuclear Generation Division
E4: Number and area of sites having a negative impact on biodiversity-sensitive areas	Indicator not collected in 2024	
E4: Preservation and restoration of natural areas	Indicator collected on a partial scope	EDF SA
S1: Number and rate of work-related accidents	Indicator collected on a partial scope	EDF SA
S1: Gender pay gap and equity ratio	Indicator collected on a partial scope	EDF SA France, Enedis, Framatome France, Dalkia France, EDF Energy
S2: Supplier CSR audit / assessments	Indicator collected on a partial scope	EDF SA, Dalkia, Edison, Framatome
S3: Local purchasing rate	Indicator collected on a partial scope	EDF SA
S4: Solidarity performance indicator	Indicator collected on a partial scope	Mainland France in 2024
G1: Percentage of functions-at-risk of corruption and bribery covered by training programmes	Indicator collected on a partial scope	Some EDF SA's divisions, Dalkia, Edison, Framatome, EDF Energy, EDF Renewables, PEI divisions
G1: Payment practices: payment terms and legal proceedings	Indicator collected on a partial scope	France including EDF SA, PEI, Edvance, G2S, Sofilo, Immobilière du Plateau, Framatome, Enedis, EDF Renewables, Électricité de Strasbourg and Dalkia; United Kingdom including EDF Energy, Dalkia, EDF Renewables; Belgium (Luminus) and Italy (Edison)
Financial resources	Indicators collected on a partial scope	The management tools in place within the Group do not make it possible to collect all financial resources allocated to the various action plans

3.1.1.2 Time horizons

The time horizons used by the Group are those defined in the ESRS 1 standard. The short-term time horizon corresponds to the reference period of the financial statements, the medium-term horizon extends from the end of the short-term reference period up to five years, and the long-term horizon corresponds to the impacts, targets or expected actions over a period longer than five years. In particular, targets are often set for 2035 in line with the Group's strategic project.

For the specific case of climate risk analysis, the EDF group uses scenarios with a horizon of up to 2100 (see section 3.2.2.3 "Business model resilience to climate change: use of climate scenarios").

3.1.1.3 Assessments concerning the value chain

The assessment of the impacts and risks of the stakeholders of the EDF group's value chain, for all subjects, and on all the Group's upstream and downstream activities, was carried out based on internal expertise. This analysis focused mainly on the Group's tier-one suppliers and customers. This assessment will be completed in the coming years using sustainability reports that will be produced by the Group's value chain players and sectoral ESRSs, which will provide a consensual vision of the materiality of a sector.

Regarding the data from the value chain, for this first year, the assessments only concern the greenhouse gas (GHG) footprint (Scope 3). These assessments are inherent to the methodologies for assessing Scope 3 emissions, notably because of the absence of consensus on certain accounting practices and constant regulatory changes. In addition, a certain level of uncertainty may be attached to activity data and emission factors - which convert activity data into CO_2 emissions- which are themselves subject to variations depending on the sources and application contexts. In this context, the Group has made its best efforts to comply with the best market practices and methodologies. Any other data that may be relevant to collect in the future, depending on the materiality of each sector, will mainly be based on the data disclosed in the sustainability reports of the Group's suppliers and customers. If this data is insufficient or incomplete, the Group will contact the suppliers and customers concerned on a case-by-case basis.

3.1.1.4 Sources of estimation and outcome uncertainty

The sustainability-related information may be subject to inherent uncertainty due to incomplete scientific or economic knowledge and to the quality of the internal and external data used (*e.g.* data calculated for the value chain). In addition, certain information such as forward-looking data, missing data (in particular relating to the last days of the year), and the quantification of certain information in terms of sustainability, in particular environmental, are subject to estimates and judgements based on the Group's experience and internationally recognised sustainability benchmarks as well as on the best available information to date. For example, for certain environmental data on certain specific industrial facilities, direct measurements are not possible and have required the development of calculation models based on a certain number of measured data.

These estimates are sensitive to methodological choices and to the assumptions used. The nature and scope of the estimates used or the limitations on the scope of collection made on a case-by-case basis on certain data are explained in each relevant section of this report, entitled "Details on the indicators", with regards to the 2024 data communicated. This is the case, for example, for indicators relating to water withdrawal and consumption (see section 3.2.4.2.5 "Indicators relating to water withdrawal and consumption").

3.1.1.4.1 Changes in preparation or presentation of sustainability-related information

The statement of non-financial performance (SNFP) has evolved to become the sustainability statement, which introduces new indicators aligned with the European sustainability standards while incorporating certain elements already present in the SNFP.

3.1.1.4.2 Information from other legislative acts or information frameworks

For more information, see section 3.1.5.2 "Table of all data points arising from other EU legislation".

For the sake of consistency and to avoid any duplication of information, this report is based on specific references to relevant sections of the Universal Registration Document (URD). This approach makes it possible to centralise information while facilitating its accessibility for stakeholders. The use of these references also meets the requirements of the CSRD in terms of transparency, connectivity and traceability of information.

3.1.2 Governance

The governance of sustainability issues is supervised, in accordance with the independent management of the network's infrastructure managers, at the top Group-level.

3.1.2.1 The role of the governance, management and supervisory bodies

3.1.2.1.1 Board of Directors

The composition, duties and powers, skills and expertise, and functioning of EDF's Board of Directors are described in section 4.2 "Members and functioning of the Board of Directors".

In terms of CSR, the members of EDF's Board of Directors are made aware of sustainability issues, in particular through the implementation of training courses (see sections 3.1.2.2 "Skills and expertise of the administrative, management and supervisory bodies on sustainability issues" and 4.2.2.7 "Information and training of Directors").

In this respect, within the Board of Directors of EDF, the specialised committees, such as the Strategy Committee, the Risk and Audit Committee, the Corporate Responsibility Committee, and the Climate Officer of the Board of Directors contribute to defining and implementing the Group's CSR strategy and policy (see sections 4.2.3 "Board of Directors' Committees" and 3.1.3.6 "Corporate social responsibility policy").

Indeed, the Risk and Audit Committee and the Corporate Responsibility Committee jointly examine the process of control, management and monitoring of the Group's impacts, risks and opportunities in terms of sustainability. As such, their duties are as follows:

- monitor the sustainability reporting process and the implementation process to determine the disclosures in accordance with sustainability reporting standards;
- monitor the effectiveness of the internal control, risk management and internal audit systems regarding the procedures relating to the preparation and processing of sustainability-related information;
- monitor the certification of the sustainability-related information;
- ensure compliance with the independence conditions required of persons performing sustainability-related information certification missions; and
- report regularly to the Board of Directors on the performance of their missions, the results of the certification of the information in terms of sustainability as well as the way in which these missions have contributed to the integrity of the sustainability-related information.

In 2024, the Risk and Audit Committee and the Corporate Responsibility Committee met three times on sustainability issues. The topics covered were focused on the training of directors on sustainability topics, the appointment of the Statutory Auditors in charge of the certification of the consolidated information in terms of sustainability, the double materiality process and the process of setting CSR targets. When presenting the double materiality process, the list of the significant impacts, risks and opportunities described in section 3.1.3.3 "Material impacts, risks and opportunities" was presented to the Risk and Audit Committee and the Corporate Responsibility Committee (see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees"). The impacts, risks and opportunities, and more generally all sustainability issues addressed by the Corporate Responsibility Committee (see section 4.2.3.5 "Corporate Responsibility Committee") are considered in the strategic decisions made by EDF and in the risk management procedures (see section 3.1.4.2 "Correspondence between the IROs (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD)").

For more information on the role and missions of the Board of Directors' Climate Officer, see section 4.2.3.5 "Corporate Responsibility Committee".

The EDF group's first climate transition plan was adopted at the General Meeting of Shareholders of 12 May 2022 by a majority of 99.87% of the votes. As part of its missions, in 2024, the Strategy Committee reviewed the Group's climate transition plan (see section 4.2.3.1 "Strategy Committee").

3.1.2.1.2 Governance of sustainability issues (executive level)

3.1.2.1.2.1 Executive Committee

The Executive Committee is a decision-making body, a forum for discussion and a consultative body on the Group's operational and strategic matters. It examines, while respecting the management independence of network operators, all the substantive and current matters of significance to the Group, tracks the operating objectives and results and contributes to management and forecasting of the major challenges for the EDF group. The Executive Committee meets weekly. It validates all the Group's policies, which define the common requirements to be complied with within the Group, in particular the policies related to sustainability issues.

For the composition of the Executive Committee, see section 4.3.1 "Members of the Executive Committee".

3.1.2.1.2.2 CSR Strategy Committee

The CSR Strategy Committee, which is chaired by the Chairman and Chief Executive Officer and composed of the Group's Executive Directors, conducts an in-depth review of all CSR issues, for which it provides strategic management and coordination. Depending on the agenda, the conclusions of the meetings are reported to the Board of Directors[1].

The CSR Strategy Committee met four times in 2024 and dealt in particular with EDF Renewables' climate change adaptation plan, the results of the assessment of the Group's double materiality as part of its compliance with the CSRD, the conclusions of an internal audit on the management of environmental risks, studies on the living wage, and the EDF group's societal commitment.

3.1.2.1.2.3 Sustainable Development Committee (SDC)

The Sustainable Development Committee represents all the Group's business lines and prepares the issues presented to the CSR Strategy Committee. It also acts as a sector committee for environmental and societal skills. It is chaired by the Chief Impact Officer, and is composed of around 20 representatives in charge of CSR at their entities. The SDC met five times in 2024.

3.1.2.1.2.4 CSRD Project Governance Committee

A governance committee dedicated to the CSRD project has been set up. This governance committee implemented the best project management practices and brought together the following divisions and subsidiaries:

- corporate divisions of EDF: Performance, Impact, Investments and Finance Division, Group Strategy Division, Group Risk Division, Group Legal Division, Group Ethics and Compliance Division, Group Purchasing Division, Group Human Resources Division;
- the operational divisions of EDF: Nuclear and Thermal Generation Division, International Division, EDF Hydro, Island Energy Systems Division, Supply Chain Engineering Division;
- Group subsidiaries: Dalkia, Edison, Framatome, Luminus, Edison, EDF Renewables.

In 2023-2024, the CSRD Project Governance Committee met seven times to monitor the progress of the project and carry out the necessary arbitration.

3.1.2.1.2.5 Group Executive Committee Commitments Committee (CECEG)

The Group Executive Committee Commitments Committee authorises the Group's largest investments and commitments[2] (see section 2.1.3.4 "Approval of capital commitments").

These projects must comply with the *raison d'être* and are subject to an opinion by the Impact Division based on a screening grid translating the Group's CSR commitments into operational terms. Issues relating to the environment, personal health and safety and human rights are therefore systematically addressed in the analysis of projects. Concretely, this takes the form of identifying the risks associated with the projects for the activities developed and for the supplier and subcontractor relationships envisaged in the framework of the project. Where necessary, the Impact Division organises due diligence investigations specific to these issues.

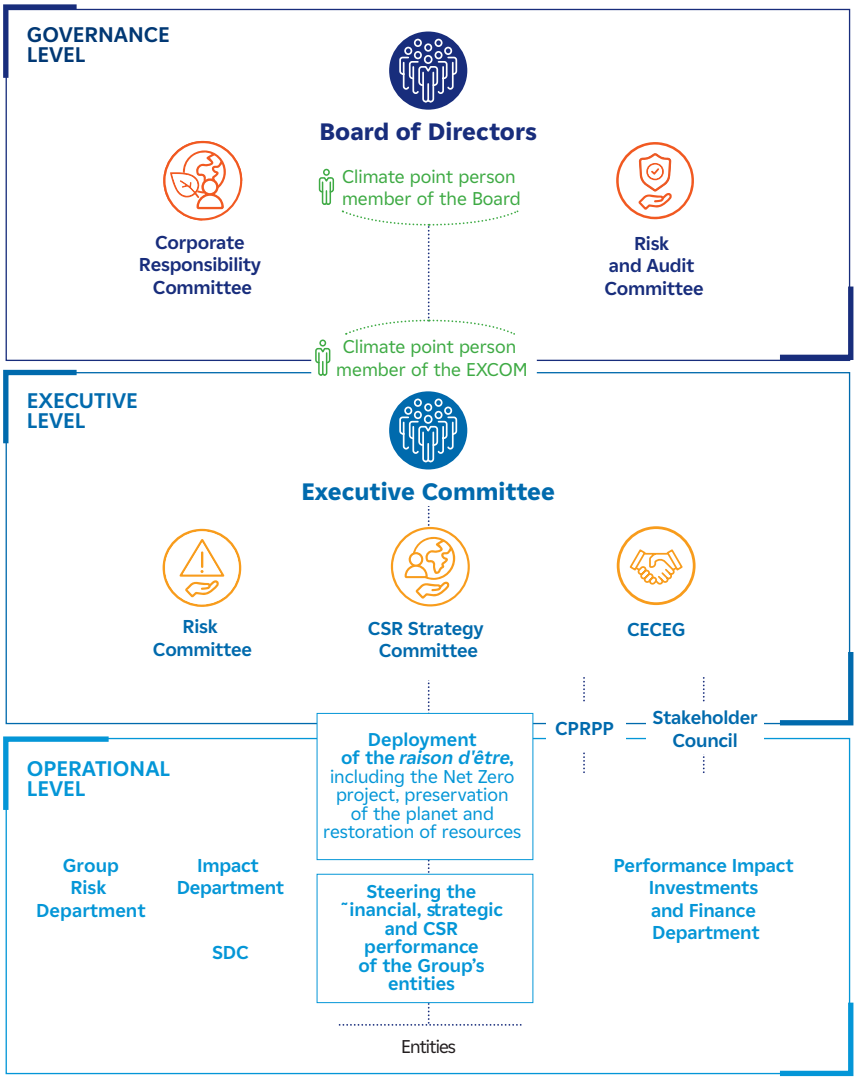
In the milestones prior to the Group Executive Committee Commitments Committee, these aspects are examined in the project validation bodies specific to each entity.

(1) Through its Corporate Responsibility Committee.
(2) This undertaking concerns new projects involving investments of more than €60 million, entailing a significant impact on regions and the environment.

3.1.2.1.2.6 Governance of climate and nature issues

In order to ensure that climate and nature-related issues are taken into account, specific governance for these issues has been put in place through the various committees and bodies listed in the previous paragraphs of this section (3.1.2.1 "The role of the governance, management and supervisory bodies", in particular section 3.1.2.1.1 "Board of Directors").

Climate and nature governance map



The Board of Directors
defines strategic, financial and economic guidelines by taking into account the Group's climate and nature issues.
Appointment of a climate point person within the Board.

The Executive Committee (EXCOM)
implements the Group's climate and nature strategy.
Appointment of a climate point person within the EXCOM.

The CSR Strategy Committee
chaired by EDF's Chairman and Chief Executive Officer, it oversees climate and nature strategies and any other subject related to the Group's 12 CSR commitments.

The Group Executive Committee's Commitments Committee (CECEG)
authorises the Group's most important investments and commitments in line with its *raison d'être* and CSR commitments, including climate and nature.

The Risk Committee
identifies the Group's priority risks, including climate and nature-related risks, and shares its strategy for addressing them.

The Stakeholder Council
provides feedback on the expectations of civil society, notably those relating to the preservation of natural resources.

The Public Authorities Relations Management Committee (CPRPP)
coordinates actions to convey the Group's positions to the French and European authorities.

The Sustainable Development Committee (SDC)
represents all the Group's businesses and prepares the issues presented to the CSR Strategy Committee.

Deployment of the *raison d'être* and strategic workstreams
to integrate CSR commitments, including climate and nature, into all Group policies.

Management of the financial, strategic and CSR performance of the entities
integration of climate and nature criteria in the new CSR policy and in the entities' framework letters.

Speci¸ic to climate governance.

3.1.2.1.2.7 Impact Division

As part of the evolution of EDF's organisation to meet the challenges of relaunching a nuclear program, the Impact Division has been integrated into the Performance, Impact, Investments and Finance Division (DP2IF). This reorganisation strengthens the synergy between financial objectives and CSR commitments, thus optimising the Group's integrated performance (in particular the allocation of capital to guide business models and the guarantee of governance of risks and opportunities related to the energy transition).

The Impact Division coordinates CSR in the Group: corporate coordination of the business lines and subsidiaries within the Sustainable Development Committee (see section 3.1.2.1.2.3 "Sustainable Development Committee"), coordination of dedicated internal networks such as the environmental management system (see section 3.2.1 "Environmental management system") or anticipatory monitoring networks, coordination of relations and dialogue with external partners (see sections 3.3.3.2 "Processes for dialogue with workers in the value chain" and 3.3.5.1.2 "Dialogue process related to electricity continuity and supply for consumers and end-users").

3.1.2.2 Skills and expertise of the administrative, management and supervisory bodies on sustainability issues

The Board of Directors' expertise in terms of sustainability are assessed according to several topics, such as the environment and climate, societal and governance issues, and their assessment is described in section 4.2.1 "Members of the Board of Directors".

In order to raise sustainability issues to the highest level of the Company and to strengthen the involvement and commitment of the Board of Directors on all climate-related issues, in line with EDF's *raison d'être*, and on social and environmental responsibility issues, several training programmes are available to the Board of Directors (see section 4.2.2.7 "Information and training of Directors"):

- the Group's digital training platform where a training course dedicated to CSR issues was made available to the Board of Directors in 2024. This course includes several modules to understand the main environmental and societal challenges of the company, take ownership of the Group's CSR commitments, and identify the operational implementation of these commitments;
- specific sessions are organised on sustainability issues such as the session on the Group's carbon trajectory in 2024;
- meetings of the Board of Directors or its specialised committees where CSR topics are frequently on the agenda, such as the review of the Company's vigilance plan or the annual review of sustainability performance (see sections 4.2.2.9 "Activity of the Board of Directors in 2024", 4.2.3.1 "Strategy Committee" and 4.2.3.5 "Corporate Responsibility Committee"). In 2024, the sustainability statement and its issues were discussed three times during these meetings: presentation of the double materiality analysis, the associated internal control process, and establishment of the Group's targets and commitments.

In addition, the training of executives and directors includes sustainability topics. Fully digital training courses are made available to all executives, such as: "Building a decarbonised electricity mix by 2050: challenges and methodology". The EDF group is also pursuing its training offer "Energy strategic business" for executives, or the "Business and sustainable development" module targeting incoming Group directors. In 2024, all executives were made particularly aware of climate issues through the deployment of the Group's corporate plan "Ambitions 2035".

3.1.2.3 Integration of sustainability results into remuneration systems

In line with EDF's desire to promote integrated performance (economic, operational, financial and CSR), the annual variable remuneration of the Group's senior executives is also based on financial and CSR criteria. Although CSR criteria have been part of the annual and long-term variable remuneration mechanisms for several years, in 2024 EDF made significant changes to strengthen this leverage:

- increase in the weighting of CSR criteria:
  - in the annual variable remuneration: between 9% and 21% of the total weighting in 2024 depending on the Group's entities (*vs.* 9% to 15% in 2023),
  - in the Group long-term remuneration plan: increase from 20% to 30% of the total weighting;
- introduction of a gender balance criterion in the annual bonus, in addition to the one that already exists in the long-term remuneration plan, in line with the Group's ambition to reach 40% of women among its senior executives by the end 2030;
- introduction of new climate criteria into the annual bonus, based on the Scope 3 emissions[1] and the avoided CO_2 emissions, in addition to the Scope 1 emissions and, in order to be representative of the Group's entire carbon footprint, see the section "Three climate criteria" below;
- introduction of a cap on the achievement rate of the overall LTIR safety criterion at 80% in case of fatal accident of an employee or service provider;
- implementation of integrated management of CSR, business and financial criteria with the creation of the Performance, Impact, Investments and Finance Division, in close coordination with the Group's Human Resources Division.

Climate and social criteria are systematically included in the annual bonuses of the Group's senior executives:

- Three climate criteria

The three climate criteria are defined at Group level and their annual targets are set in line with the Group's climate transition plan[2]. This concerns the carbon intensity[3], the Scope 3 emissions[4] and the avoided CO_2 emissions[5], consistent with the Group's commitment to "Net Zero Emissions" by 2050. These three criteria cover all the Group's carbon footprint emissions. The carbon intensity covers the Group's direct emissions. The indirect emissions are addressed by the indicators: Scope 3 carbon emissions and avoided CO_2 emissions.

These three criteria represent 30% of the bonus targets within the Group's share of bonuses.

2024 annual bonus	Weighting among the bonus targets within the Group's share of bonuses	2024 target objective	2024 result	2024 attainment rate
Carbon intensity (gCO_2/kWh)	20%	37	30	112.5%
Scope 3 emissions ($MtCO_2e$)[1]	5%	62.1	58.3	
CO_2 emissions avoided ($MtCO_2$)	5%	14.3	13.4	

(1) The objective concerns the three items that represent 80% of Scope 3: emissions from combustion and upstream emissions of gas sold to customers, generation of electricity purchased for resale to customers, direct emissions from minority investments (non-consolidated thermal power plants).

(1) Three items account for 80% of Scope 3: emissions from the combustion of gas sold to customers, from the generation of electricity purchased for resale to customers, and direct emissions from minority investments (deconsolidated thermal power plants).
(2) See section 3.2.2 "ESRS E1 - Climate change", in particular the Group's carbon intensity reduction target set to 30 gCO_2/kWh in 2030 and 22 gCO_2/kWh in 2035, the target of reducing Scope 3 by 30% in 2027, 35% in 2030 and 45% in 2035, and the Group's objective of avoiding 30 million tonnes of CO_2 emissions and 45 million tonnes by 2035 from the sale of innovative products and services.
(3) See section 3.2.2.1.3.2.2 "Reduction of direct emissions".
(4) See section 3.2.2.1.3.2.3 "Reduction of value chain emissions".
(5) See section 3.2.2.1.3.3 "Avoided emissions".

- Three social criteria

The three social criteria included in the annual bonuses for senior executives are calibrated to the size of each entity (EDF SA's divisions, subsidiaries), which is therefore made responsible for the action levers to achieve the targets set:

> the first criterion relates to health and safety, *i.e.* the global LTIR[1] which measures the accident rates of employees and service providers. The targets are communicated to each entity by the Group's Human Resources Division, in line with the Group's health and safety plan,

> the second criterion concerns employee commitment, measured by the annual My EDF group survey. Regular progress in relation to the average rate observed in the Group is required as a target,

> the third criterion aims to increase the number of women among senior executives (for the subsidiaries, the concept may have been extended to a wider managerial scope when appropriate). A partial payment based on the gender balance criterion for EDF divisions is possible only if the level reached is at least as important as that of the end of 2023.

The framework and the process for setting the rates of achievement of the climate and social criteria are validated at the level of EDF's Executive Management and the governance of the Remuneration Committees ensures their implementation for the significant subsidiaries.

In terms of weighting, the CSR criteria were significantly strengthened this year and now represent 21% of the annual variable remuneration for more than 50% of the Group's executives. Fewer than 20% of the Group's executives have a CSR weighting of less than 15% in their bonus.

In addition, the long-term remuneration (three-year plan) of some of the Group's executives is also based, in addition to the financial criteria, on CSR criteria relating to the carbon intensity and the percentage of women in management committees and among executives at Group level. These two criteria currently represent 30% of this long-term variable remuneration, an increase compared to the 20% of the previous three-year plan.

3.1.2.4 Statement on due diligence

The vigilance plan is included in section 3.6 "Vigilance plan" and references are made to it where relevant.

The table below provides a cross-reference table of the information provided in this sustainability statement concerning the Group's due diligence process.

Elements of the due diligence process	Section
a) embedding due diligence in governance, strategy and business model	3.1.2.1 "The role of the governance, management and supervisory bodies" 3.6.2 "Governance, oversight and stakeholder involvement" (Vigilance plan)
b) engaging with affected stakeholders	3.1.3.2 "Interests and points of view of stakeholders" 3.3.1.2 "The EDF group's whistleblowing system" 3.3.2.2 "Interaction process with the EDF group workforce and its representatives" 3.3.4.2 "Dialogue with affected communities" 3.3.4.4.2 "Projects in France and internationally"
c) identifying and assessing negative impacts on people and the environment	3.1.4 "Double materiality assessment process" 3.3.1.2 "The EDF group's whistleblowing system"
d) taking action to address negative impacts on people and the environment	3.2.2.1.2 "Actions and resources in relation to climate change policies" 3.2.2.2.2 "Actions and resources in relation to climate change adaptation policies" 3.2.3.2.1 "Actions related to discharges of pollutants into the air (NO_x, SO_2, dust)" 3.2.4.3.1 "Actions concerning the multi-use management of water resources" 3.2.4.2.3 "Actions relating to water withdrawals and consumption" 3.2.5.2 "Actions and resources related to biodiversity and ecosystems" 3.2.6.2.1 "Actions and resources related to incoming resources" 3.2.6.3.1 "Actions and resources related to waste" 3.3.2.4.1 "Actions and indicators related to workforce" 3.3.2.5.1 "Actions related to skills and training" 3.3.2.6.1 "Health and safety actions" 3.3.2.7.1 "Actions related to diversity and gender balance" 3.3.3.4 "Actions to manage the material impacts and risks identified for workers in the value chain" 3.3.4.4 "Actions to manage material risks and opportunities for affected communities" 3.3.5.1.4 "Actions to manage the impacts and risks identified in relation to the continuity and supply of electricity for consumers and end-users" 3.3.5.2.4 "Actions to manage the impacts and risks identified for consumers and end-users in relation to the fight against energy poverty"

(1) Lost Time Incident Rate, see section 3.3.2.6.2 "Targets relating to health and safety".

Elements of the due diligence process	Section
e) tracking the effectiveness of these efforts	3.1.2.5 "Risk management and internal controls over sustainability-related information"
	3.2.2.1.3 "Targets and indicators related to climate change mitigation"
	3.2.2.2.3 "Target and indicator related to climate change adaptation"
	3.2.3.2.2 "Targets relating to discharges of pollutants into the air (NO_x, SO_2, dust)"
	3.2.3.2.3 "Indicators relating to discharges into the air (NO_x, SO_2, dust)"
	3.2.4.3.2 "Target concerning the multi-use management of water resources"
	3.2.4.2.4 "Targets relating to water withdrawal and consumption"
	3.2.4.2.5 "Indicators relating to water withdrawal and consumption"
	3.2.5.3 "Targets and indicators related to biodiversity and ecosystems"
	3.2.6.2.2 "Target and indicators relating to incoming resource"
	3.2.6.2.3 "Indicators relating to resource inflows"
	3.2.6.3.2 "Waste target"
	3.2.6.3.3 "Waste indicators"
	3.3.2.5.2 "Targets and indicators relating to training and skills development"
	3.3.2.6.2 "Targets relating to health and safety"
	3.3.2.6.3 "Health and safety indicators"
	3.3.2.7.2 "Target and indicator relating to diversity and gender balance"
	3.3.2.7.2.2 "Other indicators related to diversity, gender balance"
	3.3.3.5 "Targets and indicators for workers in the value chain"
	3.3.4.5 "Targets and indicators for affected communities"
	3.3.5.1.5 "Targets and indicators relating to electricity continuity and supply"
	3.3.5.2.5 "Targets and indicators related to the fight against energy poverty"

3.1.2.5 Risk management and internal controls over sustainability-related information

The EDF group's risk management and internal control systems are described in section 2.1 of the URD "Risk management and business control".

These systems are deployed and supplemented in terms of sustainability, with the objective of tackling both the double materiality and the security of the information transmitted.

1 / Concerning the double materiality (see section 3.1.4 "Double materiality assessment process"):

- the general mapping of the Group's risks, presented in section 2.2 "Risks to which the Group is exposed", whose "multi-criteria" methodology makes it possible to identify both risks with internal and external consequences, is one of the input data to identify the impacts, risks and opportunities (IRO) on the various E, S and G topics. Regular iterations ensured the consistency of the approaches between the Group's risk mapping and the IROs in the sustainability statement;
- the IRO materiality assessment methodology, presented in section 3.1.4 "Double materiality assessment process", is consistent with the risk assessment method of the risk mapping, on which it is in part based;
- in summary, the negative impacts and risks of the sustainability statement detail the E, S, G component of the general risk mapping. A summary table analysing the consistency between the IROs and the risks detailed in section 2.2 "Risks to which the Group is exposed" is presented in section 3.1.4.2 "Correspondence between the IROs (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD)".

2 / Concerning the security of the information transmitted:

- the purpose of the internal control concerning the sustainability statement is to ensure the quality of the information transmitted;
- the practices established within the framework of the SNFP were already based on:
  - > a first-level control system for the collection and consolidation of data by entity: identification of collection methods (measurement, estimates, etc.), data justification, identification of a person responsible, traceability of processes,
  - > a second-level control system led by the Impact Division and the Group Human Resources Division to ensure the consistency of the data produced.

This internal control system was completed in 2024. In particular, a specific control topic has been added to the Group's internal control framework for the control of sustainability-related information. This standard aims to ensure that:

- > every entity in charge of collecting information for the sustainability statement effectively sets up a system described and organised at the first level of control;
- > data quality checks/verifications at the second level of control (consistency, variations, etc.) are carried out by the Group's entities.

This framework will be gradually adapted and rolled out within the operational and functional entities. The voluntary approach implemented in 2024 is meant to be extended in 2025, prioritising the system on the most significant data and entities. These entities must report on these controls in their annual internal control self-assessment. These changes aim to strengthen the practices established within the framework of the SNFP, in particular the traceability of the controls carried out.

3.1.3 Strategy, material impacts, risks and opportunities and CSR policy

3.1.3.1 Strategy, business model and value chain

As a responsible operator and supplier, the EDF group is assuming its role as a major player in the ecological transition and energy sovereignty. All of the Group's activities fall under a single major ESRS sector, the Energy sector (see details of the revenues in section 3.2.7 "Green taxonomy").

The Group employed 191,444 people worldwide in 2024, including 151,135 in France, 32,957 in the rest of Europe and 7,352 in the Americas (see section 3.3.2 "Own workforce").

Ranging from the construction, operation and decommissioning of nuclear, hydro, solar, wind and thermal power plants, to the development and operation of electricity networks, to marketing and supporting customers as they make energy savings, the Group is present at each stage of the value chain in France and internationally. EDF stands alongside its customers to promote decarbonisation through energy efficiency and electrification of uses, from industrial processes to electric mobility, as well as in tertiary and residential buildings.

The Group's strategy is described in section 1.3.2 "Strategic priorities", and its business model (as well as its assets, resources and value creation), in section 1.1 "Key figures and business model". The changes in the Group's strategy during the reference period are described in section 1.2.3 "Significant events".

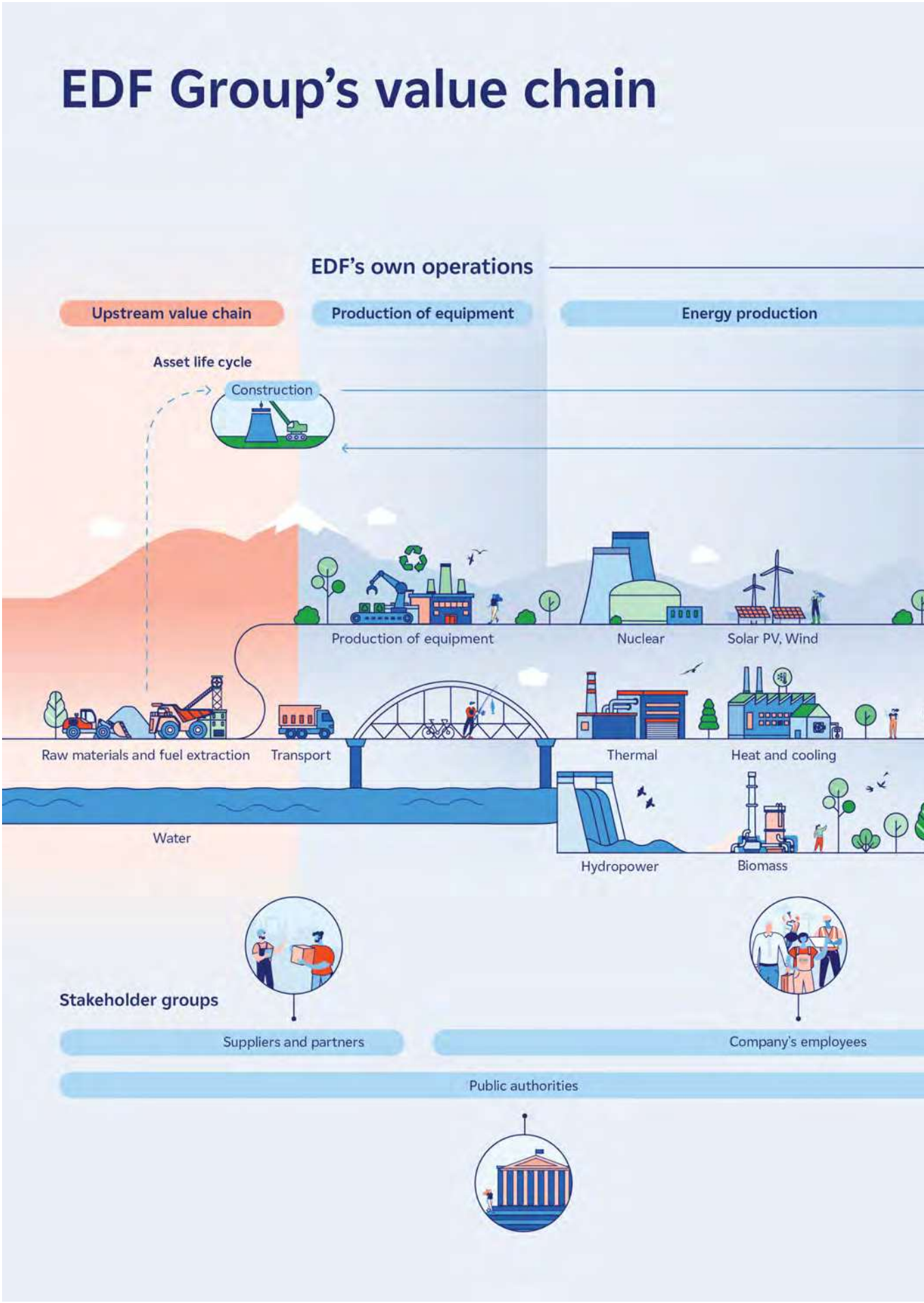
Mapping of the Group's value chain

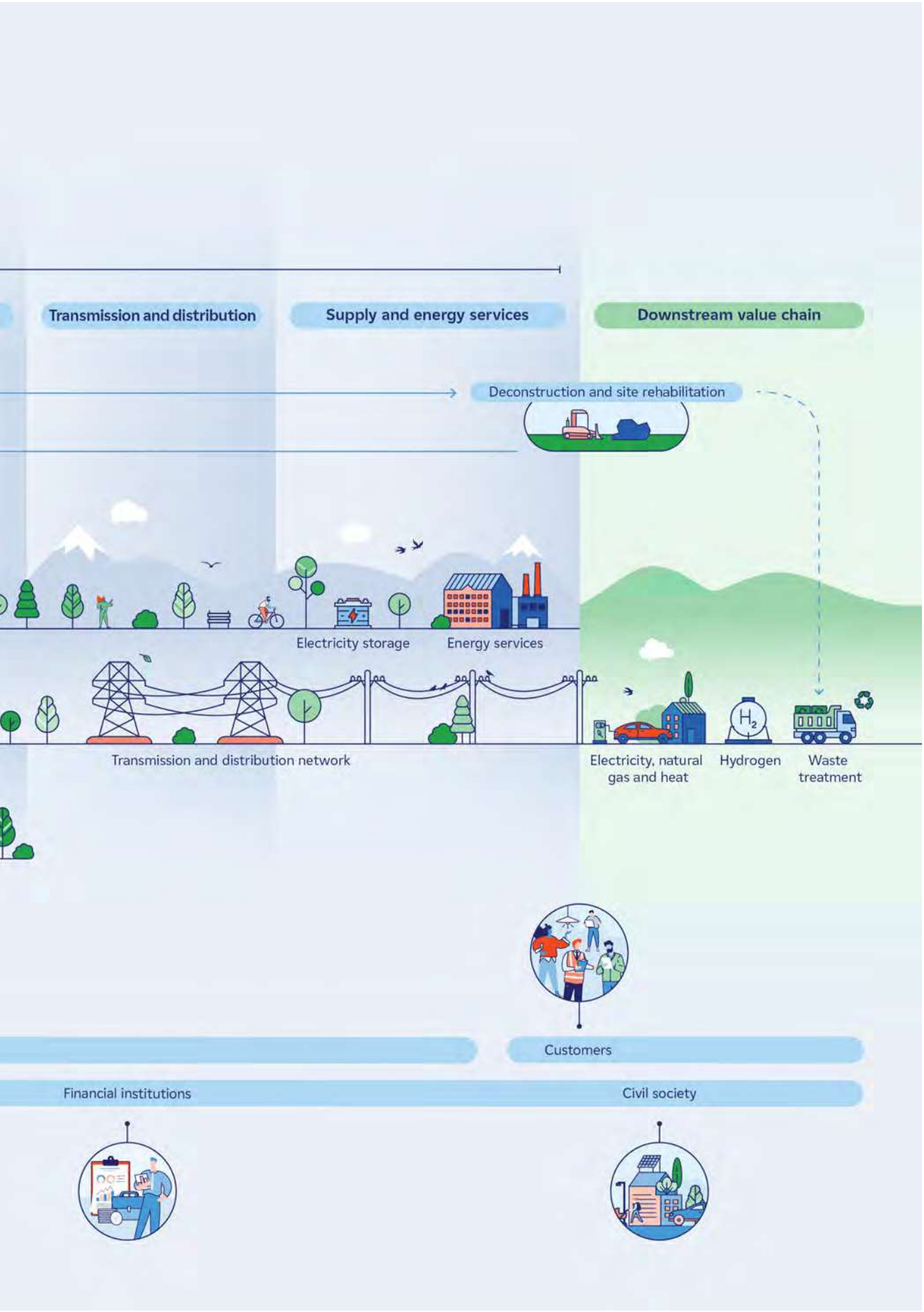
The value chain mapping summarises the EDF group's value chain across all its regions (for more details on the regions of the Group's own operations, see section 3.3.2 "ESRS S1 Own workforce" - "The International Group's workforce").

This synthetic value chain is based on 11 value chains that the Group has established: nuclear, fossil or biomass thermal, wind power, solar power, hydropower, electrochemical electricity storage, cooling, heat, electrolytic and low-carbon hydrogen, energy services, and marketing of electricity and gas. These 11 value chains can be found in the mapping of the Group's synthetic value chain, particularly in its own operations divided into equipment manufacturing, energy production, transmission and distribution, and energy supply and energy services. Site construction, decommissioning and rehabilitation activities are cross-cutting with the Group's own operations.

EDF is implementing a series of initiatives to optimise resource inflows, including fuel requirements and the integrated and responsible management of raw materials and water. These actions are detailed in different sections of the sustainability report, for example in section 3.2.4 "ESRS E3 - Water resources" and 3.2.6.2.1 "Actions and resources related to incoming resource".

The EDF group deploys a responsible purchasing approach targeting all its subcontractors and is in contact with around 150,000 active suppliers (having had a business relationship over the past five years) (see section 3.4.3 "Sustainable and balanced relationships with suppliers"). The main customers, consumers and end-users of the EDF group's products fall into all categories of energy consumers: private individuals, businesses, local governments and other energy suppliers. The EDF group generates value for its customers, investors and other stakeholders, described in its positive impacts and opportunities (see section 3.1.3.3 "Material impacts, risks and opportunities").


EDF Group's value chain
EDF's own operations
Upstream value chain
Production of equipment
Energy production
Asset life cycle
Construction
Production of equipment
Nuclear
Solar PV, Wind
Raw materials and fuel extraction
Transport
Thermal
Heat and cooling
Water
Hydropower
Biomass
Stakeholder groups
Suppliers and partners
Company's employees
Public authorities


Transmission and distribution
Supply and energy services
Downstream value chain
Deconstruction and site rehabilitation
Electricity storage
Energy services
Transmission and distribution network
Electricity, natural gas and heat
Hydrogen
Waste treatment
Customers
Financial institutions
Civil society

3.1.3.2 Interests and points of view of stakeholders

An open dialogue with all, involving all the Group's businesses and subsidiaries

Dialogue with stakeholders is a major part of EDF's culture. It forms the basis of EDF's cooperation with its internal and external stakeholders and is at the heart of the Group's CSR policy.

The Group's stakeholders contributed to the identification and assessment of the impacts, risks and opportunities in the double materiality analysis process. Their expectations and interests are considered in the Group's strategy and objectives (see section 1.3.1 "Environment and strategic challenges").

Launched in 2018, the "Let's Talk Energies" initiative has initiated a new dynamic of dialogue within the Company. More than 20,000 employees took part and enriched the Group's strategic vision of the future with concrete proposals. In 2021, the approach was enriched by an external component "Let's talk about energy in your home" during which volunteer employees of EDF went to meet French citizens to discover their perception and expectations regarding the Company.

On 7 May 2020, EDF formulated its *raison d'être*, adopted by the General Meeting of Shareholders at 99.99%, and included in the Company's articles of association. The *raison d'être* is at the heart of the Company's strategy (see section 1.3.2 "Strategic priorities") and more than 4,000 employees contributed to its development.

The internal stakeholders were systematically consulted when setting the targets.

Mapping Group stakeholders to inform actions

The Group has drawn up an overall map of its stakeholders, approved by the Executive Committee; it provides Group divisions and companies with a framework within which they can organize dialogue.

As part of ISO 9001 and 14001 certification, the Group's divisions and companies systematically map their stakeholders in order to define appropriate modes of dialogue adapted to their specific context.

Relations with local communities fall within the scope of internal control.

The Group's main stakeholders are the Company's employees, customers, civil society (local communities, NGOs, press and media, etc.), public authorities, financial partners and business partners.

Stakeholders	Main expectations	Means of dialogue
Own workforce	Training, development and recognition Health and safety at work Well-being at work Ethics Diversity and inclusion	Policies and Code of Ethics Employee representatives EDF group whistleblowing system, MyEDF survey[1] Management meetings and annual reviews
Customers	Competitive products and services; offer flexibility Quality of service and advice Commitments to vulnerable populations, particularly in France Support for decarbonisation and supply of low-carbon electricity	Satisfaction surveys Technical and commercial meetings Solidarity policy Meetings with consumer associations Meetings with the National Energy Mediator (in France)
Civil society	Local communities • Community consultation • Positive impacts on the regions (jobs, purchases, education, quality of life, etc.) NGO • Partnerships, sponsorship and project financing • Scientific and technical expertise Press and media • Regular information, transparency and responsiveness • Financial and CSR information	Local communities • Information meetings and websites • Public debates and consultations NGO • Meetings, participation in think tanks and other Press and media • Communication • Internet sites All • Industrial site visits
Public authorities	Contribution to economic, environmental, social and societal impact Job creation Support for industrial sectors, particularly in France and Europe Economic performance Compliance with laws and regulations	Consultation during the legislative and regulatory process Individual meetings and visits to industrial sites Concertation and consultation process Partnerships Corporate Responsibility Committee and Risk and Audit Committee of the Board of Directors of EDF
Financial partners	Financial performance CSR risk reduction	Investor meetings Partnerships Internet sites
Business partners	Long-term relationships Health and safety at work Fair remuneration and payment terms Industrial, technical and/or financial partnerships	Supplier and university meetings and forums Partnerships

(1) The annual employee engagement survey "MyEDF group" is sent to all Group employees to gather their opinions on their work life and their perception of the Company at both the local and Group levels.

The EDF group: a pioneer in the implementation of stakeholder panels

For over 20 years, the EDF group has relied on different external stakeholder councils, at EDF SA, Group, country and subsidiary level. Several panels of experts from civil society provide an outside perspective on the Group's strategic orientations.

Stakeholder Council of the EDF group

In terms of dialogue with external stakeholders, and in addition to the external listening forums, anticipatory monitoring and the life of partnerships, the preferred body is the Stakeholder Council. It is a multidisciplinary, equal and voluntary collective composed of thirteen personalities from civil society with varied profiles: environmental specialists, climate specialists, academics, representatives of student collectives, economists or players in the social and solidarity economy, etc. It has been co-chaired by the Chairman and Chief Executive Officer of EDF and by Cécile Renouard[1] since 2022. The Stakeholder Council began its second mandate in September 2023 for a period of three years. A session dedicated to the EDF group's skills development approach took place last year. In addition, in 2024, the Stakeholder Council was consulted when the double materiality analysis was prepared.

Scientific Council

Chaired by Sébastien Candel[2], this Group-level council met three times in 2024 to discuss the electricity grids of the future, artificial intelligence and EDF's R&D activities.

Stakeholder Advisory Board of Edison (SAB)

The Stakeholder Advisory Board, renewed in 2023, is composed of 16 leading figures in the context of the energy transition, identified by Edison in its external ecosystem. The SAB met three times in 2024. The SAB's reflections on the evolution of the sustainability strategy are discussed with the Chief Executive Officer and the members of the Executive Committee, and a summary of the work is brought, on an annual basis, to the attention of the Board of Directors. The SAB also participated in the assessment of the impacts of the 2024 double materiality analysis.

Mission Committee of Enedis

Enedis became a company with a mission in 2023. In 2024, the Mission Committee met four times. Jointly with Enedis, it drafted a first roadmap and prepared a public "opinion" in the Enedis 2024 mission report.

Employee representative bodies

The employee representative bodies are also identified forums for dialogue and consultation within the EDF group, in particular the central ESC and the EDF group's Global Dialogue on Social Responsibility Committee (*Comité mondial de Dialogue sur la responsabilité sociale du groupe EDF* - CDRS) within which the EDF group Global Social and Environmental Responsibility agreement was developed, presented in section 3.3.2.1.1 "Corporate social responsibility" - "The EDF group's global Social and Environmental Responsibility master agreement". In particular, in accordance with the last paragraph of Article L. 2312-17 of the French Labour Code, the 2024 sustainability statement will be presented to the central Social and Economic Committee (central ESC) on 27 March 2025.

A dynamic of dialogue with NGOs

An NGO relations policy was drawn up and approved by the CSR Strategy Committee. This policy takes account of the new NGO landscape and changes to their modes of action under the supervision of a project manager answering to the Impact Director.

3.1.3.3 Material impacts, risks and opportunities

3.1.3.3.1 Results of the double materiality analysis

The results of the analysis presented below were prepared in the context of the first-time application of the provisions of the CSRD, characterised by uncertainties on the interpretation of the texts and by the absence of established practices in particular for carrying out double materiality analyses.

Description and location of material impacts, risks and opportunities (IROs)

The Group has identified its impacts, risks and opportunities by following the methodology detailed in the following section. This analysis has led to the identification of 27 material sustainability issues for the Group that already influence its strategy. The sustainability issues stemming from the ESRS have been reformulated to make them more relevant for EDF.

To map these 27 material sustainability issues, EDF relied on its CSR analyses carried out over the past ten years and, for the 2024 financial year, on a double materiality analysis. The results of the double materiality analysis did not reveal any issues previously unrecognised or not considered as part of the Group's existing CSR strategy.

A sustainability issue is considered material when at least one IRO related to the issue is considered material. All sustainability issues listed below are material within the meaning of the CSRD. They are treated in accordance with the same high standards.

(1) Philosopher, professor at École des Mines, ESSEC and IEP Paris, and Chair of Campus de la Transition.
(2) Member and former Chairman of the French Academy of Sciences and member of the French Academy of Technologies.

ESRS standard	Material sustainability issues for EDF
Climate change (E1)	Climate change mitigation including energy
	Climate change adaptation
Pollution (E2)	Pollution of air, water and soil
Water and marine resources (E3)	Freshwater withdrawal and consumption
	Sharing of water resources(1)
Biodiversity and ecosystems (E4)	Impact on ecosystems
	Biodiversity loss
Resource use and circular economy (E5)	Waste
	Resource inflows
Cross-cutting (S1, S2, S3)	Health and safety for all
Own workforce (S1)	Human rights of company employees
	Social dialogue
	Employee attraction and retention(1)
	Equality, diversity and inclusion for all
	Skills development
Workers in the value chain (S2)	Human rights of the workers in the value chain
Affected communities (S3)	Local development(1)
	Human rights
	Dialogue and consultation with stakeholders
Consumers and end-users (S4)	Social inclusion of consumers and/or end-users
	Personal data protection
	Electricity continuity and supply(1)
Business conduct (G1)	Effectiveness and integrity of whistleblowing systems
	Ethics, compliance and transparency of lobbying
	Management of relationships with suppliers
	Governance
	Security and crisis management(1)

(1) Issue defined by EDF.

Some issues have been specifically defined by EDF. An indication of the issues specifically defined by EDF is provided in the table above, in the tables in section 3.1.3.3.2 "Material impacts, risks and opportunities identified" as well as in the introductions of each ESRS standard. It should be noted that when an issue is rated as specifically defined by EDF, all underlying impacts, risks and opportunities are covered by EDF within the framework of specific additional information.

For other issues, the wording of the issue or the underlying topics, subtopics or sub-subtopics may differ from the exact presentation of the ESRS. See section 3.1.5.3 "ESRS benchmark by sustainability issue" to know the subtopics and sub-subtopics of the ESRS associated with material issues for EDF.

The information to be published was determined according to the methodology detailed in section 3.1.4 "Double materiality assessment process".

3.1.3.3.2 Material impacts, risks and opportunities identified

The materiality analysis revealed that most IROs are material over the three time horizons defined by the CSRD but certain details will be provided below, in particular on climate in section 3.2.2 "ESRS E1 - Climate change".

Given that this is the Group's first double materiality analysis within the meaning of the CSRD, no change to the IROs of the previous period is to be reported.

The following tables list the IROs identified as material following the double materiality analysis. These tables highlight:

- the description of the IROs,
- the location of the impacts in the value chain.

The time horizons of each impact are available at the beginning of each standard, as well as the current financial effects for the risks and opportunities. The expected financial effects are not published in respect of the omissions granted for the publication of the first sustainability statement.

Additional information on the Group's governance, actions, indicators and objectives regarding these IROs is available at the beginning of each standard of this report.

Caption

- Negative impact
- Positive impact
- Risk
- Opportunity

- Upstream
- Own operations
- Downstream

3.1.3.3.2.1 Environmental impacts, risks and opportunities

IRO cross-cutting environmental standards (E1, E2, E3, E4, E5)

Value chain	Material impact, risk or opportunity	Description
Risk		
	Political and regulatory risks	Changes in environmental regulations could hinder the establishment of new EDF energy infrastructure, lead to regulatory compliance costs on existing facilities and fees related to environmental externalities, which could in the end lead to impairment of existing assets.

Standard: Climate change (E1)

Value chain	Material impact, risk or opportunity	Description
Issue: Climate change mitigation including energy		**See section 3.2.2.1**
Negative impact		
	Greenhouse gas emissions	The Group's activities and its entire value chain produce greenhouse gas emissions that contribute to climate change.
Positive impact		
	Decarbonisation of the energy mix	The Group's low-carbon electricity generation and energy services activities have a positive impact on the decarbonisation of the energy mix.
Positive impact		
	Decarbonisation of the economy	The Group's activities with customers, in particular through the reduction of energy consumption (energy sobriety and energy efficiency) and the support for low-carbon energy consumption, contribute to the low-carbon transition of the economy.
Opportunity		
	Developing decarbonised electricity use and energy services	The context of the necessary decarbonisation of the economy may create revenue opportunities, new markets for the Group and new sources of financing, *via* the development of new low-carbon production capacities, innovative technologies, green and low-carbon offers (self-consumption, energy efficiency, electric mobility, etc.) and participation in research projects.
Issue: Climate change adaptation		**See section 3.2.2.2**
Risk		
	Physical risks	Risks related to extreme and chronic events can impact the entire value chain of the Group and in particular its generation, transport and distribution facilities, as well as the working conditions of employees and service providers.

Standard: Pollution (E2)

Value chain	Material impact, risk or opportunity	Description
Issue: Pollution of air, water and soil		**See section 3.2.3**
Negative impact Hot spots: electricity and heat generation	Discharges with effects on air, water and soil quality	Discharges to air occur *via* thermal combustion. In addition, discharges with potential effects may occur through operational incidents as well as in the Group's upstream value chain.

Standard: Water resources (E3)

Value chain	Material impact, risk or opportunity	Description
Issue: Freshwater withdrawal and consumption		**See section 3.2.4**
Negative impact Hot spots in the upstream value chain: solar power and mining	Use of freshwater	The use of freshwater (withdrawal and consumption) for cooling nuclear and thermal power plants and for industrial processes, as well as in the Group's upstream value chain, may impact water availability.
Risk	Scarcity of water resources	The scarcity of water resources and the degradation of ecosystems contributing to the regulation of the water cycle can impact energy production and the operation of industrial sites.
Issue: Sharing of water resources		**See section 3.2.4**
Opportunity	Multi-use water management	The Group can capitalise on its know-how about the sharing of water resources with various stakeholders in order to play a role in managing the multi-use of water.

Standard: Biodiversity and ecosystems (E4)

Value chain	Material impact, risk or opportunity	Description
Issue: Impact on ecosystems		**See section 3.2.5**
Negative impact Hot spots: infrastructure construction, modification of hydrological regimes	Degradation of ecosystems	The artificialisation of soil caused by the Group's construction, decommissioning and operating activities can lead to the degradation of ecosystems. The activities of the hydropower sector can also contribute to the latter through the modification of hydrological regimes.
Negative impact Hot spots in the upstream value chain: use of biomass	Impact *via* upstream resources	The construction and operation of energy production infrastructure requires resources from mining, fossil fuels and various raw materials (particularly biomass) that can lead to the destruction or modification of ecosystems.
Positive impact	Improvement of ecosystems	Certain activities carried out by the Group may contribute to improving the resilience of ecosystems, in particular through the reef effect and the reserve effect of offshore wind farms, the presence of ecosystems under power lines, low-water flow support in periods of drought, and more generally actions carried out on the Group's non-industrial land.

Issue: Biodiversity loss		See section 3.2.5
Negative impact Hot spots: nuclear, thermal, hydropower and wind farms	Biodiversity loss	The Group's construction/decommissioning activities, as well as its operating activities, may lead to biodiversity loss (*e.g.* bird collision/electrocution, modification of fish farming continuity).

Standard: Resource use and circular economy (E5)

Value chain	Material impact, risk or opportunity	Description
Issue: Waste		**See section 3.2.6.3**
Negative impact Hot spots: nuclear waste	Waste generation	The construction and decommissioning activities, as well as thermal and nuclear power plant operations and heat generation, produce different types of waste, which must be treated, recycled or stored.
Opportunity	Nuclear dismantling and radioactive waste management	The need to decommission end-of-life nuclear power plants around the world creates revenue opportunities and new markets for the Group, particularly in nuclear dismantling and radioactive waste management.
Issue: Resource inflows		**See section 3.2.6.2**
Risk Hot spots in the upstream value chain: biomass	Reduction of resource inflows	The risks of a scarcity of resources, particularly fuel wood and strategic minerals, can impact the development of new facilities and the proper functioning of existing facilities (*e.g.* supply difficulties, geopolitical tensions, etc.) and lead to a potential increase in costs, in particular in renewable sectors including biomass.

3.1.3.3.2.2 Social impacts, risks and opportunities

IRO cross-cutting social standards (S1, S2, S3)

Value chain	Material impact, risk or opportunity	Description
Negative impact	Health and safety for all	Activities and possible accidents/incidents, including those related to safety, throughout the value chain can affect the health and safety of workers and subcontractors (*e.g.* chemicals, ionising radiation, musculoskeletal disorders and anxiety disorders) as well as the health and safety of local communities (*e.g.* accidents during the transport of raw materials, operating accidents, soil/air/water pollution, waste generation, use of security forces).

Standards: Own workforce (S1) and Workers in the value chain (S2)[1]

(1) The IROs applicable to S2 are identified by the first solid box in the value chain, which symbolises upstream.

Value chain	Material impact, risk or opportunity	Description
Issue: Human rights		**See sections 3.3.2 & 3.3.3**
Negative impact		
Hot spots in the upstream value chain: Africa, Asia, Middle East, South America	Infringements of the rights of workers	Upstream value chains and construction and operating activities can lead to deteriorated working conditions and infringe the rights of employees and workers in the value chain. These impacts are concentrated around certain activities: construction, natural gas upstream chain, biomass, solar panels and batteries.
Risk		
	Human rights risks	The risks of human rights violations within and upstream of the Group's activities can lead to financial, legal and reputational consequences.
Issue: Social dialogue		**See sections 3.3.2.4 & 3.3.3**
Risk		
	Social dialogue	A blocked or unsatisfactory social dialogue can deteriorate working conditions and thus hinder the generation of energy, the development of projects, as well as offers and services, and demobilise workers and impact the implementation of the Group's strategy.
Issue: Employee attraction & retention		**See sections 3.3.2.7**
Opportunity		
	Employee attraction and retention	Working conditions, opportunities for professional development, CSR performance and the quality of social dialogue within the EDF group (in particular *via* the global CSR agreement, employee representation on the Board of Directors, etc.) represent an opportunity to attract skills and retain employees within the Group.
Issue: Equality, diversity and inclusion for all		**See sections 3.2.7 & 3.3.3**
Negative impact		
	Discrimination	The professional environment may be the source of discrimination that undermines the rights and freedoms of the individuals concerned (*e.g.* incidents, harassment, unequal wages).
Positive impact		
	Equality, diversity and inclusion	The EDF group's commitment to equality, diversity and inclusion has a positive impact on employees and society (for example, *via* actions in education to encourage women to pursue careers in science, etc.)
Issue: Skills development		**See sections 3.3.2.5 & 3.3.3**
Positive impact		
	Skills development	Employee training, as well as certain professional mobility programmes offered by the Group, enable the development of employees' skills.
Risk		
	Inadequate skills	Risks of inadequate skills externally and internally (*e.g.* for the needs of renewable or nuclear sectors) may generate tensions over resources and lead to the Group's inability to implement its strategy.
Issue: Security, health and safety for all		**See sections 3.3.2.6 & 3.3.3**
Risk		
	Health and safety accidents/ incidents	Accidents/incidents involving subcontractors contributing to the construction, operation and maintenance of infrastructures can disrupt the due functioning of production and lead to an increase in operating costs and extraordinary expenses.
Positive impact		
	Improvement of working conditions	The possibilities for flexible working hours provided by the Group (specific leave and flexible working hours) as well as non-professional support actions (notably the psychological unit) can improve employees' working conditions.

Standard: Affected communities (S3)

Value chain	Material impact, risk or opportunity	Description
Issue: Local development		**See section 3.3.4**
Positive impact	Contribution to development	The Group is committed to contributing to the development of the regions where it operates in terms of local jobs, local purchases, the creation of economic value and the generation of tax revenue.
Positive impact	Regional resilience	The use of infrastructure can contribute to improving the resilience of regions, notably in countries with a low rate of access to electricity.
Issue: Human rights		**See section 3.3.4**
Negative impact Geographic hot spots: Latin America, Southeast Asia, Australia, India. Upstream hot spots: nickel, copper	Infringements of the rights of local populations	Construction activities can lead to population displacement or negative consequences for local communities, in particular indigenous communities, due to inadequate consultations.
Issue: Dialogue and consultation with stakeholders		**See section 3.3.4**
Risk	Insufficient consultation with stakeholders	The risks of inadequate stakeholder involvement and consultation mechanisms for the creation and modification of structures may lead to the abandonment of projects led by the Group.

Standard: Consumers and end-users (S4)

Value chain	Material impact, risk or opportunity	Description
Issue: Social inclusion of consumers and end-users		**See section 3.3.5.2**
Positive impact	Management of electricity consumption and uses	The provision of data from smart meters, support for self-consumption and actions to raise awareness of sobriety and energy efficiency enable customers to improve the management of their electricity consumption and use, as well as providing financial gains, and also promote support for vulnerable customers.
Risk	Increase in arrears	Rising energy prices may increase the number of households facing energy poverty and therefore lead to the non-payment of energy bills.
Issue: personal data protection		**See section 3.3.5.3**
Negative impact	Personal data leaks	The handling of a large amount of data may increase the risk of personal data leakage, in particular *via* cyberattacks, infringing on the rights and freedoms of the individuals concerned.

Standard: Consumers and end-users (S4)

Issue: Electricity continuity and supply		**See section 3.3.5.1**
Negative impact		
	Electricity continuity and supply	The Group's energy distribution to its customers may be disrupted by internal or external events of various kinds (extreme weather events, strikes, cybersecurity or geopolitical, industrial, regulatory or competitive events, supply-demand imbalances), that could impact the sale of energy to customers.
Positive impact		
	Public service mission	The Group's activities secure the supply of energy to customers across the entire value chain, from generation to distribution and supply.
Opportunity		
	Flexibility offerings	The need to secure customers' energy supplies and give them greater control over their bills is creating new market opportunities for the Group through the development of innovative flexibility offerings.

3.1.3.3.2.3 Governance impacts, risks and opportunities

Standard: Business conduct (G1)

Value chain	Material impact, risk or opportunity	Description
Issue: Effectiveness and integrity of whistleblowing systems		**See section 3.4.3**
Negative impact	Infringements of the rights of whistleblowers	The lack of effectiveness or integrity of whistleblowing systems leading to the identification of whistleblowers may infringe on the rights of the individuals concerned.
Issue: Ethics, compliance and transparency of lobbying		**See sections 3.4.5 & 3.4.7**
Risk	Business ethics and transparency of lobbying practices	Stakeholder engagement practices that lack transparency or violations of ethics (corruption and anti-competitive practices) and the Code of Conduct by Group employees or those in its upstream value chain, may lead to legal (investigations, regulatory non-compliance, litigation), financial (fines) and reputational risks.
Issue: Management of relationships with suppliers		**See section 3.4.4**
Negative impact	Deterioration of the financial health of suppliers	Any non-compliance with payment deadlines by the Group may deteriorate the financial health of certain suppliers.
Positive impact	Responsible purchasing	The company can contribute to the acceleration of the CSR issues of its suppliers, thus changing the practices of its ecosystem.
Risk	Dependence on certain suppliers	Incidents in the supplier relationship or the Group's excessive dependence on certain suppliers may affect the continuity of operations.
Opportunity	Quality of supplier relationships	A long-term, high-quality relationship with suppliers can lead to pooled gains on purchasing conditions, for example through framework contracts.
Issue: Governance		**See section 3.4.7**
Risk	Risk related to public policies	Public policies may impose strategic orientations that are not aligned with sustainable investment and divestment decisions in line with the evolution of the Group's business model, creating governance and financial risks for the Group.
Opportunity	Opportunity linked to public policies	Public policies aligned with the Group's strategic orientations and priorities can create new market opportunities and make it easier to secure sources of financing for the Group.
Issue: Security and crisis management		**See section 3.4.6**
Risk	Operations and cybersecurity incidents	The Group could risk the loss of its operating license and many other financial consequences in the event of a serious operating incident or cyberattack. The continuity of nuclear activities could also be called into question in the event of a serious incident occurring in the context of the activities of another nuclear operator. This risk is further detailed in chapter 2 "Risk factors and control frameworks" (risks 1B and 1C).

3.1.3.4 Link between the impacts, risks and opportunities and the EDF group's strategy

The EDF group has launched its "*Ambitions 2035*" corporate plan. This project is based on four pillars: supporting customers in reducing their carbon footprint, producing more low-carbon electricity with nuclear and renewables, developing networks to meet the challenges of the energy transition, and finding flexibility solutions to meet the needs of the electricity system.

The IROs, described above, guide the Group's actions towards more sustainable energy production and a significant reduction in CO_2 emissions for the benefit of its customers and society. EDF is actively fighting against climate change by accelerating the development of its low-carbon generation facilities, as a replacement for fossil fuel generation, and by supporting its customers in reducing their carbon footprint. At the same time, initiatives are being put in place to meet skills needs, particularly through recruitment and training programmes. The protection of natural resources is also a priority, with actions aimed at optimising water use and preserving biodiversity.

However, there are risks and potential negative impacts, in particular due to the technological, societal and temporal challenges related to the energy transition. To mitigate these risks and ensure the achievement of its objectives, EDF has put in place mitigation measures and developed adaptation plans to ensure the resilience of infrastructures in the face of climate change (for more information, see the beginning of each ESRS standard in sections 3.2 "Environmental information", 3.3 "Social information" and 3.4 "Information on business conduct").

To succeed with its "*Ambitions 2035*" corporate plan, the EDF group is committed to building the electricity system of tomorrow, working within planetary boundaries and acting for a just transition through 12 commitments (see section 3.1 "General information"). For each of its 12 key CSR commitments, the Group deploys operational policies and actions aimed at minimising the risks and negative impacts and maximising the opportunities and positive impacts from an environmental, social and societal perspective.

3.1.3.5 Resilience of the strategy and business model in response to material IROs

Information on the resilience of EDF's strategy and business model with regard to climate change is available in section 3.2.2.3.1 "Transition risk scenarios".

As regards the ability to cope with the negative impacts and material risks, a summary table analysing the consistency between the IROs and the risks detailed in section 2.2 "Risks to which the Group is exposed" is presented in section 3.1.4.2 "Correspondence between the IROs (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD)".

To understand the policies, actions, indicators and targets put in place to seize material non-climate opportunities, see the relevant thematic sections.

3.1.3.6 Corporate social responsibility policy

The EDF group's Corporate social responsibility policy was adopted by the Executive Committee in 2021, replacing the previous Sustainable Development policy.

The breakdown of the Group's *raison d'être* into 12 CSR commitments divided into three key issues now forms the structure of the CSR policy requirements (see details of the CSR commitments in section 3.1 "General information"). This policy defines Group-level priorities for 2035, in line with the "*Ambitions 2035*" corporate plan.

This policy applies to the Group's entities, while respecting the management independence of regulated infrastructure managers. In equity investments or projects where it is a minority stakeholder, the EDF group, based on the information at its disposal, assesses the risks of non-compliance with these commitments, communicates them to its partners and encourages them, where appropriate, to take remedial action.

The Company's environmental, social and economic performance is driven in the first place by the contributions of the various entities. The CSR policy provides a framework for these actions by formulating common requirements and principles of action. Each entity ensures the implementation of these priorities, in line with its activities and specific challenges, according to a principle of subsidiarity. Where appropriate, an entity may choose to supplement the requirements of this policy.

The management, coordination and control of the CSR policy is supported by governance bodies (Board of Directors, Executive Committee, Group Executive Committee Commitments Committee, and CSR Strategy Committee), operational management bodies (Impact Division and Sustainable Development Committee) and policy management tools (see section 3.1.2.1 "The role of the governance, management and supervisory bodies").

Among the governance levers and CSR policy management tools, the Group's Stakeholder Council, in terms of listening and dialogue with external stakeholders, is one of the most significant (mixed and multidisciplinary collective of 13 personalities from civil society who, with the Group's Chairman, provide their views on the Company's strategic orientations). For approximately the past ten years, the EDF group has published a non-financial report outlining content of the policies in effect (including the CSR policy). The CSR policy commitments are designed to address stakeholder expectations (see section 3.1.3.2 "Interests and points of view of stakeholders").

The dedicated governance was put in place based on best practices and TCFD recommendations, which resulted in the appointment of a climate officer at the level of the Board of Directors and the Group's Executive Committee in December 2020.

3.1.4 Double materiality assessment process

3.1.4.1 Description of the processes to identify and assess material impacts, risks and opportunities

To map its CSR issues, EDF has been relying on a materiality analysis for several years. The first materiality analysis was carried out in 2014 and has been revised on several occasions. This exercise, based on documentary studies, interviews and workshops, involved representatives from the various stakeholder categories of the Group. In 2023, the Group launched the review of its double materiality analysis in accordance with the methodological requirements of the CSRD.

The double materiality analysis considers both financial materiality and impact materiality:

- a sustainability issue is financially material if it generates risks and/or opportunities that could affect the Company's financial position in the short, medium and long term;
- a sustainability issue is material from an impact point of view when it concerns actual or potential positive or negative impacts of the Company on people and the environment in the short, medium or long term.

This analysis allows for the identification of the sustainability issues and the material impacts, risks or opportunities (IROs) for the EDF group.

3.1.4.1.1 Methodology

The double materiality analysis began in September 2023 after the definition of a process validated and conducted by the Impact Division. The overall process ensured compliance with the CSRD requirements, while ensuring consistency with the Group's CSR issues and risk mapping.

The process included three major steps: capitalisation on the existing assets to establish the value chain and relevant sustainability topics, identification of the resulting Impacts, Risks and Opportunities (IROs) and, lastly, assessment of the materiality of these IROs. Given that this is the Group's first double materiality analysis in compliance with the CSRD, there is no change to report in the process used to identify and assess the materiality of IROs. The list and prioritisation of material IROs will be reviewed according to the reporting cycle established by the CSRD.

Capitalisation on the existing assets		Identification of the IROs		Assessment of the IROs	
PHASE 1	**PHASE 2**	**PHASE 3**	**PHASE 4**	**PHASE 5**	**PHASE 6**
Identification of ESG topics	Documentary review & risk register	Preliminary list of IROs	Review of the IROs by the business lines	Assessment of the IROs	Challenge & validation

3.1.4.1.1.1 Capitalisation on the existing assets

EDF has integrated CSR into its processes and strategy for many years, enabling the Group to enrich its double materiality analysis with a significant number of documents. In order to meet the requirements of the CSRD, EDF used its documents and previously conducted work to frame the scope of the materiality assessment and the IRO identification process. The main stages of this phase are:

- the mapping of EDF's value chains, including upstream and downstream business relationships, in close collaboration with the Group's Strategy Division;
- the review of the issues, sub-issues and sub-sub-issues as defined in the ESRS.

During the first stage of the work, EDF defined a set of sustainability topics to frame the identification of impacts, risks and opportunities. This set includes the issues, sub-issues and sub-sub-issues of the ESRS as presented in ESRS 1 AR16 and identifies additional issues specific to the sector and the entity relevant to EDF and its value chain. More specifically, this list of sustainability topics emerged through the themes covered by:

- the key CSR standards and frameworks, such as SASB(1), GRI(2), OPCC(3), WBCSD(4), etc;
- the previous materiality studies and external documents analysed (French National Public Debate Committee, RepRisk, university studies, etc.);
- peers.

This list made it possible to identify the IROs relevant to the Group and to ensure that all topics were covered.

(1) Sustainability Accounting Standards Board.
(2) Global Reporting Initiative.
(3) *Observatoire pyrénéen du changement climatique* (Pyrenean Climate Change Observatory).
(4) World Business Council on Sustainable Development.

3.1.4.1.1.2 Identification of the IROs

The Group then carried out an extensive identification of relevant IROs *via*:

- a meticulous documentary review, in particular of the Group's risk mapping. 78 internal and external documents (notably from the IPCC[1], WBCSD, SASB, WWF[2], OFB[3], RepRisk, etc.) contributed to the initial identification of the IROs. This document review makes it possible to identify a wide range of impacts, risks and opportunities, expressed by the Group's internal and external stakeholders, thus avoiding a representativeness bias compared to a purely interview-based approach;
- analysis of the Group's value chains and its dependencies;
- interviews with internal experts from the Group's various business lines.

The initial preparation and iterative review of the initial list of IROs represented more than 17 interviews and workshops involving more than 50 participants. The process followed was the same, regardless of the standard considered. The internal stakeholders involved in the review of the list of IROs were selected for their expertise on each sustainability issue. The managers of each of the Group's technology division were involved in reviewing the entire list of environmental IROs. The duty of vigilance teams contributed to the identification of the IROs, in order to ensure alignment between the duty of vigilance process and the double materiality assessment process. The CSRD Project Governance Committee reviewed the entire list of IROs identified.

3.1.4.1.1.3 Assessment of the IROs

The IROs were assessed according to the materiality thresholds defined by the EDF group.

EDF's Group Risk Division participated in determining the overall methodology and establishing the detailed criteria and thresholds for assessing the materiality of risks and opportunities.

These criteria were developed based on the business risk management approaches available at the time of the analysis. They include the following items, rated on a scale from 1 to 5 (1 being the lowest and 5 being the highest level):

<table>
<tr><th></th><th>Positive impact</th><th>Negative impact</th><th>Risk</th><th>Opportunity</th></tr>
<tr><td rowspan="2">Magnitude and extent of a positive impact
Severity of a negative impact
Magnitude of the financial effects</td><td colspan="2">Level determined by the highest level between:</td><td rowspan="2" colspan="2">Magnitude of the financial effects on the Group, informed by the highest level between financial, reputational, strategic, customer satisfaction and social climate consequences (only for risk)</td></tr>
<tr><td>Magnitude and extent of the positive impact</td><td>Severity: magnitude, extent and irremediable nature of the negative impact</td></tr>
<tr><td>Probability</td><td colspan="2">Probability (1-5)
NB: a score of 5 is assigned to the actual impacts by default</td><td colspan="2">Probability (1-5)</td></tr>
</table>

The probability criteria for the IROs are assessed according to five levels, ranging from "minimal" to "absolute". Each level is defined according to a method combining qualitative and quantitative aspects, so, for example, the minimum probability level corresponds to a very unlikely or estimated IRO of less than 1%; the absolute probability level corresponds to a very probable or proven IRO, or estimated at a probability of 75% or more.

Each IRO is assessed according to its probability (scale of 1 to 5) and its severity (scale of 1 to 5). An IRO with an absolute severity level (level 5) will be considered as material. For other IROs, a score combining probability and severity is determined. If the score exceeds a quantitative materiality threshold defined in agreement with the Group's Risk function, then this IRO is considered as material. If the score is below the defined materiality threshold, then this IRO is considered as non-material.

During workshops, the internal thematic experts contributed to the rating of each IRO. The operational functions, the CSRD Project Governance Committee, the Stakeholder Council (representing the external stakeholders), and members of the central ESC have contributed to the review of all IRO ratings.

The assessment of the probability, magnitude and extent of a positive impact, the severity of a negative impact or the magnitude of financial effects requires differentiation between gross and net levels:

- the gross level is the level taking into account all the existing provisions tested on the Group's assets and therefore does not take into account the measures taken by the organisation to reduce the severity of the negative impact (for example: new effluent treatment units, waste management policy, etc.) or the magnitude of the financial effects associated with a risk. From a financial point of view, the gross level is considered before the expenses incurred to reduce the severity of the negative impact;
- the net level is the level that considers the effectiveness of the actions undertaken. From a financial point of view, the net level considers the expenses incurred to reduce the severity of the negative impact.

In the case of the rating within the CSRD, the following levels must be considered:

- for potential impacts, and risks and opportunities: gross rating;
- for actual impacts, the gross or net notion is not applicable: the rating was carried out based on the impacts observed.

The probability assessment follows the same rating principle between net and gross.

Stakeholders were heavily involved in this phase by:

- an in-depth discussion with thematic experts and managers across the Group, particularly within operational functions and the Strategy, Impact, Risk, Finance and Human Resources Divisions teams. The duty of vigilance teams also contributed to the assessment of the IROs to ensure alignment between the duty of vigilance process and the double materiality assessment process;
- the review of the results of the assessment of the IROs by the EDF group's Stakeholder Council, representing the external stakeholders, and the members of the SEC, meeting jointly, in particular regarding social issues;
- on the governance side, the review of the assessment results by the CSRD Project Governance Committee, the CSR Strategy Committee, and subsequently, the specialised committee of the Board of Directors.

(1) Intergovernmental Panel on Climate Change.
(2) World Wide Fund for Nature.
(3) Office français de la biodiversité (French Biodiversity Office).

The same process was followed regardless of the standard considered. The internal stakeholders involved in reviewing the list of IROs varied depending on the standard considered as well as the type of IROs. Separate workshops were held to review the rating of impacts on the one hand, and risks and opportunities on the other.

Additional considerations for impacts

The magnitude and extent of a positive impact or the severity of a negative impact are divided into five levels, ranging from "minimal" to "absolute". The severity of a negative impact is determined based on its magnitude, extent and irremediable nature. The criteria for each level are generally defined in a qualitative manner. The irremediable nature of a negative impact includes a quantitative part in the assessment criteria. For example, the minimum severity level of the irremediable nature corresponds to a negative impact that can be easily remedied within one year; the absolute severity of the irremediable nature corresponds to a negative impact that cannot be remedied within 30 years or more.

In the case of a potential negative impact on human rights, the severity of the impact outweighs its likelihood.

To assess the materiality of its potential or actual impacts, positive or negative, EDF conducted a dialogue through dedicated workshops with its internal thematic experts and its managers, in particular members of the Group Strategy, Group Risk, Impact, Finance, and Human Resources divisions and business line experts. The initial list of IROs was reviewed, edited and completed according to an iterative process, mainly including the following internal teams:

- for the environmental IROs, the Impact Division teams, including experts representing nature, assessed the entire range of ESRS environmental standards, as well as representatives of the main sectors concerned by the impacts, risks and opportunities identified in the complete list of IROs;
- for the social IROs, the Impact Division teams, along with Duty of vigilance reporting teams, the EDF group's Human Resources Division teams and the members of the CSE meet jointly. These stakeholders capture the expectations of the affected stakeholders, *i.e.* Group employees and workers in the upstream and downstream value chains, as well as affected communities and customers and users;
- for the governance IROs, the Impact Division teams collaborated with the Group's Ethics and Compliance teams to capture the expectations of the affected stakeholders, *i.e.* whistleblowers, suppliers and partners, public authorities and civil society.

The impacts were formulated and assessed taking into account the expectations of the affected stakeholders (including those of nature, considered as a silent stakeholder) through the following channels:

- for the environmental IROs, through analysis of documentary sources (for example, sources published by market and standards organisations such as OFB, ADEME, TNFD, WWF, WBCSD), the mapping of the EDF group's value chains, and review by internal experts;
- for the social IROs, through analysis of documentary sources (in particular summaries of public debates and consultations, surveys of Group employees, surveys of public opinions, study of risks related to human rights in the value chain of energy companies, etc.), the mapping of the EDF group's value chains and review by internal experts;
- for the governance IROs, through analysis of documentary sources (in particular reports of public debates and consultations, etc.) and the mapping of the EDF group's value chains;
- for all IROs, *via* review by the CSRD Project Governance Committee and the EDF Stakeholder Council, representing the external stakeholders

The documentary review as well as the consultations with sector and theme experts highlighted negative impacts that are concentrated more particularly on certain activities and in certain geographic areas where the Group and its value chain are present.

The impact assessment process according to their magnitude, extent, likelihood and irremediable nature is based on rating criteria aligned with the UN Guiding Principles and the OECD Guidelines on assessment of impacts on sustainable development. The typological criteria for rating materiality and the probability of a positive or negative impact are defined in the ESRS 1 standard of the CSRD. The thresholds of the criteria were then jointly defined on the basis of the CSRD prerequisites and the criteria used by EDF's risk management system. These criteria were reviewed and validated by the risk management team and the Group's Impact Division.

EDF's thematic experts assessed positive and negative impacts on the basis of the magnitude and extent of a positive impact or the severity of a negative impact and probability criteria, through a qualitative approach. Each criterion of magnitude, extent and irremediable nature was assigned a score from 1 to 5.The highest score among the three criteria was considered as the final score for a negative impact, which was then combined with the probability score. Following the initial assessment, several workshops and interviews were conducted with internal and external stakeholders and with the Group Risk Division. Lastly, the CSRD Project Governance Committee validated the identified impacts and their rating.

Additional considerations for risks and opportunities

The magnitude of financial impact criteria for risks and opportunities are divided into five levels, determining magnitude levels ranging from "minimal" to "absolute". The criteria for the magnitude of financial effects are defined separately for risks and opportunities and are assessed qualitatively for each level.

Risks and opportunities were identified during phases 2 and 3 in three ways:

- through a document review, in particular on the basis of the Group risk mapping, and direct stakeholder engagement;
- as part of the development of the value chain mapping, where key inputs were identified using the six capitals model of the Integrated Reporting Council. These main dependencies of EDF contributed to the creation of the risks and opportunities list;
- as part of the process of preparing the risks and opportunities list, where all identified impacts were examined to determine if associated risks and/or opportunities existed. This extrapolation process was one of the key elements in the definition of risks and opportunities, supported by document reviews and stakeholder engagement;
- lastly, the risks and opportunities identified and their ratings were validated by internal experts during CSRD Governance Committee meetings

The typology of the rating criteria, both for the magnitude of financial effects and the probability of a risk or opportunity, is defined in the ESRS 1 standard of the CSRD. The thresholds of the criteria were then jointly defined on the basis of the CSRD prerequisites and the criteria used by EDF's risk management system. These criteria were reviewed by the Group Risk Division and the Group Impact Division.

Each risk and opportunity was assessed based on the probability and consequence criteria of the associated financial effects, leveraging existing ratings performed by the Company's risk management system. Risks and opportunities are considered to have one or more types of financial consequences: direct financial consequences or through reputational or strategic consequences, *via* customer satisfaction and/or the social climate. EDF's thematic experts assessed each risk and opportunity according to these characteristics using a qualitative approach. The existing data relating to the expected financial effects were considered in the determination of the rating, while the quantitative assessment of the financial consequence of each risk and opportunity was not undertaken as part of the double materiality analysis.

3.1.4.2 Correspondence between the IROs (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD)

This section presents the correspondence between the material IROs and the main risks to which the Group is exposed. It should be noted that this section does not meet a publication requirement within the meaning of the CSRD.

Comparison of the IRO scopes (sustainability statement) and the main risks to which the Group is exposed (section 2.2 of the URD "Risks to which the Group is exposed"):

- **general risks in section 2.2 "Risks to which the Group is exposed":** according to the Group's risk mapping methodology, the main risks may lead to both internal consequences (comparable to risks as defined by the CSRD), and external consequences (similar to the potential impacts of the CSRD). These risks cover all the Group's challenges, including sustainability issues, as well as all other operational, financial and strategic matters. They cover the entire value chain and have generally no time limit. Lastly, the main risks primarily focus on potential negative consequences (internal or external) to guard against them, although certain opportunities or positive impacts may also be addressed within the risk management strategy;
- **IRO of section 3.1.3.3 "Material impacts, risks and opportunities"**: the level of detail of the IROs is generally greater than that of the risk mapping. The IROs are focused on sustainability issues and cover the entire value chain over the three-time horizons outlined in the CSRD. Additionally, IROs systematically involve risks and opportunities with internal consequences, as well as positive and negative external impacts.

In summary, the part of the IROs devoted to negative risks and impacts represents the detail of the CSR component of the main risks presented in section 2.2 "Risks to which the Group is exposed".

In the following cross-reference table, the IROs in the sustainability statement are identified according to their characteristics:

- negative external impacts **[I-]**;
- positive external impacts **[I+]**;
- risks (in the sense of the CSRD = internal: risks whose financial consequences would be negative for the company) **[R]**;
- opportunities (in the sense of the CSRD = internal: opportunities whose financial consequences would be positive for the company) **[O]**.

The following table shows that each negative impact [I-] and each risk [R] (within the meaning of the CSRD) has a correspondence with a risk (within the meaning of section 2.2 of the URD).

However, this correspondence is not systematically carried out for opportunities or positive impacts, as this is not the purpose of the risk identification in section 2.2.

Issue / IRO description (Presented to the Corporate Responsibility Committee and the Risk and Audit Committee on 24 July 2024) see section 3.1.3	Type of IRO	Risk correspondence see section 2.2 of the URD
Environment - Cross-cutting / Political and regulatory risks	R	1I – Industrial safety risks and impact on environmental assets, including biodiversity
E1 - Climate change mitigation / Greenhouse gas emissions	I-	5B – Climate change adaptation: physical risks and transition risks
E1 - Climate change mitigation / Decarbonisation of the energy mix	I+	-
E1 - Climate change mitigation / Decarbonisation of the economy	I+	-
E1 - Climate change mitigation / Developing decarbonised electricity use and energy services	O	-
E1 - Climate change adaptation / Physical risks	R	5B – Climate change adaptation: physical risks and transition risks
E2 - Air, water and soil pollution / Discharges with effects on air, water and soil quality	I-	1I – Industrial safety risks and impact on environmental assets, including biodiversity
E3 - Water consumption / Water use	I-	5B – Climate change adaptation: physical risks and transition risks
E3 - Water consumption / Water scarcity	R	5B – Climate change adaptation: physical risks and transition risks
E3 - Water consumption / Multi-use water management	O	-
E4 - Impacts on ecosystems / Degradation of ecosystems	I-	1I – Industrial safety risks and impact on environmental assets, including biodiversity
E4 - Impacts on ecosystems / Impact *via* upstream resources	I-	1I – Industrial safety risks and impact on environmental assets, including biodiversity 1E – Risks related to operational continuity of supply chains and contractual relations
E4 - Impacts on ecosystems / Improvement of ecosystems	I+	-
E4 - Biodiversity loss	I-	1I – Industrial safety risks and impact on environmental assets, including biodiversity
E5 - Waste / Waste generation	I-	1I – Industrial safety risks and impact on environmental assets, including biodiversity 2A – Risks related to control of radioactive waste processing, decommissioning of nuclear facilities, and secure coverage of the related obligations
E5 - Waste / Nuclear dismantling and radioactive waste management	O	-
E5 - Resource inflows / Reduction of resource inflows	R	1I – Industrial safety risks and impact on environmental assets, including biodiversity
Social - Cross-cutting / Health and safety for all	I-	1D – Risks to health or safety at work (employees and contractors) 2C – Nuclear safety risks at plants in operation resulting in nuclear civil liability 1F – Hydropower safety risks 1I – Industrial safety risks and impact on environmental assets, including biodiversity
S1-S2 - Human rights / Infringements of the rights of workers	I-	1A – Risks related to management of large, complex industrial projects, including EPRs 1B – Risk of non-achievement of objectives concerning operation and/or lifespan extensions of nuclear power plants (France and the United Kingdom) 1E – Risks related to operational continuity of supply chains and contractual relations 2B – Risks related to control of the fuel cycle

Issue / IRO description (Presented to the Corporate Responsibility Committee and the Risk and Audit Committee on 24 July 2024) see section 3.1.3	Type of IRO	Risk correspondence see section 2.2 of the URD
S1-S2 - Human rights / Human rights risks	R	1A – Risks related to management of large, complex industrial projects, including EPRs 1B – Risk of non-achievement of objectives concerning operation and/or lifespan extensions of nuclear power plants (France and the United Kingdom) 1E – Risks related to operational continuity of supply chains and contractual relations 2B – Risks related to control of the fuel cycle
S1-S2 - Social dialogue & employee retention / Social dialogue	R	5C – Transformation capability risk in the face of disruptive change
S1-S2 - Social dialogue & employee retention / Employee attraction and retention	O	-
S1-S2 - Equality, diversity and inclusion for all / Discrimination	I-	3D – Ethics or compliance risks
S1-S2 - Workforce - Equality, diversity and inclusion	I+	-
S1-S2 - Skills development	I+	-
S1-S2 - Skills development / Inadequate skills	R	5A – Skill adaptation risks
S1-S2 - Health and safety for all / Health and safety accidents/ incidents	R	1D – Risks to health or safety at work (employees and contractors)
S1-S2 - Health and safety for all - Improving working conditions	I+	-
S3 - Local development / Contribution to development	I+	-
S3 - Local development / Regional resilience	I+	-
S3 - Human rights / Infringements of the rights of local populations	I-	1A – Risks related to management of large, complex industrial projects, including EPRs
S3 - Dialogue and consultation with stakeholders / Insufficient consultation with stakeholders	R	1A – Risks related to management of large, complex industrial projects, including EPRs
S4 - Social inclusion of consumers and end-users / Management of electricity consumption and uses	I+	-
S4 - Social inclusion of consumers and end-users - Increase in arrears	R	3A – Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes
S4 - Personal data protection / Personal data leaks	I-	3D – Ethics or compliance risks
S4 - Electricity continuity and supply	I-	1G – Supply/demand imbalance risk for EDF 1H – Blackout risk
S4 - Electricity continuity and supply / Public service mission	I+	-
S4 - Electricity continuity and supply / Flexibility offerings	O	-
G1 - Effectiveness and integrity of whistleblowing systems / Infringements of the rights of whistleblowers	I-	3D – Ethics or compliance risks
G1 - Ethics, compliance and transparency of lobbying / Business ethics and transparency of lobbying practices	R	3D – Ethics or compliance risks
G1 - Business conduct - Deterioration of the financial health of suppliers	I-	1E – Risks related to operational continuity of supply chains and contractual relations
G1 - Business conduct - Responsible purchasing	I+	-
G1 - Business conduct - Dependence on certain suppliers	R	1E – Risks related to operational continuity of supply chains and contractual relations
G1 - Business conduct - Quality of supplier relationships	O	-
G1 - Governance / Risk related to public policies	R	3A – Risks related to changes in public policies and the regulatory framework in France and Europe, particularly the ARENH and post-ARENH schemes
G1 - Governance / Opportunity linked to public policies	O	-
G1 - Security and crisis management / Operations and cybersecurity incidents	R	1C – Risk of attacks against assets, including cyber-attacks 1B – Risk of non-achievement of objectives concerning operation and/or lifespan extensions of nuclear power plants (France and the United Kingdom)

3.1.5 Annexes

3.1.5.1 List of disclosure requirements met

Disclosure requirement met	Title	Section	Not applicable
ESRS 2	***General information***		
BP-1	General basis for preparation of the sustainability statement	Section 3.1.1 "Basis for establishing the sustainability statement"	
BP-2	Disclosures in relation to specific circumstances	Section 3.1.1 "Basis for establishing the sustainability statement"	
GOV-1	The role of the governance, management and supervisory bodies	Section 3.1.2.1 "The role of the governance, management and supervisory bodies"	
GOV-2	Information provided to and sustainability matters addressed by EDF's governance, management and supervisory bodies	Section 3.1.2.1 "The role of the governance, management and supervisory bodies"	
GOV-3	Integration of sustainability-related performance in incentive schemes	Section 3.1.2.3 "Integration of sustainability results into remuneration systems"	
GOV-4	Statement on due diligence	Section 3.1.2.4 "Statement on due diligence"	
GOV-5	Risk management and internal controls over sustainability reporting	Section 3.1.2.5 "Risk management and internal controls over sustainability-related information"	
SBM-1	Strategy, business model and value chain	Section 3.1.3.1 "Strategy, business model and value chain"	
SBM-2	Interests and views of stakeholders	Section 3.1.3.2 "Interests and points of view of stakeholders"	
SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	Section 3.1.3.3.2 "Material impacts, risks and opportunities identified" and section 3.1.3.4 "Link between the impacts, risks and opportunities and the EDF group's strategy"	
IRO-1	Description of the processes to identify and assess material impacts, risks and opportunities	Section 3.1.3.3.1 "Results of the double materiality analysis"	
IRO-2	Disclosure requirements in ESRS covered by EDF's sustainability statement	Section 3.1.5.1 "List of disclosure requirements met"	
ESRS E1	***Climate change***		
E1.GOV-3	Integration of sustainability-related performance in incentive schemes	Section 3.1.2.3 "Integration of sustainability results into remuneration systems"	
E1-1	Transition plan for climate change mitigation	Section 3.2.2.1 "Climate change mitigation" Section 3.2.2.3 "Business model resilience to climate change: use of climate scenarios"	
E1.SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	Section 3.2.2 "ESRS E1 - Climate change" and section 3.1.3.4 "Link between the impacts, risks and opportunities and the EDF group's strategy"	
E1.IRO-1	Description of the processes to identify and assess material climate-related impacts, risks and opportunities	Section 3.2.2 "ESRS E1 - Climate change"	
E1-2	Policies related to climate change mitigation and adaptation	Section 3.2.2.1.1 "Policies related to climate change mitigation" and section 3.2.2.2.1 "Climate change adaptation policy"	
E1-3	Actions and resources in relation to climate change policies	Section 3.2.2.1.2 "Actions and resources in relation to climate change policies"	
E1-4	Targets related to climate change mitigation and adaptation	Section 3.2.2.1.3 "Targets and indicators related to climate change mitigation" and section 3.2.2.2.3 "Target and indicator related to climate change adaptation"	

Disclosure requirement met	Title	Section	Not applicable
E1-5	Energy consumption and mix	Section 3.2.2.1.3.6 “Energy focus: energy consumption and energy efficiency”	
E1-6	Gross Scopes 1, 2 and 3 emissions and total GHG emissions	Section 3.2.2.1.3.1 “Group carbon footprint - annual GHG emissions”	
E1-7	GHG removals and GHG mitigation projects financed through carbon credits	Section 3.2.2.1.2.3.1 “Carbon contribution”	
E1-8	Internal carbon pricing	Section 3.2.2.3.3 “Use of an internal carbon price to guide investments”	
E1-9	Anticipated financial effects from material physical and transition risks and potential climate-related opportunities		Phase-in provision
ESRS E2	***ESRS E2***		
E2.IRO-1	Description of the processes to identify and assess material pollution-related impacts, risks and opportunities	Section 3.2.3 “ESRS E2 - Pollution”	
E2-1	Policies related to pollution	Section 3.2.3.1 “Policies related to pollution control”	
E2-2	Actions and resources related to pollution	Section 3.2.3.2.1 “Actions relating to discharges of pollutants into the air (NOx, SO2, dust)” and section 3.2.3.3.1 “Actions relating to soil pollution” Section 3.2.3.5 “Research expenditure and effort allocated to pollution prevention and control actions”	
E2-3	Targets related to pollution	Section 3.2.3.2.2 “Targets relating to discharges of pollutants into the air (NOx, SO2, dust)”	
E2-4	Pollution of air, water and soil	Section 3.2.3.2 “Air pollution: discharges of NOx, SO_2, dust” and section 3.2.3.3 “Soil pollution”	
E2-5	Substances of concern and substances of very high concern		Non-material
E2-6	Anticipated financial effects from pollution-related impacts, risks and opportunities		Phase-in provision
ESRS E3	***Water and marine resources***		
E3.IRO-1	Description of the processes to identify and assess material water and marine resources-related impacts, risks and opportunities	Section 3.2.4 “ESRS E3 - Water resources”	
E3-1	Policies related to water and marine resources	Section 3.2.4.1 “Policies related to water resources”	
E3-2	Actions and resources related to water and marine resources	Section 3.2.4.2.3 “Actions relating to water withdrawals and consumption” and section 3.2.4.3.1 “Actions concerning the multi-use management of water resources Section 3.2.4.4 “Expenditure and research effort allocated to water resources actions”	
E3-3	Targets related to water and marine resources	Section 3.2.4.2.4 “Targets relating to water withdrawal and consumption” and section 3.2.4.3.2 “Target and indicator relating to the multi-use management of water resources”	
E3-4	Water consumption	Section 3.2.4.2 “Water withdrawal and consumption”	
E3-5	Anticipated financial effects from water and marine resources-related impacts, risks and opportunities		Phase-in provision

Disclosure requirement met	Title	Section	Not applicable
ESRS E4	***Biodiversity and ecosystems***		
E4.SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	Section 3.2.5 "ESRS E4 - Biodiversity and ecosystems"	
E4.IRO-1	Description of processes to identify and assess material biodiversity and ecosystem-related impacts, risks, dependencies and opportunities	Section 3.2.5 "ESRS E4 - Biodiversity and ecosystems"	
E4-1	Transition plan and consideration of biodiversity and ecosystems in strategy and business model	Section 3.2.5 "ESRS E4 - Biodiversity and ecosystems"	
E4-2	Policies related to biodiversity and ecosystems	Section 3.2.5.1 "Policies related to biodiversity"	
E4-3	Actions and resources related to biodiversity and ecosystems	Section 3.2.5.2 "Actions and resources related to biodiversity and ecosystems"	
E4-4	Targets related to biodiversity and ecosystems	Section 3.2.5.3 "Targets and indicators related to biodiversity and ecosystems"	
E4-5	Impact metrics related to biodiversity and ecosystems change	Section 3.2.5.3 "Targets and indicators related to biodiversity and ecosystems"	
E4-6	Anticipated financial effects from biodiversity and ecosystem-related risks and opportunities		Phase-in provision
ESRS E5	***Resource use and circular economy***		
E5.IRO-1	Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities	Section 3.2.6 "ESRS E5 - Resource use and circular economy"	
E5-1	Policies related to resource use and circular economy	Section 3.2.6.1 "Policies related to resource use and circular economy"	
E5-2	Actions and resources related to resource use and circular economy	Section 3.2.6.2.1 "Actions and resources related to incoming resource" and section 3.2.6.4 "Expenditures and research effort allocated to actions relating to resource use and the circular economy"	
E5-3	Targets related to resource use and circular economy	Section 3.2.6.2.2 "Target and indicators relating to incoming resources"	
E5-4	Resource inflows	Section 3.2.6.2 "Resource inflows"	
E5-5	Resource outflows	Section 3.2.6.3 "Waste"	
E5-6	Anticipated financial effects from resource use and circular economy-related risks and opportunities		Phase-in provision
ESRS S1	***Own workforce***		
S1.SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	Section 3.3.2 "ESRS S1 - Own workforce"	
S1-1	Policies related to own workforce	Section 3.3.2.1 "Policies relating to the EDF group's workforce"	
S1-2	Processes for engaging with own workforce and workers' representatives about impacts	Section 3.3.2.2 "Interaction process with the EDF group workforce and its representatives"	
S1-3	Processes to remediate negative impacts and channels for own workforce to raise concerns	Section 3.3.2.3 "Repair procedures and channels for EDF group employees to raise concerns"	
S1-4	Taking action on material impacts on own workforce, and approaches to managing material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	Section 3.3.2.4.1 "Actions and indicators relating to the workforce" and section 3.3.2.5.1 "Actions related to skills and training" and section 3.3.2.6.1 "Health and safety actions and section 3.3.2.7.1 "Actions related to diversity and gender balance"	
S1-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	Section 3.3.2.5.2 "Targets and indicators related to training and skills development" and section 3.3.2.6.2 "Targets relating to health and safety" and section 3.3.2.7.2 "Target and indicator relating to diversity and gender balance"	

Disclosure requirement met	Title	Section	Not applicable
S1-6	Characteristics of EDF's employees	Section 3.3.2.4.1 "Actions and indicators relating to the workforce" and section 3.3.2.7.2 "Target and indicator related to diversity and gender balance"	
S1-7	Characteristics of non-employees in EDF's own workforce		Phase-in provision
S1-8	Collective bargaining coverage and social dialogue	Section 3.3.2.2.1 "Social dialogue" and section 3.3.2.2.2 "Collective bargaining indicators"	
S1-9	Diversity metrics	Section 3.3.2.7 "Equality, diversity and inclusion"	
S1-10	Adequate wages	Section 3.3.1 "The Group's social commitments"	
S1-11	Social protection		Phase-in provision
S1-12	Persons with disabilities	Section 3.3.2.7.1.4 "Disability plan, a long-standing commitment"	
S1-13	Training and skills development	Section 3.3.2.5 "Training and skills development"	
S1-14	Health and safety	Section 3.3.2.6 "Health and safety for all"	
S1-15	Work-life balance		Phase-in provision
S1-16	Remuneration metrics (pay gap and total remuneration)	Section 3.3.2.7 "Equality, diversity and inclusion" and section 3.3.2.4.1 "Actions and indicators relating to the workforce"	
S1-17	Serious cases, complaints and impacts pertaining to human rights	Section 3.3.1 "The Group's social commitments"	
ESRS S2	***Workers in the value chain***		
S2.SBM-3	Material impacts, risks and opportunities and interaction with the strategy and business model	Section 3.3.3 "ESRS E2 - Workers in the value chain"	
S2-1	Policies related to value chain workers	Section 3.3.3.1 "Policies related to value chain workers"	
S2-2	Processes for engaging with value chain workers about impacts	Section 3.3.3.2 "Processes for dialogue with workers in the value chain"	
S2-3	Processes to remediate negative impacts and channels for value chain workers to raise concerns	Section 3.3.3.3 "Redress procedures and channels for value chain workers to raise concerns"	
S2-4	Taking action on significant impacts on value chain workers, and approaches to managing material risks and pursuing material opportunities related to value chain workers, and effectiveness of these actions	Section 3.3.3.4 "Actions to manage the material impacts and risks identified for workers in the value chain"	
S2-5	Targets related to the management of significant adverse impacts, the promotion of positive impacts and the management of significant risks and opportunities	Section 3.3.3.5 "Targets and indicators for workers in the value chain"	
ESRS S3	**Affected communities**		
S3.SBM-3	Material impacts, risks and opportunities and interaction with the strategy and business model	Section 3.3.4 "ESRS S3 - Affected communities"	
S3-1	Policies related to affected communities	Section 3.3.4.1 "Policies related to affected communities"	
S3-2	Processes for engaging with affected communities about impacts	Section 3.3.4.2 "Dialogue with affected communities"	
S3-3	Procedures to address negative impacts and channels for affected communities to raise concerns	Section 3.3.4.3 "Remedy procedures and channels for affected communities to raise concerns"	
S3-4	Actions regarding significant impacts on affected communities, approaches to manage significant risks and seize significant opportunities for the affected communities, and effectiveness of these actions	Section 3.3.4.4 "Actions to manage material risks and opportunities for affected communities"	

Disclosure requirement met	Title	Section	Not applicable
S3-5	Targets related to the management of significant adverse impacts, the promotion of positive impacts and the management of significant risks and opportunities	Section 3.3.4.5 "Targets and indicators for affected communities"	
ESRS S4	**Consumers and end-users**		
S4.SBM-3	Material impacts, risks and opportunities and interaction with the strategy and business model	Section 3.3.5 "Consumers and end-users"	
S4-1	Policies related to consumers and end-users	Section 3.3.5.1.1 "Policy on electricity continuity and supply for consumers and end-users" and section 3.3.5.2.1 "Policy on combating energy poverty for consumers and end-users" and section 3.3.5.3.1 "Privacy policy/personal data protection for consumers and end-users"	
S4-2	Processes for engaging with consumers and end-users about impacts	Section 3.3.5.1.2 "Dialogue process related to electricity continuity and supply for consumers and end-users" and section 3.3.5.2.2 "Dialogue process on combating energy poverty for consumers and end-users" and section 3.3.5.3.2 "Dialogue process with consumers and end-users in relation to privacy/personal data protection"	
S4-3	Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	Section 3.3.5.1.3 "Procedures for remedying negative impacts and channels for consumers and end-users to raise concerns about electricity continuity and supply", section 3.3.5.2.3 (energy poverty) and section 3.3.5.3.3 (Respect for privacy / Personal data protection)	
S4-4	Taking action on significant impacts on consumers and end-users, and approaches to managing material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of these actions	Section 3.3.5.1.4 "Actions to manage the impacts and risks identified in relation to the continuity and supply of electricity for consumers and end-users", section 3.3.5.2.4 (energy poverty) and section 3.3.5.3.4 (Respect for privacy / Personal data protection)	
S4-5	Targets related to the management of significant adverse impacts, the promotion of positive impacts and the management of significant risks and opportunities	Section 3.3.5.1.5 "Targets and indicators relating to electricity continuity and supply", section 3.3.5.2.5 (energy poverty) and section 3.3.5.3.5 (Respect for privacy / Personal data protection)	
ESRS G1	**Business conduct**		
G1.GOV-1	The role of the governance, management and supervisory bodies	Section 3.1.2.1 "The role of the governance, management and supervisory bodies"	
G1-1	Corporate culture and business conduct policies	Section 3.4.2 "Governance and business conduct policies"	
G1-2	Management of relationships with suppliers	Section 3.4.3 "Sustainable and balanced relationships with suppliers"	
G1-3	Prevention and detection of corruption and bribery	Section 3.4.4 "Prevention and detection of corruption"	
G1-4	Incidents of corruption or bribery	Section 3.4.4.2 "Incidents of corruption identified"	
G1-5	Political influence and lobbying activities	Section 3.4.6.1 "EDF's commitment to transparent, responsible lobbying"	
G1-6	Supplier payment practices	Section 3.4.3 "Sustainable and balanced relationships with suppliers"	

3.1.5.2 Table of all data points arising from other EU legislation

Data points arising from other EU legislation	SFDR reference	Pillar 3 reference	Regulation reference on the reference benchmark	European climate law reference	Section
ESRS 2 GOV-1 21 d) Gender balance within the governance bodies	X		X		Section 4.2 "Members and functioning of the Board of Directors" and section 3.1.2.1.1 "Board of Directors"
ESRS 2 GOV-1 21 e) Percentage of board members who are independent			X		Section 4.2 "Members and functioning of the Board of Directors"
ESRS 2 GOV-4 30 Statement on due diligence	X				Section 3.1.2.4 "Statement on due diligence"
ESRS 2 SBM-1 40d) i) Involvement in activities related to fossil fuel activities	X	X	X		Section 3.2.7 "Green taxonomy"
ESRS 2 SBM-1 40d) ii) Involvement in activities related to chemical production	X		X		Not applicable
ESRS 2 SBM-1 40d) iii) Involvement in activities related to controversial weapons	X		X		Not applicable
ESRS 2 SBM-1 40d) iv) Involvement in activities related to cultivation and production of tobacco			X		Not applicable
ESRS E1-1 14 Transition plan to reach climate neutrality by 2050				X	Section 3.2.2.1.1 "Policies related to climate change mitigation"
ESRS E1-1 16 g) Companies excluded from the "Paris Agreement" benchmarks		X	X		Section 3.2.2.1.3.2 "A carbon trajectory compatible with 1.5°C"
ESRS E1-4 34 GHG emission reduction targets	X	X	X		Section 3.2.2.1.3 "Targets and indicators related to climate change mitigation"
ESRS E1-5 38 Energy consumption from fossil sources disaggregated by sources (only high climate impact sectors)	X				Section 3.2.2.1.3.6 "Energy focus: energy consumption and energy efficiency"
ESRS E1-5 37 Energy consumption and mix					Section 3.2.2.1.3.6 "Energy focus: energy consumption and energy efficiency"
ESRS E1-5 40-43 Energy intensity associated with activities in high climate impact sectors	X				Section 3.2.2.1.3.6 "Energy focus: energy consumption and energy efficiency"
ESRS E1-6 44 Gross Scope 1, 2 and 3 GHG emissions and total GHG emissions	X	X	X		Section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions"
ESRS E1-6 53-55 Gross GHG emission intensity	X	X	X		Section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions"
ESRS E1-7 56 GHG removals and carbon credits			X		Section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions"
ESRS E1-9 66 Exposure of the benchmark portfolio to climate-related physical risks		X			Phase-in provision
ESRS E1-9 66 a) Breakdown of monetary amounts by acute and chronic physical risk		X			Phase-in provision
ESRS E1-9 66 c) Location of significant assets exposed to a material physical risk		X			Phase-in provision
ESRS E1-9 67 c) Breakdown of the carrying value of its real estate assets by energy-efficiency classes		X			Phase-in provision

Data points arising from other EU legislation	SFDR reference	Pillar 3 reference	Regulation reference on the reference benchmark	European climate law reference	Section
ESRS E1-9 69 Degree of exposure of the portfolio to climate-related opportunities			X		Phase-in provision
ESRS E2-4 28 Amount of each pollutant listed in Annex II of the E-PRTR Regulation (European Pollutant Release and Transfer Register) emitted to air, water and soil	X				Section 3.2.3.2.3 "Indicators relating to discharges into the air (NO_x, SO_2, dust)"
ESRS E3-1 9 Water and marine resources	X				Section 3.2.4 "ESRS E3 - Water resources"
ESRS E3-1 13 Dedicated policy	X				Section 3.2.4.1 "Policies related to water resources"
ESRS E3-1 14 Sustainable practices with regard to oceans and seas	X				Non-material
ESRS E3-4 28 c) Total percentage of water recycled and reused	X				Section 3.2.4.2.5 "Indicators relating to water withdrawal and consumption"
ESRS E3-4 29 Total water consumption in m^3 per net revenue on own operations	X				Section 3.2.4.2.5 "Indicators relating to water withdrawal and consumption"
ESRS 2- SBM 3 - E4 16a)	X				Section 3.2.5 "Biodiversity and ecosystems"
ESRS 2- SBM 3 - E4 16b)	X				Section 3.2.5 "Biodiversity and ecosystems"
ESRS 2- SBM 3 - E4 16c)	X				Not applicable
ESRS E4-2 24 b) Sustainable land / agricultural practices or policies	X				Section 3.2.5.1 "Policies related to biodiversity"
ESRS E4-2 24 c) Sustainable practices or policies with regard to oceans and seas	X				Section 3.2.5.1 "Policies related to biodiversity"
ESRS E4-2 24 d) Policies to address deforestation	X				Section 3.2.5.1 "Policies related to biodiversity"
ESRS E5-5 37 d) Non-recycled waste	X				Section 3.2.6.3.3 "Waste indicators"
ESRS E5-5 39 Hazardous waste and radioactive waste	X				Section 3.2.6.3.3 "Waste indicators"
ESRS 2 - SBM3 - S1 14 f) Risk of incidents of forced labour	X				Section 3.3.1.1.2 "The rights of Group employees and workers in the value chain" and section 3.3.2 "ESRS S1 - Own workforce"
ESRS 2 - SBM3 - S1 14 g) Risk of incidents of child labour	X				Section 3.3.1.1.2 "The rights of Group employees and workers in the value chain"
ESRS S1-1 20 Commitments to implement a human rights policy	X				Section 3.3.1.1.1 "Compliance with international standards"
ESRS S1-1 21 Due diligence policies on issues addressed by the fundamental International Labour Organization Conventions 1 to 8			X		Section 3.3.1.1.1 "Compliance with international standards"
ESRS S1-1 22 Processes and measures for preventing trafficking in human beings	X				Section 3.3.1.1.1 "Compliance with international standards"
ESRS S1-1 23 Workplace accident prevention policy or management system	X				Section 3.3.1.1.2 "The rights of Group employees and workers in the value chain" and section 3.3.2.1.2 "Health and safety prevention policy"
ESRS S1-3 32 c) grievance/ complaints handling mechanisms	X				Section 3.3.1.2 "The EDF group's whistleblowing system"

Data points arising from other EU legislation	SFDR reference	Pillar 3 reference	Regulation reference on the reference benchmark	European climate law reference	Section
ESRS S1-14 88 b) c) Number of fatalities and number and rate of work-related accidents	X		X		Section 3.3.2.6.3 “Health and safety indicators”
ESRS S1-14 88 e) Number of days lost to injuries, accidents, fatalities or illness	X				Section 3.3.2.6.3 “Health and safety indicators”
ESRS S1-16 97 a) Unadjusted gender pay gap	X		X		Section 3.3.2.7.2.2 “Other indicators related to diversity, gender balance"
ESRS 97 b) Ratio of total annual remuneration of the highest-paid person to the median level of total annual remuneration (excluding the highest-paid individual)	X				Section 3.3.2.4.1.6 “Remuneration, a performance and attractiveness lever”
ESRS S1-17 103 a) Incidents of discrimination	X				Section 3.3.1.2.8 “Focus on serious human rights incidents for the Company’s workforce”, section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S1-17 104 a) Non-respect of UNGPs on business and human rights principles and OECD guidelines	X		X		Section 3.3.1.2.8 “Focus on serious human rights incidents for the Company’s workforce”
ESRS 2- SBM3 - S2 11 b) Significant risk of child labour or forced labour in the value chain	X				Section 3.3.3 “ESRS S2 - Workers in the value chain”
ESRS S2-1 17 Commitments to implement a human rights policy	X				Section 3.3.3.1 “Policies related to value chain workers”
ESRS S2-1 18 Policies related to value chain workers	X				Section 3.3.3.1 “Policies related to value chain workers”
ESRS S2-1 19 Non-respect of UNGPs on business and human rights principles and OECD guidelines	X		X		Section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S2-1 19 Due diligence policies on issues addressed by the fundamental International Labour Organization Conventions 1 to 8			X		Section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S2-4 36 Human rights issues and incidents identified upstream or downstream of the value chain	X		X		Section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S3-1 16 Commitments to implement a human rights policy			X		Section 3.3.4.1 “Policies related to affected communities”
ESRS S3-1 17 Non-respect of UNGPs on business and human rights principles, ILO principles and/or OECD guidelines	X		X		Section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S3-4 36 Human rights issues and incidents	X				Section 3.3.1.2 “The EDF group’s whistleblowing system” and section 3.3.1.2.7 “2024 results”
ESRS S4-1 16 Consumer and end-user policies	X				Section 3.3.5.1.1 “Policy on electricity continuity and supply for consumers and end-users” and section 3.3.5.2.1 “Policy on combating energy poverty for consumers and end-users”

Data points arising from other EU legislation	SFDR reference	Pillar 3 reference	Regulation reference on the reference benchmark	European climate law reference	Section
ESRS S4-1 17 Non-respect of UNGPs on business and human rights principles and OECD guidelines	X		X		Section 3.3.5.1.1 "Policy on electricity continuity and supply for consumers and end-users"
ESRS S4-4 35 Human rights issues and incidents	X				Section 3.3.1.2 "The EDF group's whistleblowing system" and section 3.3.1.2.7 "2024 results"
ESRS G1-1 10 b) Non-respect of United Nations Convention against Corruption	X				Not applicable
ESRS G1-1 10 d) No policy in place to protect whistleblowers	X				Not applicable
ESRS G1-4 24 a) Fines for violation of anti-corruption and anti-bribery laws and acts of corruption	X		X		Section 3.4.4.2 "Incidents of corruption identified"
ESRS G1-4 24 b) Standards of anti-corruption and anti-bribery	X				Section 3.4.4.1 "Anti-corruption programme"

3.1.5.3 ESRS benchmark by sustainability issue

The table below lists the material sustainability issues for EDF and associates one or more references among the subtopics and sub-subtopics of the ESRS. The sustainability issues defined by EDF or those whose description is close to that of the ESRS reference are not included in this table.

Sustainability issue	ESRS reference(s)
Biodiversity loss	Direct impact drivers of biodiversity loss: Land-use change, freshwater-use change and sea-use change
Impact on ecosystems	Impacts on the extent and condition of ecosystems
Human rights (S1)	Other labour rights - sub-issue: Child labour / Forced labour / Privacy Working conditions - sub-issue: Adequate wages Working conditions - sub-issue: Freedom of association / Collective bargaining Working conditions - sub-issue: Social protection
Human rights (S2)	Working conditions - sub-issues: Social protection / Working time / Adequate wages / Social dialogue / Freedom of association / Collective bargaining Equal treatment and opportunities for all - sub-issue: Measures against violence and harassment at work Gender equality and equal pay for work of equal value / Employment and inclusion of people with disabilities Other labour rights - sub-issue: Child labour / Forced labour / Privacy
Human rights (S3)	Communities' economic, social and cultural rights - sub-issue: Adequate housing Communities' economic, social and cultural rights - sub-issue: Adequate food Communities' economic, social and cultural rights - sub-issue: Water and sanitation Communities' economic, social and cultural rights - sub-issue: Land-related impacts
Health and safety for all (S1)	Working conditions - sub-issue: Health and safety Working conditions - sub-issue: Work-life balance
Health and safety for all (S3)	Communities' economic, social and cultural rights - sub-issue: Security-related impacts
Equality, diversity and inclusion for all (S1)	Equal treatment and opportunities for all - sub-issue: Diversity Equal treatment and opportunities for all - sub-issue: Gender equality and equal pay for work of equal value Equal treatment and opportunities for all - sub-issue: Employment and inclusion of people with disabilities
Dialogue and consultation with stakeholders	Communities' civil and political rights - sub-issue: Freedom of expression Communities' civil and political rights - sub-issue: Freedom of assembly Communities' civil and political rights - sub-issue: Impacts on human rights defenders Rights of indigenous peoples - sub-issue: Free, prior and informed consent Rights of indigenous peoples - sub-issue: Self-determination Rights of indigenous peoples - sub-issue: Cultural rights
Social inclusion of consumers and end-users	Social inclusion - sub-issue: Access to products and services Impacts related to information - sub-issue: Access to (quality) information
Personal data protection	Information on impacts - sub-issue: Protection of privacy
Governance	Corporate culture
Ethics, compliance and transparency of lobbying	Political engagement and lobbying activities Corruption and bribery

3.1.5.4 Sustainability statement information incorporated by reference

Relevant information	Disclosure requirement (DR)	Cross-references to other parts of the URD
Strategy of the EDF group	BP-2	Section 1.3 "Group strategy and objectives" and section 1.3.2 "Strategic priorities"
Changes in the Group's strategy	BP-2	Section 1.2.3 "Significant events"
The EDF group's business model (as well as assets, resources and value creation)	BP-2	Section 1.1 "Key figures and business model" and section 1.4 "Description of the Group's activities"
Risk factors of the EDF group	GOV-5	Chapter 2 "Risks and control framework"
General risks of the Group	GOV-5	Section 2.2 "Risks to which the Group is exposed"
General mapping of Group risks	GOV-5	Section 2.2 "Risks to which the Group is exposed"
The EDF group's risk management and internal control systems	GOV-5	Section 2.1 "Risk management and business control"
The Group Executive Committee Commitments Committee authorises the Group's largest investments and commitments	GOV-5	Section 2.1.3.4 "Approval of capital commitments"
Scope of consolidation	BP-1	Section 6.1, note 3 "Scope of consolidation" to the consolidated financial statements for the financial year ended 31 December 2024
Composition, missions and powers, skills and expertise, functioning of the Board of Directors of EDF	GOV-1	Section 4.2 "Members and functioning of the Board of Directors"
Members of the Board of Directors	GOV-1	Section 4.2.1 "Members of the Board of Directors"
Board of Directors' Committees	GOV-1	Section 4.2.3 "Board of Directors' Committees"
Members of the Executive Committee	GOV-1	Section 4.3.1 "Members of the Executive Committee"
Training channels for the Board of Directors on social and environmental responsibility	GOV-1	Section 4.2.2.7 "Information and training of Directors"
Impacts, risks and opportunities, all sustainability issues addressed by the Corporate Responsibility Committee	GOV-1	Section 4.2.3.5 "Corporate Responsibility Committee"
The list of significant impacts, risks and opportunities was presented to the Risk and Audit Committee and the Corporate Responsibility Committee	GOV-1	Section 4.2.3.7 "Joint meetings of the Board of Directors' Committees"
Role and missions of the Climate Officer of the Board of Directors	GOV-1	Section 4.2.3.5 "Corporate Responsibility Committee"
Review of the Group's climate transition plan by the Strategy Committee	GOV-1	Section 4.2.3.1 "Strategy Committee"
Expectations and interests of stakeholders in the Group's strategy and objectives	SBM-2	Section 1.3.1 "Environment and strategic challenges"

3.2 Environmental information

3.2.1 Environmental management system

The environment, in all its dimensions , lies at the heart of the EDF group's commitments. An environmental management system (EMS) has therefore been in place for several years to minimise environmental impact for the Group's various activities.

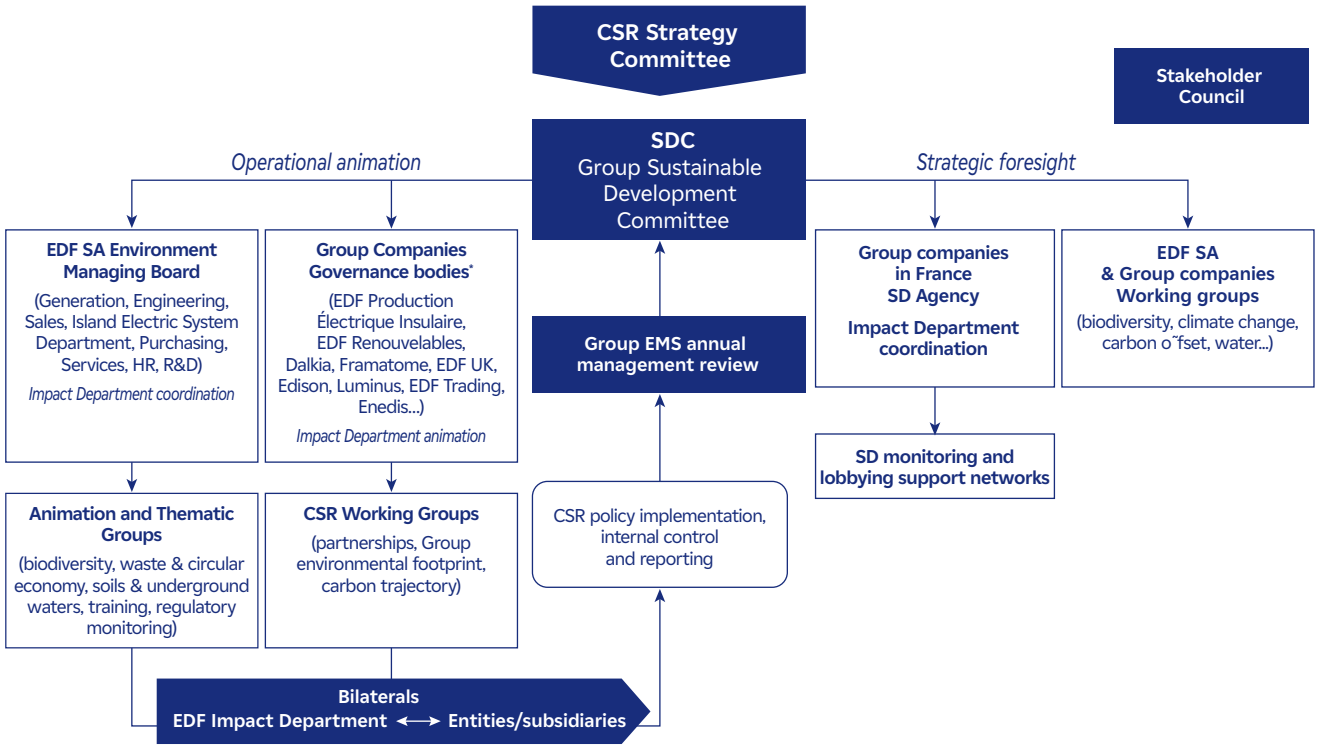
The EMS is designed to implement the environmental commitments of the Group's CSR policy (see section 3.1.3.6 "Corporate social responsibility policy"). This management system operates within the framework of EDF's governance structure bodies (see section 3.1.2 "Governance" and chapter 4 "Corporate governance").

In line with the CSR policy's requirements, each Group entity has established its own environmental management approach, tailored to its specific challenges. While respecting the management independence of network operators, each entity defines its own organisational structure, roles, and responsibilities to fulfil its environmental commitments and effectively manage associated risks. To this end, adequate human and financial resources are allocated.

The EMS operates through Group, entity and function processes, to give stakeholders formal assurance that:

- the environmental risks are under control and that the EDF group complies with regulations and its commitments: each entity draws up and implements an environmental programme or action plan that takes account of the relevant Group commitments, its own significant environmental aspects and its regulatory obligations, considering its risks and opportunities;
- the efficiency of its organisations is improving in line with the challenges: each entity is responsible;
- its internal control, as well as internal and external audits of its EMS, interfaces with the Group's EMS;
- mandatory sustainability reporting is performed concerning the environmental activities of the entities: each entity collects and communicates the required environmental information to the Impact Division.

The Impact Department is responsible for the overall coordination of the Group's EMS as well as for managing interfaces between EDF and its subsidiaries. This includes the operational coordination of environmental management, which is carried out with the active involvement of all entities whose activities have a significant environmental impact at the Group level.



** Environment managing boards or equivalent*

The Group's EMS is certified compliant with international standard ISO 14001 (2015 version) by an external body, the French Standardisation Association (*Association française de normalisation - AFNOR*). All industrial sites are covered by an EMS, and more than 80% of them are certified.

The latest certification audit campaign, conducted by AFNOR between April 2023 to March 2024, confirms that the environmental management systems of the certified entities and subsidiaries are effectively and genuinely embedded within the Group's practices and culture. The Group's environmental policy was assessed as ambitious and aligned with the key challenges facing EDF, particularly regarding climate and biodiversity. Expertise and skills are shared with the regions, with a view to improving the management of the environmental impacts. These audits identified four new minor cases of non-compliance, with the minor cases from the previous audit campaign having been resolved. The main area for improvement concerns the management of action plans, specifically the need for more robust root cause analysis and enhanced monitoring of the effectiveness of corrective measures, particularly for compliance-related actions.

3.2.2 ESRS E1 - Climate change

The EDF group intends to play a major role in the fight against climate disruption. All of the Company's governance and business lines are committed to this direction. The challenges of the carbon trajectory and adaptation to climate change are regularly reviewed by the Executive Committee, the Board of Directors, the Scientific Council and the Group Stakeholder Council. The Group's contribution to the decarbonisation of the economy occupies a central place in the *raison d'être*, included in EDF's articles of association in 2020, as well as in the Group's corporate plan "*Ambitions 2035*".

The EDF group's climate transition plan, approved at the General Meeting of 12 May 2022 and whose update was validated in 2024 by the Board of Directors, structures the Group's climate ambition. It aims for net zero emissions across all of the Group's activities by 2050 as well as the decarbonisation of uses through electrification, supported by the development of additional low-carbon electricity generation capacities (see section 3.2.2.1.1.3 "Generate more low-carbon electricity"). In addition, the adaptation of infrastructure and processes to physical climate risks is a priority as well as mitigation (see section 3.2.2.2 "Climate change adaptation"). These two areas are supported by governance that integrates climate issues through executive compensation linked to environmental performance (see section 3.1.2.3 "Integration of sustainability results into remuneration systems") and mobilisation of the employees through training and awareness.

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunity

Sustainability issue	Material impact	Description	Time horizon
Climate change mitigation & energy (see section 3.2.2.1)	Greenhouse gas emissions	The Group's activities and its entire value chain produce greenhouse gas emissions that contribute to climate change.	Short term
	Decarbonisation of the economy	The Group's activities dedicated to its customers contribute to the low-carbon transition of the economy, in particular through the reduction of energy consumption (energy sobriety and energy efficiency) and the support for low-carbon energy consumption.	Long term
	Decarbonisation of the energy mix	The Group's low-carbon electricity generation and energy services activities have a positive impact on the decarbonisation of the energy mix.	Long term

Sustainability issue	Material risk or opportunity	Description
Climate change mitigation & energy (see section 3.2.2.1)	Political and regulatory risks	Regulatory changes or an increase in the price of carbon may lead to impairment of assets.
	Developing decarbonised electricity use and energy services	The necessary decarbonisation of the economy may create revenue opportunities, new markets and new sources of financing for the Group, *via* the development of new low-carbon production capacities, innovative technologies, green and low-carbon offers (self-consumption, energy efficiency, electric mobility, etc.) and participation in research projects.
Climate change adaptation (see section 3.2.2.2)	Physical risks	Risks related to extreme and chronic events can impact the entire value chain of the Group and in particular its generation, transport and distribution facilities, as well as the working conditions of employees and service providers.

The decarbonisation of energy and the electrification of the economy are the top priorities to achieve net zero emissions by 2050. The Paris Climate Agreement provides the Group with the opportunity, as the world's leading electricity producer[1] without direct CO_2 emissions, to be a key player in the decarbonisation of the economy. The need for the Group's customers to reduce their own emissions opens up prospects for the development of new energy offers and energy services. At the same time, the production and distribution of energy involve the emission of GHGs, whether through the combustion of fossil sources, the use of refrigerants, or indirectly through the construction of infrastructure. The extraction and transportation of fossil and nuclear fuels, as well as the decomposition of organic materials in hydropower facilities, particularly in tropical regions, also contribute to the carbon footprint of the Group. Climate risks such as heat waves, increased droughts or intense rains can impact electricity production and lead to risks of non-insurability.

(1) According to the annual benchmark of electricity producers: power-producers-ranking.enerdata.net/

Climate change being tied to stock (i.e. accumulation of greenhouse gases in the atmosphere) rather than flows of GHG towards the atmosphere, its impacts are already here, due to past emissions. It is therefore essential to strengthen the robustness of the electricity system against such impacts, considering how vital electrification is to achieving carbon neutrality. From the publication of the first IPCC report in the 1990s, EDF has decided to allocate resources to research focusing on the climate system and its evolution. The EDF group has committed to assessing the impacts of climate change on its activities, to adapt its existing facilities to make them less sensitive to climatic conditions and more resilient to extreme situations, and to integrate climate change assumptions into the design of its new facilities. The Group relies on the most pessimistic scenarios of the IPCC in terms of warming and considers a medium- and long-term horizon (2050 to 2100), due to the long lifespan of its infrastructures.

The "Energy" sustainability sub-issue, defined by the ESRS, is integrated into that of climate change mitigation, given the proximity of the policies, actions, objectives and indicators in the context of EDF's activities.

In addition to the methodology followed for all standards, described in section 3.1.4.1.1 "Methodology", the identification of IROs for the E1 standard was carried out on the basis of internal sources, such as the Group's carbon footprint assessment or the nuclear LCA[1], and external sources, such as public transition scenarios, data from the French Environmental and Energy Management Agency (Agence de l'environnement et de la maîtrise de l'énergie – ADEME) or the Interprofessional Technical Centre for Atmospheric Pollution Studies (Centre interprofessionnel technique d'études de la pollution atmosphérique – CITEPA).

Climate physical risks are identified as material, in line with the risk mapping for the Group, which has included climate risk as a priority risk at Group level since 2018.

Climate change mitigation represents an opportunity for the Group considering its business model, based on the generation of low-carbon electricity (nuclear energy and renewable energies) and the support for low-carbon uses, is aligned with ambitious decarbonisation scenarios.

Significant current impacts have been assessed for material risks and opportunities, see for more details section 6.1, note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024.

3.2.2.1 Climate change mitigation

3.2.2.1.1 Policies related to climate change mitigation

In the face of climate emergency, the EDF group aims to develop, wherever it is present, a new energy model that emits less CO_2, is more efficient, and is more respectful of the environment and people, in accordance with the Group's *raison d'être*. To mobilise accordingly, the Group is implementing a climate transition plan, focusing on three areas, supported by the Group's highest levels of governance, with the appointment of climate officers within the Group's Board of Directors and Executive Committee. The EDF group is engaged in an accountability process focusing on the 10 Recommendations of the United Nations High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities (UN HLEG).

3.2.2.1.1.1 A "Net Zero Emissions" ambition supported by an ambitious carbon trajectory

The EDF group is the world's leading producer of electricity with no direct CO_2 emissions. As a ration of its production volume, the CO_2 emissions of the Group are much lower than those of other major electricity producers. In line with this role as a leader in the decarbonisation of the economy, and consistent with its purpose of building a CO_2-neutral energy future, the EDF group has set a target of achieving "Net Zero" emissions across all of its activities by 2050. This target covers greenhouse gas emissions across all scopes (1, 2 and 3)[2] and all geographic regions[3]. It is based on the definition included in the CSRD[4]. The Group's Net Zero ambition is linked to the CSR policy, for which the Impact Division is responsible, and to the "*Ambitions 2035*" corporate plan. The results are presented to the Executive Committee annually.

Net Zero by 2050	Reducing the Group's direct greenhouse gas emissions to zero or virtually zero by 2050
	Reducing direct and indirect emissions by at least 90%[1]
	Neutralising residual emissions through high integrity carbon sinks[2]

(1) Compared to the reference year used for the definition of the 2030 targets.

(2) Neutralisation after 2030 only, in line with the principles defined in the report of the United Nations High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities (November 2022).

This long-term ambition is supported by short- and medium-term reduction targets that are established and reviewed regularly, and are translated into emission trajectories for all of the Group's business lines and entities. The Group's carbon trajectory, whose ambition was strengthened in 2023, was validated as compatible with a 1.5 °C warming scenario by Moody's (see section 3.2.2.1.3 "Targets and indicators related to climate change mitigation").

These targets relate to the Group's direct and indirect emissions. In addition to the monitoring of Group emissions, the definition of the carbon trajectory contributes to the orientation of the Group's strategic choices and investments.

(1) Life cycle analysis.
(2) For the definition of the three scopes, see section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions".
(3) For details on the scope used, see section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions".
(4) Annex II Acronyms and Defined Terms, Net-zero target.

Activate the various levers for decarbonisation of electricity generation

For the past 20 years or so, the Group has implemented and supported the closure of a large number of coal units in Europe, as well as all of its high-power fuel oil boilers, which explains why coal- or fuel oil-based generation has only accounted for 1% of its generation on average since 2020. Since 2017, the EDF group has been involved in the Powering Past Coal Alliance[1] coalition which, under the Paris Agreement, promotes the phase-out of coal in European countries by 2030 and before 2050 for the rest of the world, and has strengthened its commitment since 2020, which means no longer generating electricity in Europe from coal (and heavy fuel oil) by 2027 in Europe and 2030 in the rest of the world. The Group also decided in 2019 to stop financing coal activities that were not present in its portfolio. The Group is working to green its heating networks, and has defined a set of criteria in favour of low-carbon thermal energy (see the section 3.2.2.1.2.1.1 "Reduction of direct emissions") to align its fossil fuel activities with its climate commitments.

In island regions, for example, the EDF group is gradually replacing fuel oil with liquid biomass in the existing thermal power plants (see section 3.2.2.1.2.1.1 "Reduction of direct emissions" – "Decarbonisation of island regions"). Lastly, the Group uses alternative technologies to fluorinated gases used as refrigerants whenever possible and works to reduce their carbon impact.

In 2024, gas activities represented approximately 75% of the Scope 1 GHG emissions through the generation of electricity and heat from natural gas. The EDF group has defined a set of internal criteria in order to align its gas business with its climate-related commitments:

- all of the EDF group's gas activities are integrated into the carbon trajectories (covering both direct and indirect emissions) set for each of the Group's entities in line with its 2030 and 2050 targets. All development projects must demonstrate a contribution to the energy transition of the relevant regions and their business plan must ensure compliance with the Group's 2050 Net Zero target;
- the EDF group is constantly working to optimise the energy and environmental performance of its thermal fleet in order to reduce its CO_2 emissions, but also to provide more services to the electricity system (see section 3.2.2.1.2.1.1 "Reduction of direct emissions" – "Decarbonisation of the EDF group's fossil fuels"). For example, the in-depth overhaul of the Ringvaart combined cycle gas turbine, carried out in 2022, made it possible to improve the efficiency of this plant located north of Ghent (Belgium), resulting in a reduction in emissions of around 3,500 tonnes of CO_2 per year, depending on the number of operating hours;
- the Group is committed to the development of new gas projects (combined cycle gas turbine – CCGT), only if the project contributes to reducing the carbon intensity of the electricity system of the country concerned or is relied on for the country's security of supply. When technically and economically feasible, the project uses solutions enabling reduction of its direct emissions, such as green gas, hydrogen or CO_2 capture and storage (see the section on the EDF group's "decarbonised thermal energy" project in section 3.2.2.1.2.1.1 "Reduction of direct emissions");
- lastly, the EDF group supports the development of the biogas sector whenever a project's business model is viable over the long term.

This ambition to decarbonise production is reflected in the objective of reducing the carbon intensity of the Group's electricity and heat generation.

Support the decarbonisation of the gas customer portfolio

EDF's fossil gas sales to end customers contribute significantly to its Scope 3 emissions (see section 3.2.2.1.3.1 "Group carbon footprint - annual GHG emissions"). However, reducing the Group's emissions by simply transferring gas sales contracts to other suppliers is of little value in terms of overall emissions to the atmosphere. The EDF group is therefore committed to actively supporting its gas customers in their journey towards carbon neutrality, thus accelerating the decarbonisation of the economy. This approach defines EDF's role as a "Responsible gas company", in line with the "*Ambitions 2035*" corporate plan, and focuses on four areas: guiding the Group's gas customers towards decarbonisation and energy efficiency; accelerating the transition from fossil gas to electricity; contributing to the decarbonisation of energy sources; and advocating for regulatory changes to support decarbonisation.

Mitigation outside the value chain and neutralisation of residual emissions

For the EDF group, the neutralisation of residual emissions is the final step in achieving net zero emissions. Under no circumstances should the purchase of carbon credits replace a strategy of drastically reducing the Group's direct and indirect emissions.

The EDF group aims to favor the use of "negative emissions" projects to neutralise its residual emissions by 2050, compared to "avoided emissions" projects. These carbon sequestration projects may correspond either to natural solutions, *via* carbon storage in forests or soils, projects that are likely to have co-benefits for biodiversity or adaptation to climate change but whose permanence may be difficult to ensure; or to technological solutions, such as bioenergy projects equipped with CO_2 capture and storage (BECCS). In addition, the projects are screened beforehand to ensure that they meet high integrity criteria, based on the Core Carbon Principles defined by the Integrity Council for the Voluntary Carbon Market (iC-VCM)[2], as described in the Group's carbon contribution policy.

In line with the definition of Net Zero included in the CSRD, the volume of emissions neutralised *via* credits retired in 2050 will correspond to a maximum of 10% of the EDF group's total carbon footprint for the reference year (*i.e.* a maximum of around 16 MtCO2e). In addition, in accordance with the carbon accounting rules in force[3], the sequestration or reduction units from projects already financed by EDF group are not deducted from the greenhouse gas assessment and are accounted for separately.

3.2.2.1.1.2 Developing the use of electricity, energy efficiency and innovative energy services

The development of the use of low-carbon electricity is one of the key areas of work in the fight against global warming, by reducing the carbon footprint of the Group's customers. For France, this translates into a target of 150TWh of additional electricity demand, compared to 2023, by 2035 to replace carbon-intensive energies. This ambition, which can be replicated in all countries where the Group operates, is in line with all decarbonisation scenarios, in particular those of the IEA and NGFS, as well as the French national low-carbon strategy (*Stratégie National Bas Carbone*). The associated policy aims to support customers and regions in the decarbonisation of their activities, through a wide range of offers adapted to the various markets, making it possible to exploit revenue opportunities, new markets for the Group and new sources of financing, and through the development of energy-efficient solutions, innovative technologies, low-carbon offers (self-consumption, energy efficiency, electric mobility, etc.).

(1) poweringpastcoal.org/members
(2) icvcm.org/the-core-carbon-principles/
(3) *GHG Protocol Corporate Accounting and Reporting Standard*, WRI-WBCSD, 2015.

This implies having favourable conditions for such a development, *via* strengthening the robustness, intelligence and flexibility of the network, better management of intermittency and flexibility and development of storage, the search for technical and financial innovations to provide sustainable electricity and a reasonable price, and a requirement for the quality of the service offered.

This policy applies to the Group's distribution and marketing activities (see section 1.4 "Description of the Group's activities"). It is part of the corporate strategy coordinated at Executive Committee level.

3.2.2.1.1.3 Generate more low-carbon electricity

The IPCC classifies electricity generation technologies as either unabated fossil fuel technologies, e.g, gas or coal without any carbon capture and sequestration system and therefore generating direct greenhouse gas emissions, in contrast to low-carbon technologies, *i.e.* with little or no direct greenhouse gas emissions[1] (such as hydropower, nuclear, wind and solar, bioenergy, fossils with carbon capture and storage (CCS)).

According to Enerdata's latest annual ranking[2], the EDF group is the world's leading producer of electricity with no direct CO_2 emissions, due notably to the size of its nuclear and hydropower generation fleet. The Group's electricity generation mix was 94% decarbonised in 2024.

The Group ambitions to produce more low-carbon electricity with all the technologies that contribute to it, by relying on nuclear and all forms of renewable energy. To this end, the Group aims to maximise the availability and operating lifespan of all of its low-carbon assets, in particular its existing nuclear fleet, while ensuring the best conditions of safety and performance, The Groupe also aims to build new high- and low-power nuclear reactors, and to accelerate the development of renewable energies. This ambition is aligned with climate scenarios compatible with the Paris Agreement, which all highlight the need to meet the demand related to the electrification of uses with low-carbon technologies, just like EDF's Net Zero scenario at European level[3]. It translates into targets for net low-carbon electricity generation and the development of gross renewable capacity (see section 3.2.2.1.3 "Targets and indicators related to climate change mitigation").

As part of its strategy, the Group also ambitions to continue to deploy renewable capacity and flexibilities to ensure the stability of the networks. On the supply side, in addition to the flexibility already provided by the nuclear and hydropower plants, the Group will develop storage resources and will continue to decarbonise flame-based thermal generation facilities. Regarding customers, flexibility solutions involve steering consumption accordingly (in order to move it towards the most advantageous time periods for the electricity system), in particular *via* "smart" recharging of electric vehicles or consumption shedding.

Lastly, the public networks managed by Enedis, EDF SEI and Strasbourg Électricité Réseaux will have to continue their transformation in order to meet the challenges of tomorrow's electricity system and the new connection needs (for new renewable capacity, electric charging stations, etc.).

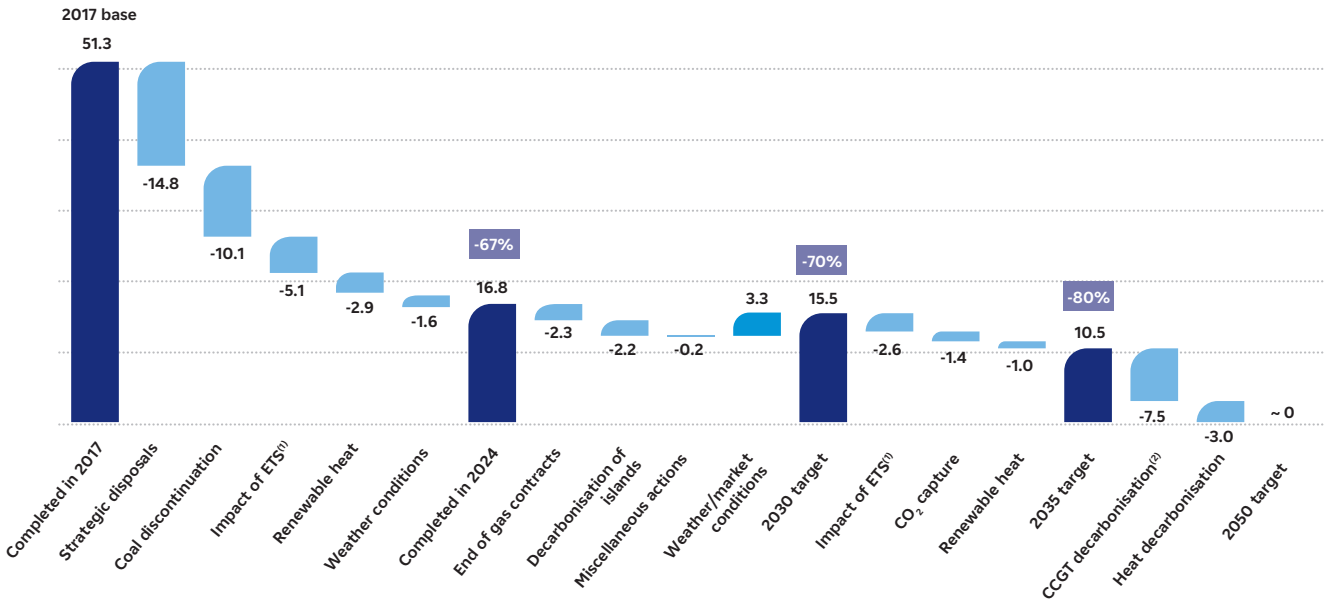
3.2.2.1.2 Actions and resources in relation to climate change policies

In order to achieve the objectives it has set for itself (see section 3.2.2.1.1 "Policies related to climate change mitigation"), the EDF group is implementing an action plan that is part of the Group's strategy. This plan is coordinated with the EDF group's "Carbon Neutrality Strategy" project.

3.2.2.1.2.1 Own operations: reduce the Group's direct emissions, generate more low-carbon electricity

3.2.2.1.2.1.1. Reduction of direct emissions

Scope 1 net zero trajectory between 2017 and 2050
(in $MtCO_2e$)



(1) EU ETS: *European Emissions Trading Scheme.*

(2) CCGT: combined cycle gas turbine.

(1) Does not include emissions relating to the fuel supply chain and the life cycle of other components of the production system.
(2) The annual benchmark for electricity producers: power-producers-ranking.enerdata.net/
(3) www.edf.fr/en/the-edf-group/edf-at-a-glance/reference-publications/edf-scenario-net-zero-2050

Actions to reduce direct emissions	
Strategic disposals	Strategic disposals of carbon-intensive assets, particularly in Poland.
Coal discontinuation	Closure of the coal plants at Cottam (FR), West Burton A (UK) and Le Havre 4 (FR), with training and reassignment of staff.
Impact of the ETS	Reduction in demand on combined cycle gas turbine plants by the network due to the price of CO_2 in the European ETS market and priority injection of renewable energies.
Renewable heat	Greening of the heating networks managed by the Group using biomass, waste heat recovery, and geothermal and oceanic thermal energy conversion.
Optimisation of the use of low-carbon generation facilities (weather conditions)	Optimisation of the use of the various generation facilities according to weather conditions: very limited use of CCGT in Brazil in 2023 due to the hydraulicity conditions.
End of contracts	Expected decrease in the electricity output due to the end of the PPA[1] for the Norte Fluminense plant in Brazil, transfer of the MECO plant in Vietnam at the end of the Build Operate Transfer-type contract.
Decarbonisation of islands	Replacement of light and heavy fuel oil used in non-interconnected zones with liquid biomass, in coherence with their local multi-year energy programme.
Miscellaneous actions	Reduction of diffuse emissions of sulphur hexafluoride (SF_6) from electricity transmission and distribution equipment as well as diffuse emissions of hydrofluorocarbons (HFC) from air conditioning systems; complete electrification of the EDF group's light vehicle fleet as part of the EV100 commitment.
Capture of CO_2	Commissioning of a first CO_2 capture and storage system on a EDF group combined cycle gas turbine in Italy See "Decarbonisation of the EDF group's fossil fuels".

3.

Coal exit

One of the key actions to achieve the direct emission reduction targets is to phase out coal for electricity generation within the Group by 2027 in Europe and by 2030 at the latest for the rest of the world. Approximately 80% of the last coal units operated by the EDF group were closed between September 2019 and December 2023. The coal units closed since 1995 by EDF have enabled a reduction in annual greenhouse gas emissions from the European electricity sector estimated at more than 45 $MtCO_2e$. All of these closures are accompanied by employee redeployment measures and initiatives within the Group to develop new local economic activities. See section 3.3.4.4.3 "Benefits for local populations".

Limitation of the use of coal-fired power plants in 2024

Coal-fired heat and electricity generation accounted for only 0.13% of the EDF group's total generation. These generation assets are only used during "peak" periods and crisis situations in the energy market[2].

Future closures of coal units in operation and removal of non-controlled units by 2030 at the latest

Since April 2021, the EDF group only operates two coal-fired units in Europe, located at the Cordemais power plant (Loire-Atlantique). The definitive shutdown of the Cordemais power plant, initially planned for 2022, is now scheduled for 2027 in view of the needs expressed by RTE in its latest generation adequacy reports[3]. The Group is also in the process of withdrawing from its non-controlled coal assets in China.

High-capability heavy fuel oil boilers

As well as closing coal-fired boilers, the EDF group closed all of its high-capability fuel oil boilers between 2000 and 2018, corresponding to an installed capacity of 6.8GWe.

Decarbonisation of island regions

Corsica and the French overseas territories, as non-interconnected zones (NIZ) in terms of the mainland power grid, are covered by specific multi-year energy programmes (Programmations pluriannuelles de l'énergie – PPE), which set ambitious decarbonisation and energy independence goals for them (energy independence of overseas territories by 2030 and Corsica by 2050). Fossil fuel-fired facilities, mainly oil or diesel generators and combustion turbines (CT), have historically played a major role in these zones. They contribute to the safety of the electricity system and the production of electricity in certain areas, being capable of addressing major seasonal effects in electricity consumption and dealing with the intermittent nature of renewable energy in electricity systems that cannot import in the event of a spike in demand or a shortfall in production. The decarbonisation of these generation facilities is a key lever for achieving carbon neutrality in these regions, and requires a move away from fossil fuels.

Replacement of fuel oil

In 2024, the EDF group continued the gradual replacement, scheduled between 2023 and 2029, of fuel oil with liquid biomass in existing thermal power plants operated by EDF SEI[4] and EDF PEI[5], in line with the multi-year energy programmes for the various regions. The EDF PEI plant in Port Est on Reunion Island was the first plant to be fully converted to bioliquids at the end of 2023. The conversion of the other plants is planned gradually, and new projects are underway or planned in French Guiana and Corsica. In 2024, EDF PEI made progress on the construction of a bioliquid power plant at Larivot in French Guiana, with a view to the replacement of the fuel oil power plant at Dégrad-des-Cannes.

(1) Power Price Agreement.
(2) The French Constitutional Council (Conseil constitutionnel) only authorises increased limits on the emissions of fossil fuel-fired power generation facilities in case of a serious threat to electricity supply security (Decision No. 2022-843 DC of 12 August 2022).
(3) According to the provisional supply/demand balance for electricity in France published by RTE in 2021, keeping the Cordemais power plant in operation until 2024-2026 provides valuable security in the event of nuclear power not being highly available, no change in the trajectories for renewables, and/or the commissioning of the Flamanville EPR being postponed.
(4) EDF SEI: EDF Systèmes Énergétiques Insulaires.
(5) EDF PEI: EDF Production Électrique Insulaire.

Energy management systems

An energy management system (ISO 50001 certification) was set up on a voluntary basis at seven of SEI's eight largest thermal generation sites. At the same time, EDF PEI is implementing actions to optimise the energy efficiency in its power plants.

100% renewable energy projects

100% renewable energy projects have been developed for isolated microgrids (*e.g.* in French Guiana's interior municipalities and Mafate in Réunion Island). Other actions are implemented by EDF in the Non-Interconnected Areas, such as energy management actions (*e.g.* solar water heaters, insulation, air circulators, etc.), projects to increase the generation potential of hydropower plants in operation, and the development of technological solutions to improve the integration of intermittent renewable energies on the grid (*e.g.* batteries, synchronous compensators, energy management system, etc.).

Greener heating networks

The EDF group, through its subsidiary Dalkia, manages over 330 urban heating and cooling networks. It is one of the leaders in energy services in France. The rate of renewable and recovered energy in its heating networks in France was 65.5% in 2024[1].

The greening of heating networks involves the development of the use of biomass, energy from waste, the recovery of fatal heat, and geothermal and oceanic thermal energy conversion.

In 2024, Dalkia carried out several greening projects such as the Marne-et-Gondoire (77) district heating network, which is 100% powered by low-carbon renewable energies, and the Luneville district heating network with 100% local renewable energy.

Dalkia signed the decarbonisation project for the heating network of Cluse de Chambéry (R3C) with more than 94% renewable and recovered energy, avoiding the emission of 75,000 tonnes of CO_2 over 25 years. Globally, in 2024 coal accounted for 1.37% of the heat generation of Dalkia, which has committed to no longer use this fuel for its heating activities in France, in line with the provisions of the multi-year energy programme.

The use of renewable energies, energy efficiency services and gas cogeneration enabled Dalkia to reduce its customers' greenhouse gas emissions and allowed 4.5 $MtCO_2e$ to be avoided in 2024 (see section 1.4.6.1.1 "Dalkia").

Decarbonisation of the EDF group's fossil fuels

The aim of the Group-wide "decarbonised thermal energy" strategic project is to identify the various decarbonisation systems or techniques for thermal generation facilities (boilers, combined cycles, combustion turbines, engines) that traditionally run on fossil fuels (coal, natural gas and fuel oil). The identification of these decarbonisation techniques should enable the construction of new decarbonised thermal resources in response to calls for tenders or capacity auctions issued by network operators.

The following far-reaching decarbonisation solutions have been identified as being mature in the short to medium term:

- upstream: use of "decarbonised" fuels (solid biomass, biogas, bioliquids, low-carbon hydrogen, synthetic fuels);
- downstream: capture of CO_2 for storage (CCS) and/or use of part of the CO_2 emitted (CCU).

Roadmaps to examine all the opportunities for decarbonising existing generation facilities are being implemented. These roadmaps are also designed to manage solutions for developing new decarbonised thermal capacity in case these are needed by the electricity system. These have resulted in the following actions:

- in continental France, in July 2024, operating tests with a bioliquid (hydrotreated vegetable oils, in compliance with the RED II directive) were carried out on a combustion turbine. The results of this second test (after a first in July 2023), positive, made it possible to secure the technical and environmental aspects of this conversion from combustion turbine to bioliquid;
- in Belgium, the combined cycle gas turbine (870MW) currently under construction at Seraing will be able to run on a mixture containing 50% hydrogen, in terms of volume, thus reducing emissions by 23%. The Seraing site has the space required to deploy pilot technologies for decarbonisation or CO_2 capture. With a 63% efficiency rate, the future power plant will emit around 320kg of CO_2 per MWh generated, *i.e.* 20% less than the current plant. The construction of this plant is part of the capacity remuneration mechanism set up at the initiative of the Belgian federal government, in order to guarantee the security of supply in the country as of 2025-2026;
- see the section "Decarbonisation of island regions" concerning the actions of EDF SEI and EDF PEI in this area.

Reduction of SF_6 emissions

Fluorinated gases such as sulphur hexafluoride (SF_6) and hydrofluorocarbons (HFC), used as refrigerating fluids, are powerful greenhouse gases. Their emissions in 2024 were estimated for the entire EDF group at a total of 143 ktons of CO_2e, *i.e.* approximately 0.85% of the EDF group's direct emissions (Scope 1). The emissions are caused by leaks during both the production process and during the life cycle. Wherever technologically and economically possible, the EDF group uses alternative technologies to SF_6. All EDF group business lines are working to reduce the carbon impact of HFCs wherever technologically possible.

EDF has launched an R&D programme (Zero SF_6 Project) which aims to test the innovative technologies of 145kV circuit breakers offering alternatives to the use of SF_6, before their deployment from 2028 (in accordance with the deadline of the European FGASIII regulation). These experiments were carried out in 2024 on the hydropower fleet and SEI sites.

Nuclear fleet

EDF has a proactive policy to reduce SF_6 leaks on its nuclear fleet, in particular *via* the implementation, since 2019, of a specific action plan aimed at reducing all its equipment to its design leakage rate, *i.e.* 1.0% per year, which has reduced total emissions by 62.6% (90.8% decrease since 2008). EDF is deploying a number of technological innovations to confirm its long-term control of its emissions: alternative coatings to protect against corrosion, as well as innovative SF_6 recovery and clogging systems. EDF's approach is based on the ALARA (As Low As Reasonably Achievable) principle, adapted to the challenges of unit safety and network security. In 2023, the Group achieved its objective collectively for the first time, with an overall leakage rate for the fleet of 0.94%. In 2024, this result deteriorated slightly (particularly on a few seaside sites) with an overall rate of emissions to the atmosphere (which includes emissions relating to leaks, maintenance and damage) of 1.05% of the mass of SF_6 installed. The Group's collective leakage targets remain unchanged and set at 1.0%.

Distribution

The SF_6 emissions by the distribution network operator Enedis[2] amounted to approximately 410kg in 2024. The action plan implemented by Enedis to reduce these emissions has focused in particular on the deployment, since July 2021, of a new technical series of high-voltage vacuum breakers (with no SF_6) for new medium-voltage switchgear fitted in primary high- and medium-voltage substations. Over 90% of the SF_6 from obsolete breakers is recovered and regenerated. Following on from this initial success, Enedis is entering into partnerships with suppliers to assess alternative solutions based on natural gases free of any form of toxicity for secondary substations.

(1) 2024 data from Dalkia networks listed with the French National Union for Urban Heating and Air Conditioning (Syndicat national du chauffage urbain et de la climatisation urbaine – SNCU).

(2) An operator of a distribution network managed in accordance with the rules of managerial independence.

Reducing HFC emissions

HFCs are used as refrigerating fluid in industrial refrigeration units and air conditioning in the service sector. To reduce fluorinated gas emissions, Regulation (EU) No. 517/2014 on fluorinated greenhouse gases (known as F-Gas) is progressively implementing a reduction in HFC emissions within the EU through a quota system and a schedule for a gradual reduction in the quantity of HFCs that importers and producers can market each year. This EU Regulation is currently being amended. This EU regulation aims to reduce the HFC volumes present on the market by 95% (in CO_2e) by 2030 compared to 2015 levels.

Following the regulatory prohibition on using CFCs and subsequently HCFCs (R11, R12 and then R22), in 2014, EDF embarked on a programme to replace refrigerating fluids with high global warming potential (GWP) (CFCs and HCFCs) with less harmful refrigerating fluids (HFCs), resulting in a significant reduction in tCO_2e emissions. Presently, the most-used refrigerating fluids in EDF's generation fleet (approximately 90%) has a GWP of 1,430 or less. EDF has commissioned studies to evaluate the possibility of converting existing refrigerating units to operate with refrigerating fluid with a lower GWP (< 600).

Reduction of emissions from the EDF vehicle fleet (EV100)

The EDF group was the first French group to sign the "EV100" commitment, which aims at having a fleet of 100% electric light vehicles by 2030. This project covers over 48,000 vehicles and charging infrastructure on almost 2,100 sites worldwide, 60% of which had already been equipped by the end of 2024.

EV100 commitment	2030 target	2022	2023	2024
Proportion of electric vehicles in the EDF group's light vehicle fleet (in %)[1]	100	22.6	29.3	35.6

(1) The indicator is the ratio between the number of electric vehicles (according to the low carbon criteria of the EV100 initiative) and the total number of vehicles in the EDF group's fleet of registered light vehicles at 31 December of each year (owned or long-term leased).

Electrification is visible throughout the EDF group with significant electrification rates at the end of 2024 at EDF SA (47%), Luminus and its subsidiaries (44.2%), but also at EDF Energy and its subsidiaries (37.4%) and at Edison and its subsidiaries (17%).

Enedis is also committed to the electrification of its own vehicle fleet. At the end of 2024, its fleet of light and light commercial vehicles, comprising approximately 18,000 vehicles, was more than 38% electrified.

3.2.2.1.2.1.2. Low-carbon generation

EDF, Europe's biggest investor in decarbonised energy[1]

The EDF group is investing heavily in low-carbon electricity generation facilities to help build a CO_2-neutral energy future.

The mix of the Group's electricity generation in 2024 comprised 77.7% nuclear, 10.7% hydropower, 5.9% other renewable energies, 4.9% gas, 0.8% fuel oil and less than 0.04% coal[2] (see chapter 1 "The Group, its strategy and its activities" and section 1.1 "Key figures and business model").

By 2035, the main actions that will enable the EDF group to achieve its decarbonised generation targets are as follows:

Roadmap for increasing the Group's decarbonised generation

Subjects	Actions	URD section
Extension of the operating life of existing nuclear assets	Continued operation of France's nuclear fleet beyond 40 years thanks to the Grand Carénage industrial refurbishment programme.	1.4.1.1.2.3
Nuclear New Build	France: development of a programme of six EPR2 reactors and study of the feasibility of eight additional reactors. United Kingdom: construction of two EPR reactors at Hinkley Point C and development of a project for two reactors at Sizewell C (minority stake).	1.4.1.1.3
Development of renewable energies	Development of gross installed renewable energy capacity commissioned by the Group.	1.4.1.3
Network development	Development of networks to meet connection needs and increase network resilience and intelligence.	3.2.2.1/3.3.5.1
Increase flexibility solutions	Development of storage, "greening" of flame-based thermal generation facilities and development of customer flexibility to ensure the balance between supply and demand.	3.2.2.1.2.1.1

The application of the EDF group's roadmap to increase the generation of low-carbon electricity by 2035 involves maximising the availability of the existing nuclear fleet under the best conditions of safety and performance, the construction of new reactors, and the development of additional low-carbon capacity (8GW gross of renewable energy commissioned per year, see details of targets in section 3.2.2.1.3.5 "Development of low-carbon generation").

(1) 10th financial survey of European energy companies "Watt's Next Conseil", June 2024: wattsnext.fr/wp-content/uploads/2024/07/Watts-Next-Barometre-financer-2024.pdf
(2) In consolidated data.

Grand Carénage

The purpose of the Grand Carénage industrial refurbishment programme is to renovate major equipment, enhance reactor safety and, if conditions so allow, continue their operation beyond 40 years. This programme incorporates additional safety improvements identified following the Fukushima accident.

For more details, see section 1.4.1.1.2.3 "The challenges of nuclear operations" – "Investment programme for the existing nuclear fleet in France: the Grand Carénage industrial refurbishment programme".

New Nuclear projects

For more details on New Nuclear Build projects, see section 1.4.1.1.3 "'New Nuclear' projects".

Development of renewable energy generation

The EDF group is a major player in renewable energies in Europe(1), and the largest supplier of hydropower in the European Union. Hydropower represents the largest volume of renewable electricity produced by the Group. The Group is also a leading actor in the development of competitive industrial channels, primarily for wind and solar power. In total, renewable energies represent more than a quarter of the Group's total capacity, with 39.5GW of net renewable electricity generation capacity installed, of which 3.2GW gross commissioned in 2024. The worldwide generation by the Group's companies in 2024 was 86.1TWh of electricity, *via* hydropower, wind power, solar power and other renewable energies, and 9.6TWh of renewable heat.

As part of its strategy, the Group has set itself the objective of continuing to deploy renewable capacities (more than 8GW gross commissioned per year on average by 2035) and means of flexibility to ensure the stability of the networks supplied by these intermittent energies.

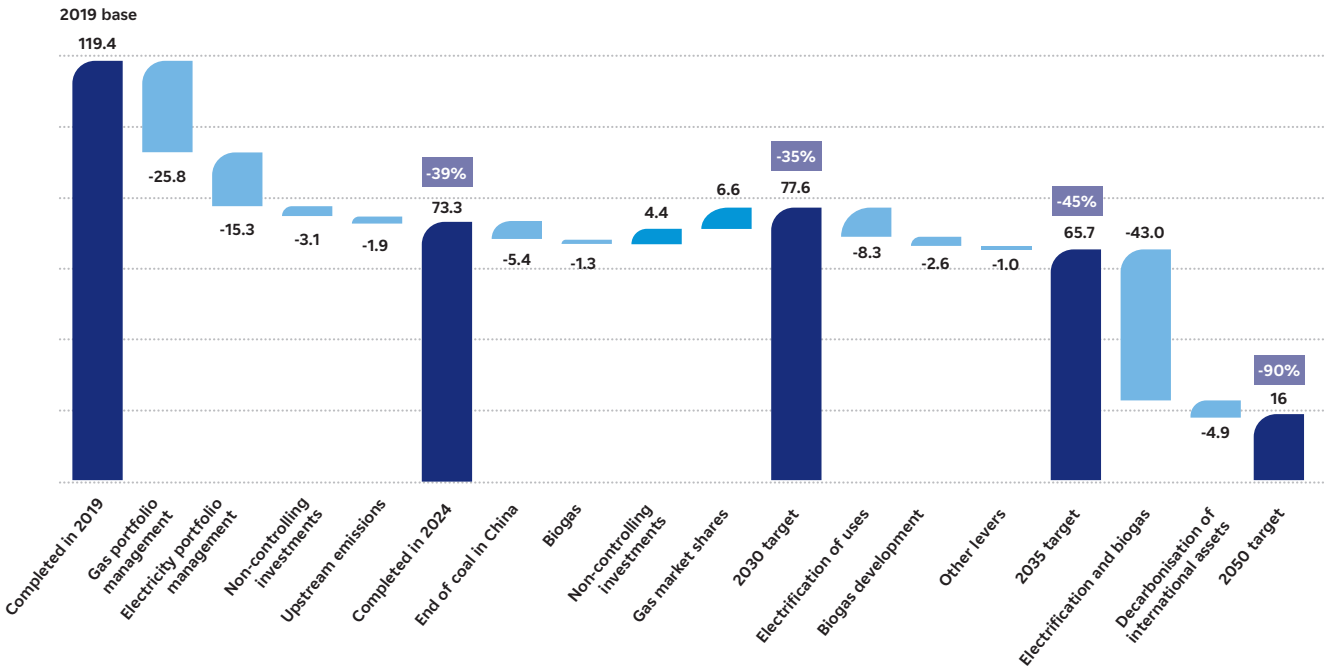
For more details, see section 1.4.1 "Electricity generation" and sub-section 1.4.1.3 "Renewable energy generation and storage".

3.2.2.1.2.2 Value chain: reducing the Group's upstream and downstream indirect emissions

3.2.2.1.2.2.1. Reduction of indirect emissions

EDF is taking action to reduce its indirect emissions upstream and downstream of its value chain.

Scope 3 net zero trajectory between 2019 and 2050
($MtCO_2e$)



(1) "Climate Change and Electricity, European carbon factor, Benchmarking of CO_2 emissions by Europe's largest electricity utilities", PwC, November 2024. The PwC 2024 survey, based on 2023 data, benchmarks the top 24 European electricity producers, representing 50% of the electricity generation in the EU-27, the United Kingdom and Norway.

Actions to reduce indirect emissions in the value chain	
Gas portfolio management	Management of the EDF group's gas customer portfolios, particularly in North America.
Electricity portfolio management	Greening (use of renewable energy Power Purchase Agreements) of purchases of electricity for sale to end customers, in particular in countries where electricity has a high carbon intensity; portfolio management for customers for whom EDF sells but does not generate electricity.
Upstream emissions	Reduction in upstream emissions proportional to the reduction in the EDF group's thermal production and the reduction in gas sales.
End of coal in China	Gradual divestment by 2030 from coal-based electricity generation assets located in China in which the EDF group has a minority stake.
Non-controlling stakes	EDF's minority stakes in new international gas assets, contributing to the decarbonisation of the countries concerned (EDF group's responsible gas criteria).
Gas market share	Short-term organic growth in EDF gas sales in Europe.
Electrification of uses	Supporting customers towards energy sobriety, energy efficiency and lower emissions through the Group's offers, expertise and subsidiaries, by promoting in particular alternative solutions to fossil fuels.
Biogas development	Increase in the rate of biomethane injection into the natural gas distribution network in line with national low-carbon strategies.
Other levers	Reducing emissions from employee travel, in view of the roll-out of the EDF group's new travel policy.

3.2.2.1.2.2.2. Downstream: Supporting the Group's customers towards decarbonisation

Reduction in emissions relating to the sale of gas

Within the framework of its activities as a gas supplier, the EDF group helps its customers move towards energy sobriety, energy efficiency and lower emissions through its offering, expertise and specialised subsidiaries. It develops and promotes alternative solutions to fossil fuels: low-carbon electricity, heat pumps, renewable gas, renewable heat, etc.

The four pillars of EDF's responsible gas policy, strengthened in 2024, cover a number of key actions:

- **Guiding the Group's gas customers towards decarbonisation and energy efficiency**

The EDF group is committed to:

> offering a tailor-made service to its corporate and local authority gas customers whenever it is able to do so effectively;

> providing residential and SME gas customers with high-performance platforms;

> supporting corporate and residential customers towards achieving energy efficiency in line with national regulatory systems.

- **Accelerating the transition from fossil gas to electricity**

The EDF group is committed to:

> contributing to national initiatives aimed at massively electrifying the economies of the countries where the Group operates by replacing fossil fuels;

> developing industrial and residential electric heat to replace fossil fuels, mainly by including heat pumps and increasing the number of installations;

> offering the installation of solar panels to corporate and local authority gas customers, in order to contribute to their decarbonisation.

- **Contributing to the decarbonisation of energy sources**

The EDF group is committed to:

> continuing to increase the availability of low-carbon electricity in the countries where the Group operates, in order to make fossil gas less attractive;

> continuing to decarbonise heating networks, particularly in France and Italy;

> investing in the production of green gas in Italy.

- **Advocating for regulatory changes to support decarbonisation** (see section 3.4.6.2 "The EDF group promotes public policies that encourage decarbonisation")

The EDF group is committed to:

> working to reduce the tax gap between gas and electricity in countries where this gap is abnormally high;

> promoting changes in regulations and incentives that contribute to the replacement of fossil fuels by electricity, at European and national levels.

More detailed action plans with indicators in key countries for the Group (G4: France, United Kingdom, Italy and Belgium) are implemented and regularly reviewed, in order to demonstrate the effective commitment of the EDF group as a responsible gas company.

Development of energy-efficient uses of electricity

Developing efficient, low-energy, innovative energy services

Accelerating the development of electricity uses, while supporting customers in achieving energy sobriety and energy efficiency, is a priority area for the EDF group to achieve carbon neutrality. Indeed, electricity is an essential vector of decarbonisation. The share of electricity in the energy mix will more than double in Europe and worldwide by 2050. To achieve the objective of carbon neutrality, these new uses to replace carbon-intensive energies could represent the equivalent of 150TWh of additional electricity demand in France by 2035.

Supporting customers in reducing their carbon footprint is the first pillar of the EDF group's "*Ambitions 2035*" corporate plan. The EDF group will develop a wide range of electrification offers adapted to the various markets[1] with ambitious objectives for 2035:

- 8 to 9 million customers with a decarbonisation offer, in the G4 scope (France, United Kingdom, Belgium, Italy);
- 45 $MtCO_2$ emissions avoided per year, in the G4 scope;
- 1.5 contract/residential customer, in the G4 scope;
- more than 35% of large industrial and commercial customers with a service contract, in France.

Decarbonisation solutions for transport

The transport sector has been identified as the one with the greatest potential for electrification with 70TWh of additional demand in France by 2035 as a result of a massive increase in the number of light and heavy electric vehicles.

(1) For France, see also section 1.4.2 "Sales and supply in France".

The EDF group affirms its ambition to develop its market share in the supply of electricity for electric vehicles, as well as for the installation, operation and management of private and public charging infrastructure in the Group's four major markets (France, United Kingdom, Italy and Belgium). By the end of 2024, the EDF group had deployed around 400,000 charging points, including over 300,000 in the UK and almost 50,000 in France, as well as 30,000 smart charging points.

- Development of recharging infrastructure

Within the framework of the electric mobility plan, the EDF group provides a complete range of offerings for all uses: individuals in individual or collective housing, businesses, local authorities and public charging (along roads or at their destination).

Izivia, a subsidiary of the EDF group, is the No. 3 operator of charging stations on public roads for local authorities and the No. 2 operator of "at destination" charging stations (shopping centres, supermarkets, etc.). Izivia provides companies and local authorities with supervised charging stations, for their own needs or to allow public charging on their land. Izivia offers several financing models, including third-party financing, to its customers.

The EDF group and Morrison & Co, an investment fund specialising in infrastructure investments, have signed a strategic partnership and created a joint financing platform to invest in the development of ultra-fast charging for electric vehicles in France. This platform aims to invest up to €450 million in the development and deployment of nearly 8,000 ultra-fast charging points in France and 6,000 in Belgium by 2030.

- Charging management services

EDF has developed, *via* its Sowee by EDF brand, with the support of Dreev a commercial offer for the supply of electricity with management of recharging for private individuals for the customers of an automotive group. This offer optimises the cost of recharging and reduces the CO_2 emissions related to the electricity consumption. It is part of **an ambition to leadership** on energy use management offers.

In the residential market, IZI by EDF offers charging solutions to private individuals in individual or collective housing and to VSE/Pro customers. IZI by EDF also supports companies wishing to equip the homes of their employees who drive electric vehicles (service or company vehicle) with an end-to-end offering in partnership with Izivia: installation of the charging point by IZI by EDF, monitoring of consumption and, under conditions to be determined, reimbursement of the employee's electricity expenses by Izivia.

IZI by EDF extended this offer in 2023 with the launch of smart charging stations. In the same year, IZI by EDF also launched the "Recharge Operator" offer for condominiums wishing to install a private collective infrastructure in their car parks. This offering complements IZI by EDF's existing solutions for collective residential, through electric car network offers without pre-financing.

- Solar power and charging stations

EDF Solutions Solaires (formerly EDF EnR) and Izivia offer an integrated solution to companies and local authorities to install solar canopies fitted with charging stations. By way of illustration, in February 2023, a 3.3-hectare shaded park combined with charging infrastructure was brought into service at a Sanofi site: it covers 17.5% of the site's annual electricity needs and provides 40 charging points for electric vehicles.

- Heavy mobility

Izivia and Dalkia are taking part in the transition from heavy goods and passenger vehicles to electric vehicles by equipping sites and local authorities with charging solutions specific to heavy transport.

Izivia is supporting Elis in the deployment of charging stations for its fleet of electric heavy goods vehicles: 400 charging stations will be installed to equip nearly 90% of its sites.

- Partnerships

Since 2018, a number of partnerships have been developed with stakeholders in the sector (manufacturers, equipment manufacturers, leasers, leasing companies, charging station manufacturers) to propose custom electric mobility solutions.

BNP Paribas Mobility has launched an integrated electric car leasing and charging station offer for the homes of its customers' employees with the support of IZI by EDF and Izivia: this all-in-one offer includes the installation, maintenance, as well as the removal and recycling of the charging station. Reimbursement of the professional expenses corresponding to the electricity consumption at the employee's home can also be arranged under conditions to be defined.

Crédit Agricole Personal Finance & Mobility and the EDF group are working together to develop solutions, that they intend to offer jointly (services, financing, etc.), to increase the rate of individuals, professionals and companies with electric charging stations in France, with a particular focus on rural areas.

Decarbonisation solutions for industry

The industrial sector also has a strong electrification potential, through the electrification of processes as well as new industrial facilities, contributing approximately 60 of the 150TWh in 2035.

- Electrification of industrial processes

The priority for the decarbonisation of industry involves switching from fossil-fueled heating to mature electrical solutions. For its industrial customers, the EDF group, in particular via its subsidiary Dalkia, develops and deploys high-temperature and very high-temperature industrial heat pumps, resistance furnaces, induction furnaces and arc furnaces (to replace fuel oil or gas), electric boilers and mechanical steam compression. EDF R&D and Dalkia Froid Solutions, with the support of ADEME, have developed an industrial demonstration plant, the initial results of which confirm the expected performance to decarbonise the industry. The industrial demonstration plant was installed at the Wepa Greenfield paper mill in Château-Thierry. The CO_2 emissions associated with the production of this virtuously produced heat, at Wepa Greenfield, are 16 to 20 times lower than when using steam produced with natural gas. The manufacturer thus reduces its carbon footprint and its energy bill.

- Low-carbon heat

Dalkia is a leading player in low-carbon heat. As part of the recovery plan, the EDF group was the successful bidder for a number of biomass boiler projects as a substitute for fossil fuels for industrial needs. Dalkia has also submitted more than ten projects to ADEME's AMI counter to decarbonise using mainly heat pumps.

- Decarbonisation consultancy

The EDF group has launched a decarbonisation consultancy offering consisting of Décarb'On, destined for small- and medium-sized companies (SME) and large companies (LE), and Décarb'On Expert, destined for LEs and key accounts. This allows the EDF group (EDF and Urbanomy) to support these customers in the assessment and analysis of their carbon emissions (Scope 1, 2 and 3), the definition of targets, emission reduction strategies, and the implementation of an operational roadmap for the actions to be put in place.

Decarbonisation solutions for buildings

In France, EDF has long supported builders, developers and social-housing landlords in the implementation of high-performance and low-carbon energy solutions.

- Decarbonisation of housing

The new RE2020 environmental regulation entered into force on 1 January 2022. It deals in particular with new residential construction for individual and collective housing. The EDF group actively participated in the consultation conducted by the public authorities to ensure the effectiveness of the regulations and remains mobilised on the challenges of life cycle analyses, in particular for heat pumps.

Decarbonisation solutions for customers in houses and apartments (insulation, heat pumps, thermodynamic or solar-powered water heaters, charging stations, self-consumption or consumption management solutions) are being developed by EDF and its affiliates[1].

These offers focus on three main themes:

- decarbonisation of collective housing, social housing or condominiums, *via* Dalkia's offers and its solutions including heat pumps for heating or domestic hot water;
- energy renovation: IZI by EDF is developing a complete range of energy renovation offers: air-to-water and air-to-air heat pumps, thermodynamic water heaters, insulation (openings, roof, floor, interior and exterior walls) and now offers global offers, including several housing units: insulation, heating replacement, ventilation;
- self-consumption: EDF Solutions Solaires (formerly EDF EnR) allows customers to consume the energy generated by their own solar panels and to have the option of storing some of it for later consumption when needed, through the installation of a water heater or a stationary battery.

- Decarbonisation of the tertiary sector

The EDF group offers customised services to companies and professionals that wish to optimise their energy flows to improve their economic performance and reduce their environmental footprint.

Decarbonisation solutions for local authorities

The EDF group is extensively engaged in the energy transition as it applies to cities and local authorities, through several solutions:

- heating and cooling networks with Dalkia, and diversified geothermal and oceanic thermal energy conversion, biomass and heat recovery solutions, such as in Maubeuge, Orléans, Chambéry or the 100% renewable energy heating network in Luneville;
- energy and environmental performance solutions for public lighting;
- collective self-consumption solutions;
- hydrogen solutions: see section 1.4.6.3 "EDF's Hydrogen business".

Tools for end-consumers and local authorities

At the end of 2024, the network operator Enedis[2] had installed nearly 37.7 million Linky smart meters, making it easier for consumers to identify the major items of their consumption at different times of the day and to act by voluntarily adapting their consumption, both in favour of the environment and their purchasing power.

The anonymised data collected using Linky meters are also made available to the concession granting authorities and local governments *via* the Enedis local authorities portal. At the end of 2024, this portal had been deployed in 74.6% of all municipalities.

This tool, available online free of charge, enables local authorities to identify areas with under-consumption (energy poverty) and over-consumption (heat sieves); by activating the "Measures and services" area, local authorities can benefit from a dynamic and customisable dashboard of their electricity production and consumption. Since 2023, new functionalities such as the configuration of alerts on production or consumption points, such as public lighting, have been offered.

Lastly, the French Observatory for the Ecological Transition (Observatoire français de la transition écologique) set up by Enedis makes it possible to measure and understand, using open data, the dynamics of the regions in terms of energy transition. The data (consumption, production, self-consumption and mobility) are accessible to all, by region, department and for some at the municipal level. This observatory is intended to be both a reference framework and a decision-making tool for all affected stakeholders: local authorities, institutions, researchers and academics, citizens and journalists.

Coal exit in China

The EDF group has committed to divest by 2030, gradually, from its coal-fired electricity generation assets located in China in which it has a minority stake. At the end of September 2024, EDF signed an agreement to sell its 19.6% stake in the Shangdong Zhonghua Power coal-fired power plant to the majority shareholder China Energy Investment Group (CEI); the administrative finalisation of this sale is under way. The power plant's emissions represented approximately 780 $ktCO_2e$ in the Group's Scope 3 in 2024.

3.2.2.1.2.2.3. Upstream: Decarbonise the Group's value chain

Reduction of upstream emissions related to purchases

In 2024, the Group continued implementing the programme to reduce emissions from its supply chain. Decarbonisation of procurement is a priority goal for all entities responsible for Group procurement (see section 3.4.3.1 "Responsible purchasing"), and is a driver for the deployment of good practices and innovation in responsible procurement. The reduction of upstream emissions is managed by mapping risks (by supplier or by purchasing category – with the definition of priority sectors for decarbonisation issues), by the deployment of decarbonisation levers in purchasing acts, and by monitoring suppliers. Among the practices common to the entire procurement sector across the Group, one can mention:

- incorporating the decarbonisation strategy and trajectory of suppliers in the qualification process (upstream of a call for tenders) or selection (during a call for tenders), through questionnaires and assessments;
- during a call for tenders, the integration of concrete and quantifiable levers that reflect a decarbonisation of the product or service provided, adapted to the subject of the contract and the sector of activity, as a criterion of comparison between bidders;
- the integration of decarbonisation in the Group's contractual commitments with suppliers (in the form of a mandatory charter or code of conduct at the signing of the contract).

Certain initiatives are taken by each Group entity according to the specificities of their field of activity, in particular:

- the gradual implementation of "carbon calculators" proposed by the start-up incubated in-house Neutre.eco, to include in the offers of suppliers an assessment of the carbon footprint of the product or service subject to the contract, which can be valued in the form of a technical-economic rating or price correction criterion. In 2024, the carbon scoring for metal, transport, concrete and digital purchases was developed and tested on calls for tenders in priority carbon categories;
- the organisation of collective intelligence workshops with voluntary suppliers in the steel, transport, civil engineering and digital sectors in 2024, to co-construct the relevant procurement levers to be systematised in the Group's contracts. The results of these workshops were reported during the "CSR Suppliers Club" organised annually, which brings together around 100 strategic suppliers.

(1) See also the "My sustainable heating" offer in section 3.3.5.2 "Combating energy poverty".
(2) An operator of a distribution network managed in accordance with the rules of managerial independence.

In accordance with the EDF group's commitments within the Act4nature International system, the Group Procurement Division aims to integrate by 2025, within the scope of EDF SA (excluding nuclear fuel), a procurement lever related to carbon or natural resources challenges in 70% of its contracts in the priority categories (88% achieved in 2024).

Reduction of the upstream emissions from nuclear fuel

Based on the Life Cycle Analysis (LCA) of the kWh of EDF nuclear electricity in France, conducted by EDF R&D and published in 2022, EDF launched the "On Deck" approach aimed at reducing the carbon footprint of the nuclear fuel cycle activities, which represented 2% of the Group's Scope 3 in 2024. This approach, carried out in partnership with suppliers, led, for the first time on the global uranium market, to the introduction of a GHG emission reduction commitment clause in the latest contract signed with one of the main uranium suppliers. The "On Deck" approach was rolled out in 2023 and 2024, and was also applied to the preservation of biodiversity and adaptation to climate change. It will be used for the future update of the LCA of nuclear kWh.

3.2.2.1.2.3 Actions outside the value chain

3.2.2.1.2.3.1. Carbon contribution

Financing of projects outside the value chain

EDF finances greenhouse gas sequestration projects in France, for the time being mainly as part of its regulatory offsetting obligation. EDF also finances R&D work to develop natural carbon sequestration solutions.

An EDF Carbon Offsetting Fund (EDF COF) has been set up to offset the greenhouse gas emissions resulting from the increase of the cap on the emissions of electricity generation facilities using fossil fuels, which was decided by the public authorities in France. In this context, EDF pays the COF a discharge amount per ton of carbon dioxide equivalent emitted beyond the emission thresholds set by the regulations (initially €40/ton of CO_2, raised to €50), with the aim of financing greenhouse gas reduction or sequestration projects in France that meet various criteria. EDF has set up an independent scientific council to support it in assessing the quality of the projects selected, particularly in terms of the accuracy and permanence of the carbon storage, which complements the R&D support.

No contribution was made to EDF's COF for the year 2024, as the emissions of the facilities concerned remained below the emission thresholds triggering the offsetting obligation.

However, the COF, supplemented by voluntary contribution investments, made it possible, by way of illustration, to sign a tripartite agreement between EDF, the Domaine National de Chambord and La Belle Forêt for the financing of a sustainable silvicultural management project of the Chambord Forest for a period of five years with the generation of emission reduction units (ERUs) and the corresponding carbon credits recorded in the register kept by the partner association. These ERUs promote the maintenance of a carbon stock, with associated co-benefits in terms of adaptation to climate change of the forest and the protection of its biodiversity. The Belle Forêt methodology (optimised forest management) is public. Such a project also generates significant co-benefits in terms of biodiversity (see section 3.2.5.2.3 "Acting to restore and preserve natural environments").

EDF also invests in projects outside its value chain as part of voluntary carbon contribution actions, thanks in particular to its subsidiary Oklima, resulting from the EDF Pulse Incubation intrapreneurship programme, which develops biological sequestration projects with high environmental value, mainly in France.

In 2024, the EDF group contributed 1,070 tonnes of CO_2 avoided or sequestered.

Research and development on technological and natural mitigation solutions

R&D assesses the technical and economic maturity of CO_2 emission reduction solutions on the industrial sources of EDF and its customers and explores natural and technological solutions for carbon sequestration. In 2024, a laboratory dedicated to CO_2 capture was commissioned. It makes it possible to test on a small scale its capture processes adapted to low CO_2 emissions, which are the most difficult to capture.

In addition, a laboratory for the recovery of CO_2 in the form of e-fuels is being built, in addition to the already existing hydrogen platform, in order to study the value chain of electrolytic hydrogen derivatives (fuels, materials). This platform will be operational at the end of 2025.

Afforestation, reforestation, and proper management of pastures and wetlands now appear among the most promising potential ways to increase carbon storage in soil and forests, and accordingly generate negative emissions. In order to support EDF in its desire to carry out high-integrity projects, EDF's R&D is working to assess the reality and sustainability of carbon storage actions using natural solutions and to define methods to maximise the benefits of such actions on biodiversity and the water cycle. This project contributes more generally to the development of natural solutions for adapting to climate change.

3.2.2.1.2.4 Invested resources and current and future expenditures related to the climate change objective

Low-carbon investments

In 2024, nearly **94% of the Group's investments were made in decarbonised technologies**, *i.e.* €25 billion, 64% of which in the nuclear sector, 23% in network activities, 11% in renewables (sun, wind, hydropower) and 2% in energy services. These investments include gross additions to property, plant and equipment, intangible assets and right-of-use assets (IFRS 16 Leases), including those resulting from business combinations (consolidation of a subsidiary) in the consolidated financial statements. They therefore do not include the financial investments made by the Group in equity-accounted companies, nor investments made by these entities and are restated for investment subsidies.

In addition, in 2024, 59% of the Group's investments were aligned with the European green taxonomy (see section 3.2.7 "Green taxonomy") (64% in 2023), *i.e.* an amount of €16 billion, including 26% of the investments in nuclear energy in the European Union, 22% in network activities, 10% in renewable energy generation facilities (solar, wind, hydropower) and 1% in energy services. It should be noted that the taxonomy does not take into account in its eligibility criteria electricity sales, which are not eligible under the European green taxonomy but are considered low-carbon by the Group, as well as nuclear activities outside the European Union (EDF's nuclear activities in the United Kingdom, etc.), nor the activities related to the nuclear generation activity such as Framatome's and Arabelle Solutions' design and construction of nuclear boilers or turbines. The alignment of the Group's investments, as defined by the green taxonomy for all of its activities, without these restrictions, would amount to 94%.

According to the estimates made by the Group for this first year of application of the CSRD, the resources invested by the Group in climate change mitigation amounted to €24 million and represented 90% of the Group's investments and the major part of the Group's investments in low-carbon activities. These investments are part of the Group's **transition plan** in respect of:

- Low-carbon generation

The Group has invested €23 billion to help build a carbon-neutral energy future through a mix of low-carbon technologies, with 41% in investments to build new nuclear reactors, 24% in maintenance and maximisation of the production from the existing nuclear fleet, 2% in related activities that support both new nuclear and the maintenance of the existing fleet, 21% in network activities and 11% in the development of renewable energies.

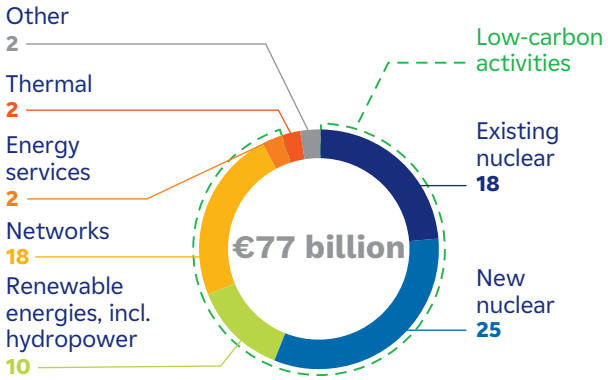
- Reduction of direct emissions in particular *via*:
  - > investments made in the decarbonisation of the Group's fossil fuels with, for example, the conversion to bioliquid power plants in island regions, estimated at €176 million in 2024. As such, the Group has not made any investments in coal-related activities in accordance with its commitment to phase out coal-based electricity generation by 2030, all geographic areas combined, and to not finance coal activities not already present in its portfolio in 2019. In addition, €512 million was invested in fossil gas-related activities, *i.e.* 2% of the Group's investments;
  - > investments in the greening of heating networks and the production of heating and cooling amounting to €170 million.
- The development of energy-efficient uses

The Group invested €199 million, notably in the development of decarbonisation solutions for housing, transport and local authorities.

Mitigation expenditure and research effort in support of climate change mitigation

In 2024, €15.2 billion of the Group's expenditure was made on low-carbon technologies, of which 46% in the nuclear sector, 30% in network activities, 15% in renewables (solar, wind, hydropower) and 9% in energy services. Of this expenditure, 97% was devoted to climate change mitigation, *i.e.* €14.7 million. These expenses correspond to "fuel and energy purchases", "other external consumption" and "personnel expenses" (net of production stored and capitalised). They do not take into account operating subsidies, which are allocated to offset these operating expenses.

Net investments over 2025-2027 by activity



In 2024, to prepare for the future, the Group spent €752 million on research and development, all of which was devoted to low-carbon energy projects and, more specifically, 88% on the climate change mitigation objective. These expenses consist of EDF's R&D, representing 68%, and R&D conducted by certain subsidiaries, mainly Framatome, Enedis and EDF Energy. They relate in particular to nuclear activities for 54%, network activities for 9%, renewable energies for 4% but also for 33% on the search for energy efficiency, the use of electricity to replace fossil fuels, and their integration into the electricity system, energy production and storage, decarbonised hydrogen and its applications to decarbonise the economy, sustainable cities, local impacts of climate change. These efforts are part of the Group's Net Zero commitment by 2050.

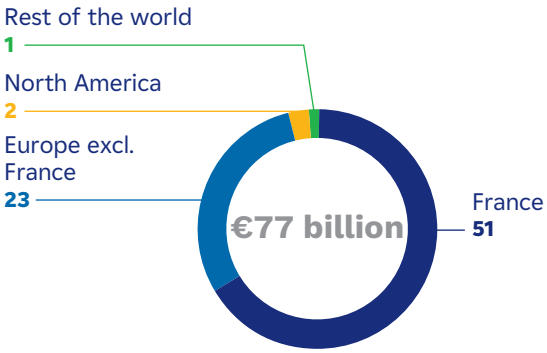
Investment and expenditure plan

For the years 2025, 2026 and 2027, the Group forecasts an increase in net annual investments[1] and expects to reach €26 billion per year, at least 95% of which will be allocated to decarbonised activities[2].

Thus, over this period, the Group aims to invest €77 billion, of which 56% in the nuclear sector (33% in new nuclear), 24% in network activities, 13% in renewable energies (solar, wind, hydropower), 3% in energy services and, very marginally, 2% in thermal (including gas).

Geographically, the investments will be split between France for 65%, the rest of Europe for 30% and the rest of the world for 4%.

Net investments over 2025-2027 by geographic area



The investment plans committed to New Nuclear Build in France as well as the continuation of the investments allocated to the existing nuclear fleet and to renewable activities, including hydropower activities, contribute to increasing the alignment of the Group's activities with the green taxonomy. On the contrary, the investments made in nuclear activities in the United Kingdom as well as activities related to the nuclear generation activity will reduce the alignment with the green taxonomy due to their non-eligibility according to the European Commission regulation.

In 2024, 73% of the investments not aligned with the taxonomy were allocated to the Group's gas activities. In order to align these activities with its climate commitments, the Group's low-carbon thermal project is identifying deep decarbonisation solutions such as the use of "low-carbon" fuels or CO_2 capture for storage (CCS) and/or the use of part of the CO_2 emitted (CCU) (see the various levers for decarbonisation of electricity generation in section 3.2.2.1.1.1 "A 'Net Zero Emissions' ambition supported by an ambitious carbon trajectory").

(1) The investment plan used to describe the Group's current investments is not based on the gross investments ($CAPEX_T$) as defined by the Taxonomy regulation and the CSRD. The investment plan presented by the Group is based on the net investments. A reconciliation between the net investments and $CAPEX_T$ is provided in note 3.2.7.4.1 "$CAPEX_T$".

(2) The Group's low-carbon activities include nuclear activities, network activities, renewable activities (solar, wind, hydro) as well as most energy efficiency and performance services activities.

All of these investment plans provide the Group with access to sustainable financing tools. These systems, such as green bonds are described in section 6.1, note 20.3 "Sustainable financing" to the consolidated financial statements for the financial year ended 31 December 2024.

The EDF group does not communicate a long-term expenditure plan (OPEX). Given the nature of its activities, the outlook in terms of OPEX is not a key analytical tool. The Group's strategic commitments are reflected in the Group's long-term CAPEX plan.

3.2.2.1.3 Targets and indicators related to climate change mitigation

3.2.2.1.3.1 Group carbon footprint - annual GHG emissions

EDF produces and publishes an annual report on the Group's GHG emissions according to the three Scopes recommended by the GHG Protocol[1]. This carbon assessment is an essential tool for monitoring and managing the Group's performance in terms of emissions. Methodological details on the approach applied to the calculations of these emissions are presented in the section "Details of the Group's carbon assessment".

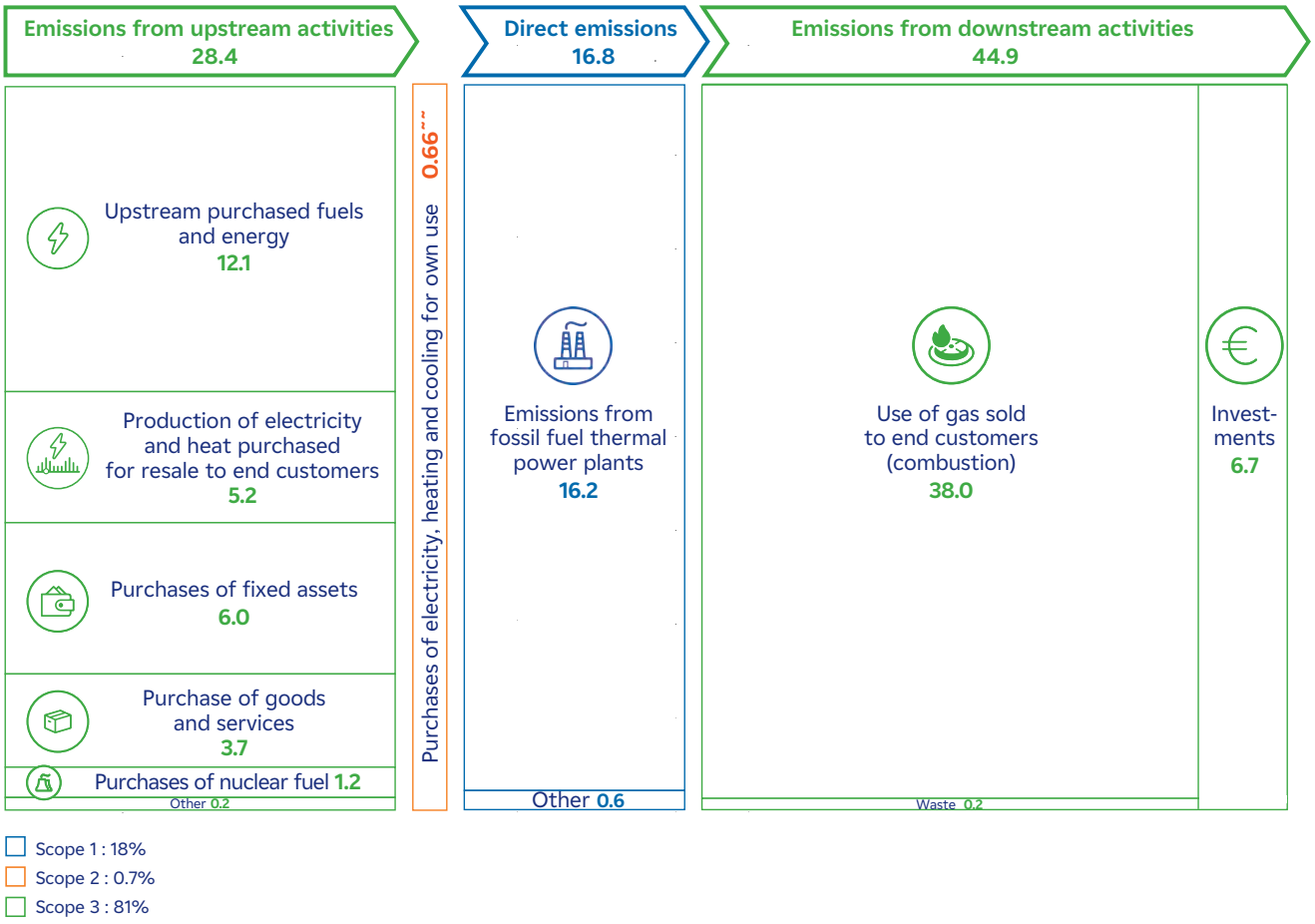
The detailed results of this carbon assessment are published[2] every year on the website www.edf.fr.

The following table presents trends in the Group's GHG footprint between 2022 and 2024. The Scope 1 and 3 emissions are calculated according to the country approach and the Scope 2 emissions are calculated according to two approaches: country and supplier[3].

EDF group's carbon footprint ($MtCO_2e$)	2022	2023	2024
Scope 1 emissions	24	19	17
Scope 2 emissions - country approach	0.39	0.28	0.66
Scope 2 emissions - supplier approach	0.50	0.45	0.65
Scope 3 emissions	96	72	73
Total - Country approach emissions	**120**	**92**	**91**
Total - Supplier approach emissions	**120**	**92**	**91**

In 2024, **the EDF group's GHG emissions were distributed in the value chain** between upstream, direct and downstream emissions according to the following diagram:

in $MtCO_2$



(1) The Greenhouse Gas Protocol Initiative, commonly known as the GHG Protocol, is the most internationally recognised method for carbon accounting. Launched in 1998 by the World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), it was developed in partnership with businesses, NGOs and governments: ghgprotocol.org/

(2) In accordance with the regulatory obligations, the Group's carbon assessment is published on ADEME's website.

(3) These two approaches are defined in the section "Details of the Group's carbon footprint", in the section dedicated to Scope 2.

The detailed presentation of the emissions and annual changes is as follows:

	GHG emissions		Changes
Group carbon footprint	**2023**	**2024**	**2024 *vs.* 2023**
Scope 1 emissions			
Gross Scope 1 GHG emissions ($MtCO_2$ equivalent)	**18.9**	**16.8**	***-11%***
Scope 1 GHG emissions resulting from regulated emission trading schemes ($MtCO_2$)	13.5	11.1	*-18%*
Scope 1 GHG emissions resulting from regulated emission trading schemes (%)	71%	66%	*-5.1%*
Biogenic CO_2 emissions from biomass combustion not included in Scope 1 emissions ($MtCO_2e$)	-	3.7	-
Scope 2 emissions			
Gross Scope 2 emissions - country approach ($MtCO_2e$)	**0.28**	0.66	*+136%*
Gross Scope 2 emissions - supplier approach ($MtCO_2e$)	**0.45**	0.65	*+44%*
Scope 3 emissions			
Gross Scope 3 GHG emissions ($MtCO_2$ equivalent)	**72.5**	**73.3**	***+1%***
Of which emissions from gas sales to end customers Scope 3.11: use of products sold - combustion	35.4	38.0	*+7%*
Of which emissions from gas sales to end customers Scope 3.3: upstream emissions	6.7	7.2	*+7%*
Of which emissions from electricity purchases for resale to end customers Scope 3.3: combustion for fossil fuel electricity generation	6.6	5.1	*-23%*
Of which upstream emissions from electricity purchases for resale to end customers Scope 3.3: upstream emissions	2.7	1.3	*-52%*
Of which minority-owned assets (Investments) Scope 3.15: Scopes 1 and 2 of minority-owned assets	7.0	6.7	*-5%*
Of which capital goods - Scope 3.2	5.4	6.0	*+11%*
Of which purchases of goods & services - Scope 3.1	3.6	3.7	*+5%*
Of which upstream fuels - Scope 3.3	3.4	3.6	*+6%*
Of which nuclear fuel purchases - Scope 3.1	1.2	1.2	*-2%*
Of which other Scope 3 emissions	0.4	0.5	*+19%*
Emissions calculated using primary data obtained from suppliers or other value chain partners	2%	1%	-36%
TOTAL GHG EMISSIONS			
TOTAL GHG EMISSIONS - COUNTRY APPROACH ($MTCO_2E$)	**91.6**	**90.7**	***-1%***
TOTAL GHG EMISSIONS - SUPPLIER APPROACH ($MTCO_2E$)	**91.8**	**90.7**	***-1%***

The direct emissions (Scope 1) continue to decline, -11% between 2023 and 2024, or -2.1 $MtCO_2e$, and reached 16.8 $MtCO_2e$ in 2024. This decrease is mainly due to the lower use of coal, fuel oil and gas thermal power plants, which saw their electricity generation decrease by 10TWh (-23%) in a context of stable electricity consumption and very good availability of low-carbon generation facilities, in particular those of EDF (nuclear and renewable electricity generation). The conversion to bioliquid of island production (Port-Est power plant on Reunion Island) and the continued decarbonisation of heat production also contributed to this decrease.

The Scope 2 emissions, which represent 0.7% of the Group's carbon footprint, increased by 0.4 $MtCO_2e$ between 2023 and 2024, in particular due to the increase in electricity and heat consumption in some of the Group's regions.

The Scope 3 emissions increased by 1% in 2024 (+0.9 $MtCO_2e$) mainly due to the increase in the emissions associated with gas sales to end customers (+2.6 $MtCO_2e$, *i.e.* +7%) and the increase in purchases of goods (+0.8 $MtCO_2e$, 8%). The emissions relating to minority investments decreased by -0.3 $MtCO_2e$ (-5%), due, on the one hand, to the Group's partial divestment of its coal assets in China and, on the other hand, to the decline in fossil production in Chile. The emissions from gas and electricity purchases for resale to end customers, together with the emissions from minority investments, represent 81% of the Scope 3 emissions.

All of these factors contribute to a decrease of 0.9 $MtCO_2e$ in the EDF group's carbon footprint in 2024, which reached a total of 90.7 $MtCO_2e$.

Climate performance for integrated performance

EDF promotes integrated performance, combining financial and CSR performance. The Company's value creation is expressed by a combination of financial and CSR indicators.

Emissions to sales ratio

EDF considers that this indicator only correctly reflects the integrated performance if all direct and indirect emissions are taken into account **(Scopes 1, 2 and 3)** and considers that this indicator may vary due to performance but also solely due to the energy price dimension. Since 2023, this ratio has increased by 13%. In 2024, it stood at 777 tCO_2e per million euros of **consolidated sales excluding trading** (see section 6.1, note 5.1.2 "Sales" to the consolidated financial statements for the financial year ended 31 December 2024).

Emissions / Sales (turnover)[1]	Unit	2022	2023	2024
Scopes 1, 2 and 3 - country approach	tCO_2e	120,123,567	91,644,836	90,736,178
Group sales/turnover[1]	M€	136,438	136,049	116,782
Scopes 1, 2 and 3 / Group sales/turnover[1] (country approach)	**tCO_2e/M€**	**880**	**674**	777
Scopes 1, 2 and 3 - supplier approach	tCO_2e	120,234,828	91,816,375	90,732,965
Group sales (turnover)[1]	M€	136,438	136,049	116,782
Scopes 1, 2 and 3 / Group sales/turnover[1] (supplier approach)	**tCO_2e/M€**	**881**	**675**	777

(1) Consolidated sales (turnover) excluding trading.

Details of the Group's carbon footprint

The Group's carbon assessment follows the recommendations of the GHG Protocol. It is established for all companies included in the Group's scope of consolidation for Scopes 1, 2 and 3, supplemented, for Scope 3, by minority investments not operated by the EDF group whose emissions are included up to the Group's share of ownership of the company.

Scope of consolidation of the carbon assessment (Scopes 1, 2 and 3): EDF, EDF PEI, Dalkia, Edison, Enedis, Électricité de Strasbourg, EDF Trading, EDF Energy, Framatome, EDF Renewables, Norte Fluminense, MECO, Luminus, EDF China. The emissions of other companies controlled by the EDF group represent less than 1% of the emissions recorded.

The data used are referenced from 1 January to 31 December of year N. The Group's carbon assessment uses physical data to calculate 89% of the GHG emissions. Some of these physical data, given their stability from one year to the next, are collected for the previous year to the financial year. The emissions are calculated on the basis of N-1 data and represent less than 2% of the carbon footprint emissions. The emission factors applied are updated annually in December of year N. They come from the ADEME Carbon Base or, failing that, from the IEA and Ecoinvent. The Global Warming Potential (GWP) values used correspond to those published in the 6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The main tools used to calculate the emissions are developed internally by EDF.

Details on Scope 1

The direct emissions from thermal power plants (CO_2, CH_4 and N_2O) are determined either by direct measurements or based on fuel analyses or standard emission factors. This approach encompasses all stages of the electricity generation process. The CO_2 emissions also take into account emissions from industrial processes, such as flue gas desulphurisation. The emissions of methane (CH_4) and nitrous oxide (N_2O) are converted into tonnes of CO_2 equivalent for their recognition.

The emissions due to combustion in power plant backup units are calculated on the basis of the quantities of fuel purchased from the Group's main supplier during the year, thus reflecting actual consumption.

The emissions of CO_2 and CH_4 related to the filling of water reservoirs, with an area of more than 1 hectare, are estimated according to the method recommended by the IPCC (2019). This method is applied to calculate the emissions of carbon dioxide (CO_2) and methane (CH_4), but does not make it possible to assess the emissions of nitrous oxide (N_2O). The emissions from reservoirs in temperate zones use the parameters applied for IPCC Tier 1. The emissions from reservoirs in tropical areas, given their higher fugitive emissions, use parameters from in situ measurements according to the IPCC Tier 3 approach. For reservoirs, whose surface area is not known given their age, the fugitive emissions are based on the plant's annual hydropower generation. For the calculations of emissions using these two methods, the parameter relating to the age of the reservoir uses the IPCC approach (± 20 years).

The emissions from Scope 1 items calculated on the basis of physical data for year N-1 represent 3% of this scope (0.5 $MtCO_2e$). These are the emissions related to fuels used for car fleets, buildings, fugitive emissions from dam reservoirs and refrigerants.

Details on Scope 2

In accordance with the GHG Protocol guidelines, the calculation of Scope 2 can be carried out either on the basis of the average content of the electricity grid (so-called country-based or location-based method) or on that of the specific content of the electricity supplier (so-called supplier-based or market-based method). In the context of this report, both approaches are published. The supplier approach is based on specific contracts and the emission factors of the suppliers or, failing that, on the electricity mix published by the State bodies. For companies where this information is not available, the country residual mix value is applied. These emissions concern the generation of electricity used in tertiary buildings (heating, cooling, processes, lighting, IT, various equipment, etc.) and data centres. The biogenic emissions in the supplier value chain are not published. They are not very significant, as Scope 2 represents only 0.7% of the Group's carbon footprint. In addition, the emission factors available do not present the gas flows used to estimate these biogenic emissions.

The emissions relating to electricity purchases due to losses in the Enedis and Électricité de Strasbourg distribution networks are subject to double-counting restatement to take into account the emissions from EDF's production already accounted for in Scope 1. Part of the electricity purchases to offset network losses come from EDF's generation (emissions already reported in Scope 1). Around 79% of the electricity on the French networks comes from EDF's generation. This fraction is then subtracted from the total emissions of the electricity purchases made by these two distributors. The emissions related to these network losses represent approximately 30% of Scope 2, *i.e.* 0.2 $MtCO_2e$ in 2024.

The emissions from Scope 2 items calculated on the basis of physical data for year N-1 represent 70% of this scope (0.5 $MtCO_2e$). These are emissions relating to the consumption of heat, cooling and electricity for own use (excluding losses).

Details on Scope 3

The Scope 3 emissions are not calculated using input data and emission factors specific to the entities' activities and suppliers.

The emissions relating to gas purchases for resale to end customers are calculated using data on the entities' total gas sales (the EDF group does not produce gas). The emissions relating to purchases of electricity for resale to customers are calculated using data on the total electricity sales to these customers deducted from the entities' own electricity generation. This avoids double counting of Scope 3 emissions and emissions from the electricity generation of entities already reported under Scope 1.

The data relating to purchases of capital goods and purchases of goods and services are based on their monetary values.

The emissions from purchases of goods and services are calculated on the basis of the annual monetary flows, such as insurance services, repairs, study costs in the technical and IT fields, advertising, publications, postage and telecommunications costs, banking services, supplies for the operation's own needs, small equipment, administrative supplies and small items of everyday consumption.

The emissions from purchases of capital goods are calculated on the basis of amortised flows. The emissions relating to the purchase of capital goods can vary considerably for a manufacturer, due to the irregular nature of major investments over the years. For EDF, the investments in generation facilities may occur at long time intervals, depending on the lifespan of these investments. The emissions associated with these investments are then spread over their accounting lifespan. This makes it possible to smooth out the indirect emissions over the lifespan of the equipment, while retaining the information on the carbon stock in the atmosphere. In doing so, the methodology used is in line with the GHG Protocol and follows the recommendations of EN ISO 14064-1 (2018) and ADEME (amortisation approach). The amortised flows are split between intangible assets and property, plant and equipment, such as software, concrete, metal equipment, construction costs, etc. The emissions relating to the nuclear fuel cycle are based on the annual reloading of this fuel. For the various phases of the fuel cycle (extraction, conversion, enrichment, manufacturing, used fuel processing and waste management), the emission factor applied for France is that recommended by ADEME and for the United Kingdom that of Ecoinvent. This method makes it possible to integrate the emissions associated with the stages of the nuclear fuel's life cycle.

The "Investments" emissions item takes into account the Scopes 1 and 2 emissions of minority-owned assets over which EDF does not have operational control. The investments taken into account concern hydropower dams and fossil-fired thermal power plants. As the Scope 1 emissions of these plants are significant, those of Scope 2 become relatively negligible and as such are not included.

The emissions from Scope 3 items calculated on the basis of physical data for year N-1 represent 0.6% of this scope (0.4 $MtCO_2e$). These are emissions relating to employee travel, upstream of the fuels used (for the vehicle fleet, buildings, own use of heat, cooling and electricity, excluding network losses), and to the purchase of heat for resale to end customers.

The Group's carbon assessment includes the emissions items of the GHG Protocol used to describe EDF's activities. The other items described below are either already taken into account or excluded:

- upstream leased assets: the upstream emissions of leased assets are already taken into account in Scopes 1, 2 and 3 according to the consolidation method applied (the leased assets are considered as owned by the Group);
- downstream transport and distribution: the emissions are mainly accounted for by the inclusion of electricity transport and distribution entities in the Group's carbon assessment and by the emission factors of the items associated with this activity;
- transformation of products sold: the products sold by EDF are energy sources (electricity, gas and heat) used by customers. They are not subject to transformation;
- end-of-life treatment of products sold: there is no end-of-life treatment for the products sold by EDF (electricity and gas). Nevertheless, the new commercial developments of the entities within the Group's scope could lead to an increase in this item and its integration will then be reconsidered;
- downstream of leased assets: leased assets are considered as owned by the Group and their emissions are already included in Scopes 1, 2 and 3;
- franchises: EDF does not hold a franchise;
- upstream (other): no additional "other" category in EDF's activities;
- downstream (other): no additional "other" category in EDF's activities.

3.2.2.1.3.2 A carbon trajectory compatible with 1.5°C

The EDF group is committed to playing its role to the full in the fight against climate change. It has set a decarbonisation ambition compatible with the Paris Climate Agreement, the aim of which is to keep global warming well below 2°C, preferably at 1.5°C, compared to pre-industrial levels.

3.2.2.1.3.2.1. Net Zero long-term commitment

The Net Zero commitment of the EDF group is based on a reduction of at least 90% of its direct and indirect emissions, and a neutralisation of the residual emissions through high-integrity carbon sinks (see table of these Net Zero objectives to 2050 in 3.2.2.1.1.1 "A 'Net Zero Emissions' ambition supported by an ambitious carbon trajectory"). This long-term commitment is supported by a trajectory for reducing emissions in the short and medium term, compatible with a global warming of 1.5°C.

All Group targets and indicators defining a trajectory compatible with 1.5°C

EDF group indicator	Achieved 2023	Achieved 2024	2025 milestone	2027 milestone	2030 target	2035 target	2050 target
Carbon intensity (gCO_2/kWh)	37	30			**30**	**22**	**~ 0**
Scope 1 ($MtCO_2e$)	19	16.8	20.0	18.0	15.5	10.5	
% reduction *vs.* 2017 (2017 baseline data: 51.3 $MtCO_2e$)	-63%	-67%	**-60%**	**-65%**	**-70%**	**-80%**	**Net Zero**
Scope 3 ($MtCO_2e$)	72	73.3		83.6	77.6	65.7	**-90%**(1)
% reduction *vs.* 2019 (2019 baseline data: 119.4 $MtCO_2e$)	-39%	-38%		**-30%**	**-35%**	**-45%**	
Scope 3 emission ($MtCO_2e$ *vs.* 2019)	-41%	-37%			**-28%**		

(1) To neutralise the residual emissions (with a view to net zero emissions), the use of carbon contribution projects, aimed at "sequestering" the CO_2 present in the atmosphere and storing it, is only considered after 2030.

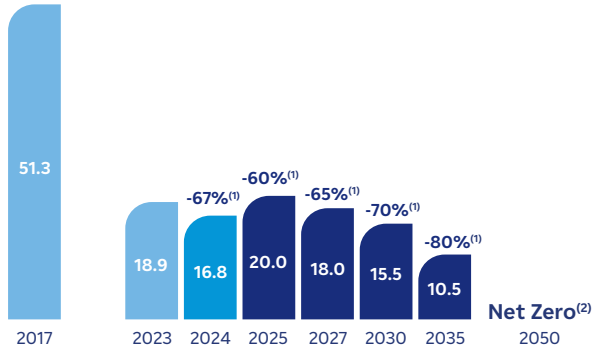
3.2.2.1.3.2.2. Reduction of direct emissions

In November 2023, the EDF group set new targets for reducing its direct emissions[1] of greenhouse gases. These reinforce the ambition level that the Group set itself at the end of 2020 in terms of absolute Scope 1 emissions and carbon intensity in 2030. They supplement them by setting a 2025 and 2035 milestone for **Scope 1** emissions and a 2035 milestone for **carbon intensity**. In November 2024, the Group set a new milestone in 2027 for Scope 1.

Scope 1 objectives

2025 target	**60% reduction** in Scope 1 emissions compared to 2017, *i.e.* **20.0 $MtCO_2e$**
2027 targets	**65% reduction** in Scope 1 emissions compared to 2017, *i.e.* **18.0 $MtCO_2e$**
2030 target	**70% reduction** in Scope 1 emissions compared to 2017, *i.e.* **15.5 $MtCO_2e$**
2035 target	**80% reduction** in Scope 1 emissions compared to 2017, *i.e.* **10.5 $MtCO_2e$**

Scope 1 emissions (in $MtCO_2e$)



(1) Vs 2017.
(2) Over the 3 Scopes.

The direct emissions reduction target applies to all of the Group's Scope 1 emissions, and ensures that the Group operates on a trajectory compatible with a warming of 1.5°C (see section 3.2.2.1.3.2.4 "Labelling of the Group's emissions trajectory"). It takes into account internal strategic assumptions, in particular the evolution of the Group's thermal generation fleet, and is based on scenarios compatible with the Paris Agreement. EDF aims to reduce its direct emissions by 60%, 70% and 80% by 2025, 2030 and 2035. This represents an absolute reduction of approximately 41 $MtCO_2e$ i 2035 compared to 2017. In 2024, EDF's Scope 1 emissions reached 16.8 $MtCO_2e$, i.e. a reduction of 67% compared to 2017.

Group carbon intensity

The emissions reduction efforts are also reflected in the carbon intensity of the Group's electricity and heat generation, which amounted to 30 gCO_2/kWh in 2024, *i.e.* the target set for 2030, and down by 7 gCO_2/kWh compared to 2023. The carbon intensity of the electricity and heat produced by the EDF group is around 7 times lower than the European average (210 gCO_2/kWh[2]) and more than 15 times lower than the global average (458 gCO_2/kWh[3]).

In addition to the effect of the reduction in direct emissions, the change in carbon intensity reflects the increase in the Group's low-carbon production in 2024. All of the Group's sectors contribute: +11% for nuclear, +30% for hydro, and +7% for wind and solar. In 2024, nuclear generation amounted to 404TWh, *i.e.* +40.8TWh compared to 2023, particularly in France where EDF's nuclear generation exceeded initial forecasts, exceeding 361TWh at the end of the year. Between 2023 and 2024 the hydropower generation increased by 12.7TWh, due to the performance of generation tools and very good hydraulic conditions. The share of fossil-fuel generation in the Group's total electricity generation and heat production was only 8% in 2024, at 44TWh, down by 4TWh compared to 2023.

However, this performance was the result of market and demand conditions that were particularly favourable to a low level of use of fossil fuel-based electricity generation facilities. It is not guaranteed that a level below the 30 gCO_2/kWh threshold can be maintained in the very short term (pre-2030) in a scenario of average conditions.

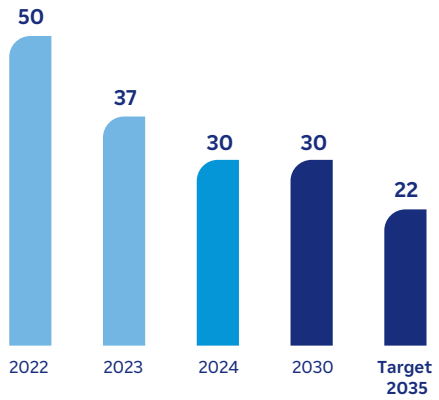
Clarification of the indicator

The carbon intensity is an information item specific to EDF and a ratio calculated between the Scope 1 CO_2[4] emissions of the Group's electricity and heat generation plants and their associated generation levels, and therefore does not apply to the same scope as the low-carbon production indicator (see section 3.2.2.1.3.5 "Development of low-carbon generation").

Carbon intensity trajectory

2030 target	**30 gCO_2/kWh carbon intensity**
2035 target	**22 gCO_2/kWh carbon intensity**

Change in carbon intensity (in gCO_2/kWh)



(1) As indirect Scope 2 emissions represent less than 0.3% of the Group's greenhouse gas emissions, they are not covered by the new targets.
(2) 2023 data, EU-27, European Environment Agency, Greenhouse gas emission intensity of electricity generation in Europe, October 2024.
(3) 2023 data, International Energy Agency, World Energy Outlook 2024.
(4) Direct CO_2 emissions related to generation, excluding the life cycle analysis of generation facilities and fuel (corresponds to approximately 96% of Scope 1).

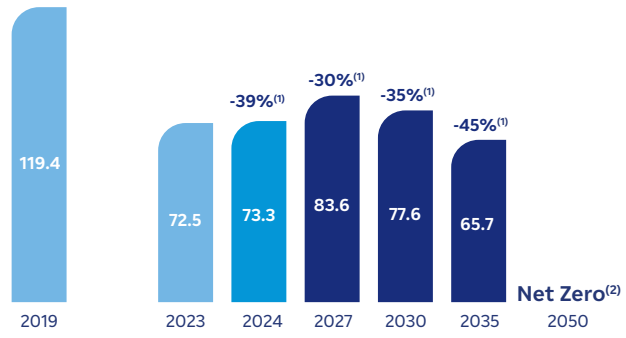
3.2.2.1.3.2.3. Reduction of the value chain emissions

The EDF group has set targets for reducing its indirect **Scope 3** emission to 2030, both for the whole of Scope 3 and specifically for the part of Scope 3 associated with gas sales to its end customers (see SBTi objectives in section 3.2.2.1.3.2.4 "Labelling of the Group's emissions trajectory").

In November 2024, the Group set two new milestones for 2027 and 2035 for Scope 3, and revised its ambition upwards for the 2030 milestone.

2027 targets	**30% reduction**, from 2019 levels, of all Scope 3 emissions by 2027
2030 target	**35% reduction**, from 2019 levels, of all Scope 3 emissions by 2030
2035 target	**45% reduction**, compared with 2019 levels, of all Scope 3 emissions by 2035

Scope 3 emissions (in $MtCO_2e$)



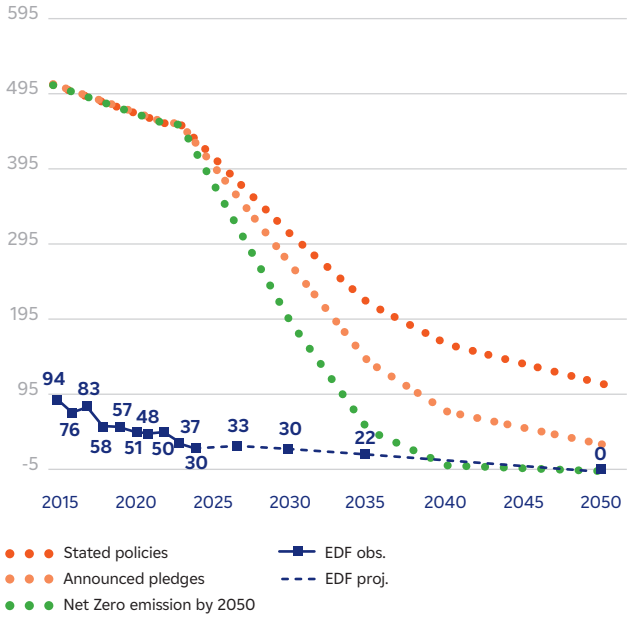
(1) Vs 2019.
(2) Over the 3 Scopes.

The indirect emissions reduction target applies to all of the Group's Scope 3 emissions, and ensures that the Group is committed to a short-term trajectory compatible with a warming of 1.5°C. It is based on scenarios that are compatible with the Paris Agreement. EDF is aiming for a reduction in emissions of 30% in 2027, 35% in 2030, and 45% in 2035, compared to 2019, for the whole of Scope 3. This represents an absolute reduction of around 54 $MtCO_2e$ in 2035 compared to 2019. In 2024, the Group reduced its Scope 3 emissions by 39% compared to 2019.

3.2.2.1.3.2.4. Labelling of the Group's emissions trajectory

The ambition level of the Group's emissions reduction targets presented in the previous paragraphs has been assessed by Moody's as being compatible with a 1.5°C warming scenario(1). Since the validation of this trajectory in early 2024, the Group's Scope 3 ambition has been raised (see 3.2.2.1.3.2.3 "Reduction of the value chain emissions"). Like SBTi, Moody's relies on the sector curves of the IEA scenarios (see the graph for the world scope). The comparison with EDF's trajectory shows that the Group's cumulative emissions intensity are well below the IEA's Net Zero scenario, and that its short-, medium- and long-term objectives are compatible with such a scenario.

Sectoral curves of the IEA direct emissions scenarios (global carbon intensity(2) and for EDF in gCO_2/kWh)



The STEPS, APS and NZE scenarios are the three global scenarios considered by the IEA in the World Energy Outlook 2024.

The STEPS (Stated Policies) scenario is the trend scenario, leading to global warming of 2.4°C in 2100.

The APS (Announced Pledges) scenario corresponds to the implementation of all the climate commitments made by countries, leading to an estimated warming of 1.7°C.

The NZE (Net Zero Emission) scenario is the most ambitious scenario, limiting warming to 1.6°C around 2040 before returning to 1.4°C in 2100.

In addition, the trajectory for reducing the EDF group's carbon footprint, all greenhouse gas emission scopes combined, is consistent with the ambition to keep global warming at 1.5°C and with the emission reduction rates envisaged in the Net Zero Emissions scenario of the IEA (IEA WEO 2024 data).

Emission reduction targets *vs.* 2017	2030	2035	2050
EDF group (all Scopes)	-42%	-53%	-90%
IEA APS (Well Below 2°C)	-10%	-31%	-68%
IEA NZE (1.5°C)	-29%	-63%	-98%

(1) For more details, see Moody's appraisal report "Net Zero Assessment": www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_1395660
(2) The curves presented represent the carbon intensity of electricity and heat at the global level.

The reference year chosen, 2017, corresponds to the first year of publication of the EDF GHG assessment. This reference year remains representative in 2024 in terms of scope and influence of external factors: the changes compared to the current scope of the Group's activities and the influence of external factors on the changes in the Group's assessment have all been traced. These changes do not reach a materiality threshold requiring a recalculation of the reference year.

The year 2025 marks the 10th anniversary of the Paris Agreement, which was adopted on 12 December 2015 at COP21, and which motivated the development of ambitious climate policies in Europe and worldwide. The EDF group can claim to have divided by three its direct Scope 1 emissions since 2015 (from 60.4 $MtCO_2e$ in 2015 to 16.8 $MtCO_2e$ in 2024) and by three its carbon intensity (from 95 gCO_2/kWh in 2015 to 30 gCO_2/kWh in 2024), while maintaining its title as the largest producer of decarbonised electricity in the world, *i.e.* without direct CO_2 emissions.

In December 2020, the Science Based Targets Initiative (SBTi) validated the Group's greenhouse gas reduction targets for 2030, which it had set in 2020, as part of a Well Below 2°C trajectory, based on their[1] methodology specifically developed for the electricity sector[2].

These SBTi objectives for 2030 are as follows:

- 50% reduction, compared with 2017 levels, of Scope 1 and 2 emissions, also including emissions from non-consolidated assets and emissions associated with purchased electricity (*i.e.* not generated) to be sold to end customers.
- 28% reduction, compared with 2019, of the emissions from combustion of gas sold to end customers (Scope 3).

The Group has chosen not to submit its new objectives to SBTi pending a change in their methodology (ongoing process). The current methodology amounts to setting an identical carbon intensity reduction target for all utilities (around -77% between 2017 and 2030) regardless of their initial carbon intensity, which strongly penalises players that are already well advanced in their decarbonisation, such as EDF.

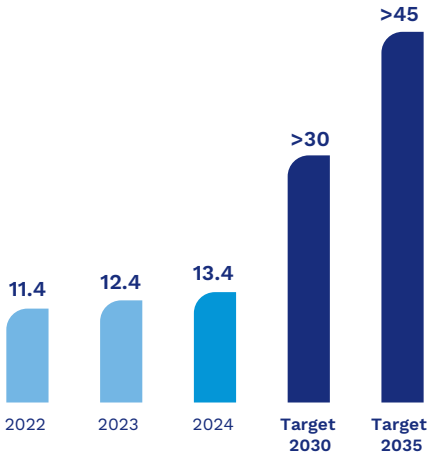
It is understood, however, that there is currently no consensus on targets or trajectories for reducing greenhouse gas emissions at the level of a company (the objectives being set at the level of the States) which could ensure the compatibility of a strategy with a scenario limiting global warming to 1.5°C in accordance with the Paris Agreement.

As of 31 December 2024, the EDF group was not excluded from the "Paris Agreement" benchmarks, a recognition of the compatibility of the Group's business model with rapid decarbonisation.

3.2.2.1.3.3 Avoided emissions

EDF has set itself a target of avoiding 30 million tonnes of CO_2 emissions by 2030, and 45 million tonnes by 2035, thanks to the sale of innovative products and services. These targets ensure that EDF offers solutions and promotes decarbonisation levers to its customers, thus contributing to the decarbonisation of the economy, as highlighted in the action plans for the electrification of uses.

Avoided emissions in (in $MtCO_2$)



Details on the indicators

This indicator covers the following activities carried out by EDF SA, Dalkia, Luminus, EDF Energy and Edison: development of renewable energies in heating networks; energy efficiency; solar power generation (facilities sold to customers and self-consumption, excluding EDF facilities injecting their generation into the grid); electric mobility; residential heat pumps; sale of biomethane to light vehicles; hydrogen. The indicator corresponds to the gap in emissions from the product or service sold and emissions in a baseline scenario established for each product or service. This indicator is calculated by including direct and indirect emissions from the life cycle analysis on an annual basis.

Although there is currently no recognised external reference to determine the emissions avoided by customers by the products and services sold, EDF relies on calculation principles aligned with the most commonly observed practices, the basis of conservative counterfactuals, and in full transparency (the methodology used is publicly available[3]). At the same time, EDF is engaged in French and international research seeking to develop this type of benchmarking method. The 2024 result, which corresponds to 45% of the target for 2030, covers only some of the products and services marketed by EDF. The figures should increase in the coming years, subject to possible changes in method in order to remain in line with third-party practices.

EDF started to develop this indicator in 2021, based on a first list of products and services, and expanded the scope of the service products considered in 2022. The products and services taken into account in the indicator have not changed since 2022, and the targets for 2030 and 2035 were established on the same basis. The products and services taken into account are important products for EDF, sufficiently well-defined to allow the development of an auditable calculation method, and generating a significant volume of avoided emissions today or in the future.

(1) Initiative launched in the wake of the Paris Agreement in 2015 by the following four organisations: CDP, UN Global Compact, World Resources Institute and World Wild Fund for Nature.
(2) Setting 1.5°C aligned science-based targets - quick start guide for electric utilities, CDP, June 2020.
(3) www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/corporate-social-responsibility/carbon-neutrality-and-climate/avoided-emissions

3.2.2.1.3.4 Carbon credits

In 2024, EDF financed emission reduction and absorption projects *via* carbon credits amounting to 1,070 tCO_2e. The credits withdrawn by the Group correspond to internal initiatives on specific projects or scopes, for example a carbon contribution equal to the transport emissions within a given entity. The Label Bas Carbone project corresponds to a forestry project, while the Gold Standard and Verra credits correspond to technological solutions.

Carbon credits withdrawn	2024
Total (tCO_2e)	1,070
Proportion of reduction projects (%)	27
Proportion of sequestration projects (%)	73
Label Bas Carbone (%)	73
Gold standard / Verra VCS (%)	27
Projects in the European Union (%)	73
Projects subject to a corresponding adjustment (%)	0

In the future, EDF plans to withdraw emission reduction units (ERUs) associated with its investment in the Chambord project (see section 3.2.2.1.2.3.1 "Carbon contribution"), corresponding to a total of 18,075 tCO_2e certified and credited, of which approximately 5,000 tCO_2e to meet the regulatory obligation within the context of the Carbon Offsetting Fund (see section 3.2.2.1.2.3.1 "Carbon contribution" – paragraph "Financing of projects outside the value chain").

In addition, the Net Zero commitment involves the purchase and cancellation of carbon credits to neutralise its residual emissions by 2050, up to a maximum of 10% of the Group's emissions in the reference year. This could represent a maximum of around 16 $MtCO_2e$ every year from 2050. Currently, these credits are not subject to contractual arrangements.

Lastly, EDF also withdraws credits as part of an energy supply offer intended for the Group's customers: as such, these credits are not considered to be financed by the Group but for the benefit of the customers in question.

Details on the indicators

The values reported in the table are based on the volumes of credits withdrawn in 2024 for projects financed by the Group. The volumes withdrawn for third parties, typically as part of energy supply offers associated with a carbon contribution, are not reported.

3.2.2.1.3.5 Development of low-carbon generation

The development of low-carbon generation is one of the four strategic ambitions shared by the Group in 2024. This production must enable the decarbonisation of energy mixes and meet the demand related to the electrification of uses.

The Group aims to maximise the availability of the existing nuclear fleet under the best possible safety and performance conditions, to build new reactors (EPR2 and NUWARD) and to accelerate the development of renewable energies with more than 8GW gross commissioned per year on average by 2035, *vs.* 3.2GW gross per year in 2024.

The Group aims to develop flexibility solutions to meet the needs of the electricity system and ensure the balance between supply and demand. In addition to the flexibility already provided by the nuclear and hydropower facilities, the Group will develop storage resources and "green" flame-based thermal generation facilities and will continue to develop flexibility solutions for customers.

				Performance	
Target	**Reference**	**Review**	**Scope**	**2023**	**2024**
8GW per year of renewable energies commissioned per year by 2035	2.9 in 2023	Annual	Own activities	2.9	3.2

3.2.2.1.3.6 Energy focus: energy consumption and energy efficiency

Energy consumption and mix

The energy consumption indicators presented below are considered less relevant for an integrated energy company such as EDF, whose role in the decarbonisation of the economy goes well beyond its own consumption.

In MWh LCV[1]	Total energy consumption *(sum of "Scope 1" and "Scope 2")*	Fuel consumption for the activities of the "Scope 1" entity	Consumption of electricity, heating and cooling "Scope 2"
Energy consumption from coal (a)	1,411,310	1,353,097	58,213
Energy consumption from petroleum products (b) *(heavy fuel oil + light fuel oil)*	11,904,719	11,817,678	87,041
Energy consumption from natural gas (c)	60,770,891	60,149,673	621,218
Fuel consumption from other fossil sources	621,218	544,717	76,501
Total fossil fuel consumption (a + b + c)	**74,708,138**	**73,865,165**	**842,973**
Share of fossil sources in total energy consumption (as a %)	81.4%	87.5%	11.4%
Energy consumption from nuclear sources	4,422,281	**Not applicable[3]**	4,422,281
Share of nuclear sources in total energy consumption (as a %)	4.8%	-	59.9%
Consumption of energy from renewable sources *(biomass, biogas and wood meeting the sustainability criteria)*	**12,649,211**	**10,531,476**	**2,117,735**
Share of renewables in total energy consumption (as a %)	13.8%	12.5%	28.7%
TOTAL ENERGY CONSUMPTION	**91,779,630**	**84,396,641**	**7,382,989**
Energy intensity (total energy consumption by Group sales/turnover)[2]	786		

(1) Lower calorific value of the fuel.

(2) Consolidated sales/turnover excluding trading (see section 6.1, note 5.1.2 "Sales" to the consolidated financial statements for the financial year ended 31 December 2024).

(3) The uranium used in EDF power plants is not considered as final energy.

For the Group's renewable and non-renewable energy production, see section 1.1 "Key figures and business model".

Details on the indicators

These indicators are based on the following methods and assumptions: "Scope 1" values are obtained by multiplying the consumption of the fuel in question (see section 3.2.6.2.2 "Target and indicators relating to incoming resources") by the associated LCV (value obtained from the entity that contributes the most to the Group in terms of consumption of the fuel in question). The values for "Scope 2" are obtained from the carbon assessment, by breaking down these values for each Group entity, by type of energy, using the average electricity mix of the country where the entity is mainly located (data sources: mainly IEA[1] and to a lesser extent Lowcarbonpower[2]).

3.2.2.2 Climate change adaptation

The current climate disruption is unprecedented on such a short time scale. The planet's average temperature has already increased by nearly 1.2°C since 1750. This warming goes hand in hand with a rise in sea levels and an increase in the frequency and severity of natural disasters, which can vary depending on the regions of the world. It contributes to the erosion of biodiversity on a global scale. Climate risk is already a tangible reality, the effects of which will increase in the coming years.

EDF's facilities have a technical lifespan potentially easily exceeding 40 years, making it, among non-state entities, one of the major firms most exposed to the physical effects of climate change. As a result, climate risk has been recognised as a priority risk at the level of the EDF group since 2018, after investing resources in understanding risks and potential impacts since the 1990s and the first IPCC reports.

Adapting to climate change refers to a procedure to adjust to the current climate, its changes, and its consequences. This means mitigating the harmful effects of climate change and making the most of any beneficial effects and resulting opportunities.

3.2.2.2.1 Climate change adaptation policy

The EDF group has set itself a set of commitments as part of its climate change adaptation approach:

- evaluate the impacts of climate change on future and existing activities;
- adapt existing facilities to make them less sensitive to climatic conditions and more resilient to extreme weather events;
- incorporate climate change scenarios in the design of new installations;
- adapt the Group's solutions, internal operations and know-how in light of climate change;
- take into account the ecosystemic dimension of climate change.

In particular, this policy states that entities most exposed to the physical consequences of climate change should elaborate a climate change adaptation plan and update it every five years. These plans are approved by the CSR Strategy Committee.

(1) www.iea.org
(2) lowcarbonpower.org

The EDF group welcomes the implementation of the third version of the National Climate Change Adaptation Plan (PNACC-3), built around a reference warming trajectory for adaptation to climate change (*Trajectoire de réchauffement de référence pour l'adaptation au changement climatique* – TRACC) corresponding to a warming of +4°C in France by 2100, *i.e.* +3°C worldwide compared to the pre-industrial period. Nevertheless, EDF favours the use of CMIP6 data by the internal climate unit for industrial applications.

3.2.2.2.2 Actions and resources in relation to climate change adaptation policies

A global resilience strategy

By 1999, the storms Lothar and Martin had already led EDF to work on mitigating the physical impact of climate change on its activities. Following the heatwave of the summer of 2003, the EDF group adopted a "Climate hazards" plan in 2004, then a climate change adaptation strategy in 2010.

The EDF group's adaptation strategy covers generation facilities with a lifespan of over 40 years, such as nuclear power plants and hydropower dams. The EDF group entities concerned are required to take account of climate risks (including both physical risks and transition risks) when mapping their risks[1]. For these impact and sizing studies, EDF systematically considers several scenarios for the evolution of global greenhouse gas emissions over the period to 2100, including at least one penalising scenario in terms of greenhouse gas emissions such as the SSP3-7.0 scenario.

The ADAPT programme and the CEMA action plan[2]

The ADAPT programme aims to secure generation at France's thermal and nuclear power plants by anticipating the consequences of climate change, while preserving the planet's resources.

The approach is based on three pillars:

- understanding climate disruption and its effects at local level, taking into account its systemic nature in predictions of future climate conditions in various territories;
- evaluating the impacts of climate change on facilities and on power plants' local ecosystems;
- taking action to mobilise internal and external stakeholders in view of the changing, systemic nature of climate change and its consequences, and taking action to adapt and contribute to the habitability of localities.

ADAPT is developing a systemic approach to adaptation to climate change:

- taking into account stakeholders and involving them in the definition of resilience criteria and adaptation measures;
- incorporating contractual and non-contractual contacts.

The programme is structured around the livability of territories. It does this by looking at biodiversity, carbon storage and the adaptation of different environments. It aims to provide responses to the induced effects on the labour and societal acceptability of its activities. ADAPT identifies "immediately attractive" commitments and investments. In this context and in view of the feedback from the summer of 2022 and the constraints related to the design of systems and equipment, the approach identifying the appropriate investments was put in place with EDF's Nuclear Division and the Grand Carénage industrial refurbishment programme. It targets the impacts of climate change that are already visible, particularly in terms of optimising generation and reducing water consumption.

ADAPT is complementary to the EDF Nuclear Division and the Grand Carénage industrial refurbishment programme, which integrate climate change into all processes, in particular the ten-yearly outages to come, by involving the units concerned.

ADAPT seeks to ensure that mitigation and adaptation measures are long-term and not *"maladaptations"*[3]. The analysis complements the engineering work to take into account the systemic and changing nature of the consequences of climate disruption.

The ADAPT programme, *via* the CEMA action plan, carries out regional diagnostics that can be used to help prepare regional adaptation strategies. This study provides a full-scale analysis of all aspects of the project, from industrial facilities to contractual and non-contractual ecosystems. The methodology implemented for the Chooz site has been extended to Cattenom, Nogent-sur-Seine, Gravelines, Belleville-sur-Loire, Chinon, Dampierre and Saint-Laurent-des-Eaux.

For the fossil fuel thermal fleet, the regulatory requirements for drought periods were implemented in the summer of 2023, and experiments to reduce building temperatures were carried out to make power plants more resilient to climate change (see section 3.2.2.3.4 "Physical risk scenarios").

By way of illustration, ADAPT consists of:

- **technical solutions** which are part of the immediately attractive investments approach and the 2024 water plan (water sobriety, availability and quality);
- **nature-based solutions**: riverine forests, restoration of wetlands, peatlands, etc.;
- **research programmes coordinated by R-ADAPT.**

ADAPT works on benchmarks with production tools located in sensitive areas and is involved in feedback on extreme events (Ciaran, Kirk).

The ARCHE adaptation plan for hydropower facilities

The occurrence of increasingly repeated major climate events, the increased hydrometeorological variability linked to climate change, and the related economic consequences[4] have led EDF to design a plan (known as ARCHE – *Adaptation et résilience au changement climatique de l'hydraulique à EDF*) to adapt and make more resilient the hydropower generation fleet operated by EDF in mainland France.

The ARCHE plan is structured around three major challenges:

- ensuring the safety of facilities and people;
- ensuring a high level of economic and environmental performance;
- ensuring an essential contribution to the management of multiple water uses (which concerns two thirds of concessions) in mainland France (storage in/removal from reservoirs, flood mitigation, etc.).

To this end, the plan sets out four main areas broken down into around 30 actions:

Adapting the Group's knowledge

- On the impacts on the Group's facilities through the assessment process and actions to adapt to extreme events with 15 reassessments of extreme flood studies carried out in 2023 and 2024. These studies are input data for the Dam Risk Studies, which are required in the regulations on the safety of hydropower facilities and sent to the Regional Environment, Planning and Housing Departments (Direction régionale de l'environnement, de l'aménagement et du logement – DREAL) which conclude, for each structure concerned, on the management of the various risks, in particular the risk of flooding.

(1) See section 3.2.2.3 "Business model resilience to climate change: use of climate scenarios".

(2) CEMA: Comprehend – Evaluate – Mobilise – Act.

(3) "*Maladaptation*" refers to the situation in which strategies to adapt to climate change produce harmful, undesirable effects for certain populations and/or their environment, in particular when their implementation makes populations even more vulnerable to climate change.

(4) The increase in hydrometeorological variability linked to climate change could lead to annual variations in generation potential of more than 20TWh (*i.e.* 50% of its average production) between a very wet year and a very dry year.

- On data and models with the EDF climate service, the two main actions of which in 2024 were:
  - > inter-comparison of climate database projections (Euro-Cordex, CMIP5, CMIP6, TRACC approach);
  - > contribution to the national EXPLORE 2 project managed by the French National Research Institute for Agriculture, Food and Environment (Institut national de recherche pour l'agriculture, l'alimentation et l'environnement – INRAE) and the French Meteorological Agency (Météo France) with the sharing of the EDF model, the only one with a module integrating the evolution of glaciers.
- On the scenarios of future climate, availability of natural resources, pressure of uses, balance between water supply and demand, the performance of management systems with the implementation of the Versant Loire-Vienne Digital Twin Catchment Area, a digital model of the natural or human-made processes that make up the water cycle at the scale of the Loire water catchment area.

Adapting the Group's portfolio

- By devising long-term adaptations, such as the water intake for the Les Bois hydropower plant, which turbines water from the melting of Mer de Glace at Chamonix with a water intake that was initially vulnerable to the melting of the glacier. An in-depth study to increase the adaptation resilience, by being independent of the rate of melting of the glacier, led to the installation of a new surface water intake downstream.
- By reconciling the adaptation of the Group's economic activity and the resilience of the regions, such as the Vouglans - Saut-Mortier (Ain) pumped-storage energy transfer station (*Station de transfert d'énergie par pompage* – STEP) project, whose work launched in 2024 will make the region more resilient to climate change. The new facility aims both to promote downstream generation and to increase the quality of the services provided to the region. Its pump-turbine function increases the water storage capacity and improves the energy flexibility to cope with consumption peaks by achieving an 18MW increase in output. It should be noted that the flow support needs of the Basse Rivière d'Ain by 2055 were modelled by EDF by integrating forward-looking trends related to climate change to make the project's profitability and external benefit more reliable.

Adapting the Group's operations

- By reflecting on the resilience of its organisations (crisis management, adaptation of operating instructions) in the face of these reassessments of extreme events (floods, extreme cold, storms, etc.), as part of the CREDOH programme (Regulatory Compliance of Hydropower Facilities), which includes the studies and work that may be necessary for each facility given the conclusion of each updated Hazard Study (see above);
- Through an integrated approach of EDF's hydropower engineering carried out by the "Hydroscope" project, which aims to develop expertise and industrialise decision-making tools on water management methods covering the catchment areas with, for example, the implementation of a reservoir rating simulator as an operational decision-making tool for the multi-use of water in the context of climate change developed for three reservoirs in the South Region (Serre-Ponçon, Saint-Cassien and Saint-Peyres).

Adapting the Group's positioning and communication

- Having "fair" communication with the launch of a LCA study on EDF's hydropower fleet in 2024 in order to update the emission value per kWh generated (calculated at 6 gCO_2/kWh in 2010).
- Build a shared vision with the Group's stakeholders as during the 8th Rhône-Mediterranean Basin Meetings in October 2024, in the presence of the Chairman of EDF, whose theme was "Climate change: acting together for water, energy and biodiversity".

Adaptation of distribution networks

With 1.4 million kilometres of electric cables spread across the country, the Enedis distribution network represents a distance equivalent to 35 times the circumference of the Earth and is the largest in Europe. Enedis is naturally on the front line when it comes to bad weather and the effects of climate change. As a result, Enedis has drawn up a plan for Adapting the Distribution Network to Climate Hazards, which aims to strengthen the distribution network by replacing the most fragile cables and burying the lines most exposed to climate risks, particularly in high-risk areas, in particular in forested regions that are particularly sensitive to storms and fires. Created following the storm of 1999, the Rapid Intervention Electricity Force (*Force d'Intervention Rapide Électricité* – FIRE) is an emergency system that enables Enedis to mobilise considerable resources within a few hours during major climate events in order to restore electricity to customers as quickly as possible. FIRE currently has 3,500 technicians trained in crisis situations and 10 logistics storage platforms spread across the country, enabling the deployment of 3,500 generators. With FIRE, Enedis can mobilise up to 3,000 people within 24 hours in the event of an extreme climate event. The Group has demonstrated its ability to effectively manage climate crisis situations thanks to FIRE.

In 2024, 2,600km of medium-voltage overhead lines and 4,150km of low-voltage overhead lines were removed[1].

In Corsica and the French overseas territories, EDF SEI draws on their solidarity (FIRE SEI) and on FIRE Enedis when weather events have a major impact on the network.

Adaptation of island regions

In island regions, in addition to its electricity generation activities, EDF acts as a network operator and ensures the transmission and distribution of electricity. The risk of cyclones is considered major for these infrastructures, in particular for the Antilles (Martinique, Guadeloupe, Saint-Martin and Saint-Barthélemy) and for Reunion Island.

The overseas networks were built in accordance with regulations that have gradually increased the criteria for the mechanical resistance of facilities to climate hazards. Their mechanical resistance to powerful cyclones is being studied for the purpose of carrying out reinforcement work.

EDF SEI is working on making the network less sensitive to cyclone risks according to three main methods of action:

- systematic burial of new medium-voltage networks, particularly for the connection of renewable generation facilities;
- gradual burial of existing medium-voltage networks according to their importance for the supply of customers;
- occasional mechanical reinforcement of the high-voltage network.

The buildings housing the electrical facilities (source substations) are built according to cyclonic and seismic standards.

In 2024, the following actions were carried out:

- a high-voltage resilience policy was prepared for high intensity cyclones;
- R&D studies with the climate department were defined in order to improve the knowledge of climate hazards and the impacts of their evolution on facilities and on the flows of waterways supplying hydropower facilities;
- studies were carried out to better understand the resistance of pylons to intense winds;
- lastly, as part of the connection or burial of lines, 142 km of underground medium-voltage networks were laid in 2024. 41 km of overhead medium-voltage networks were removed during the same period.

(1) Furthermore, new medium-voltage lines are installed underground, while low-voltage (LV) lines are installed underground or unobtrusively. See also section 3.2.5.2.2 "Reducing the activities' contribution to major pressure factors on biodiversity".

On 15 January 2024, Cyclone Belal hit Reunion Island, with strong winds causing significant damage to the electricity grid. After the lifting of the red alert, EDF teams were able to intervene on the ground, restoring electricity to 90% of the 150,000 customers affected within 48 hours. Significant resources were mobilised: 200 technicians, 50 vehicles, 6 helicopters, as well as Enedis FIRE and SEI, with reinforcements from Enedis and EDF Corse. The emergency work was followed by network consolidation work throughout 2024.

On 14 December 2024, the tropical cyclone Chido struck Mayotte, causing immense human and material damage, particularly to the electricity grid. Faced with the extent of the damage, the EDF group immediately mobilised to support Électricité de Mayotte (EDM[1]) in the restoration of access to electricity and the reconstruction of the electricity grid by deploying material and human resources, in close cooperation with the public authorities. This mobilisation on 4 January 2025 included 75 employees of the EDF group to support Électricité de Mayotte: 48 employees of Enedis, members of FIRE, 17 employees of EDF SEI, and 10 employees of the Rapid Nuclear Action Force (Force d'Action Rapide du Nucléaire – FARN). The FARN, which specialises in crisis management, also made it possible to provide additional logistics resources with the installation of two base camps. The EDF group deployed 200 tonnes of network equipment, 60 vehicles and 220 generators.

Adaptation of solar, wind and storage projects

EDF Renewables' adaptation plan aims to better understand the climate risks related to the development of solar, storage and wind projects, particularly in terms of exposure to extreme events (storms, flooding, etc.) and to adapt the assets appropriately (resistance of electronic equipment to heat, drainage and sealing system, etc.).

Solar power facilities are particularly sensitive to acute climate risks, including those related to high winds, heavy rainfall and hailstorms, while wind farms may be more affected by changes in electricity generation due to changes in wind patterns. EDF Renewables, as part of its adaptation plan, has implemented a set of actions to improve the design of infrastructure (particularly for solar panels) as well as to improve the predictability of generation potential. This includes an R&D programme aimed at better characterising the intensity and frequency of extreme climate events by focusing on strategic regions for project development.

The design of solar power projects incorporates the risks related to extreme winds and flooding. The structures are designed to withstand high wind speeds, while the drainage systems are improved to mitigate the risk of flooding. In addition, the waterproofing is strengthened to guarantee optimal protection against flooding. The uncertainty concerning the generation potential due to changes in wind conditions is included in the development of wind assets.

Adaptation and costs of natural risk insurance

Climate risks may result in higher insurance premiums and less coverage of assets in certain exposed areas (higher deductibles, lower coverage limits). In France, for example, the natural disaster premium rate increased from 12% to 20% in January 2025.

As insurance contracts are renewed regularly (every 1 to 2 years), the long-term impacts of climate change on a given risk have a reduced influence on the short-term insurance conditions. However, an increase in average insurance costs can be expected in the medium- and/or long term, even if fluctuations are possible in these highly volatile markets. EDF's climate change adaptation policy and the action plans associated with adaptation efforts contribute to increasing the robustness of infrastructures in the face of extreme hazards and thus feed into discussions with insurers.

Adaptation investments

The resources invested by the Group to adapt to climate change amounted, according to the estimates made in 2024, to €818 million and represented 3% of the Group's investments.

The investments in adaptation identified to date relate to the adaptation of distribution networks through Enedis and its actions to strengthen its network in the face of climate hazards for €703 million, the adaptation of island regions, in particular through the actions of EDF SEI and the strengthening of its facilities to face the risk of submersion, as well as actions to adapt hydropower facilities in mainland France and in island regions for €13 million in 2024, and the adaptation of storage projects and solar and wind projects to improve their generation and generation potential.

Investments are also made in nuclear activities for 7% and estimated at €60 million with the implementation of the ADAPT programme which aims to secure the production of French thermal and nuclear sites by anticipating the consequences of climate disruption and preserving planetary resources. The resources invested in this programme for the purpose of adaptation are currently being quantified and the amount presented above for the year 2024 is a low estimate of the actual investments made by the Group.

Expenditure in support of climate change adaptation

In 2024, 2% of this expenditure was dedicated to climate change adaptation, *i.e.* €352 million, of which €47 million on the research and development effort identified and €272 million on network adaptation. These amounts are based on data collected from all Group entities as part of the work undertaken for the first year of application of the CSRD. They are not exhaustive and are likely to change in the future following additional analyses. This work will contribute to improving the accuracy of available data and will offer a clearer representation of the Group's investments dedicated to climate change adaptation.

3.2.2.2.3 Target and indicator related to climate change adaptation

EDF has set the target of updating all the adaptation plans of its entities every two years at least. This indicator reflects the structuring, prioritisation and industrialisation of the actions undertaken as close as possible to the Group entities exposed to the physical risks of climate change, in compliance with the requirements of the TCFD. Depending on the entities concerned[2], it is a question of producing an adaptation plan using a qualitative and/or quantitative approach, integrated into the environmental management system. The updating of these adaptation plans is necessary in a context of permanent evolution of the state of knowledge in terms of climate projections, the evolution of the EDF group's maturity on the subject, and changes in the regulatory requirements in terms of adaptation. The target is 100% in 2025.

Details on the indicators

The update of the adaptation plan is considered effective following validation by the Management Committee of the entity in question and/or following a review by the CSR Strategy Committee. The value of the indicator corresponds to the percentage of all the 12 adaptation plans of the entities, updated at least once in the 24 months preceding the month of December of the year of reporting.

(1) Électricité de Mayotte (EDM) has the public service concession for the generation, distribution and marketing of electricity in Mayotte. EDF is a 25% shareholder.
(2) The scope for 2024: the Nuclear and Thermal Generation Division, EDF Hydro, the New Nuclear Build France programme, EDF PEI, EDF SEI, EDF Energy, Luminus, Edison, EDF Renewables, the Transformation and Operational Efficiency Division, Framatome, Dalkia.

Target	Reference	Review	Scope	Performance 2024
Percentage of adaptation plans updated less than two years ago	54% in 2024	Annual	Own activities and value chain	54%

3.2.2.3 Business model resilience to climate change: use of climate scenarios

Climate risk was recognised as a priority risk across the EDF group in 2018. It was the subject of a report by the Group's Scientific Council in March 2019, as well as a detailed analysis presented to the EDF group's Executive Committee and to the Risk and Audit Committee of the Board of Directors in October 2019.

In its analysis of climate risks, the EDF group has adopted the classification put forward by the TCFD, which draws a distinction between physical risks and transition risks. This classification constitutes a general framework, adjusted and supplemented by EDF to take into account the particularities of its activities and the challenges specific to its sector, in order to identify the material climate risks and opportunities presented in section 3.2.2 "ESRS E1 - Climate change". The analysis of climate scenarios helps to identify risks and opportunities. It informs the Group's strategic choices and contributes to the resilience of its business model.

The analysis of transition scenarios at the global (*e.g.* NGFS scenarios), regional (*e.g.* Impact assessment report EU target 2040) and local (*e.g.* SNBC3 in France) levels guide the corporate strategy of the entire EDF group.

With regard to physical risks, the EDF group assesses the impacts of climate change on all of its activities, based on the most unfavourable scenarios of the IPCC in terms of warming. This involves adapting its existing facilities, taking into account the systemic nature of climate change on the socio-economic environment and the regions, particularly for nuclear power plants, as well as integrating climate change assumptions into the design of its new facilities.

3.2.2.3.1 Transition risk scenarios

To assess the resilience of its strategy with regard to climate risks, notably those related to the transition (legal, technological, market and reputational risks), the EDF group uses the scenarios developed by the Network for Greening the Financial System (NGFS). These scenarios, developed by leading academic players on behalf of central banks and NGFS network supervisors, are publicly available and recognised for their relevance. The scenarios are based on three models, each of which incorporates the economy, energy and climate dimensions (Integrated Assessment Models – IAMs). This multi-model approach minimises the biases specific to a single model, and takes into account the significant uncertainties surrounding the effects of transition policies towards a low-carbon economy. Compared to more granular models focused on the modelling of the electricity system, the macro-economic loopbacks, which are explicitly included in the NGFS scenarios, make it possible to conduct the resilience assessment exercise within a sufficiently global framework.

In line with the TCFD recommendations, the EDF group relies, for this analysis, on three NGFS scenarios drawn from the three families in which the climate scenarios are usually categorised:

- the Hot House World or Too Little Too Late scenarios, which lead to temperature increases at the end of the century that are not compatible with the Paris Agreement;
- the Paris-aligned scenarios, which comply with the Paris Agreement (Well-Below 2°C by 2100);
- the Paris Ambitious scenarios, which aim for global carbon neutrality by 2050 (1.5°C by 2100 with or without temporarily exceeding the target to make up for an accumulated delay).

The choice of a scenario among each family makes it possible to cover a wide range of possible futures. The Below 2°C scenario, whose underlyings are close to the Group's internal reference scenario for energy market risks, used in particular for the Group's asset impairment tests, was chosen as the central scenario. The analysis involves evaluating the financial impact for EDF of a slower (Hot House World) or faster (Paris Ambitious) transition, by estimating the EBITDA differential in these scenarios compared to the central scenario.

The EDF group reiterates that achieving carbon neutrality in an economically and socially efficient way requires a sufficiently high CO_2 price signal to guide use and investment towards decarbonised solutions. This is a major lesson from the Net Zero scenario presented by EDF at the beginning of 2024[1]. This also implies that the prices of the various energies reflect their CO_2 content. As the short- and medium-term electricity generation in Europe will continue to be based on carbon-based generation facilities[2], the price of electricity includes a CO_2 component, which is high in the optimal trajectory towards carbon neutrality (Net Zero). The price of CO_2 is therefore a key indicator of the climate goal of the various scenarios. Consistently, the NGFS scenarios order CO_2 prices according to this goal: the price of CO_2 is higher in the Paris Ambitious scenarios, and the price of CO_2 is lower in the Hot House World scenarios. And correspondingly, in the most ambitious scenario from a climate point of view (Net Zero, Paris Ambitious), the price of electricity is higher than in the central scenario, because it is this public policy that minimises the cost of the overall energy system while achieving carbon neutrality. More specifically, the following quantitative estimates are based on the MESSAGEix-GLOBIOM modelling of Phase 4 of the NGFS scenarios, as it results in the energy-price mix most in line with EDF's vision among the three available models. As part of a continuous improvement approach, EDF anticipates the publication of new models to update its analyses of climate risks and opportunities. For example, Phase 5 of the NGFS scenarios, available today, could be included in future assessment exercises.

The resilience assessment exercise is conducted for 2035, which corresponds to a medium-term strategic horizon for the Group that makes it possible to differentiate climate scenarios according to their effects, notably for G4 countries (France, Great Britain, Italy, Belgium). In these countries EDF is present as a key player, with a significant customer portfolio, in terms of generation facilities. In the rest of the world, excluding "G4", the Group mainly develops business models without exclusive control of the asset.

(1) www.edf.fr/sites/groupe/files/2024-03/edfgroup_net-zero-scenario_facts-figures_va.pdf
(2) Source: Annual electricity data, Ember.

Scenarios	**Rapid transition**: **Net Zero 2050 scenario** - ambitious climate policies leading to global carbon neutrality in 2050 and an average temperature increase of 1.4°C in 2100, with little or no overshoot of the target. Net Zero 2050 corresponds to an orderly transition based on the rapid implementation of decarbonisation policies. **Central**: **Below 2°C scenario** - gradual increase in the ambition of climate policies leading to an average temperature increase of 1.6°C in 2100. Global carbon neutrality is achieved after 2070. Below 2°C is an orderly transition scenario with an inter-regional homogeneity of climate policies. **Slow transition**: **Current Policies scenario** - only currently implemented policies are preserved, and few technological innovations emerge, leading to a temperature increase of 3°C in 2100 and high physical risks.
Model	NGFS scenarios, MESSAGEix-GLOBIOM modelling.
Scope	G4 countries: France, United Kingdom, Italy, Belgium.
Main variables considered	Final energy demand, share of electricity demand, share of the energy mix produced by decarbonised solutions (by country). Price of CO_2. Price of electricity.
Time horizon considered	Medium-term (2035): Europe and most of the countries where the EDF group operates are committed to achieving carbon neutrality by 2050. 2035 corresponds to the intermediate point of the 2050 trajectory. This is a major milestone for the Group's medium-term strategy, and the climate scenarios are already producing differentiated effects over this horizon.

The table below presents the results of the quantitative estimate, carried out as part of the scenario-based analysis of the Group's electricity generation assets through to 2035.

		***vs.* Alignment with the "Below 2°C" scenario**	
EDF group business model	**Indicator**	Net Zero 2050 - Rapid transition	Current policies - Slow transition
Generation and sales of low-carbon electricity	2035 EBITDA	EBITDA up over €5 billion	EBITDA down over €5 billion

Decarbonised electricity: the main vector towards the economy's carbon neutrality

The optimal decarbonisation strategy consists of: i) removing fossil fuels from the energy mix, above all by electrifying uses and reducing final energy demand; ii) generating the necessary electricity using decarbonised technologies. For the EDF group, the reinforcement and acceleration of climate policies aimed at achieving carbon neutrality are consistent with the Group's business model, as set out in its Ambition 2035 company project, and therefore represent opportunities rather than risks for the valuation of its business, which is based on the generation of low-carbon electricity (nuclear energy and renewable energies) and support for decarbonised uses. In line with this, the NGFS Net Zero 2050 scenario, developed with MESSAGEix-GLOBIOM, illustrates that an orderly strategy for achieving carbon neutrality at the global level is based on: i) acceleration of the electrification of uses, which will make a massive contribution to improving energy efficiency and thus, combined with sobriety in behaviour, to lower final energy demand; and ii) decarbonisation of electricity generation. Implementing this strategy optimally requires assigning a high price signal to CO_2 emissions, commensurate with their externality on the climate. The high price of CO_2 favours the generation of decarbonised energy: this is why the EBITDA of the Group's decarbonised electricity generation activities (nuclear energy and renewable energies) is higher in a more ambitious climate scenario, such as Net Zero 2050, compared with the Below 2°C reference scenario, and conversely for the Current Policies scenario. The ranges reflect the uncertainty associated with the variables studied, depending in particular on the modelling choices. The Net Zero 2050 scenario will also see a decrease in the share of gas in the European electricity mix by 2035: the operating life of the Group's fossil assets includes in its business plan the Group's Net Zero commitment to 2050 (see section 3.2.2.3.2 "Assessment of cumulative locked-in emissions"). However, the impact on the low-carbon activities is largely predominant compared to the other activities.

3.2.2.3.2 Assessment of cumulative locked-in emissions

The Group controls and operates fossil-based electricity generation assets (gas, coal, fuel oil) mainly in France and Italy, and to a lesser extent in Brazil and Belgium. Furthermore, it is participating in the development of new gas assets, mainly internationally, which could give rise to locked-in emissions accounted for in Scope 1. Nevertheless, the operating life of these assets takes into account the Group's carbon trajectory, which is compatible with 1.5°C and includes in its business plan the Group's Net Zero commitment for 2050.

The "decarbonised thermal energy" project, launched in March 2021, aims to propose a decarbonisation strategy for all of these existing and developing assets (see section 3.2.2.1.2.1.1 "Reduction of direct emissions").

In general, and insofar as the use of the EDF group's fossil-fired thermal facilities depends on market conditions and/or the management of the supply-demand balance in real time, EDF expects a reduction in the load factor of a significant number of its fossil-fired thermal power plants, particularly in the G4 countries, due to their downgrading in the merit order, following the installation of new low-carbon capacity.

The emissions relating to gas sales to end customers are not considered as locked-in, insofar as the Group controls the contracts it operates.

Existing assets

In France, as a result of the multi-year energy programme (*Programmation pluriannuelle de l'énergie* – PPE), which provides for the end of coal-fired power plants, the date of the end of the activity at the Cordemais plant is scheduled for 2027 (extension imposed by the French State). For natural gas combined cycles (Blénod, Martigues, Bouchain), EDF is modernising its fleet in order to reduce the emissions of CO_2, nitrogen oxides and sulphur oxides. The end of the operating life of these plants extends from 2036 to the end of 2041. Regarding combustion turbines (CT), which guarantee the balance between electricity supply and demand, operating tests with a bioliquid (Hydrotreated Vegetable Oils, compliant with the RED II directive) were conducted on the Brennilis and Vaires-sur-Marne CTs as part of the low-carbon thermal project. In island regions, EDF announced the decarbonisation by 2033 of the fuel oil-powered thermal fleet in all the island regions for which it is responsible through the use of bioliquids.

In Italy, Edison's thermal fleet consists of 14 combined cycle gas turbines. In line with the "National Energy and Climate Plan", which supports the development of electricity generation from gas and its integration with renewable production, Edison commissioned the first new generation CCG in 2023 on the site of the Marghera Levante plant (780MW), and in 2024 the greenfield plant of Presenzano (760MW), using the same technology, and with a more moderate environmental impact (CO_2 emissions 40% lower than the national average and 70% reduction in nitrogen oxide emissions). The expected operating life of this asset class, including other CCGT plants previously commissioned and operated by Edison, is typically 25 years. These forecasts are subject to change and are updated regularly.

Planned assets

In Belgium, Luminus has a thermal fleet consisting of several power plants (combined cycle and open cycle). The project to build the new CCGT power plant in Seraing was selected as part of the Capacity Remuneration Mechanism (CRM), which aims to remunerate generation facilities that make it possible to ensure the stability of the electricity system. Work started in autumn 2022 and the new unit is scheduled to be commissioned in the second half of 2025.

3.2.2.3.3 Use of an internal carbon price to guide investments

Achieving carbon neutrality in an economically and socially efficient way requires a sufficiently high CO_2 price signal, which takes account of the external impact on the climate and helps steer usage and investment towards decarbonised solutions. The EDF group's investment projects are screened with regard to its strategy and its commitment to Net Zero Emissions for all its direct and indirect emissions by 2050. EDF uses an internal carbon price corresponding to a model of the actual expected price of the ETS allowance, based on various macroeconomic assumptions and climate ambitions.

For all the countries covered by the European Union Emissions Trading Scheme (EU-ETS) and the United Kingdom Emissions Trading Scheme (UK-ETS), which account for the bulk of the EDF group's investments, the sensitivity of the profitability of generation projects is also assessed on the basis of medium-to-long-term scenarios including various anticipated emission allowance price trajectories up to 2050.

For long-term investment decisions, CO_2 prices are a central element of EDF's analysis and decision-making process. EDF has chosen to use a price for the expected actual CO_2, corresponding to a shadow price, as an internal carbon price for investment decisions in new generation capacities and for strategic reviews *via* impairment tests of existing assets, in geographic areas where a public climate policy has been put in place through taxes or cap-and-trade systems, such as in the EU with the EU-ETS (*i.e.* the Group's direct emissions).

These scenarios are constructed by considering various parameters, in particular GDP growth, raw material prices, technology costs, climate and energy regulations, and in particular public policies such as the Fit-for-55 and Repower EU at a European level, or the National Low Carbon Strategy (SNBC) at a French level. They also incorporate contrasting assumptions about the medium- and long-term trajectories of EU-ETS prices, resulting from a process involving modelling and contributions from experts. The process also relies on external data sources such as analysts' short- and medium-term projections, long-term IEA modelling, and Potsdam Institute for Climate Impact Research (PIK) studies. The carbon price range currently used by EDF in its scenarios is around €40 to €190 per tCO_2 by 2040, with a median price of €150 per tCO_2. In 2024, 66% of the Group's Scope 1 emissions were covered by the ETS1. EDF anticipates compliance with the ETS2, which will involve the implementation of an internal carbon price for the Group's gas sales included in the scope. The ETS2 system will be operational in 2027.

These scenarios are also used for asset valuation tests in the financial statements: the impairment tests at the end of December 2024 include CO_2 prices of €130 2023/t for 2030, €170 2023/t for 2040, and €210 2023/t for 2050.

The analysis of the transition scenarios, integrating different carbon price trajectories (see section 3.2.2.3.1 "Transition risk scenarios") enables the identification of risks and opportunities associated with the Group's projects and to test their resilience to transition scenarios. It thus contributes to the direction of the Group's investments.

For investments in areas not regulated by a carbon price, carbon emissions are taken into account in the choice of technologies. EDF carefully examines the technologies used in each country and strives to choose the best available technologies that are in line with future decarbonisation trajectories.

3.2.2.3.4 Physical risk scenarios

The assessment of the physical risks for a facility requires the identification of three components: climate hazards, the level of exposure and the vulnerability of the facility. The scenario analysis makes it possible to assess the possible evolution of hazards over time, in frequency and intensity. Combined with the exposure and vulnerability of the Group's assets, which vary greatly from one entity to another, it enables the Group's physical risks to be defined. Each major business line is responsible for developing its own adaptation plan, with coordination set up at Group level (see section 3.2.2.2.1 "Climate change adaptation policy").

For the quantitative assessment of the physical risks related to climate change (chronic and acute), the EDF group uses simulations resulting from the Coupled Model Intercomparison Project (CMIP) exercises, the results of which feed into the IPCC assessment reports. For the fifth CMIP exercise, CMIP5, these were simulations forced by the Representative Concentration Pathways (RCP) scenarios used for the fifth assessment report. The impact studies conducted by EDF are gradually updated with the simulations of the past financial year, CMIP6, on which the latest IPCC assessment report (AR6) is based. They are forced by the SSPX-YZ scenarios (Shared Socioeconomic Pathways – X being the scenario number, YZ being the radiative forcing value at the end of the century). These scenarios are characterised by the value of the radiative forcing resulting from cumulative greenhouse gas and aerosol emissions through to 2100, as well as land-use changes. The higher the greenhouse gas emissions, the more they induce an increase in radiative forcing compared to the pre-industrial era (1850-1900) characterised by warming and disruption of the climate system. Only the most ambitious scenarios in terms of reducing greenhouse gas emissions (SSP1-2.6 and SSP1-1.9) offer projections which on average make it possible to limit the increase in global average temperatures at the end of the century to, respectively, 2°C and 1.5°C warmer than during the pre-industrial period. The climate projections forced by the highest emissions scenario (SSP5-8.5) lead on average to an increase of more than 5°C by 2100 compared to the pre-industrial era. In addition to the uncertainty associated with the choice of scenario, climate projections are subject to uncertainty related to modelling choices, as well as to internal climate variability. The choice of model-scenario pairs or the use of overall averages from a large number of models makes it possible to assess the changes in intensity and probability of climate hazards and the potential impact of these hazards. It is a necessary step in the design and implementation of adaptation solutions.

Scenarios used	EDF bases its work on simulations produced by 19 forced models among three scenarios that can be used for the climate impact studies for the Group's facilities: SSP2-4.5, SSP3-7.0 and SSP5-8.5. As the studies are updated, EDF will gradually rely on the CMIP6 simulations for the impact studies already carried out based on the CMIP5 simulations.
Scope	Global climate projections with statistical downscaling used in each study with respect to the installation under consideration.
Main phenomena considered	Air temperature (performance of nuclear and thermal power plants, distribution network transport capacity, risk of fire, photovoltaic generation capacity). River flow rates and temperatures (producible hydro and nuclear power, risk of flooding). Sea level and surface temperature (submersion of infrastructure and nuclear generation capacity). Wind and radiation (wind power and photovoltaic). Extreme events: storms and floods, heat waves, severe low water levels (damage to generation and distribution facilities, nuclear and hydropower generation potential).
Time horizon considered	Medium to long-term (2050-2100) due to the long technical lifespan of EDF's electricity generation and distribution infrastructures. It should be noted that the emissions scenarios only result in significantly differing impact assessments from 2050 onwards, due to the inertia of the climate system and the foreseeable impact of historic emissions.

Use of climate scenarios for the existing nuclear fleet

The objective for the ADAPT project, relating to the adaptation of the existing nuclear fleet, is to work on the issues of future heat waves and low water levels in order to ensure its capacity to produce. To do this, it is necessary to implement statistical techniques to extend the observed or projected distribution of possibilities. The proposed approach is based on the use of stochastic models for which it is necessary to ensure the best physical consistency between the necessary variables while preserving a good reproduction of the extremes, and the ability to look beyond the observed.

Results obtained

	Climate hazards	*Potential impact on operations*
Chronic risks	**Increase in temperatures**	Decrease in hydropower generation potential; decrease in the thermodynamic efficiency of facilities; proliferation of organisms leading to clogging of the water intake; microbial growth in cooling circuits; risk of submersion of coastal structures.
	Sea level	
	Average precipitation	Decrease in transmission line capacity.
		Decrease in heating demand, increase in air-conditioning demand.
Acute risks	**Heat waves**	Reduction of the nuclear power generation potential to comply with environmental regulations, low water levels; dams; accelerated ageing of materials.
	Drought	Decrease of network capacity, risk of fire.
		Rise in the cost of insurance, deterioration of working conditions for employees and service providers.
	Extreme precipitation	Deterioration or even temporary stoppage of generation facilities, impact of more intense floods.
	Storms	Network shutdowns

GENERATION TRANSPORTATION AND DISTRIBUTION MARKETING ALL BUSINESS LINES

The main physical risks for the EDF group, with regard to normal operation, relate to the challenges of decreasing generation potential, which could concern in particular nuclear and hydropower, and the impact of extreme events on the transport and distribution networks, as well as on the renewable energy infrastructure (wind and solar power).

EDF distinguishes between the safety challenges and the availability challenges of its infrastructures. The nuclear safety system includes adaptation to climate change in its guidelines. Climate hazards are reassessed regularly and before each ten-yearly inspection. They are taken into account in the safety demonstrations validated by the ASNR. The nuclear fleet is also subject to regulatory limits: water withdrawal and thermal discharges. These regulatory limits, specific to each site, aim in particular to limit the impacts on the aquatic environment downstream. In a context of climate change, the availability of certain sites could be impacted.

Similarly, the scenario-based analysis informs both the projected changes in generation potential for renewable energy production infrastructures, but also the risks of damage.

In 2024, the nuclear generation sector in France launched studies to assess the technical feasibility of redesigning all or part of the refrigeration circuits of the open-circuit reactors in the Rhône valley using closed circuits. The purpose of the feasibility study will be to find the best compromise, taking into account water withdrawal and consumption, thermal discharges, chemical discharges, the visual impact on the landscape, and the impact on electricity generation.

The EDF group's recently built nuclear power plants or its plants under construction (Flamanville 3 and Hinkley Point C) were all designed taking into account the findings of climate impact studies, in particular the prospect of rising sea levels and exceptionally large waves. For the Hinkley Point C power plant (Somerset, United Kingdom), a 13.5-metre high dike has been built. This time horizon covers both the operation and decommissioning of the facility. For Sizewell C in Suffolk, UK, the sea wall height has been set at 10.2 metres due to the lower tidal range in the North Sea compared to the Bristol Channel.

The choice of the sites for the French nuclear programme for six EPR2-type reactors (firm tranches) takes into account climate impacts. Two of the first three sites chosen by EDF to build the new nuclear reactors are located by the sea. The third site is located on the banks of the Rhône, the most powerful river in France in terms of flow. The new reactors built on the banks of a river are systematically equipped with cooling towers.

With regard to the exposure to extreme events such as storms, cyclones, floods and fire, the EDF group's activities identified as the most at risk are the distribution networks in mainland France (Enedis), on the one hand, and EDF SEI's island transport and distribution network activities, on the other hand. The exposure to these hazards is taken into account in the adaptation plans of the entities in question and is the subject of adaptation measures (see section 3.2.2.2.2 "Actions and resources in relation to climate change adaptation policies"). Nuclear power plants already have very high levels of safety and their adaptation to the most extreme physical events is reviewed every 10 years.

Lastly, in the medium term, the energy transition will disrupt the way electricity is generated and consumed. Assessing and anticipating the impact of these structural changes in a context of climate change is therefore crucial to guarantee the sustainable balance between supply and demand. Regarding demand, climate change will lead to a decrease in heating consumption in wintertime and an increase in air conditioning consumption in summertime. However, even with high equipment rates, air conditioning consumption will remain low over the long term, far behind that of heating. In addition, with optimised steering, air conditioning in summer can be ideally combined with local or centralised solar generation. On the supply side, the development of renewable energies over the coming decades will increase the sensitivity of the electricity system to variations in wind and sunshine. Over the coming decades, the nature of the risk to the security of electricity supply will change with periods of stress that will occur mainly during periods combining low temperatures and no wind. The Group's long-term price projections, which determine the profitability of investments, take into account the impact of climate hazards on supply and demand, *via* climate chronicles based on the European EUROCORDEX model, which integrate the impacts of climate change (for more details on the financial impacts, see section 6.1, note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024).

3.2.3 ESRS E2 - Pollution

The term pollution, as introduced in Commission Delegated Regulation 2023/2772 of 31 July 2023, corresponds to the direct or indirect introduction, through human activity, of substances, vibrations, heat, noise, light or any other contaminant present in the air, water or soil, likely to harm human health and/or the quality of the environment.

For greater clarity for the ESRS E2 standard, the term "discharges" will be used in the document to describe the emissions of substances into the environment governed by authorisations issued by the competent authorities.

Identification of risks and opportunities related to pollution

Based on this categorisation, during the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption
Negative impact
Positive impact
Risk
Opportunity

Sustainability issue	Material impact	Description	Time horizon
Pollution of air, water and soil (see sections 3.2.3.2 and 3.2.3.3)	Discharges with effects on air, water and soil quality	Discharges to air occur *via* thermal combustion. In addition, discharges with potential effects may occur through operational incidents as well as in the Group's upstream value chain.	Short and long term

Sustainability issue	Material risk or opportunity	Description
Pollution of air, water and soil (see section 3.2.3.4)	Political and regulatory risks	Changes in environmental regulations could lead to additional costs, particularly for soil decontamination, and complicate the compliance of existing facilities.

The production of thermal electricity and heat for district heating networks releases substances into the air from combustion. In the event of an operational incident, any industrial activity is likely to harm the environment.

In addition, regardless of the sector concerned, resources from mining and fossil fuels, as well as the equipment necessary for the construction and operation of energy generation infrastructure in the upstream value chain, can emit substances to water, soil and air. The Group will use the materiality analyses carried out and published by its suppliers to refine the IROs to be taken into consideration for the upstream value chain (see section 3.3.3.4.2.4 "Supplier monitoring").

To identify material risks and opportunities, internal and external sources were used such as the French Office for Biodiversity (Office français de la biodiversité – OFB), the TNFD guidelines for the energy sector and the WBCSD Nature Positive Energy System programme, as well as consultations with internal and external contributors. The interests of affected communities have been indirectly integrated *via* these different sources.

As part of the double materiality analysis process of this CSRD exercise, the Group did not conduct direct consultations with the affected communities.

Discharges to the environment can have a potential impact on local communities, this point is developed in the S3 standard. As part of the development of the Group's projects, a phase of dialogue and consultation with stakeholders is planned. The dialogue takes place directly with the affected communities or with their legitimate representatives, depending on the projects and their regulatory and local context (see sections 3.3.4.2 "Dialogue with affected communities", 3.3.4.3 "Remedy procedures and channels for affected communities to raise concerns" and 3.3.4.4 "Actions to manage material risks and opportunities concerning affected communities").

In this first double materiality analysis, the impacts, risks and opportunities were considered at a national or supra-national scale. However, the specificities of the sites are taken into account in the impact studies carried out prior to the commissioning of projects.

These studies include the substances in Annex II of Regulation (EC) 166 2006 of the European Parliament, the European Pollutant Release and Transfer Register Regulation (E-PRTR), in line with the industrial activities analysed.

The only substances identified as possibly having a material impact are discharges of nitrogen oxides (NO_x), sulphur oxide (SO_2) and dust into the air from thermal power or heat production facilities. These substances are combustion markers, the most emitted by the Group, and can be a source of questioning at the level of a territory (national or local). They are therefore closely monitored by the Group, as detailed in section 3.2.3.2 "Air pollution: discharges of NO_x, SO_2, dust".

The non-materiality of the other discharges into water and air is based on the fact that these discharges are governed by strict regulations, specific to each site and each country, established and controlled by the authorities in charge of the application of the local environmental regulations (for example, for France, these are the Regional Environment, Planning and Housing Department (Direction régionale de l'environnement, de l'aménagement et du logement – DREAL) for installations classified for environmental protection (Installations classées pour la protection de l'environnement – ICPE[1]) and the French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de radioprotection – ASNR) for the nuclear fleet). EDF ensures compliance with these emission limits and implements a discharge control and environmental monitoring programme. The impact studies, including a health component conducted prior to projects, along with the application of emission limits, ensure that there is no significant impact on the environment or stakeholders. In addition, for nuclear power plants, the environmental monitoring carried out by each site confirms the absence of any significant impact from liquid chemical discharges on the aquatic environment.

(1) Installations classified for environmental protection.

Other discharges, which are not covered by the E-PRTR regulation, were not included in the materiality analysis:

- **Radioactive discharges to water and air:** a very small part of the radionuclides generated/produced during the operation of a nuclear power plant is found *in fine* in gaseous and liquid effluents discharged into the environment. The discharges into the aquatic environment or the atmosphere are always carried out after prior checks, treatment and analyses of their composition, in addition to systems for sampling and continuous measurement of radioactivity during the discharge. Thanks to the continuous improvements and optimisations of the effluent collection and treatment systems since the commissioning of the first plants, the rigour of day-to-day operations and the training/awareness of teams on reducing waste at the source of the effluent production, radioactive discharges have reached a very low level, well below the regulatory limits set by the authorities. For nuclear power plants located on the riverbanks – which are only found in France – recent studies show that liquid discharges from facilities located on the banks of the Rhône, Loire and Vienne rivers do not have a notable impact on the aquatic environment or on humans, nor do they affect water usage. The total effective doses related to the cumulative discharges of liquid and gaseous radioactive effluents represent less than 1/1000 of the regulatory exposure limit for a member of the public set at 1 mSv/year in the French Public Health Code. These effluents are therefore not considered as material.
- **Thermal emissions to water:** the water from rivers and streams used for cooling nuclear and thermal power plants is heated by a few degrees for the open circuits, all located on the Rhône, and by a few tenths of a degree to around 1°C during low-water periods for the closed circuits (this is the heating after dilution of the discharges in watercourses; this heating is therefore greater when the flows are low). Thermal emissions are governed by strict site-specific regulations to limit the heating of the environment. Beyond regulatory compliance, the Group is studying the impact of the increase in water temperature on aquatic ecosystems, with long-term hydrobiological monitoring since the commissioning of the plants as well as multi-year and multi-partner research programmes since 2008 (Thermie-Hydrobio programmes). The latest results[1] of these programmes show that the thermal discharges from the nuclear power plants did not have a significant influence on the fish populations and that there was no significant difference in the biological trends observed upstream and downstream of the nuclear power plants as regards phytoplankton, invertebrates and fish. Global changes are the main determinants of the observed changes in the functioning of aquatic ecosystems. These discharges are therefore not considered as material.

Similarly, potential **light and noise pollution** were not considered material level on the industrial sites in operation due to the measures put in place to prevent them, in accordance with the impact studies carried out before any new project.

For information on the management of conventional and radioactive waste, see section 3.2.6.3 "Waste".

Significant current impacts have been assessed for material risks and opportunities, see section 6.1, note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024.

3.2.3.1 Policies related to pollution control

The EDF group is committed to limiting its environmental footprint throughout the life cycle of its facilities and activities, by minimising the use of natural resources, ensuring responsible land management and contributing to integrated and sustainable water management. These commitments are included in its CSR policy (see section 3.1.3.6 "Corporate social responsibility policy"), implemented by the CSR Strategy Committee.

The EDF group is also committed to the health and safety of all, particularly in terms of environmental health and air quality improvement. Each new project is analysed with regard to its impact on the environment and the health of local residents.

In this context, the EDF group ensures the control of its discharges into the air (including the emissions of NO_x, SO_2 and dust), water and soil through compliance with the applicable environmental regulations and the implementation of its Environmental Management System (EMS). The operation of the EMS is ensured by Group and business line processes, which make it possible to certify to stakeholders that the EDF group has its environmental risks under control and that it complies with regulations and its commitments (see section 3.2.1 "Environmental management system"). The elements described below apply to the entire Group.

From the design stage of the facilities

Before the commissioning of its facilities, EDF carries out an **environmental impact analysis,** shared with the competent authorities, to assess the significant effects. This approach allows EDF to identify potential effects on the environment as early as possible and aims to avoid, reduce or offset these effects. In France, this approach is governed by the French Environment Code (Article L. 122-1): the environmental assessment of a project is a process involving the production of an environmental impact study by the project manager, the performance of administrative consultations (environmental authority and local authorities, in particular) and the public (public inquiry as a general rule).

In addition, in order to avoid or minimise emissions into the atmosphere, water and soil, the Group refers to the **best available techniques** (BAT), described in the Best Available Technical References document. This document, developed by the European Commission in consultation with stakeholders, (manufacturers, governments, NGOs, etc.), is applicable in Europe and revised periodically.

In normal operating phase

- **Compliance with environmental regulations**: at all of its thermal and nuclear generation sites, EDF ensures compliance with the limits concerning thermal and chemical discharges into the air and water authorised by the competent authorities such as the Regional Environment, Planning and Housing Department (*Direction régionale de l'environnement, de l'aménagement et du logement* – DREAL) (thermal fleet) and the French Nuclear Safety and Radiation Protection Authority (*Autorité de sûreté nucléaire et de radioprotection* – ASNR) (nuclear fleet) in France, and by any other competent authority in the rest of the countries where the EDF group operates. The discharge authorisations limit the levels of chemical and radiological substances in the water and the thermal discharges caused by the cooling circuits to values that protect aquatic environments. In terms of atmospheric emissions, the Inspectorate of Classified Installations ensures compliance with the emission limit values of the facilities within its scope. It conducts inspections to verify compliance with the requirements set out in the prefectural decree specific to the facility, through site visits, based on self-monitoring or control documents submitted by authorised bodies. Furthermore, facilities carrying out an activity referred to in Annex I of Regulation (EC) no. 166/2006 E-PRTR are subject to an annual declaration of their discharges. Emissions of NO_x, SO_2 and dust are among the substances covered by the E-PRTR declaration. In France, affected facilities submit their declaration on the GEREP platform, which is automatically forwarded to the inspection service responsible for monitoring the facility. The Classified Installations Inspectorate checks the declarations adapted to the challenges in terms of discharges. The data reported in GEREP is incorporated into the French pollutant release and transfer register (IREP) as well as the European pollutant register E-PRTR. The European register contributes to transparency and public participation in environmental decision-making.

(1) www.edf.fr/groupe-edf/inventer-lavenir-de-lenergie/rd-un-savoir-faire-mondial/toutes-les-actualites-de-la-rd/restitution-du-programme-thermie-hydrobiologie-2016-2020-de-la-rd-dedf

- **Control and monitoring of the environment:** for its industrial sites, in line with their specific regulatory framework, EDF group's entities carry out environmental monitoring around their facilities to ensure that there is no significant environmental and health impact. This includes the measurement, control and analysis of liquid and atmospheric effluents, as well as monitoring of the quality parameters of terrestrial and aquatic ecosystems, including groundwater. These measurements follow a regulatory environmental monitoring plan specific to each site. At each nuclear power site, regular annual analyses are carried out regarding several physico-chemical parameters.
- **Continuous improvement:** whenever technically feasible, and to minimise pollution risks, the Group's entities implement a programme to eliminate or substitute certain chemical substances with more environmentally friendly products. These measures mainly focus on carcinogenic, mutagenic, or reprotoxic (CMR) chemicals or other substances considered cause for concern. Management of the effluents produced is optimised by the application of the BAT in the facilities' pollution management processes. In this context, actions are taken to eliminate substances that could negatively impact the environment.

In the event of an incident

The Group has an operational system for identifying, managing and monitoring events concerning water, air and soil. It is based on the implementation of an environmental management system (see section 3.2.1 "Environmental management system") which includes the implementation of environmental monitoring of industrial sites, a crisis management organisation and a system for identifying and reporting critical environmental events (see section 3.2.3.4 "Management of incidents").

Post-operations

The Group has launched a decommissioning programme for assets that have ceased operations, including soil remediation operations if necessary. As regards the thermal fleet, the shutdown of several facilities led to a major site rehabilitation programme, with the target of refurbishment compatible with future industrial-type use.

3.2.3.2 Air pollution: discharges of NO_x, SO_2, dust

3.2.3.2.1 Actions relating to discharges of pollutants into the air (NO_x, SO_2, dust)

For many years, the EDF group has carried out actions in the field of ambient air quality, which aim to monitor, control and reduce its atmospheric emissions. These actions lead the Group in particular to change its thermal generation fleet.

The existing thermal facilities, which represented around 6% of the Group's electricity generation in 2024, operate within a regulatory framework aligned with current air quality policies. This framework requires risk analysis before commissioning, compliance with thresholds, monitoring at emission points and in some cases in the environment. For new combined cycle gas facilities, the BAT on the market is adopted to obtain an expected energy efficiency of more than 60%. These more efficient facilities emit less nitrogen oxides (NO_x), sulphur oxides and dust.

In some cases, thermal facilities are replaced with non-NO_x- or non-SO_2-emitting technologies, as in the case of isolated systems, such as 100% renewable micro-grids in island systems. To further reduce NOx emissions in these systems, EDF applies targeted measures, on a case-by-case basis, including optimizing exhaust gas treatment and limiting operating hours for specific turbines. The two transformation actions regarding the generation fleet that will have a significant impact on the Group's emissions are:

- the conversion of thermal facilities, particularly on islands, to bioliquids as a substitute for fossil fuels. This low-sulphur fuel will lead to a significant reduction in the Group's SO_2 emissions (see section 3.2.2.1.2.1.1 "Reduction of direct emissions", section "Decarbonisation of island regions");
- the phase-out of coal by 2030 (2027 for France). The implementation of this action (deadline, description, communication) is detailed in section 3.2.2.1.2.1.1 "Reduction of direct emissions". Combustion of coal induces emissions of substances such as SO_2 and dust. These emissions are caused by impurities present in the coal.

In addition to the actions carried out on its generation fleet, EDF has an R&D programme on the subject and contributes to prevention and research actions on the health impact of air pollution by being involved. For example, the Group actively participates in organizations such as the Association for the Prevention of Atmospheric Pollution (Association pour la prévention de la pollution atmosphérique – APPA) and the Interprofessional Technical Centre for the Study of Atmospheric Pollution (Centre interprofessionnel technique d'études de la pollution atmosphérique – CITEPA), and the French-Speaking Association for Health and Environment (Société francophone de santé et environnement – SFSE).

In 2024, the Group implemented specific measure to manage and reduce the atmospheric emissions from its facilities:

- as regards the thermal fleet in France, bioliquid tests were carried out in 2024 (Vaires combustion turbines): the results demonstrated that the use of bioliquids has a positive effect on CO_2 and SO_2 emissions in particular;
- in Italy, the recent Presenzano cogeneration and combined cycle power plant began operation in 2024. This plant is equipped with "H" technology to achieve an energy efficiency of more than 60%, in accordance with the BAT on the market. In addition, this power plant also emits less nitrogen oxides (NO_x) than the old facilities.

3.2.3.2.2 Targets relating to discharges of pollutants into the air (NO_x, SO_2, dust)

The emissions (NO_x, SO_2 and dust) from the EDF group's generation sites are governed by local or national regulations. Each site, depending on its specific nature (type of power plant, storage area, etc.), is subject to pollutant emission limit values that may be specific, based on scientific studies, and set by administrative order.

Translating the emission limits of the generation sites into exhaustive generic targets for the Group's air pollution is not very relevant. In addition, the operation of combustion facilities emitting these substances varies greatly from one year to another and depends on the overall balance of the electricity system.

However, according to the emissions declared within the framework of the E-PRTR, EDF belongs to the group of French energy sector companies that emit sulphur oxides (SO_2). In this respect, the Group has chosen to define a Group target specifically linked to the reduction of the sulphur oxides emitted by the Group's thermal electricity and heat generation facilities by 2035.

Target	Reference	Review	Scope
Reduction of SO_2 emissions by 75% in 2035	2019	Annual	The Group's thermal power and heat production facilities

The Group's contributing entities were consulted to help define this target. The SO_2 emissions history between 2017 and 2023 was studied to identify the main sources of the emissions and to identify major actions for their reduction. The achievement of this SO_2 target depends, among other things, on the proper implementation of the two fleet transformation actions but is also dependent on external factors such as regulations or energy policy. The target of a 75% reduction in the flow of SO_2 is to be achieved in 2035, with no intermediate target.

The annual SO_2 flow reduction target is a marker for the reduction of the Group's emissions, particularly in France, contributing to improved air quality. The EDF group's overall SO_2 flow reduction target is a voluntary commitment.

Concerning NO_x and dust, the Group has already taken significant measures to meet its commitment to reduce its emissions by 50% between 2005 and 2020: closure of the 700MW oil-fired units, modernisation of the generation fleet, in particular with the installation of flue gas treatment systems. The Group complies with the applicable regulatory thresholds defined for each of its sites, submits its data to quality assurance and implements appropriate monitoring.

The substances emitted into the atmosphere are:

3.2.3.2.3 Indicators relating to discharges into the air (NO_x, SO_2, dust)

The list of substances emitted into the atmosphere monitored by the Group's combustion facilities may vary depending on local regulations or facility type. An analysis of the emissions of the Group's facilities was carried out in relation to the thresholds given by the E-PRTR regulation. The following values represent the three main atmospheric pollutants that serve as indicators of the Group's thermal generation fleet: SO_2, NO_x and dust. These pollutants historically monitored by the Group constitute the Group's most significant pollutant flows.

Review	Scope	Related indicators	2023*	2024
Annual	The Group's thermal power and heat production facilities	SO_2	11 kt	10 kt
		NO_x	26 kt	28 kt
		Dust	3 kt	3 kt

In 2024, NO_x emissions at the Group scope amounted to 28 kt, up slightly compared to 2023 (+6%). This change is linked in particular to increased production in 2024 from certain thermal generation facilities in island systems and internationally.

The initiated conversion of island thermal facilities to bioliquids contributes to the reduction in SO_2 emissions, which is expected to reach 10 kt in 2024.

Details on the indicators

Different assessment methods are authorised by the regulations to determine the flow of an atmospheric pollutant. The method to be used depends on the type of pollutant to be assessed and the facility concerned and may be specified in certain cases by the relevant regulations. Measurement and calculation will be the preferred methods for assessing the flow of SO_2, NO_x and dust. The measurement of substance's concentration may be continuous, using an on-site analyser or ad hoc. In the case of a calculation, emissions can be estimated based on an emission factor, a material or mass balance or a correlation. The air pollutant assessments for each site are aggregated at Group entity level and then at Group level. This consolidation is done on an annual basis.

3.2.3.3 Soil pollution

The EDF group does not make any recurring discharges into the soil, which are therefore not subject to any regulatory declaration. Monitoring is conducted to verify compliance. However, some sites may have been impacted by substances from operations in the past and the EDF group, as a responsible operator, is working on their remediation. In addition, phytosanitary-type chemicals may be used at the facilities. EDF therefore pays particular attention to limiting the use of such products or replacing them.

3.2.3.3.1 Actions relating to soil pollution

As part of the principles of controlling its activity with regard to soil, the EDF group has implemented several types of actions.

3.2.3.3.1.1 Decontamination of soil

The EDF group invests in the remediation of the soil for which it is responsible.

As part of the dismantling programmes for reactors that have been permanently shut down in France, operations are carried out with the aim of refurbishment compatible with future use for an industrial activity.

Numerous thermal power plants using fossil fuels have been shut down over the last 20 years in mainland France. A rehabilitation programme for these sites is conducted, beyond the decommissioning phases of the buildings and existing structures, with the primary objective of restoration compatible with future industrial-type use. In this context, actions are carried out on these sites, depending on the condition of the soil and the identification of the historical markers, in accordance with the framework set by the national methodology for polluted sites and soils.

In Italy, Edison, as Montedison's successor, is responsible for the decontamination of several historic industrial sites. The company is carrying out corrective actions on 36 sites spread over 16 geographic areas, including 5 sites of national interest. In 2021, in collaboration with Greenthesis and ACR Reggiani, Edison and Edison Regea created Tre Monti, specialising in soil and groundwater remediation at the Tremonti site in the Bussi Sul Tirino site of national interest. Since July 2024, the renovation work has been managed by the new subsidiary of the Edison Regea Srl Group.

3.2.3.3.1.2 Zero phyto

The EDF group no longer uses phytosanitary products for the maintenance of the green spaces of the tertiary buildings of EDF entities. Work is underway to find alternative technical solutions to phytosanitary products in the areas where they are still used, particularly at industrial sites or structures.

In mid-2022, Enedis decided to discontinue the use of phytosanitary products at source substations (except on surfaces where their use is necessary to control safety and security risks), and to build all its new ones in a manner that avoids the subsequent use of such products.

3.2.3.3.2 Target related to soil pollution

The EDF group is subject to regulatory provisions, particularly the industrial emissions directive in Europe. These regulations impose as a target, for each site concerned, the initial description of the soil condition and the restoration of the site to a condition at least equivalent to that initially described and compatible with future use for an industrial activity.

3.2.3.4 Management of incidents

The actions implemented to control incidental events in the air, water and soil are described in the Group's EMS (see section 3.2.1 "Environmental management system"). It is based on the following complementary areas:

- **monitoring of emissions and discharges**: the Group's industrial sites are equipped with systems to monitor their emissions and discharges. With regard to nuclear power plants in France, continuous measurements are carried out in the environment. This monitoring consists of taking samples, for analysis purposes, in the necessary atmospheric, terrestrial and aquatic compartments near the power plant, under and outside the prevailing winds, in the groundwater, upstream and downstream of the main discharge point of the effluents. In addition to their use to check that regulatory thresholds have not been exceeded; these measures enable early detection of any abnormal change in one or more environmental parameters related to the operation of the facilities and thus to alert operators in order to trigger appropriate investigations and actions. More than 10,000 quality control and environmental monitoring analyses are carried out each year at each nuclear electricity generation site;
- **anticipation of potential events**: locally, each operational unit and Group company identifies potential events that could have an environmental impact and identifies the associated control actions.;
- **crisis management exercises**: the Group's crisis management policy requires regular testing of the crisis systems through an annual programme of crisis exercises (see section 3.4.5 "Safety and crisis management");
- **incident follow-up**: an organisation is set up to monitor and communicate on the environmental events falling under the responsibility of each site. Major environmental events must be reported and analysed;
- **feedback about crises experienced within and outside the Group**: feedback is taken into account in risk studies and control actions. For example, the lessons learned from the fire in 2019 at the Seveso-classified Lubrizol plant in Rouen were included in the analyses, and the additional orders relating to the storage of flammable liquids and toxic materials are applicable and therefore integrated into the Group's ICPE-classified industrial tools.

Major pollution incidents

A major pollution incident is defined according to the European industrial accident scale formalised in February 1994 and is based on technical parameters intended to objectively characterise the effects or consequences of accidents. The Analysis, Research and Information on Accidents (ARIA) database, published by the Bureau for the Analysis of Industrial Risks and Pollution *(Bureau d'analyses des risques et pollutions industriels – BARPI)*, concerns ICPE/SEVESO-classified electricity generation facilities (at special risk).It lists these incidents or accidents in France and abroad as well as their financial consequences according to these European criteria and which have, or could have, harmed public health or safety or the environment.

On this basis, the Group has not identified any incidents, having taken place more than five years ago, with financial effects related to the elimination of air or soil pollution or costs relating to compensation, damages or fines imposed by public authorities.

3.2.3.5 Research expenditure and effort allocated to pollution prevention and control actions

With respect to pollution prevention and control, the Group did not identify any significant expenditure in 2024. Expenses are expected to be incurred in the coming years, particularly in connection with the conversion of thermal assets. This estimate is based on data collected from all Group entities as part of the work undertaken for the first year of application of the CSRD. These figures are not exhaustive and are likely to change in the future following additional analyses. This work will refine the available data and will more accurately reflect the extent of the expenses incurred by the Group in terms of pollution prevention and control.

In Italy, Edison incurred expenses as part of an environmental remediation and restoration programme for the restoration of land. These expenses are subject to a provision recognised in the Group's consolidated financial statements (section 6.1, note 17.2 "Other provisions" to the consolidated financial statements for the financial year ended 31 December 2024).

In addition to the investments made in generation assets, the Group contributes, through its identified research and development efforts, €12 million to the control of pollution, in particular through prevention and research actions on the health impact of air pollution.

3.2.4 ESRS E3 - Water resources

Water is an essential resource for most types of power generation, whether for cooling nuclear and thermal power stations, or driving hydroelectric power stations. Additionally, water management is a key issue that requires the development of collective rules. This is why the Group, through its CSR policy (see section 3.1.3.6 "Corporate social responsibility policy"), is committed to protecting and managing water resources in an integrated and sustainable manner, both quantitatively and qualitatively. This commitment is carried out in consultation with the territories in which it operates, by fully integrating the local dimension of water, particularly the multi-use of water under increasing climatic constraints.

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption	
🟡	Negative impact
🟢	Positive impact
🔴	Risk
🔵	Opportunity

Sustainability issue	Material impact	Description	Time horizon
Freshwater withdrawal and consumption (see section 3.2.4.2)	🟡 Use of freshwater	The use of freshwater (withdrawal and consumption) for the cooling system of nuclear and thermal power plants and for industrial processes, as well as in the Group's upstream value chain, may impact water availability.	Short term

Sustainability issue	Material risk or opportunity	Description
Water withdrawal and consumption (see section 3.2.4.2)	🔴 Scarcity of water resources	The scarcity of water resources and the degradation of ecosystems contributing to the regulation of the water cycle can impact energy production and the operation of industrial sites.
	🔴 Political and regulatory risks	Changes in environmental regulations may lead to restrictions on water withdrawal authorisations, further increases in the fees paid to water agencies and the compliance costs of facilities, and an increase in tensions in water sharing.
Sharing of water resources (see section 3.2.4.3)	🔵 Multi-use water management	The Group can capitalise on its know-how about the sharing of water resources with various stakeholders in order to play a key role in managing the multi-use of water.

The Group withdraws approximately 13 billion m^3 of freshwater, most of which is used for the cooling systems of nuclear and thermal power plants. 97% of the freshwater withdrawals is directly returned to the original environment. The Group's freshwater consumption amounted to 442 million m^3 in 2024, mainly from water evaporated in the cooling towers of the cooling circuits.

Indeed, there are two types of **cooling** systems:

- open-circuit power plants: the water withdrawn is heated in the condenser and then returned directly to the aquatic environment, immediately downstream of the water intake. The water withdrawals are significant, but the water consumption is negligible. All the thermal energy is transferred to the aquatic environment, with a heating of a few degrees between the withdrawal point and downstream following dilution of the water discharge. These systems are installed in areas where water is abundant, such as seaside or large rivers;
- the so-called semi-closed-circuit plants equipped with cooling towers: the water withdrawn is heated in the condenser and then cooled in the cooling tower by contact with the air. Part of the water evaporates into the atmosphere (water steam plume), while the other part returns to the condenser. Almost all of the thermal energy is transferred to the atmosphere. This system reduces water withdrawals and thermal discharges into the watercourse. Semi-closed circuit power plants are installed along rivers with lower flows.

As almost all water withdrawals for the cooling circuits are returned immediately downstream of the sites, with very short residence times in the industrial facility, they are not considered to have a material impact: the water is immediately available for the natural environment and for downstream users. However, the proportion of evaporated water, which is therefore consumed, is considered material.

In addition to water for the cooling circuits of the electricity generation sites, the Group also uses water, but to a lesser extent, for the **industrial processes** of its electricity generation sites and for the other industrial sites:

- demineralised water for the operation of the primary and secondary circuits of nuclear power plants and the water/steam circuits of thermal power plants;
- water make-up for heating and cooling networks;
- water for cooling systems in foundry furnaces and metallurgical process engines;
- water for the site firefighting networks;
- water for cleaning and washing systems (filters, facilities, etc.);
- etc.

Water use for industrial processes results in limited water consumption, as most of the withdrawn water is returned to the aquatic environment downstream of the facilities, after treatment and control of discharges (for more details on chemical liquid discharges and the practices implemented to control them, see section 3.2.3.1 "Policies related to pollution control"). However, due to longer residence times in the facilities and a water sobriety approach at the scale of each site, **the water withdrawals for industrial processes** are considered as potentially having a material impact.

It should be noted that the use of water for cleaning solar panels represents a very small volume of water and is therefore not included in this analysis.

In addition, only hydropower reservoirs store significant volumes of water, but this water is not considered consumed within the meaning of the CSRD; the water remains in the natural environment, available for ecosystems and other uses (drinking water, irrigation, tourism, etc.) within the framework set for the operation of the facilities (see section 3.2.4.3 "Sharing of water resources").

The **treatment of raw withdrawn water** is adapted for each site and each process, according to its intended use and the physico-chemical conditions of the environment. As regards to the water used in the cooling circuits, the treatment aims to limit the scaling of condensers and the development of biofilms, shellfish and pathogens. As regards to water used for industrial processes, the treatments aim to achieve a water quality compatible with the process for which the treated water is used (mainly demineralised water). The water treatment processes installed on the sites include a combination of physical treatments (settling, filtration, resin treatment, in some cases reverse osmosis) and chemical treatments (anti-scaling, chlorination, etc.). These treatments are continuously optimised, aiming for technical and economic optima, in order to limit the use of chemicals and the liquid discharges (see section 3.2.3.1 "Policies related to pollution control").

Water is also an issue for the **upstream value chain** of the Group, in particular concerning the extraction of minerals (copper, bauxite, etc.) that are essential for the manufacture of the components necessary for the generation and distribution of electricity, as well as the supply of nuclear fuel.

Beyond being a major water withdrawer and consumer, the Group is also a major **water resource manager** in France due to its hydropower generation activity, which intrinsically involves the sharing of water for multiple uses. Indeed, the dams operated by EDF in France make it possible to store water, they play an essential role in certain catchment areas during periods of drought and heat waves. Many EDF Hydro facilities in France have regulatory or contractual obligations to provide access to water for other uses: drinking water supply, biodiversity conservation, irrigation, navigation, tourism and leisure. A balance must therefore be sought through close and continuous consultation with local stakeholders, including governmental services, which are the final authority in the event of arbitration on the prioritisation of water uses. Thus, the Group is very involved in the multi-use management of water resources and has therefore developed recognised expertise in water resource forecasting and multi-use water coordination. In a context of growing tensions over the sharing of water resources, this expertise can be valuable either directly through the provision of low-water flow support services, or the development of services based on technical expertise.

It should also be noted that the vast majority of the activities described above are not operated in areas exposed to high water stress, although they are considered as material given the volumes of water involved.

Material risks and opportunities were identified using both internal and external sources, including the French Office for Biodiversity (Office français de la biodiversité – OFB), the TNFD guidelines for the energy sector and the WBCSD Nature Positive Energy System programme, as well as consultations with internal and external contributors. The interests of potentially affected communities have been indirectly integrated through these various sources (particularly other water users in the catchment areas where the sites are located).

A material risk has been identified in relation to the Group's operations and upstream value chain, specifically the risk of water scarcity affecting generation sites, which could lead to increased fees on water withdrawals and impact mineral extraction sites.

The environmental and societal impact assessments are completed prior to projects, in accordance with current regulations and best practices (such as IFC Performance Standards if they are more restrictive). In particular, IFC Performance Standard 1 requires the establishment of a consultation process that allows the affected communities exposed to the risks and negative impacts of a project to freely express their concerns on the project's risks, impacts and on the mitigation measures to be taken, ensuring that these concerns are reviewed and addressed.

However, regarding the identification of material IROs related to water resources within the framework of the CSRD, the Group has not conducted specific consultations with the affected communities.

In respect of the material risks and opportunities identified above, significant current impacts have been assessed and are presented in the Group's financial statements (see section 6.1, note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024).

3.2.4.1 Policies related to water resources

As a responsible user and a major player in the management of water resources, the EDF group is committed to **helping preserve water resources in order to enhance environmental resilience and satisfy uses in a concerted and sustainable manner**, in line with its CSR policy (see section 3.1.3.6 "Corporate social responsibility policy"), implemented by the CSR Strategy Committee. In relation to the identified IROs, this commitment is reflected in the following main areas:

- the EDF group optimises its use of water resources in terms of quantity and quality on its sites and in its value chain;
- the EDF group is committed to the resilience of the territories where it operates through transparent and responsible management of water and its facilities, as well as contributing positively to the "large" water cycle;
- the EDF group is actively involved in the water governance at the river basin scale, in the search for compromises in the water management;
- the EDF group is developing the skills, know-how and partnerships necessary to achieve these objectives, while raising awareness of these issues among its employees.

It should be noted that this policy is subject to a **regulatory framework** on quantitative water management:

some of the nuclear facilities using semi-closed cooling circuits, where part of the water evaporates, are legally required to guarantee a minimum downstream flow of the site (reserved flow). This may involve reducing the volumes of water consumed during low-water periods by lowering electricity generation, or offsetting the deficit by releasing water from upstream dams. These low-water support rules supplement the rules on thermal and chemical discharges developed in the materiality analysis in section 3.2.3 "ESRS E2 - Pollution";

- similarly, hydropower facilities continuously deliver a minimum flow, within the limits of the natural incoming flows, to the natural river course between the water intake and the return downstream of the facility, ensuring favourable hydrobiological conditions.

These operating limits ensure that the quantitative impact on water resources is controlled: if river flows are too low, electricity generation is limited or even stopped. The same applies to the other industrial activities.

The Group carries out **water stress analyses** of its thermal and nuclear electricity generation sites and its industrial sites to identify those that require particular vigilance regarding water sobriety. This is taken into account through the facilities operating rules regarding hydrological conditions relating to withdrawals (regulated by drought decrees), and in the technological choices made during the facility design to reduce pressure on water resources.

In addition, for new facilities planned to be located in areas exposed to high water stress, the Group undertakes to direct the technological choices from the design phase towards low-water solutions to limit the pressure on the water supply. Furthermore, for any new project presented to the Commitments Subcommittee of the Group Executive Committee (see section 3.1.2.1.2.5 "Group Executive Committee Commitments Committee (CECEG)"), the assessment of water stress is one of the criteria used to assess the water-related aspects of a project.

These commitments align with the various international and national frameworks related to water resources issues, including:

- the Sustainable Development Goals (SDGs) defined by the United Nations in 2015 (one of the 17 SDGs covers water: "guarantee access to water and sanitation for all and ensure sustainable management of water resources");
- the Water Framework Directive (WFD) established by the European Union in 2000 with the aim of restoring good water quality by 2027 and organising water management by major catchment areas; the legislative provisions codified in the French Environment Code relating to water and aquatic and marine environments (Articles L. 210-1 and following of the French Environment Code);
- the action plan for resilient and concerted water management launched by the French government in 2023, aimed at organising water sobriety and resource sharing.

It should also be noted that the policy for the control and continuous improvement of liquid discharges is described in section 3.2.3 "ESRS E2 - Pollution".

3.2.4.2 Water withdrawal and consumption

3.2.4.2.1 Reminder of definitions and material issues

Two main types of water use are distinguished:

- **water for cooling electricity generation facilities**: water used to supply the cooling circuits of thermal and nuclear power plants, whether open or semi-closed;
- **water for industrial processes**: water used by the industrial processes of thermal and nuclear electricity generation sites (production of demineralised water for the make-up flows of the primary and secondary circuits of nuclear power plants, firefighting systems, washing etc.) and all water used in the industrial processes of the other industrial sites (metallurgical sites, heating networks, etc.).

In addition, a distinction is made between water withdrawn and water consumed: **water consumed** is the share of **water withdrawn** which is not discharged back into the aquatic environment (the water is either evaporated, infiltrated or incorporated). This mainly concerns water evaporated in the cooling circuits of electricity generation facilities (water vapour plumes from cooling towers). Water used for industrial processes is essentially discharged in liquid form into the environment and therefore is not consumed (although a small part is consumed through evaporation from industrial process cooling systems or through network leaks; however, these volumes are low compared to the volumes of water consumed for cooling).

The subsequent actions aim to control and, if possible, reduce:

- water consumption in the cooling circuits of electricity generation sites;
- water withdrawal for industrial processes.

3.2.4.2.2 Sites in water-stressed areas

The EDF group regularly updates the analysis of water stress levels in the areas where sites are located. This analysis was updated in 2024, using the Aqueduct tool[1] provided by the World Resources Institute (WRI), using the annual "water stress" parameter, in present time and by selecting sites located in areas with a water stress level greater than 40% (high and very high-water stress).

All sites with water consumption for cooling circuits and water withdrawals for industrial processes were analysed (in total 419 sites were analysed). This therefore includes thermal and nuclear power plants in operation on the one hand, and industrial facilities on the other (metallurgical facilities, heating networks, etc.). As solar electricity generation sites and thermal and nuclear sites that have been permanently shut down use very little water, they were not included in the analysis. Similarly, hydropower and wind generation sites were not included because they do not consume water.

96 sites are located in areas of high to very high-water stress (*i.e.* 23% of all sites analysed), namely:

- electricity generation sites:
  - > France
    - three nuclear sites, including two located by the sea (use of freshwater only for industrial needs),
    - two thermal sites, including one located by the sea (use of freshwater only for industrial needs);
  - > In Belgium: five thermal sites, including one that consumes very little water thanks to its air condenser;
  - > In Italy: six thermal sites, all equipped with air cooling systems or hybrid cooling towers to reduce the water withdrawals;
- industrial sites: five in France, five in Italy, three in Germany, one in Sweden, one in India;
- heating networks and cogeneration sites: 48 in France, 16 in Italy, 1 in Spain.

The operation of these sites already includes constraints related to limited water resources:

- the thermal and nuclear generation sites operate within a regulatory framework linked to flow conditions requiring generation to be reduced or even stopped if the flow rates are too low;
- when possible, thermal electricity generation sites are equipped with air or hybrid cooling circuits to reduce their water withdrawals (as in Italy and Belgium).

3.2.4.2.3 Actions relating to water withdrawals and consumption

The Group has initiated several key actions to better manage its sustainability challenges related to water resources across all its entities that consume water for cooling and withdraw water for industrial processes. These initiatives aim to reduce water usage to limit the pressure on the resource.

This applies to all Group sites, with particular attention paid to sites located in areas of high-water stress.

(1) www.wri.org/applications/aqueduct/water-risk-atlas

In France, the Group has defined water management plans for its main entities that use freshwater (nuclear and thermal generation fleet, Framatome and Dalkia) in order to: better characterise water uses; reduce withdrawals and consumption; preserve water quality and the environment; develop innovative processes.

In addition, to promote synergies between the units and the sharing of experiences and best practices, the Group initiated a working group on water sobriety across all its entities in 2024. This covers both the use of water for its own operations and activities at the upstream end of the value chain.

Examples of specific actions are provided below. A distinction is made between actions aimed at reducing water consumption in the cooling circuits of electricity generation sites, and actions aimed at reducing water withdrawals for industrial processes.

3.2.4.2.3.1 Water consumption of the cooling circuits of electricity generation sites

Since their design, nuclear power plants located along medium-sized rivers have been equipped with semi-closed cooling circuits that optimise water use and therefore limit water withdrawals. The water is recycled within the cooling system and part of the make-up water for the dry coolers comes from the reuse of water from the cooling circuits of the nuclear and conventional auxiliary units. However, some of the water is consumed (evaporation in the cooling towers).

To date, there are no known technical and operational solutions to significantly reduce the water consumption of the semi-closed cooling circuits of existing nuclear power plants. Indeed, the potential technical solutions would have very limited effects and would only be applicable to certain facilities. Water consumption for cooling is directly proportional to electricity generation. However, EDF's engineering and R&D departments conduct an international technical watch on innovative cooling sources, with three potential areas for improvement studied: water recovery, the performance of dry cooling systems, and the performance of condensers. Where relevant, experiments with innovative solutions are tested. This is the case, for example, of an experiment underway with the start-up Infinite Cooling, aiming to recover part of the water contained in the steam plumes of the cooling towers. This innovative process has not yet been tested at a nuclear site, but an experiment is currently underway on a test bench located at the Bugey nuclear site. The first results are expected in 2025.

For some thermal generation sites, it is possible to opt for air cooling. This is the choice made for the thermal power plant near Norte Fluminense in Brazil and for the entire fleet operated by PEI. The future EDF PEI Larivot bioliquid power plant in French Guiana will also be equipped with dry air-cooling systems for the engines. The thermal power plants in Italy, located in water-stress areas, are all equipped with either air cooling systems or hybrid cooling towers[1]. In 2024, the new thermal power plant in Presenzano was designed to guarantee a limited use of water resources through the adoption of air-cooling systems.

The first three sites chosen for the future EPR2 facilities are two coastal sites, which therefore do not use freshwater for cooling, and one site on the banks of the Rhône. The new reactors built on the banks of a river will be systematically equipped with dry coolers, limiting the freshwater withdrawals made for cooling and thermal discharges, but inducing consumption of freshwater for cooling (evaporation).

3.2.4.2.3.2 Water withdrawal for industrial processes

The Group has initiated a series of actions aimed at reducing water withdrawal in the various industrial processes.

Better quantify uses

In the water sobriety plans undertaken by the Group's entities in France (nuclear and thermal fleet, Dalkia, Framatome), the first area of action is to improve the **tracking of withdrawals** and to **specify water flows within the sites** to better manage uses and identify strategies to reduce water withdrawal.

This is notably the case for the existing nuclear fleet in France, which has launched two action programmes in this regard:

- **the gradual equipping of raw water withdrawals points** with water meters and flow meters, where technically feasible. To date, the accounting of raw water withdrawals has often been estimated indirectly based on pump operating times and knowledge of their flow rates. The Rhône sites will be the first to be equipped with flow meters by the end of 2028;
- **water flow mapping** for all the industrial processes of nuclear power plants: water flows will be characterised from withdrawal to discharge, specifying the volumes and qualities required for the various processes, with the aim of identifying the most important levers to optimise or reduce water withdrawal. A first mapping exercise was initiated in 2024 for the Golfech site.

This also applies to Dalkia, which provides appropriate monitoring of its heating and cooling networks: thermography, remote control of sensors and meters, network water performance monitoring indicators, etc. This monitoring helps identify network leaks.

Avoiding the use of freshwater

Several Group entities have taken steps to avoid freshwater withdrawal whenever possible. Examples include:

- **seawater desalination**: some sites are equipped with a desalination unit, such as the Flamanville nuclear power plant and certain thermal power plants such as Jarry Sud in Guadeloupe. After treatment, seawater can be used in industrial processes, thus avoiding freshwater withdrawal.
- **recovery of unconventional water**: the Group is studying the possibilities of using rainwater and water from treatment plants when possible for the industrial sites. In June 2023, Framatome installed seven underground rainwater storage tanks at its Montbard site. This reserve of 2,900 m^3 of water covers three months of operation without surface water pumping. In 2024, the site used more than 14,000 m^3 of rainwater, *i.e.* 74% of the facility's needs. The design underway for the future EPR2 nuclear power plants for the Penly and Gravelines sites includes the reuse of water from the nearby municipal wastewater treatment plants. For the Penly plant rainwater and cliff drains will be used to supply water for industrial purposes.

Reducing water usage

Several Group entities (heating and cooling networks, electricity generation plants, etc.) have reduced their water withdrawal by **identifying leakage sources** and by **renovating existing facilities**: improved monitoring of water flows in the processes will continue to allow identifying any leaks in facilities that can be remedied during maintenance operations.

(1) A first air cooling stage (dry) and a second wet cooling stage (semi-closed).

Water recycling and reuse

Many of the Group's facilities have been designed with closed or semi-closed circuits, meaning that water is recycled at all times. This is the case for the primary and secondary circuits of nuclear power plants and for heating and cooling networks, which operate in closed circuits. However, these systems require additional water to compensate for leaks, evaporation and the purging necessary for their operation (water is continuously extracted from these circuits, for example to take control measurements or to adjust the chemical concentrations in the circuits). For nuclear power plants in France, feasibility studies by REUSE[1] of industrial effluents are in progress, in order to reduce freshwater withdrawals for these top-ups. Experiments were carried out in 2022 and 2023 at the Golfech and Tricastin nuclear power plants, and the results are being analysed.

Several actions to reuse process water have been implemented at thermal power plants. A water recycling system for purges of the water-steam circuit was installed in 2021 at the Martigues thermal power plant, enabling the recovery of approximately 90,000 m^3 per year (about 40% of the site's needs). In 2024, 25,000 m^3 were reused following a breakdown requiring maintenance operations on the equipment.

Water can also be reused between two neighbouring industrial sites. This is the case, for example, at the Jarrie zirconium sponge production site, where Framatome uses water from the neighbouring industrial company. The latter has an obligation (by prefectoral decree) to pump the water table to ensure the containment of historical pollution (hydraulic barrier). The Framatome site reused 1.4 million m^3 of water from this pumping in 2024.

Design of new structures

The Group is committed to designing new facilities that minimise the use of water resources by combining all of the actions mentioned above. This is notably the case for the construction of the new EPR2 (Penly, Bugey, Gravelines) where projects aim to diversify the sources of water supply when possible, in order to reduce the freshwater withdrawals. This concerns both:

- the use of water during the construction phase, with, for example, the recovery and reuse of rainwater and cliff drains for certain functional needs of the construction sites, and criteria for determining the best offers when awarding civil engineering contracts;
- the operating phase, with several water recycling methods in the internal processes (recycling of water from the steam generator purge system to the extraction circuit or the supply of the make-up system tanks with demineralised water) or the use of water from external sources (neighbouring treatment plants).

3.2.4.2.3.3 Restoration of aquatic environments

In addition to the regulations on water withdrawals and discharge regulating the production conditions of the sites (see section 3.2.4.1 "Policies related to water resources") and in order to contribute to the restoration and regeneration of water bodies, the EDF group has undertaken several actions promoting restoration of the water cycle, directly or indirectly, with benefits also for water quality. This is notably the case of actions carried out by the Nuclear Generation Division in France, with carbon sequestration and/or biodiversity conservation objectives, which may also have benefits for the regulation of the water cycle (see section 3.2.5.2.3 "Acting to restore and preserve natural environments").

3.2.4.2.3.4 Control of the overall water footprint of the activities

Since 2023, the EDF group has been working on the water footprint of its electricity generation sectors in order to identify the main water consumption items across the entire life cycle. These analyses are based on the Available Water Remaining (ACV AWARE) indicator of the Product Environmental Footprint (PEF) method selected by the European Commission's Joint Research Centre (JRC). Additional work is underway to characterise the environmental footprint, including the water footprint. EDF Renewables worked on the nature footprint of its activities, based on the Science-Based Targets Network (SBTN) methodology, and similar work has been undertaken for the nuclear and thermal fleets.

In addition, as certain activities upstream of the Group's value chain are material with regard to water resources, the Group has undertaken actions to mobilise its suppliers on these issues:

- workshops with uranium suppliers were held in 2024 in order to build a common vision of the characterisation of their water footprints. Dialogue with suppliers will continue regarding their targets for reducing the water footprint of their facilities and current and future levers to achieve them;
- collective intelligence workshops were organised with voluntary suppliers in the civil engineering, protective equipment and workwear sectors to co-construct the relevant purchasing levers in order to reduce the water footprint of each purchasing segment by identifying the risks and opportunities of deploying these strategies. These workshops were held as part of the "CSR Suppliers Club" alongside with those on decarbonisation (see section 3.2.2.1.2.1 "Reduction of indirect emissions").

3.2.4.2.4 Targets relating to water withdrawal and consumption

3.2.4.2.4.1 Water consumption of the cooling circuits of electricity generation sites

In order to ensure that the Group's material sustainability issues in terms of water consumption in the cooling circuits of electricity generation sites are effectively addressed, the following monitoring is in place:

Target	Reference	Review	Scope	2024
Water intensity in kWh of the electricity generation: remain below the threshold of 0.9 L/kWh	2016	Annual	Group	0.86 L/kWh

This voluntary target on the water intensity in kWh of the electricity generation ensures that the Group limits its water consumption per unit of electricity generated. This is the specific consumption of water evaporated per kilowatt-hour of electricity generated (in L/kWh). The Group's objective for this indicator is to not exceed the threshold of 0.90 L/kWh. Given the expected evolution of the electricity generation facilities (increase in the share of renewable energies and seaside nuclear generation), the water intensity at Group level is expected to decrease in the coming years. The threshold used has been reduced by 0.05 L/kWh compared to the threshold of 0.95 L/kWh that the Group set for itself in 2016. In 2024, the indicator stood at 0.86 L/kWh. It should be noted that this figure, while being below the threshold, is slightly higher compared to 2022 and 2023 due to the increase in nuclear power generation.

(1) Reuse of treated wastewater.

3.2.4.2.4.2 Water withdrawal for industrial processes

The EDF group is working on establishing a target for reducing its water withdrawal for the Group's industrial processes (this will be a voluntary target). Such targets have already been set in recent years in certain Group entities (such as the nuclear and thermal fleets in France, Dalkia, Framatome): these targets are being updated and consolidated.

3.2.4.2.5 Indicators relating to water withdrawal and consumption

3.2.4.2.5.1 Water consumption of the cooling circuits of electricity generation sites

The vast majority (97%) of the freshwater withdrawn by the Group is returned directly to the natural environment, meaning it is not consumed. The water consumed by the Group is mainly fresh surface water, evaporated by the cooling systems of nuclear and thermal power plants operating in a semi-closed circuit. In 2024, the Group consumed 442 million m^3 of freshwater for cooling nuclear and thermal electricity generation facilities (445 million m^3 if one includes the consumption of salt and brackish water), which is 17% more than in 2023 (377 million m^3), in line with the increase in nuclear power generation in France.

The freshwater consumption at the Group's electricity generation sites located in areas exposed to high and very high-water stress (see section 3.2.4.2.2 "Sites in water-stressed areas") amounted to 32 million m^3, *i.e.* 7% of the Group's freshwater consumption.

Details on the indicators

Water consumption cannot be measured directly (as water is lost though evaporation or leaks). For each site, the water consumption is therefore:

- either for thermal power plants, calculated by the difference between measurements of water withdrawals and measurements of the site's liquid discharges;
- or for semi-closed circuit nuclear power plants, modelled using site-specific calculation formulas incorporating, among other parameters, the operation of the coolers and weather conditions. This case represents approximately 99% of the Group's reported consumption volumes.

These calculation methods therefore induce uncertainties; however, the methods are established in accordance with regulatory protocols agreed with the relevant authorities, and the measurements are verified and monitored as part of the Group's environmental management system (see section 3.2.1 "Environmental management system").

Consumption is monitored for each facility and then aggregated at Group level.

The analysis of the sites located in water-stressed areas was carried out using the Aqueduct tool, as described in section 3.2.4.2.2 "Sites in water-stressed areas". The water consumption of the sites in areas exposed to high and very high-water stress is the sum of the water consumption of the affected sites.

3.2.4.2.5.2 Water withdrawal for industrial processes

In 2024, the Group withdrew 43 million m^3 of water for industrial processes. The majority comes from surface water or third-party networks.

Details on the indicators

For each site, the volumes withdrawn are:

- measured directly in real time by water meters or flow meters;
- or estimated on the basis of the pumps' operating time and their nominal operating flow rate.

The estimated volumes are therefore subject to uncertainties. However, the Group adopts a conservative approach when applying these methods. These methods are established according to regulatory protocols agreed with the authorities in charge, and the measurements are verified and monitored as part of the Group's environmental management system (see section 3.2.1 "Environmental management system").

The Group is working to improve the counting of these volumes (see section 3.2.4.2.3.2 "Water withdrawal for industrial processes").

3.2.4.2.5.3 Total quantity of water recycled and reused (in m^3)

Due to the diversity of the facilities, on the one hand, and the lack of measurements of certain water flows, on the other, these metrics have been quantified on a few facilities. The Group will work to complete these indicators. Qualitative information is provided in section 3.2.4.2.3.2 "Water withdrawal for industrial processes".

- In the semi-closed circuit nuclear power plants in France, water from the nuclear and conventional auxiliary refrigeration circuits is reused as make-up water for the air coolers, which limits the water withdrawals for the cooling circuits. The volume of water reused in 2024 was around 1,100 million m^3, *i.e.* 54% of the volume of the withdrawals for the main condenser of closed-circuit power plants. This volume was 62 million m^3 for sites located in water-stressed areas (45% of the withdrawals for the main condenser).
- At the Martigues thermal power plant, the system for recycling water from the water-steam circuit purges enabled the reuse of 25,000 m^3 in 2024.
- On Framatome's Jarrie site, the site reused 1.4 million m^3 water from the neighbouring industrial site in 2024.

In addition, the Group has launched several projects to recycle and/or reuse water when technically possible, as part of a collective water sobriety approach (see section 3.2.4.2.3.2 "Water withdrawal for industrial processes"). These trials are ongoing, and not all reused flows are currently being measured. At present, it is therefore not possible to provide a consolidated figure for the volumes of water reused. The Group is working to improve the counting of these volumes.

3.2.4.2.5.4 Water intensity

Water intensity by sales/turnover (in m^3/€)

Water intensity by sales/turnover[1] represents the total water consumption in m^3 resulting from own operations in relation to sales (ratio of water consumption in cubic meters to consolidated sales excluding trading in euros); it was 0.004 m^3/€ in 2024. This indicator could vary significantly with the Company's performance, but also due to the energy price dimension, with no direct link to water use and the actions implemented.

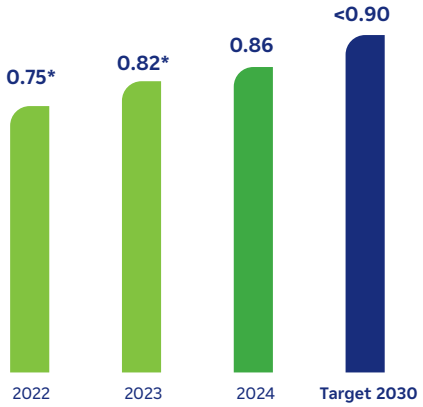
(1) Consolidated sales/turnover excluding trading (see section 6.1, note 5.1.2 "Sales" to the consolidated financial statements for the financial year ended 31 December 2024).

Water intensity in kWh

Group key performance indicator

Since 2016, the Group has been using a water intensity per kWh indicator calculated on the water consumption of the cooling circuits of electricity generation sites in relation to the electricity generated*. The Group's water intensity was 0.86 L/kWh in 2024, below the threshold set, despite an increase compared to 2022 and 2023 due to the increase in nuclear power generation. Considering the expected evolution of the electricity generation facilities, the water intensity at Group level is expected to decrease in the years to come.

Water intensity per kWh (in L/kWh)



* *Previously, this indicator was calculated on the basis of the average of the last five years. It is now provided on an annual basis. The values for 2022 and 2023 are therefore different from those of the 2022 and 2023 URD reports (0.83 and 0.83 L/kW).*

3.2.4.3 Sharing of water resources

Within the framework of the Group's water policy principles, which includes a section on water multi-uses management in France, the Group has undertaken several actions to improve the management of its sustainability issues related to water resources, and to develop the opportunity to promote its know-how in water management and sharing.

3.2.4.3.1 Actions concerning the multi-use management of water resources

EDF constantly ensures that its hydropower facilities are managed in consultation with stakeholders (the French government, local governments, water agencies, associations, etc.). In France, the EDF group participates in national and local water governing and management bodies (national water committee, water catchment area committees, local water commissions, etc.), and is represented by the French Electricity Union[1] in water management meetings.

Since 2003, EDF set up an internal water coordination body in France whose operational management is entrusted to EDF Hydro's management. Its mission is to organise cross-functional monitoring and sharing of information on water issues between the energy-producing entities in mainland France and to promote synergies in the operational management of water. This coordination enables the Group to guarantee optimal operation of all electricity generation facilities in France by integrating the multiple operating factors in connection with water resources and electricity generation facilities: coast maintenance and guarantee of low-flow support for dams, anticipation of changes in water temperatures and river flows at thermal and nuclear power plants, organisation of water releases.

In order to strengthen this key role in multi-use water management for other water users and enable external stakeholders to benefit from the technical and strategic skills thus developed, the EDF group has undertaken several key actions to improve the management of these sustainability issues and opportunities:

- **renewal of low-flow support agreements:** EDF Hydro supports low-water flows from many of the reservoirs that it operates, thus preserving aquatic environments and securing downstream water uses (including, for example, drinking water supply or irrigation). In a context of climate change, EDF Hydro is committed to periodically renewing the low-water support agreements with catchment area stakeholders, with in some cases an increase in the low-water support volumes. For example, in 2024, EDF Hydro signed an agreement with three French départements (Lozère, Ardèche, Haute Loire) concerning the contribution of the Montpezat facility to support the low flows in the Ardèche, Chasesac-Loire and Loire rivers. As part of the agreement, studies will be carried out to optimise both the low-flow support and the energy generation of the hydropower facilities while integrating climate change forecasts;
- **STEP projects:** the EDF group is working on projects to design new pumped-storage plants (*Station de transfert d'énergie par pompage* – STEP) in France that will increase flexibility in energy generation and therefore free up low-water support capacity in other facilities, while preserving water resources (in fact, STEPs operate in a "closed circuit" since the water is reused between two upstream and downstream reservoirs). The third multi-year energy programme (*Programmation pluriannuelle de l'énergie* – PPE) consultation project provides for the development of STEP facilities with a potential of 1.5GW identified for commissioning between 2030 and 2035. A first project is already well advanced, the Vouglans-Saut-Mortier project (located in the Jura region). Its objective is to increase the volumes of water stored by reusing the existing facilities. In addition to increasing the generation capacity of low carbon electricity, this project will be beneficial for the natural environment and other water uses (low-flow support flows, cooling of downstream aquatic environments in the summer period, tourist activity);
- **technical skills in water resource modelling:** the EDF group has developed recognised expertise in water resource forecasting in France, which relies in particular on a network of hydrometeorological measurement stations located in all water catchment areas in which EDF operates. In addition to the internal contributions (flood management, anticipation of low levels and filling of dams, etc.), these skills are also valued externally, for example:
  - > providing modelling tools and technical support to certain stakeholders involved in the operational management of water resources;

(1) Union française de l'électricité.

- contribution to collaborative scientific projects, for example with participation in the Explore 2 project in 2024[1];
- the development of a digital twin of the Loire water catchment area, in order to model changes in natural water resources and water uses according to different climate change scenarios. This work is intended to be consolidated in partnership with scientific organisations and shared with water stakeholders.

3.2.4.3.2 Target and indicator relating to the multi-use management of water resources

To ensure the effective addressing of material sustainability issues related to multi-use management of water resources, the following monitoring is implemented:

Related indicators	Target	Reference	Review	Scope	2022	2023	2024
Meeting demand to support low-water levels	100%	-	Annual	EDF Hydro	100%	100%	100%

This target concerns the hydropower fleet in mainland France managed by EDF Hydro. It aims to meet the demand for low-water flow support within the limits of the contractual arrangements. In 2024, the contractual provisions for low-water support in France were met. This voluntary management of multiple water uses has led EDF to deliver an average of more than 465Mm^3 per year over the last 10 years. This is a voluntary target, specific to EDF, included in the Act4nature commitments (2023-2025).

3.2.4.4 Expenditure and research effort allocated to water resources actions

The Group's management tools do not allow, for the first year of application of the CSRD, an exhaustive costing of the actions related to the protection of water resources. For the coming years, further work will make it possible to refine the available data and will more accurately reflect the extent of the Group's expenditure in terms of water resources.

In 2024, in addition to the actions and expenses carried out on generation assets, the Group contributed €18 million through its identified research and development efforts to the protection and management of water in an integrated and sustainable manner.

(1) This project is led by the French National Research Institute for Agriculture, Food and Environment (Institut national de recherche pour l'agriculture, l'alimentation et l'environnement - INRAE) and the International Office for Water (OIEau) and aims to update the knowledge on the impact of climate change on hydrology in France, based on the latest IPCC publications: https://professionnels.ofb.fr/fr/node/1244

3.2.5 ESRS E4 - Biodiversity and ecosystems

EDF's activities, in its direct operations or in its value chain, interact with the natural terrestrial, aquatic and marine environments. EDF acts on its most significant impacts and dependencies, in line with the major pressure factors on biodiversity, in order to: reduce the contribution of its activities to these pressure factors; recreate spaces and conditions favourable to biodiversity; strengthen the improvement of knowledge and its sharing.

To this end, the Group relies on the experience and skills of its R&D and engineering departments, as well as its programmes to monitor the operation of its facilities.

The EDF group is working on the resilience of its strategy and business model in relation to biodiversity and ecosystems as part of its commitment to TNFD Early Adopter 2026. For this purpose, the Group will use the tools made available by TNFD.

During the double materiality analysis carried out in 2023/2024, the following impacts and risks were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunity

Sustainability issue	Material impact	Description	Time horizon
Impact on ecosystems	Degradation of ecosystems	The artificialisation of soil, caused by the Group's construction, decommissioning and operating activities, can lead to the degradation of ecosystems. The activities of the hydropower sector can also contribute to the latter *via* the modification of hydrological regimes.	Short, medium and long term
	Improvement of ecosystems	Certain activities carried out by the Group may contribute to improving the resilience of ecosystems, in particular through the reef effect and the reserve effect, offshore wind farms, the presence of ecosystems under power lines, low-flow support in periods of drought and more generally on the Group's non-industrial land.	Short and medium term
	Impact *via* upstream resources	The construction and operation of energy production infrastructure requires resources from mining, fossil fuels and various raw materials (particularly biomass) that can lead to the destruction or modification of ecosystems.	Short and medium term
Biodiversity loss[1]	Biodiversity loss	The Group's construction/decommissioning activities, as well as its operating activities, may lead to a loss of biodiversity (*e.g.* bird strike/electrocution, modification of fish farming continuity).	Short term

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the subtopics and sub-subtopics of the associated ESRS.

Sustainability issue	Material risk or opportunity	Description
Biodiversity loss[1]	Political and regulatory risks	Changes in environmental regulations could hinder the establishment of new EDF energy infrastructures, due to the refusal of authorisations or shortages of suitable land. They could lead to additional costs, particularly in terms of ecosystem restoration, and complicate the compliance of existing facilities and decommissioning operations.

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the subtopics and sub-subtopics of the associated ESRS.

The EDF group has identified **material impacts, risks and opportunities** using internal and external sources such as the TNFD guidelines for the energy sector or the WBCSD's Energy system roadmap to Nature Positive, as well as consultations with internal and external contributors. The internal contributors include the biodiversity officers of each Group sector, the Impact Division, members of the Finance, Purchasing and Group Risk Divisions; the external contributors include members of the Stakeholder Committee. The interests of the affected communities have been indirectly integrated *via* these different sources.

The Group has identified **dependencies** with regard to biodiversity, ecosystems and ecosystem services, in particular *via* the analysis of the dependencies of its value chains. This dependency analysis was based on the identification of key inputs from the six capitals model of the Integrated Reporting Council including environmental capital. For EDF, this capital includes water and minerals. The Group has identified a risk related to the dependence on ecosystem services, previously identified in the Group's risk mapping: this is the systemic risk of degradation or even loss of ecosystem services that could impact the EDF group's energy production. The ecosystem services targeted by this risk are in particular the water cycle. This risk is addressed in section 3.2.4 "ESRS E3 - Water resources".

The material risks and opportunities did not require analysis of specific scenarios, as EDF's risk mapping already included the risks related to biodiversity. EDF conducts an analysis of the **risks and opportunities** in terms of biodiversity according to the double materiality analysis of dependencies and impacts, based on the Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) database. The materiality analysis highlighted physical and transition risks.

Energy production can contribute significantly to major pressure factors on biodiversity such as land use change, seas and freshwater, climate change (see section 3.2.2 "ESRS E1 - Climate change"), pollution (see section 3.2.3 "ESRS E2 - Pollution") and resource use (see section 3.2.6 "ESRS E5 - Resource use and circular economy"). In addition, the Group may have potentially significant impacts on the extent and condition of ecosystems.

Within the scope of the direct operations, construction/decommissioning activities, as well as operating activities, can lead to a loss of biodiversity (*e.g.* bird strike/electrocution, modification of fish farming continuity) and a modification of ecosystems. During the operating phase, hydropower can cause significant impacts by changing hydraulic regimes.

Measures to mitigate these negative impacts are carried out, for more information, see section 3.2.5.2 "Actions and resources related to biodiversity and ecosystems".

However, certain activities carried out by the Group may contribute to improving the resilience of ecosystems. These include the reef effect and the reserve effect, offshore wind farms, the presence of ecosystems under power lines, the use of hawk nesting boxes on the high points of nuclear sites (with nesting and flight of hawks), low-flow support in periods of drought and the actions carried out by the Group to promote biodiversity on non-industrial land. In addition, multi-year and multi-partner research programmes, particularly in thermal hydrobiology, show that there is no significant impact of the thermal discharges related to the operation of nuclear power plants on aquatic environments (see section 3.2.3 "Pollution").

In view of this materiality analysis, in application of the principles of ESRS 2, the list of the Group's major sites includes the Group's projects in the construction or decommissioning phase. These projects are all covered by an impact study and a biodiversity action plan. The list below shows the larger-scale projects in the construction phase conducted by the Group in 2024, which required close attention regarding the pressures on land, seas and freshwater and the potential impact on ecosystems.

Technology	Location	Project
Nuclear	France	Construction of the Penly EPR2: first earthworks
	United Kingdom	Construction of the Hinkley Point C power plant
Wind power	France	Construction of the Fécamp offshore wind farm ~ 500MW
	France	Construction of the Calvados offshore wind farm (Courseulles-sur-Mer) ~ 450MW
	France	Construction of the Provence Grand Large floating wind farm ~ 25MW
	United Kingdom	Construction of the Neart Na Gaoithe offshore wind farm ~ 450MW
Hydropower	France	Installation of new equipment (turbine-pump) at the current Saut-Mortier dam

Several electricity generation sites are situated in (or close to) protected areas or areas classified as rich in biodiversity. By way of illustration, 134 of the retention structures and water intakes within the hydropower fleet operated by EDF Hydro in France are located on a watercourse classified in List 2[1], meaning that they concern major migratory routes which are particularly sensitive in terms of sediment and fish-farming continuity. This analysis makes it possible to identify EDF Hydro's actions on fish crossing systems (see section 3.2.5.2 "Actions and resources related to biodiversity and ecosystems").

In 2018, UNEP WCMC assessed the sensitivity to biodiversity of the EDF group's electricity generation sites worldwide. The sensitivity analysis used a spatial analysis framework based on 12 global spatial data sets, available in the Integrated Biodiversity Assessment Tool (IBAT). The analysis included data on the distribution of threatened species, protected areas, vulnerable ecoregions and areas important for conservation, such as the Key Biodiversity Areas (KBA). A total of 1,078 sites in 26 countries and political territories were included in the analysis.

The Group is updating this information, starting with the EDF Renewables scope. Based on the new functionalities of the IBAT, available since September 2024, and in the spirit of the TNFD's LEAP methodology, this work will aim to supplement the relevant information on the Group's sites located near biodiversity-sensitive areas. Expected to be completed by 2025, it will also strengthen the internal mapping and analysis tools that underpin the local operational action of the business lines in terms of biodiversity[2].

Within the scope of the EDF group's value chain, the impacts are mainly related to the purchase of raw materials for infrastructure construction (all sectors) and fuel use (uranium, gas, wood).

In respect of the material risks and opportunities identified above, significant current impacts have been assessed and are presented in the Group's financial statements. See for more details section 6.1, note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024.

3.2.5.1 Policies related to biodiversity

The EDF group's CSR policy (detailed in section 3.1.3.6 "Corporate social responsibility policy") outlines the Group's commitments within its direct and indirect scope, on several themes including those related to biodiversity and ecosystems. The challenges of the EDF group's "net zero emissions" ambition are inseparable from an approach to promote biodiversity.

(1) The Water and Aquatic Environment Act (LEMA) of 2006 transcribed the Water Framework Directive (WFD) and introduced the classification of watercourses into two lists. For stretches of watercourses classified in List 2, any structure obstructing them must be equipped to ensure ecological continuity.
(2) In France, the public data provided by the National Inventory of Natural Heritage, managed by the National Museum of Natural History, is currently the reference.

To limit its environmental footprint throughout the life cycle of its facilities and activities, the EDF group seeks to act responsibly with regard to the land it holds or holds under concession. In this context, the Group's entities endeavour to limit the artificialisation and sealing of soils, to optimise and enhance the value of the land in accordance with regulations, in particular through the implementation of innovative solutions to promote multiple uses of land. In addition, the Group ensures the sustainability of its biomass supplies, for which it is committed to increasing the proportion of wood from PEFC- or FSC-certified forests. In particular, EDF ensures that no forest, directly or indirectly, will disappear for its energy needs.

In 2023, the Group renewed its commitment to two voluntary schemes: "*Entreprises engagées pour la nature*", under the aegis of the French Biodiversity Office (Office français de la biodiversité – OFB), and "act4nature international", under the aegis of the association Entreprises pour l'Environnement (EPE), with the following objectives:

- reduce the contribution of its activities to the main pressure factors on biodiversity;
- recreate spaces and conditions conducive to biodiversity;
- enhance biodiversity knowledge and share insights;
- transform our processes, our organisation and our skills.

The Group's commitments and actions were recognised in October 2024 as meeting the criteria of the "It's Now for Nature"initiative, as part of the campaign launched by Business for Nature on the occasion of COP16. Currently, the policy on sustainable practices regarding oceans and seas is not distinct from the policies regarding other ecosystems.

The EDF group's social commitments to affected communities are presented in section 3.3.1.1.3 "The rights of affected communities".

3.2.5.2 Actions and resources related to biodiversity and ecosystems

EDF seeks to reduce its negative impacts as much as possible and to generate more positive impacts from its direct operations and in its value chain. Since 2014, the EDF group has been regularly involved in voluntary contribution initiatives for the implementation of the French National Biodiversity Strategy (*Stratégie nationale biodiversité* – SNB), such as "*Entreprises engagées pour la nature*" and act4nature International. The details of the voluntary actions to which the EDF group has committed are available on the website of these initiatives.

EDF is involved in numerous partnerships with associations and institutions to integrate biodiversity issues into the management of its land and projects and to contribute to the restoration or preservation of natural environments. In France, the Group works with its long-standing national partners, in particular:

- **FCEN** (Fédération des conservatoires d'espaces naturels): training, awareness-raising and concrete projects, particularly around wetlands;
- **League for the Protection of Birds** (Ligue pour la protection des oiseaux – LPO): support for local projects, in particular for peregrine falcons at the thermal and nuclear sites, creation of shelters for fauna;
- **MNHN** (National Museum of Natural History): collaboration on research projects;
- **CBN network** (National botanical conservatories): planting operations using local seeds;
- **UICN** (French Committee of the International Union for the Conservation of Nature): support for the integration of biodiversity into the Group's approach;
- **UNCPIE** (National Union of Permanent Centres of Initiatives for the Environment): local consultations to promote the preservation of biodiversity.

Locally, more than 100 partnerships support sites in their approach conducted in favour of biodiversity. The partnership with the FNPF (Fédération nationale de la pêche en France, *i.e.* National Federation of Fishing in France) continues through the financing and management of actions in favour of aquatic environments (one framework agreement and nearly 50 local agreements with departmental federations).

Approximately every two years, EDF brings together its national partners to challenge and review the results of the Group's voluntary commitments on biodiversity.

3.2.5.2.1 Improving and sharing knowledge

Monitoring during operations

The environmental and biodiversity impacts of the facilities currently in operation, in particular nuclear ones, are monitored by EDF teams and scientific organisations such as the French Research Institute for Exploitation of the Sea (Institut français de recherche pour l'exploitation de la mer – IFREMER) and the French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de radioprotection – ASNR). EDF implements environmental monitoring at all nuclear sites that are in operation or are being decommissioned. The chemical, physicochemical, hydro-ecological and microbiological monitoring implemented in recent years has led to the conclusion that EDF's nuclear sites have no influence on the ecological functioning of watercourses and the marine environment. EDF also carries out specific monitoring in the event of particular summer conditions (so-called "heat waves"). This monitoring has demonstrated that the operation of the nuclear power plants concerned had no significant effect on the receiving environments. The data collected as part of this monitoring over several decades showed that the radioactivity present in the environment of EDF's nuclear sites is mainly of natural origin. The contribution of effluent discharges from EDF's nuclear sites to the contribution of radioactivity to the environment has been extremely low and stable over the last decade. Radioactivity levels observed linked to effluent discharges from EDF's nuclear sites have no impact on health or the environment, in line with the conclusions of the impact studies.

The CCG Martigues thermal sites and the Cordemais power plant have been carrying out hydrobiological monitoring for several years. The main groups monitored are fish, plankton, benthic invertebrates and posidonia seagrass.

This is also the case for wind and solar power farms, which are subject to biodiversity monitoring under specific regulations or studies. With regard to the Saint-Nazaire wind farm, which has been in service for almost two years, the foundations of the wind turbines are monitored by submarine dives. The dives reveal little difference in the number of species compared to the initial state.

The EDF group participates in the project *Marine sentinel areas*, with two wind power facilities (Provence Grand Large, Saint-Nazaire) and a nuclear site (Gravelines in France). This project is part of the long-term monitoring network for coastal biodiversity in mainland France and its evolution, focusing in particular on marine protected areas and electricity generation sites. The objective is to inventory and monitor marine biodiversity and its evolution over the long term, in particular in relation to global changes (particularly climate change). In 2023-2024, 211 eDNA samples (90 in the Atlantic and 121 in the Mediterranean) were taken from the 13 marine sentinel areas monitored with the support of local partners (PatriNat, reserves and wind farms mainly). The EDF financing made it possible to carry out the filtration and analysis of 170 samples out of the 211 analysed.

Research and development

Although research began 50 years ago, EDF R&D and its scientific partners still face numerous questions to understand and assess the impacts of the Group's activities. The research on environmental protection involves nearly 200 researchers and technicians as well as around 50 scientific partners. Four R&D projects address most of the Group's biodiversity research questions:

- the **BIODIV** project aims to assess the impacts of nuclear, thermal and hydropower generation facilities on biodiversity and to situate these impacts in a context of global changes; offer scientific and technological tools to better assess, control and reduce the environmental impact of EDF's facilities; provide expertise to optimise the technological choices of structures aimed at reducing the impact of EDF's facilities on biodiversity and developing cost-benefit approaches for these structures, proportionate to the environmental and industrial challenges. From 2018 to 2021, this project produced 50 publications in external journals, including one in Nature, and 52 conference papers. In 2009, EDF's R&D and the French National Research Institute for Agriculture, Food and Environment (Institut national de recherche pour l'agriculture, l'alimentation et l'environnement – INRAE) set up the joint HYNES research team in order to collaborate on the development of ecological approaches to aquatic environments and, since 2019, on land environments;
- the **Renewables Environment and Sustainability (REES)** project aims to develop innovative and effective solutions to reduce the environmental and biodiversity impacts of wind (onshore and offshore) and solar power, while optimising their generation potential. As part of this project, a thesis carried out from 2023 to 2026, in partnership with the French Development Research Institute (Institut de recherche pour le développement – IRD), focuses on the modelling and prediction of the behaviour of sea birds in relation to offshore wind farms. Based on the development of a deep neural network architecture for the simulation of seabird trajectories this thesis won the prize for best poster at the "Scientific Days of Wind Farming" (24-25 January 2024 in St Malo) and was presented at the "Seabird Group Conference" (2-6 September 2024, in Coimbra, Portugal).

In 2024, the BIODIV and REES projects enabled the elaboration of 7 new publications, 8 international conference papers, and the completion of 11 theses:

- the **Carbon Sequestration, Land and Natural Solutions** project (Séquestration carbone, foncier et solutions naturelles – CACTUS) aims to assess the reality and sustainability of carbon storage actions using natural solutions and to define the methods to maximise the benefits of such actions on biodiversity and the water cycle. This project contributes more generally to the development of natural solutions for adapting to climate change;
- the **Environmental Footprint Production** project aims to better assess the environmental footprint in all environments. Several methods were tested on a limited scope of the Group, involving experts in life cycle analysis (LCA) and ecological fields. EDF tests and participates in the development of the Product Biodiversity Footprint (PBF) tool.

EDF also sits on the Stakeholders Committee of the French Biodiversity Research Foundation (Fondation de recherche pour la biodiversité – FRB) and on the Steering Committee of the ITTECOP protocol (Transport Infrastructure, Territories, Ecosystems and Landscapes) 2024-2028, which manages and finances applied research projects on the integration of ecosystem and landscape issues into infrastructure projects or the adaptation of existing developments. This research incentive programme is led by the French Ministry of Ecological Transition and Regional Cohesion, in coordination with ADEME and the OFB.

3.2.5.2.2 Reducing the activities' contribution to major pressure factors on biodiversity

This section deals with the pressure to change land use – seas – freshwater, which is the most significant and the only one deemed material for EDF in the context of the double materiality analysis. The pressures related to pollution and the overexploitation of abiotic resources are addressed in the other ESRS standards.

Actions on projects under construction

The Group applies the principles of the mitigation hierarchy[1], or the regulations of the country where it is located if these are more stringent (notably in Europe). The Group's companies apply the mitigation hierarchy for all projects and facilities in operation[2]. The environmental and societal impact assessments are completed prior to projects, pursuant to the current regulations and best practices (such as IFC Performance Standards if they are more restrictive).

In order to limit the change in land use, the Group optimises its footprint and positions new industrial developments preferentially on sites that are already artificial.

EDF thus recycles its artificial land for the development of production infrastructures:

- by the installation of new generation units on former thermal sites: for the past 15 years, all new combustion turbines installed in France by EDF have been installed on recycled land, and solar power facilities have been installed on various former thermal power plant sites such as Aramon (6.3 ha), Artix (4.4 ha), Ambès (10.3 ha) and Ottmarsheim (15.1 ha). Additional solar power facilities are planned, particularly in Porcheville and Loire-sur-Rhône. Furthermore, if new low-carbon thermal generation facilities are needed to balance the electricity system, they will preferably be situated on land that is mostly already artificial (recycling of the land of former thermal power plants);
- by increasing the generation capacity of its existing facilities (repowering on hydropower or wind facilities, for example);
- by extending the operating lifespan of its generation facilities, in particular by continuing to operate the existing French nuclear fleet beyond 60 years, in complete safety and performance.

EDF is also developing generation capacities that favour the co-use of the same land by several activities, in particular with agriculture for onshore wind farms and fishing for offshore farms, and mainly thanks to agrivoltaics for solar power generation. In France, with the introduction of regulations in 2024 that frame the conditions for the implementation of agri-compatible agrivoltaic and photovoltaic projects, the EDF group has dedicated part of its R&D, development and construction activities to these facility categories, allowing the co-use of crops such as vines, arboriculture or livestock.

In addition, major new infrastructure projects under construction were subject to impact assessments and implemented avoidance, reduction and possibly compensation measures.

(1) Principles based on Performance Standard 6 of the International Finance Corporation (IFC, a World Bank organisation) dedicated to biodiversity conservation and sustainable management of living natural resources.
(2) The French biodiversity law of 2016 requires companies to implement offsetting measures designed to avoid a net loss, and, preferably, even make a net gain in biodiversity.

Technology	Major projects of the Group in 2024 (Country)	Examples of PMO measures[1] implemented
Nuclear	Construction of the Penly EPR (France)	The avoidance measures, reduction of expected impacts, compensation of residual impacts, support, monitoring of measures and environmental monitoring were published by decree on 3 June 2024 (Decree No. 2024-505) on the environmental authorisation relating to the completion of the preparatory work necessary for the installation of a pair of EPR2-type nuclear generation units on the Penly site in the municipality of Petit-Caux). Among these measures: reduction of the site's footprint on land and sea, restoration of material deposit areas, and the implementation of compensatory measures on 13 areas with a total surface area of 70 hectares. A Technical Committee proposed by EDF, brings together representatives of the project owners (EDF and RTE), the departments in charge of control (DREAL, DDTM), local governments, OFB, Conservatoire du Littoral, etc. The first earthworks on the Penly site began in 2024.
	Construction of the Hinkley Point power plant (United Kingdom)	The peripheral land used for construction activities at HPC will be restored to natural areas after the completion of the construction work. A partial restoration has already been carried out. 65,000 trees and shrubs have already been planted. The design of HPC's EPR took into account environmental impact and performance from the design stage. The water cooling system takes into account the current best practices documented by the environmental regulator for the protection of fish by integrating local specificities and issues. In particular, HPC has deployed innovative low-speed input structures, minimising the aspiration of fish with the cooling water.
Wind power	Construction of the Fécamp offshore wind farm[2] ~ 500MW (France) (Start of work in 2020 - Commissioning in 2024)	A website of the Ministry in charge of the energy transition presents the state of development of offshore wind power in France. It centralises the information relating to each project. The environmental authorisation for the Fécamp offshore wind farm provides for measures to limit and monitor the project's impacts during its construction and operation phase. The implementation of these measures is subject to an annual review. Among the reduction measures: adaptation of the flight heights of helicopters at the site, reduction of the strength of the vessels' lights. Among the support measures: support for the "Falaises d'Étretat, Côte d'Albâtre" large site operation launched in the region before the offshore project; participation in knowledge acquisition and scientific monitoring programmes in the Channel area, in particular regarding bird life; restoration of a site of significant ecological interest, with high heritage value, in Seine-Maritime and with significant ecological restoration potential.
	Construction of the Calvados offshore wind farm (Courseulles-sur-Mer) ~ 450MW (France) (Start of work in 2021 - Commissioning by 2025)	Among the reduction measures: reduction of construction-related noise (discontinuation of monopile driving in favour of vibration-drilling); reduction of the speed of vessels in the site area during the works. Several support measures such as a thesis in progress on the impact of human-induced noise on the movements and behaviour of seals at sea; improving knowledge of the causes of bird mortality for a better survival rate of adult and young birds.
	Construction of the Provence Grand Large floating wind farm ~ 25MW (France) (Start of work in 2020 - Commissioning in 2024)	Among the offsetting measures: extermination of rats and cats on the islands Port Cros and Calanques de Marseille, reduction of accidental catches by fishing gear, construction and maintenance of nesting islands for gulls and terns. Among the support measures: acquisition of data on bird life by telemetry (Yelkouan and Scopoli shearwater birds) and by a field agent in the Calanques National Park.
	Construction of the Neart Na Gaoithe offshore wind farm ~ 450MW (United Kingdom) (Start of work in 2019 - Commissioning by 2025)	Among the PMO measures: The offshore substations were designed to use biodegradable hydraulic oils that are less harmful to the marine environment. The Scottish Code of Marine Wildlife Observation is used to understand the best vessel movements to avoid disturbing seabirds, marine mammals and fauna in general. During the construction phase of the land-based substation, substantial efforts were devoted to waste separation to ensure that no cross-contamination occurred between the different waste streams. Based on the operation and maintenance of the wind farm, an assessment was carried out for the seeding and planting of wild flowers, which should take place in 2025.

Technology	Major projects of the Group in 2024 (Country)	Examples of PMO measures[1] implemented
Hydropower	18MW power increase and implementation of a pumped-storage energy transfer station (Station de transfert d'énergie par pompage - STEP) in Saut-Mortier (France) (start of work in 2024, commissioning by 2030)	The project was subject to numerous PMO measures from the design phase. The limited negative impacts of the project during the construction phase on the aquatic environment will be largely offset by the positive impacts during the operation phase; this positive impact on the aquatic environment (biology of the lower Ain river) is also one of the objectives of the project.

(1) Avoid, reduce, compensate, support

(2) www.eoliennesenmer.fr/sites/eoliennesenmer/files/fichiers/2024/02/eohf-bilan_environnemental_2023.pdf

Actions during the operating phase on freshwater environments (hydropower)

Fish farming continuity: to ensure the continuity of fish farming (modified by the construction of dams), the hydropower operators have committed to, from the design stage of certain facilities, install "fish passage" type systems such as on the Rhine. This adapted layout approach has gradually become embedded in the design and upgrading of facilities. Since the 1980s, EDF has implemented over 250 schemes in France to facilitate fish migration on sites with ecological implications (mainly on listed waterways). These include dam crossing facilities (such as "fish passes"), dismantling of trapping/transportation river weirs and targeted turbine shutdowns.

In the French overseas territories, no facility is affected by the classifications that end downstream of the facilities.

In Belgium, within Luminus, the Life4Fish project, aimed at reconciling the production of renewable energy and the preservation of migratory fish in the Meuse, ended in 2023 after successfully implementing its planned actions. Concerning the two reference species, the results were in line with expectations: the maximum mortality threshold of 20% was respected for eels, with a rate of 12.7%, while the impact on salmon smolts was reduced by half.

Flows: the activities of the hydropower sector can also modify the hydrological regimes. EDF monitors the associated generation losses associated with increases in the flow reserved for biodiversity. In 2024, the flow rate reserved for the Mollières water intake (Valabres hydropower plant, Alpes-Maritimes) represented a production loss of 894MWh.

Low-flow support during drought: thanks to its ability to forecast and coordinate water management, EDF Hydro is a key player in optimising the water resources available in the reservoirs that it operates. In this context, EDF Hydro provides a significant volume of low-flow support that helps preserve freshwater aquatic environments. This support is one of the actions covered by the Group's act4nature commitment for the 2023-2025 period (see section 3.2.4.3.1 "Actions concerning the multi-use management of water resources").

Actions during the operational phase in terrestrial environments (networks, wind power, biomass)

Avifauna collisions and electrocution: taking biodiversity into account is a major issue for the network operator Enedis: half of the electricity distribution network is overhead and presents a risk of large-scale bird mortality due to collisions with the lines or electrocution. The construction of new underground power lines helps to address the challenge of preserving bird life. On the remaining overhead lines, in partnership with nature associations, Enedis is gradually and in a targeted manner implementing corrective actions such as the installation of beacons to avoid bird collisions or insulating equipment to avoid bird electrocution. These actions are managed by the National Avifauna Committee (Comité national avifaune – CNA), which brings together Enedis, RTE, the French League for the Protection of Birds (Ligue pour la protection des oiseaux - LPO) and France Nature Environnement.

In order to limit the impacts of wind farms on flying fauna, measures to mitigate and monitor the impacts are implemented during the construction phase and during operation, such as maintenance of the surroundings of the wind turbines to limit their attractiveness. In wind farms with proven risks of collisions, measures to reduce bird and bat mortality are included:

- bats: the most common method is shut down-on-demand, which consists of stopping the wind turbines when the weather conditions are the most favourable to bat activity at altitude;
- birds: it is possible to install detection-reaction systems in wind farms that emit sound signals in order to frighten away birds when they approach the rotor or that stop the turbines in real time.

Research focuses on the interaction of bird life with wind farms and the factors influencing it both at sea and on land. Thus, the thesis, developed as part of the EDF Renewables R&D programme, entitled "Deep learning simulation of seabird behaviour: evaluating the impact of offshore wind farms", seeks *via* neural networks to have a model of the risk of collisions.

In 2021, the EDF group, the International Union for Conservation of Nature (IUCN), Energias de Portugal (EDP) and Shell, in partnership with nature NGOs such as Birdlife and Fauna Flora, developed and published guidelines to define and prioritise measures to avoid and reduce the impacts on biodiversity of onshore and offshore wind and solar power projects. This work has been ongoing since 2023, particularly focusing on cumulative impacts, regional planning and responsible purchasing and was the subject of publications in 2024.

In Belgium, impact studies prior to obtaining permits make it possible to plan the measures to be taken to avoid, reduce or compensate for any impact on birds and bats. All the wind farms in Wallonia and some of the ones in Flanders are equipped with shut down-on-demand (SOD) systems intended to protect bats, as provided for in the operating permits. Concerning bird life, some farms in Flanders are equipped with SOD systems. In Wallonia, the authorities consider that the compensatory measures put in place (grass cover in particular) are sufficient to eliminate the residual risk, after avoiding or minimising the impacts of a given project.

In addition, Luminus has set up a "green charter" to be observed by subcontractors in charge of the construction of wind farms, aimed at minimising the impact of this phase on biodiversity. This charter, tested on a construction site (Liernu) in 2023, was included into project specifications and rolled out to all construction sites in 2024.

Bat collisions: nearly two thirds of the wind turbine fleet operated by EDF Renewables in France is subject to bat-related regulations: the wind turbines are stopped when the conditions for the presence of bats in the immediate vicinity of the turbines are met. The control plans put in place vary according to the parameters specific to each site and enable a significant reduction in collisions. Specific monitoring carried out during the first years of operation makes it possible to optimise these plans.

Procurement of sustainable biomass: the procurement of biomass for electricity and heat generation can have a significant impact on ecosystems. Dalkia, an EDF group company, supplies the main biomass boilers operated by EDF in France through its subsidiary Bois Energie France (BEF), representing an annual volume of 2.4 million tonnes of wood in 2024. Dalkia has voluntarily committed to increasing the share of wood from PEFC- or FSC-certified forests. This indicator highlights the sustainability of the product throughout the chain from the producer (forest owner, farmer, etc., committed to a sustainability approach) to the recycler (who recycles waste and residues for energy recovery) until final use. Dalkia has set the target of having more than 30% PEFC wood by 2026 and beyond, knowing that the volume of BEF's supply is expected to double with regard to decarbonisation projects in industry and greening of heating networks.

3.2.5.2.3 Acting to restore and preserve natural environments

Several of the Group's activities enable the potential improvement of ecosystems:

Low-flow support during drought periods (see section 3.2.4.3.1 "Actions concerning the multi-use management of water resources").

Maintenance of vegetation under and around power lines: maintaining open spaces in generally closed environments creates clearings and transition zones between two ecosystems, called ecotones, favourable to numerous species. These environments, too small for intensive agricultural use, are rarely exploited and receive no inputs or pesticides, making them wasteland rich in biodiversity. In order to maintain these environments without intervening too often and too brutally with traditional rotary grinding machines, experiments with alternative techniques have been carried out in recent years. Three types of solutions are being tested at Enedis:

- uprooting of fast-growing woody plants, followed by the planting of dense shrubbery to prevent the growth of large trees;
- establishment of a mowing grassland favourable to pollinators;
- management by pasture.

Actions carried out by the Group on land without industrial use

The EDF group has committed to voluntarily protecting and restoring 12 sites in France between 2023 and 2025, drawing on the Nature-Based Solutions approach (see Act4nature International commitments). Some of this work concerns the restoration of riverbanks and wetlands, ecosystems linked to the great water cycle, resources on which the Group is highly dependent (see section 3.2.4.2.3.3 "Restoration of aquatic environments").

Some examples of achievements in 2024:

- **at the Civaux nuclear power plant:** two partnership agreements for 2024-2028 were signed at the beginning of 2024: one between EDF and the Nouvelle Aquitaine Natural Area Conservatory (Conservatoire d'espaces naturels – CEN), and the other between EDF and the Val de Gartempe – CPA Lathus Permanent Centre of Initiatives for the Environment (Centre permanent d'initiative pour l'environnement – CPIE). These partnerships materialise the deployment of the biodiversity and territory project of the Civaux power plant at Font d'Orveau, a natural area of 30 hectares. The biodiversity component is deployed through the implementation of the 2024-2028 ecological management plan of the Orveau Fund;
- **at the Blayais nuclear power plant:** after having renewed (in 2023 for 10 years) the partnership agreement between EDF and the Gironde Federation of Hunters (Fédération de chasse de la Gironde), which acts as manager of the plant's bird sanctuary (68 hectares), a second management plan for the 2024-2033 period was drawn up in 2024. This new management plan will continue efforts to support the reception of wintering birds as well as the acquisition of knowledge of the environments and species present. A project to monitor "climate sentinel" species will be implemented in order to understand changes linked to climate change and propose adaptations in management practices;
- **at the Bugey nuclear power plant:** led by the Rhône-Alpes CEN, the project (85 ha of wetlands) aims to restore continuity with the Rhône of the two isolated tributaries located immediately upstream of the Cusset hydropower facility and about ten kilometres downstream of the Bugey nuclear power plant. In the short term, the aim is to sustainably fight against the siltation of the environments while promoting the flooding of the alluvial afforestations by partial dredging the two isolated tributaries. The pre-project study (2024-2026) will specify the intervention methods in consultation with local stakeholders and the scientific community. EDF is financially and technically committed to this project, particularly with its work on nature-based solutions for water and aquatic environments;
- **near the Saint-Laurent des Eaux nuclear power plant**: preservation and sustainable management of the Chambord forest. Forests play a significant role in maintaining the great water cycle, particularly through evapotranspiration and soil water infiltration dynamics;
- **on the land of the former Aramon thermal power plant:** a partnership agreement was signed between EDF and the Occitanie CEN to manage a riparian forest covering 9 ha alongside an isolated tributary (a former backwater) of the Rhône. The actions include managing invasive alien species through debarking operations, which began in 2024;
- **on Île du Rhin** (Rhin island): in 2024, EDF Hydro Est entrusted the Alsace CEN with the management of more than 630 hectares of land on Île du Rhin, for a five-year civil lease. The objectives and management measures are defined by the cross-border management plan drawn up in 2012 and the management plan for the Petite Camargue Alsacienne National Nature Reserve.

Some actions pool benefits for biodiversity, regulation of the water cycle, and mitigation of carbon emissions or sequestration, such as:

- peatland restoration in the Vosges in partnership with the Lorraine CEN: peatlands at the head of the catchment area play a fundamental role in supplying and regulating downstream watercourses. These operations are funded through the EDF Carbon Offsetting Fund (see section 3.2.2.1.2.3.1 "Carbon contribution");
- the study of the functions and services provided by riparian forests, with the long-term objective of deploying a pilot riparian forest restoration site near the Golfech nuclear power plant;
- wetland restoration in Levezou (Aveyron) thanks to the removal of agricultural drainage that begun in 2023 and should continue until 2025.

3.2.5.2.4 Resources invested and current expenditure allocated to actions relating to biodiversity and ecosystems

Investments in favour of biodiversity and ecosystems

According to the estimates made, the resources invested by the Group in actions related to biodiversity and ecosystems amounted to €104 million in 2024. These amounts are based on data collected from all Group entities as part of the work undertaken for the first year of application of the CSRD. They are not exhaustive and are likely to change in the future following additional analyses. This work will help refine the available data and more accurately reflect the extent of the Group's expenses dedicated to protecting biodiversity and ecosystems.

The investments identified in 2024 mainly concern:

- on the distribution networks with actions aimed in particular at burying structures to provide direct protection for biodiversity for €89 million;
- hydropower facilities with the creation of new dam crossing facilities to ensure fish farming continuity for €4 million;
- new nuclear with site preparation operations for €11 million (transplantation of shrubbery, demarcation of preserved areas, etc.).

In addition, the Group has carried out avoidance, reduction, offsetting and support actions. The measurable actions for this first year of application of the CSRD concerned only a few major projects (EPR2 Penly, the Saut-Mortier hydropower project and EDF Renewables projects) and amounted to €8 million.

Expenditures and research efforts in favour of biodiversity and ecosystems

The Group's management tools do not allow, for the first year of application of the CSRD, an exhaustive costing of these actions in favour of biodiversity. For the coming years, further work will allow to refine the available data and will more accurately reflect the extent of the Group's expenditure in terms of biodiversity.

Every year, EDF carries out environmental monitoring of all nuclear sites in operation or decommissioning. The annual cost associated with the hydroecological monitoring is around €2.9 million and €1.9 million for the radioecological monitoring.

In 2024, in addition to the actions carried out on the generation assets, the Group contributed to the improvement of knowledge about biodiversity and ecosystems through research and development work for an amount of at least €9 million.

3.2.5.3 Targets and indicators related to biodiversity and ecosystems

As a signatory of the advocacy campaigns organised by Business for Nature for the COP15 and COP16 conferences, EDF aims to contribute to a Positive Nature world (2050 ambition of the Kunming Montreal Global Framework for Biodiversity).

Following the materiality and feasibility analysis, and in particular its dependencies, the Group is considering setting up a target for the restoration of natural spaces. EDF will also re-examine new targets once the analysis inspired by the LEAP method on the Group's sites is concluded and when the biodiversity tools under development are available. This analysis will also allow to identify the number and surface area of sites in or near biodiversity-sensitive areas, and to determine whether the activities at these sites have a negative impact on these areas, leading to a deterioration of natural habitats and harm to species for which a protected area has been designated.

Target of preservation and restoration of natural areas

In line with the third pillar of its voluntary commitments, relating to the recreation of spaces and conditions favourable to biodiversity, the EDF group has committed to voluntarily preserving and restoring 12 sites between 2023 and 2025 (see act4nature international commitments). The 2025 target was set without being based on ecological thresholds. This target is linked to the material positive impact of improving ecosystems. This target is voluntary, unrelated to regulatory offsetting. The restoration operations are carried out with external partners (particularly associations).

Sustainability issue	Target	Reference	Review	Scope	2024
Impact on ecosystems	Preserve and restore on a voluntary basis 12 sites between 2023 and 2025 (see act4nature international commitments)	2023	Annual	EDF SA	6 sites

The Group is considering setting a medium-to-long-term target on this subject, which will include more Group entities. This target will contribute to the Kunming-Montreal global framework, which aims for the conservation (target 3) and restoration (target 2) of 30% of terrestrial, aquatic and marine areas. In the mitigation hierarchy, this target is located at the level of restoration and rehabilitation of land, whether or not it has been degraded by EDF. Restoration specifically aims to restore ecosystems (wetlands, forests, etc.) that are linked to the great water cycle, a resource on which the Group is highly dependent.

3.2.6 ESRS E5 - Resource use and circular economy

The EDF group adopts a responsible approach to its waste by developing a circular economy approach to promote the control of its waste production, reuse, recycling and the recovery of products and materials throughout the value chain (material and energy recovery). It thus aims to prioritise and limit as accurately as possible the use of incoming minerals, processed products such as cement and steel as well as uranium throughout the industrial transformation sector.

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunity

Sustainability issue	Material impact	Description	Time horizon
Waste (see section 3.2.6.3)	Waste generation	The construction and decommissioning activities, as well as the operation of energy and heat production infrastructures, generate different types of waste, which must be treated.	Short and medium term

Sustainability issue	Material risk or opportunity	Description
Resource inflows (see section 3.2.6.2)	Reduction of resource inflows	The risks of a scarcity of resources, particularly wood fuel and strategic minerals[1], can impact the development of new facilities and the proper functioning of existing facilities (*e.g.* supply difficulties, geopolitical tensions, etc.) and lead to a potential increase in costs, in particular in renewable sectors including biomass.
Waste (see section 3.2.6.3)	Political and regulatory risks	Changes in environmental regulations on the management of waste, radioactive waste in particular, may lead to increases in treatment costs, investment or fees.
	Nuclear dismantling and radioactive waste management	The need to decommission end-of-life nuclear power plants around the world creates revenue opportunities and new markets for the Group, particularly in nuclear dismantling and radioactive waste management.

Energy production generates various types of waste, both conventional and radioactive, depending on the energy sources used. The constraints on incoming resources, in particular metals, minerals and fuels such as wood, due to their scarcity, increased demand, geopolitical tensions or stricter environmental and social requirements, can create difficulties for supply and increase costs. The tightening of waste management regulations can also lead to higher management costs.

The EDF group is a committed and responsible player in its production and management of radioactive waste and participates in the development of waste treatment resources throughout the cycle. The decommissioning of end-of-life nuclear power plants represents an opportunity for the development of new markets, particularly in the management and processing of large radioactive components. Cyclife is an EDF division dedicated to this type of activity.

During this first double materiality analysis, the impacts, risks and opportunities were considered at a national or supra-national scale given that waste treatment channels and resource supply issues are national and sector-specific issues. To identify material risks and opportunities, internal and external sources were used such as the French Office for Biodiversity (Office français de la biodiversité – OFB), the TNFD guidelines for the energy sector and the WBCSD Nature Positive Energy System programme, as well as consultations with internal and external contributors. The interests of the affected communities have been indirectly integrated *via* these different sources.

In addition to the sustainability-related information presented in this section, details of the risks specific to nuclear operations are available in section 2.2.2 “Specific nuclear operation risks” and in section 6.1, note 15 “Provisions related to nuclear generation and dedicated assets” to the consolidated financial statements for the financial year ended 31 December 2024.

For the material risks and opportunities identified above, significant current impacts have been assessed and are presented in the Group’s financial statements, see for more details section 6.1, note 20 “Sustainability-issues in the financial statements” to the consolidated financial statements for the financial year ended 31 December 2024.

3.2.6.1 Policies related to resource use and circular economy

The Group makes the optimal use of the natural resources consumed by its value chain an essential component of its corporate responsibility.

In this context, compliance by Group entities with the regulations in force on waste of all kinds is an essential component of this commitment.

(1) Strategic minerals are rare and essential materials for the construction, operation, maintenance and decommissioning of EDF’s industrial facilities as part of the energy transition.

In order to handle the impacts of waste generation and the risks related to incoming resource flows, the Group's CSR policy (see section 3.1.3.6 "Corporate social responsibility policy") aims to develop the circular economy approach and improve the recycling of the produced waste. In this context, the Group endeavours to:

- promote a circular economy approach from the design phase of major projects by integrating an eco-design analysis to reduce the environmental impact throughout the facility's life cycle by involving, among others, regional stakeholders;
- limit the production of conventional waste and promoting the reuse, recycling and recovery of products and/or equipment throughout the value chain: an adapted waste management approach is put in place for new construction sites in order to prevent, limit the production of conventional waste and promote its recycling, recovery and reuse, particularly for parts and equipment during the decommissioning of industrial facilities.

R&D programmes in the area of the circular and regional economy support the engineering and production centres to initiate virtuous approaches to preserve resources and optimise waste generation, sorting and recovery in the *ad hoc* channels.

In addition, regarding the disposal of conventional waste, this policy focuses on various aspects:

- implementation of on-site pre-treatment of various waste types, in order to limit the volume produced and promote the recovery of the remaining fraction (concentration of hydrocarbons, separation of asbestos);
- establishment of partnerships with leading players in recycling;
- waste recycling by approved service providers: for example, soil excavated from construction sites or sediments from hydropower dams are recovered as aggregates for civil engineering or public works;
- sorting and recovery of certain waste through dedicated recovery channels (end-of-life wind farm or solar power assets for EDF Renewables);
- development of the reuse of parts and equipment, particularly during the decommissioning of industrial facilities.

In order to face the risks related to incoming wood fuel resources, the supply of sustainable biomass is based on the development of a sector using certified forests and forestry industry by-products (see section 3.2.5.2.2 "Reducing the activities' contribution to major pressure factors on biodiversity").

In terms of nuclear dismantling and radioactive waste management, the Group has developed, in compliance with the regulations in force, an approach that aims to:

- coordinate all operations in the nuclear fuel cycle, covering the purchasing, use and back end of the fuel cycle in France (pool storage, used fuel reprocessing, radioactive waste packaging, recycling of recoverable materials, and temporary storage of conditioned waste before final storage). Additional details are available in section 1.4.1.1.2.3 "The challenges of nuclear operations";
- assume its responsibilities with regard to radioactive waste and, in France, decommission nuclear power plants safely and in compliance with environmental standards, by optimising and managing the radioactive waste from operations and decommissioning for which the Group is responsible by developing treatment channels to reduce the volume of stored waste; EDF has built up assets to secure the financing of long-term obligations (see section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024).

The EDF group implements all of these measures according to a principle of subsidiarity and proportionality to the challenges within each business line and subsidiary of the Group.

3.2.6.2 Resource inflows

3.2.6.2.1 Actions and resources related to incoming resources

The EDF group has embarked on a process of improving efficiency and optimising incoming resources. These efforts include the optimisation of fuel needs and the responsible management of raw materials. To achieve these objectives, the Group has embarked on a series of initiatives, described below, combining technological innovation, rigorous analyses and sustainable practices.

The EDF group is involved in supporting energy sobriety to control the sizing of new electricity generation infrastructures and, thus, optimise the use of resources necessary for the energy transition (see sections 3.2.2.1.2.2.2 "Downstream: Supporting the Group's customers towards decarbonisation", in the section "Development of energy-efficient uses of electricity", and 3.3.5.1.4 "Actions to manage the impacts and risks identified in relation to the continuity and supply of electricity for consumers and end-users").

Optimisation of fuel needs

To generate electricity and provide energy services, the Group uses raw materials, of which fuels make up a significant proportion: uranium, gas, fuel oil, bioliquids and biomass. In 2024, the Group initiated several actions, which will continue in 2025, to optimise its fuel needs.

To optimise the use of fossil fuels, the Group focuses on several factors:

- the use of high-efficiency gas combined cycles (Edison's Marghera Levante project in Italy, commissioned in July 2023);
- the use of renewable and recovered resources (biomass, waste heat, etc.). Dalkia has an approach to supply these heating plants with renewable biomass resources used as fuel. Wood energy comes mainly from logging by-products. It is a renewable resource derived from pruning, sawmill products and shredded pallets that supplement the supply of sustainably managed forests. For more details on biomass management, see section 3.2.5.2.2 "Reducing the activities' contribution to major pressure factors on biodiversity";
- the optimisation of EDF SEI, Dalkia or EDF Energy's existing facilities by improving energy efficiency or process efficiency, fuel quality requirements, or enhanced monitoring of efficiency levels (e-monitoring). For example, Dalkia uses an energy management tool to optimise the use of fuel in energy facilities and to increase the use of renewable energies (wood energy) as a substitute for fossil fuel, and SEI has obtained ISO 50001 certification for seven thermal sites in island regions;

- the development of renewable energies, which contributes to reducing the use of fossil fuels. The conversion of the thermal fleet of island systems to sustainable liquid biomass enables a reduction in fossil fuel use in the context of facility renovation projects that also aim to optimise the consumption of biomass. EDF Energy is committed to phasing out fossil fuels and closed its last coal power plant in 2023 (see section 3.2 “Environmental information”;
- for the actions related to the optimisation and recycling of uranium, see section 1.4.1.1.2.3 “The challenges of nuclear operations”.

Responsible management of raw materials

This management is reflected in the proactive integration of these risks into the Group’s various specifications for its suppliers. Various subsidiaries of the EDF group have taken numerous steps to ensure responsible management of incoming materials. The “On Deck” approach led by DCN aims to “Decarbonise the Fuel Cycle Together” and reduce the carbon footprint of the nuclear fuel cycle activities, in close partnership with the suppliers concerned. Since 2023, this approach has been extended to the preservation of biodiversity and adaptation to climate change. Workshops were held with the main suppliers and discussions were conducted about supplier facilities, regions and transport routes.

The circular economy is integrated into the Group’s responsible purchasing approach (see section 3.4.3.1 “Responsible purchasing”). The purchasing risk mapping identifies the categories most affected by this issue. The reduction of waste and consumption of raw materials is integrated in the qualification (upstream of calls for tenders) and assessment (during the execution of the contract) systems, as well as in the charters and commitments imposed in the general purchasing conditions. The main tools are:

- the “carbon and resource questionnaire”, used as a criterion for comparing responses to calls for tenders, favours suppliers committed to reducing the material footprint and waste generated by the purchased goods and services;
- the “life cycle sheets” assess the challenges of the circular economy throughout the value chain of the goods and services purchased, from material extraction to their end-of-life, for each category of purchase. relevant purchasing levers are identified for the categories at stake;
- a “reuse guide” is shared with all players in the purchasing function. This guide summarises the Group’s approaches and lists the opportunities for integrating reuse into the purchasing act.

This monitoring of raw or processed materials that are important for the EDF group is coupled with life cycle analyses for the major projects under development.

The Group’s Strategy Division and EDF R&D analyse the challenges, risks and opportunities of the main strategic raw materials used throughout the supply chain, based on several criteria: geopolitical, geological reserves in the sense of scarcity, industrial potential. production and processing of raw materials as well as economic projections of future market conditions (both supply and demand) of these raw materials.

Within the Group, several activities on major project sites include life cycle analysis (LCA) and eco-design approaches to limit the environmental impact of technologies and to optimise resource management.

- EDF Hydro has launched an engineering project focused on eco-design to support the teams in charge of major maintenance and development projects. This project aims for responsible management of raw materials by mobilising a network of specialist contacts for each major family of equipment, by providing tools such as a life cycle analysis (LCA) model, and by supporting teams in the process of drafting calls for tenders. This initiative is part of EDF Hydro’s 2023-2025 Nature Commitments.
- EDF Renewables carried out life cycle analyses of its technologies (onshore and offshore wind power, solar power, photovoltaic, battery storage) to identify the phases of the life cycle and the equipment with the highest impact, aiming to evaluate the technical and economic feasibility of potential areas for improvement.
- As part of the development of the new nuclear EPR programme, the Group is developing an integrated approach in terms of the circular economy, including eco-design from the engineering phase of projects, for the flows of sizing materials, in particular for the civil engineering (concrete and low-carbon steel, reuse of excavated soil). The engineering centres, in proportion to the challenges, consider the circular economy with the help of appropriate methodological decision-making tools such as eco-design and circularity analysis grids. Additionally, for structuring projects for the Group, the industrial ecology and regional synergy dimension is included in the analysis from the design phase in order to optimise the management of incoming and outgoing flows of resources and waste. For example, in the industrial zone of Dunkirk, in collaboration with all regional stakeholders including manufacturers, a project to decarbonise the region and pool resources such as waste heat (1.3TWh of recovered heat annually, 1.5 Mm^3 of water saved, and 43 kt of CO_2 avoided).
- In 2024, as part of its ambition to green its heating networks and to adopt a circular approach, Dalkia rolled out numerous projects using renewable and local recovered energies in order to limit the dependence on fossil fuels:
  - heat from the incineration of household waste in the energy recovery unit;
  - heat recovery from wastewater treatment plants;
  - heat recovery from the fumes from biomass combustion;
  - waste heat recovery from industrial processes;
  - development of geothermal energy conversion.

3.2.6.2.2 Target and indicators relating to incoming resources

To generate electricity and provide energy services, the Group uses raw materials, with fuels accounting for a significant proportion: uranium, gas, fuel oil, bioliquids and biomass. In 2024, the consumption of fossil fuels decreased: coal (-23%), heavy fuel oil (-20%), natural and industrial gas (-14%); these reductions reflect the EDF group’s commitment to reducing fossil fuel consumption.

To date, the EDF group has not established a quantitative target for the consumption of strategic fuels and materials. The main risk management actions, described in section 2.2.1 "Operational performance risks", risk 1E “Risks related to operational continuity of supply chains and contractual relations”, help maintain an acceptable level of risk. Strategic materials are subject to prospective scientific monitoring by the Group’s R&D and Strategy Division, both for the challenges of resource availability and the supply chain as well as the medium-term economic dimension with regard to geostrategic energy configurations. In France, EDF participates in external working groups with public authorities, academic institutions, the French Geological Survey Office (Bureau de recherches gélogiques et minières – BRGM) and the French Observatory of Mineral Resources for Industrial Sectors (Observatoire français des ressources minérales pour les filières industrielles – OFREMI) in order to improve the understanding of the challenges of strategic materials at the European and global levels and to consolidate its own internal analyses.

The following table provides an overview of the materials consumed in 2024.

	2022	2023	2024		
Materials used	**Quantity**	**Quantity**	**Quantity**	**Weight (absolute value) of components / secondary materials used**	**Weight (percentage) of components / secondary materials used**
Nuclear fuel[1] (tonnes)	779[2]	999[2]	1,126	99	10%
Liquid and solid biomass excluding wood (kTonnes)	126	112	268		
Wood (kTonnes)	2,336	2,396	2,548		
Coal (kTonnes)	854	247	189		
Heavy fuel oil (kTonnes)	742	631	502		
Domestic fuel oil (kTonnes)	484	465	506		
Natural gas (TWh LCV)	84,305	69,675	60,150		
Industrial gas (TWh LCV)	390	372	355		
Biogas (TWh LCV)	444	387	514		

(1) The nuclear fuel is that loaded in the reactor.

(2) These values are those of the France scope (excluding the United Kingdom).

Details on the indicators

The EDF group monitors the consumption of materials at the various industrial sites. The quantities consumed are monitored by the various business lines *via* information tools and applications. These measurement protocols are established according to regulatory protocols in agreement with the competent authorities. The measurements are subject to regular checks and are monitored as part of the Group's environmental management system (see section 3.2.1 "Environmental management system").

3.2.6.3 Waste

3.2.6.3.1 Actions and resources related to waste

The Group's entities and companies are committed to a process of continuous improvement according to the principle that the "best waste" is waste that is not produced. The issue of waste is integrated into the environmental management system at the level of the Group's business lines and subsidiaries.

At the level of EDF SA, the "Waste and circular economy" group, which brings together the waste correspondents of the business lines, is tasked with carrying out actions for prevention, optimisation of resources, and reuse in order to limit the production of waste, as well as for promoting the sharing of feedback on prevention and recovery methods and best practices. A multi-year roadmap drawn up by EDF SA makes it possible to structure the actions redeployed by the entities and monitored through quarterly meetings and associated indicators (quantity of waste recovered, quantity of equipment reused, monitoring of a waste recycling rate to encourage recycling, and thus resource savings).

3.2.6.3.1.1 Radioactive materials and waste

The management of radioactive waste is subject to a strict regulatory framework under the control of the French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de la radioprotection - ASNR) in France and under the supervision of the Office for Nuclear Regulation in the United Kingdom (see details on the materials defining radioactive waste in section 1.4.1.1.2.3 "The challenges of nuclear operations", the section on "Storage of conditioned final radioactive waste", and section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024).

It should be noted that 95% of the volume of radioactive waste produced by EDF is "**short-lived**" waste (period less than or equal to 31 years). It mainly comes from filtration systems, and maintenance and servicing operations. Most of the radioactive waste from plant decommissioning works is also short-lived waste.

Recycling of recoverable materials

- **Recycling of used fuel**

EDF's control of each stage of the fuel cycle, the design of high-efficiency fuel and suitable management of that fuel within nuclear units all contribute to optimising natural uranium needs. The recycling of used fuel currently saves around 10% of natural uranium mainly through the use of MOX fuel for a cycle at equilibrium and up to 25% when the uranium reprocessing process is fully operational (see section 1.4.1.1.2.3 "The challenges of nuclear operations" – "A - Stages and challenges of the nuclear fuel cycle").

The treatment of used fuel (separation of uranium, plutonium and fission products, vitrification of fission products and compacting of metal structures) enables the reduction of the volume of radioactive waste by a factor of four to five and its radiotoxicity by a factor of ten.

- **Recycling of VLLW metal materials**

The Technocentre is a planned industrial facility for the processing and recycling of very low-level (VLLW) metals from nuclear facilities. It is planned to be built in Fessenheim.

The objective is the production, after melting, of ingots in the conventional field, whose radiological characteristics guarantee a use without impact on health and the environment whatever the use.

Since 14 February 2022, the legal framework opens up the possibility of recovering VLLW metals.

The project will thus save natural resources in a circular economy approach, reduce the CO_2 emissions (60% reduction compared to steel production by mining), and reduce the need for storage capacity at CIRES (Andra storage facility dedicated to VLLW).

The French sources of recyclable metal, mainly from the decommissioning of facilities, amount to 500,000 tonnes held mainly by EDF (approximately 200,000 tonnes, including steam generators) and Orano (approximately 200,000 tonnes, including diffusers at the Georges Besse 1 plant). The project also aims to recover some of the foreign sources of recyclable metal.

The commissioning of the installation is scheduled for 2031. The preliminary public debate was held from 10 October 2024 to 7 February 2025.

- **Treatment of radioactive large component waste**

Thanks to the long-standing know-how of the EDF group and the establishment of a European industrial platform for radioactive waste treatment plants, the teams of Cyclife, a EDF wholly-owned subsidiary, have been meeting the Group's challenges since 2016, as well those of international customers in their projects to **reduce the volume of their radioactive waste** and to **optimise their operating costs**, in particular for dismantling operations. Whenever possible, Cyclife offers its customers **materials recycling** to promote a responsible and sustainable nuclear industry. Cyclife meets the growing need to preserve the waste disposal and final storage capacity of nuclear power plants, by reducing their volume and, if possible, by recycling the treated materials.

Over the years, the Cyclife group has developed a range of services using the best channels for each category of waste. Cyclife operates three waste treatment facilities in France, the United Kingdom and Sweden. Each of them offers specific radioactive waste incineration and melting capacities.

EDF or external customers can access the facility offering the best technical, economic and regulatory solution for the waste to be treated. Cyclife also provides engineering services to design waste treatment infrastructures and innovative on- and off-site treatment/packaging protocols.

In 2024, the upper parts of the steam generators at the Fessenheim power plant were processed in the Swedish plant, allowing for the recovery of 600 tonnes of metal. The recycled ingots were resold in Sweden to steelmakers.

In France, the Cyclife France plant allows the incineration and melting of waste from facilities in operation or dismantling, thus allowing a significant reduction in volume before storage.

- **Final radioactive waste**

For more details on the management of final radioactive waste, see section 1.4.1.1.2.3 "The challenges of nuclear operations" – "Storage of conditioned final radioactive waste".

3.2.6.3.1.2 Conventional waste

- **Prevention and methodology contribution of the R&D function**

Two R&D projects operationally support the production businesses and focus on the management of conventional waste and the circular economy:

> the DECINECO project: this project is dedicated to research and experimentation aimed at strengthening the robustness of technologies incorporating eco-design and circularity in the industrial production tools. It plays a key role in improving waste management practices and waste recovery or recycling in integrated channels,

> the ECOCIRT project: this project develops methodological analyses of eco-design and supports, in particular, new projects, such as the EPR2, as well as centralised electricity generation activities.

At the same time, projects are developed in collaboration with local stakeholders, using analysis methods to optimise energy and heat flows, such as the EPIFLEX project in Dunkirk.

Recognised for its expertise, the R&D Division also participates in expert groups tasked with developing national and international ISO standards on the circular economy and the management of conventional waste.

- **Reuse**

The EDF group has set up numerous projects, during which the use of recycled materials is encouraged (aggregates, excavated soil, concrete, steel, etc.) and the deposited materials are reused or recovered, in compliance with the standards in force. They make available a large number of equipment items and spare parts that remain usable.

Among these projects, EDF Reutiliz is the EDF group's reuse platform (excluding regulated subsidiaries). It gives a second life to equipment that some Group entities no longer use but that can benefit others. It is intended for Group entities but also for companies, local authorities and associations that can benefit from EDF equipment at competitive prices or free of charge. This reuse approach thus contributes to the preservation of resources, the reduction of waste and the reduction of EDF's GHG emissions (Scope 3), as well as to the reduction of emissions from its stakeholders reusing EDF equipment. It is also a solidarity-based approach that contributes to making donations to associations and schools.

Since 2020, as part of the preparation phase for the dismantling of the Fessenheim nuclear power plant, a local organisation dedicated to reuse has given a second life to more than 7,400 items of industrial and tertiary equipment, representing more than 396 tonnes of equipment reused by other EDF group units, associations, schools and companies.

These projects concern the Group's business lines in connection with energy production and operation but also external stakeholders such as companies, local authorities and associations.

In 2024, reuse *via* EDF Reutiliz avoided the emission of 9,003 tonnes of CO_2 equivalents for EDF and its stakeholders, with 471 tonnes of equipment reused and 5,010 tonnes since 2021.

In 2021, Enedis also set up a digital platform that enabled tracking the reuse of 488 tonnes of equipment in 2024.

- **Recovery**

The waste recycling policy has several aspects, as described in the policy section. Significant initiatives for businesses related to renewable energies and thermal generation concern, for example, wind turbine blades and ash management:

> **Wind turbine blades**

Composed mainly of concrete, steel, aluminium, special chemical elements used in the composition of permanent magnets, the structure of a wind turbine is easily 90% recyclable. Including concrete foundations, this figure reaches 95 to 98%.

Solutions for recycling or reuse of blades, although not structured on an industrial scale, are being developed for the sector: recovery and transformation into aggregates for integration into concrete, cement or resin (then transformation into insulation panels, etc.), transformation into street furniture (example of the dismantling of the EDF Renewables fleet at Tenesa in Corsica). For all the wind farms under its management, EDF Renewables is committed to reuse, recycle or recover wind turbine blades when they are no longer in use to prevent them from being sent to landfills. Unveiled by Siemens Gamesa in 2021, a new model of recyclable blades will be used by EDF Renewables on 10 wind turbines at the Calvados offshore wind farm. This marks a first in France. Made from a combination of materials cast together with resin, this new blade model allows the resin to be effectively separated from the other components at the end of the blade's life so that the materials can be reused in a wide range of applications (automotive, aeronautics, railways, etc.).

> Ashes recovered in technical processes

Resulting from the combustion of coal to generate electricity, coal ashes have properties that enable them to be used in various applications (in particular cement and concrete). As part of a continuous improvement approach, EDF has undertaken research to improve the recovery of ash, sediment and sludge in particular through the scientific work of the RECORD association, a network dedicated to the development of the circular economy and a national player in applied research in the field of the efficient use of resources and waste, with the collaboration of the Group's R&D.

3.2.6.3.1.3 Decommissioning of nuclear and thermal power plants

The Decommissioning and Waste Projects Division of EDF is responsible for the dismantling of reactors that have been permanently shut down and for the management of all waste, whether from operation or dismantling.

There are currently 11 reactors being dismantled: 9 so-called "generation 1" reactors and the 2 Fessenheim reactors shut down in 2020.

From 25 March to 30 April 2024, the public inquiry was held on the request for authorisation to dismantle the Fessenheim plant. After 37 days of public consultation, more than 200 contributions and very favourable comments (nearly 80% positive contributions from the public), EDF received the conclusions of the commission of inquiry: an unqualified favourable opinion.

To carry out some of these operations, the Group relies on the teams of Cyclife, a EDF wholly owned subsidiary, which offers innovative tools and processes (remote operation, robots) adapted to the various reactor technologies to be dismantled. This know-how combined with unique industrial resources for the treatment of waste from these operations enables the development of **combined dismantling and waste handling solutions**, and thus optimise, through the minimisation of on-site cutting, the use of centralised facilities, schedules, costs, and the volumes of waste produced. These services are also provided internationally.

Regarding the decommissioning of thermal power plants, the Group implements various methods and engineering studies to limit decommissioning waste, on the one hand, and to ensure its optimal recovery, on the other: reuse of equipment (see EDF Reutiliz), reuse of materials on site at the end of the project, material recycling of all waste for which there is a channel, reduction of the production of hazardous waste. The sale of scrap metal represents a significant economic gain.

3.2.6.3.2 Waste target

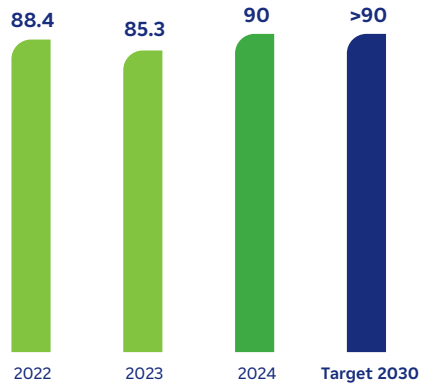
Work is underway to build an ambition to save natural uranium through the recycling of used fuel, in connection with the actions described in section 3.2.6.3.1.1 "Radioactive materials and waste".

Target	Reference	Review	Scope	2024
90%: annual rate of conventional waste directed towards a waste recovery industry **in 2030**	88.4 in 2022	Annual	Own activities	90%

Group key performance indicator

The conventional waste recycling rate target ensures that the Group optimally manages its conventional waste production with a circularity approach that allows, following treatment, recycling and possibly reuse of raw materials in the production circuit, and, lastly, resource savings. It thus limits the tonnage of non-recovered waste, requiring final storage that may have various negative impacts on the environment. This target was defined through an analysis of the main waste-producing activities and the technical possibilities of waste collection, sorting and recycling.

Annual rate of conventional waste directed towards a waste recovery industry (in %)



Inter-annual fluctuations in construction site waste production are linked to the diversity of construction sites in the various production channels.

The decommissioning of old industrial buildings that may contain asbestos-containing waste for which there are no recovery channels, differs from the dam emptying programmes producing large volumes of sediment that vary from year to year depending on the sites with optimised recovery circuits. These factors are likely to result in variations in the quantity of waste recovered around the target of 90%.

Regarding radioactive waste, the indicators are impacted by the maintenance and decommissioning projects. They are subject to technical and regulatory requirements that lead to variability in the planning and operational implementation of projects and, *in fine*, in the quantity and nature of the radioactive waste produced. As such, the Group does not set a target for radioactive waste.

These indicators are presented in the following section 3.2.6.3.3 "Waste indicators".

Details on the indicators

The denominator of the indicator corresponds to the total quantity of conventional hazardous and non-hazardous waste disposed of over a one-year period. The tonnages of conventional hazardous and non-hazardous waste corresponding to the reporting period take into account the waste associated with normal (generation during normal operations) or exceptional (site, works, construction, dismantling, etc.) activity; generated over a previous period, stored on site since then due to the absence of a suitable treatment channel or pending massification before disposal, but disposed of over the period in question (destocking of waste generated over a previous period). The result of the performance indicator corresponds to the proportion of conventional hazardous and non-hazardous waste directed to a recovery channel compared to the sum of conventional hazardous and non-hazardous waste disposed. The indicator's scope covers the Group.

3.2.6.3.3 Waste indicators

		2023 quantity	2024 quantity
Total quantity of conventional waste produced		502,513	1,334,899
Total quantity of non-disposed conventional waste (tonnes)			1,200,902
Total quantity of non-disposed hazardous waste (tonnes)	Preparation for reuse [i]		25
	Recycling [ii]		52,994
	Other [iii]		8,375
Total quantity of non-disposed non-hazardous waste (tonnes)	Preparation for reuse [i]		1,753
	Recycling [ii]		890,136
	Other [iii]		247,619
Total quantity of waste disposed (tonnes)			133,997
Total quantity of hazardous waste disposed (tonnes)	Incineration [i]		3,279
	Landfill [ii]		7,033
	Other [iii]		18,980
Total quantity of non-hazardous waste disposed (tonnes)	Incineration [i]		1,629
	Landfill [ii]		52,189
	Other [iii]		50,887
Total quantity of non-recycled waste (tonnes)			389,991
Total amount of non-recycled waste (%)			29%
Total quantity of hazardous waste (tonnes)		66,447	90,686
France: very-low-level solid radioactive waste (VLLW) (m^3)		6,451	6,031
France: low- and intermediate-level solid radioactive waste (LILW) (m^3)		5,298	6,603
France: high-level solid radioactive waste (HLW) (m^3)		261	284
United States: Framatone class A radioactive waste		662	807
United Kingdom: radioactive waste			589
Total quantity of radioactive waste (m^3)			14,314

In summary, the main **conventional waste** streams generated correspond to sediments from hydropower dams and excavated soil and rubble from construction sites (construction and decommissioning of generation units, distribution networks). The production data for conventional non-hazardous waste were marked in 2024 by the inclusion in EDF Energy's reporting scope of waste from the Hinkley Point C construction site. The main hazardous waste is used oil and hydrocarbon mixtures from the operation and maintenance of thermal and nuclear power plants.

The generation of conventional waste amounted to 1,334,899 tonnes in 2024 at Group level compared to 502,513 tonnes in 2023. This significant increase was mainly due to a higher production of sediment waste from the cleaning of EDF dams, a rise in activity on the Enedis distribution networks, notably in relation to the connection of renewable energies, the first earthworks on the EPR2 project in Penly, and the extension of the reporting scope to include the Hinkley Point C site in the United Kingdom. For EDF, new monitoring tools were recently put in place to further optimise the management of the generation of conventional waste from the operation of industrial activities.

In addition to the previous indicators, the nuclear generation plants **in operation** in France (EDF) are mainly affected by very-low-level solid **radioactive waste** (VLLW) and low- and intermediate-level solid radioactive waste (LILW). In France, the volume of VLLW from activities amounted to 3,849 m^3 in 2024, compared to 3,716 m^3 in 2023. The volume of LILW waste (including Framatone in France) amounted to 6,195 m^3 in 2024 compared to 5,151 m^3 in 2023. These changes are typical inter-annual variations, depending on the nature of maintenance activities.

The waste from Framatome's **industrial** activities in the United States are identified by the Class A radioactive waste indicators, with the volume amounting to 807 m^3 compared to 662 m^3 in 2023.

In France, the volume of VLLW from **decommissioning** and industrial activities (including Framatome) amounted to 2,182 m^3 in 2024, compared to 2,735 m^3 in 2023, and the volume of LILW amounted to 408 m^3 in 2024, compared to 147 m^3 in 2023. In Belgium, the decommissioning activities at the Dessel site are underway and have not produced any Class A radioactive waste since 2020.

Details on the indicators

The EDF group monitors the quantities of **conventional waste** produced by the various sites using European classifications, thus enabling common definitions. The declared quantities are monitored by the various sites *via* dedicated information tools and applications. The quantities of conventional hazardous and non-hazardous waste removed are measured by identifying the quantities sent to treatment channels. In Europe, the classification of hazardous and non-hazardous waste and the type of treatment used (recycling, other recovery, disposal, etc.) is mainly defined by European law. These data collections are established according to the regulatory protocols in agreement with the authorities in charge, the measurements are subject to regular checks and are monitored as part of the Group's environmental management system (see section 3.2.1 "Environmental management system").

In view of the different regulations and classifications of **radioactive waste** in the United States, the United Kingdom and France, and in order to make information easier to understand, high-level waste, low- and medium-level waste and very low-level waste are presented for France, class A waste for the United States and all radioactive waste for the United Kingdom. EDF's total radioactive waste is the sum of these five data points.

The indicators pertaining to "very low level radioactive Waste (VLLW) from operations and from decommissioning" take into account the actual volume of the VLLW directly evacuated from the Industrial Gathering, Storing, and Stockpiling Centre (Centre industriel de regroupement, d'entreposage et de stockage-CIRES) from the generation sites.

The indicators pertaining to "low and intermediate level radioactive waste (LLW and ILW) from activity and from decommissioning" take into account the actual volume of the LLW and ILW waste directly evacuated to the Aube Storage Centre (CSA) from the generation sites.

In each case, those volume correspond to:

- the volume of waste produced in the year for operating;
- the volume of waste shipped in the year for sites being decommissioned.

The volumes stored are monitored by the ASNR in France and the Nuclear Safety Authority in the United Kingdom.

For the "high-level radioactive waste (HLW)" indicator, the packaging of the waste is taken into account in the sizing.

Given the technical constraints linked to processing operations, the packages are produced approximately 10 years after the fuel has effectively generated waste. The indicator is thus an estimate that relies on the long-standing waste packaging practices that projects the current packaging ratio into the near future (number of packages effectively created following the processing of one tonne of fuel). This ratio essentially depends on the packaging used to optimise the operations:

- for waste generated directly from spent fuel: this is defined through a combination of factors taken from the national inventory of radioactive materials and waste prepared by the French National Agency for Radioactive Waste Management (ANDRA);
- for waste not generated directly from fuel (control rods, *etc.*) and for which an average lifespan of 10 years is assumed: it is produced on the basis of feedback.

Radioactive waste is shipped and handled in accordance with domestic regulations in force in each country.

The data regarding EDF's nuclear-related radioactive waste in the United Kingdom is based on the inventory of radioactive waste produced during the year, established by the Nuclear Decommissioning Authority. This is an estimate of the annual volume of waste that will be considered and classified as radioactive waste at the end-of-life of the nuclear generation sites.

These estimates include packaging necessary to allow the transport of waste off-site.

All intermediate-level radioactive waste is stored on nuclear generation sites.

Low-level radioactive waste is sent for treatment as intermediate-level waste in accordance with current regulations.

3.2.6.4 Expenditures and research effort allocated to actions relating to resource use and the circular economy

The Group's management tools do not allow, for the first year of application of the CSRD, an exhaustive costing of the actions relating to resource use and the circular economy. For the coming years, further work will make it possible to refine the available data and will more accurately reflect the extent of the expenditure incurred by the Group relating to resource use and the circular economy.

Concerning the management of the back end of the nuclear cycle, the risks specific to nuclear operations are available in section 2.2.2 "Specific nuclear operation risks" and the significant current impacts have been assessed and are presented in the Group's financial statements in section 6.1, note 15 "Provisions related to nuclear generation and dedicated assets" and note 20 "Sustainability-issues in the financial statements" to the consolidated financial statements for the financial year ended 31 December 2024.

In 2024, in addition to the actions and expenses carried out on the generation assets, the Group contributed, through its identified research and development efforts, €6 million to the management of the use of natural resources in an optimal and sustainable manner, the development of new waste treatment and recycling channels, as well as to the development of methods and decision-making tools for the circular economy.

3.2.7 Green taxonomy

As the world's leading generator of electricity with no direct CO_2[1] emissions, the Group is making a major contribution to the objective of climate change mitigation. A very large share of the Group's investments is dedicated to the maintenance and lifespan extension of its non-carbon generation assets, (notably the *Grand Carénage* industrial refurbishment programme, see section 1.4.1.1.2.3 "The challenges of nuclear operations"), which are governed by safety regulations (for hydropower and nuclear activities) that include the assessment of extreme risks including climate events.

These investments contribute to the resilience of the electricity system and take into account the challenges of adapting generation assets. However, investments and expenditure made exclusively for the purpose of adapting to climate change remain marginal (see section 3.2.2.2 "Climate change adaptation").

In addition, as a producer and seller of electricity and energy services, the Group does not contribute substantially to the activities covered by the Commission Delegated Regulation (EU) 2023/2486 in respect of the sustainable use of water resources, the transition to a circular economy, pollution prevention and control, and biodiversity protection/restoration. However, it is important to note that since the Group's *raison d'être* is based on a systemic vision of global issues, the Group incurs expenses to ensure that it does not harm these objectives, particularly as regards the protection of water resources and biodiversity. Actions that the Group undertakes to maximise its positive impacts and reduce its negative impacts are detailed in the sustainability statement (sections 3.2.3, 3.2.4, 3.2.5 and 3.2.6) and are included in the taxonomy indicators.

In 2024, 59% of the Group's investments were aligned with the European green taxonomy (64% in 2023), *i.e.* an amount of €15.6 billion, including notably 26% in investments in nuclear in the European Union, 22% in network activities and 10% in renewable energy generation facilities (solar, wind, hydropower).

It should be noted **that the taxonomy does not take into account nuclear activities outside the European Union or non-core activities related to nuclear generation in its eligibility criteria.** The rate of our low-carbon investments for all our activities, including these activities, is close to 94% (see section 3.2.2.1.2.4 "Invested resources and current and future expenditures related to the climate change objective").

3.2.7.1 Applicable regulatory framework

As part of the Green Deal for Europe aimed at achieving carbon neutrality by 2050 and pursuant to Regulation 2020/852 of 18 June 2020 (known as the "Taxonomy Regulation"), on 4 June 2021, the European Commission adopted Regulation (EU) 2021/2139, which defines the criteria for the technical examination of the eligibility and alignment of activities with regard to the first two environmental objectives (climate change mitigation and climate change adaptation).

Regulation (EU) 2021/2178, known as "Article 8", on the content and presentation of the information to be disclosed, was adopted on 6 July 2021. Regulation (EU) 2022/1214 covering certain activities in the nuclear and gas sectors was adopted on 9 March 2022. Lastly, Regulations (EU) 2023/2485 and 2023/2486, amending Regulations 2021/2139 and 2021/2178, respectively, were adopted on 27 June 2023. In particular, Commission Delegated Regulation 2023/2486 analyses the eligibility of activities with regard to the four other environmental objectives from 2023 (the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems), in addition to the two objectives already targeted by the regulations.

The purpose of these regulations is to determine the conditions, based on transparent criteria, under which economic activities can be considered as contributing substantially to the six environmental objectives, in order to direct capital flows towards them.

An activity is said to be **taxonomy-eligible** if it is included in the list of activities contained in the regulations.

An activity can contribute to the climate objectives:

- based on its **own performance** (for example, in the case of the EDF group, generation of electricity from renewable sources); or
- when it directly enables the exercise of other sustainable activities. It is then considered to be an **enabling activity** (for example, in the case of the EDF group, electricity transmission); or
- when it supports the transition to a climate-neutral economy and there is no technologically and economically feasible low-carbon alternative. In this case, it is considered to be a **transitional** activity (for example, in the case of the EDF group, certain activities in the nuclear sector).

An eligible activity will be considered **taxonomy-aligned** if:

- it complies with the technical criteria of contributing substantially to one of the six environmental objectives (*e.g.* emission threshold criteria);
- it meets the so-called "Do No Significant Harm" (DNSH) criteria, *i.e.* it does not significantly harm the other environmental objectives; and
- it complies with the minimum safeguards for the protection of human rights, anti-corruption measures, tax matters and prevention of anti-competitive practices (see section 3.2.7.3.2 "Compliance with minimum safeguards").

In compliance with these regulations, the Group presents the three required indicators, based on its consolidated financial statements: the proportion of turnover, capital expenditure ("$CAPEX_T$") and operating expenditure ("$OPEX_T$") associated with taxonomy-aligned and taxonomy-eligible activities.

3.2.7.2 Taxonomy-eligibility of the Group's activities

3.2.7.2.1 Taxonomy-eligible EDF group activities

Applying the above definition, the following Group activities are eligible for the Taxonomy with regard to climate objectives:

- **Activities related to nuclear power conducted in European Union countries**, which include:
  - the construction and safe operation of new nuclear power plants for the generation of electricity or heat, including for the production of hydrogen, using the best available technologies (4.27): projects authorised by 2045 at the latest by the competent authorities for the construction and operation of best available technology nuclear reactors. For the Group, these activities mainly concern the Flamanville 3 power plant, as well as the preparatory studies and work conducted in connection with the EPR2 project in France;

(1) *World ranking of zero direct CO_2 emissions power producers* (2023, TWh) (power-producers-ranking.enerdata.net/).

- the electricity generation from nuclear energy in existing facilities (4.28) in France and Belgium: projects authorised no later than 2040 by the competent authorities aimed at extending the operating lifespan of the existing reactors.

  The analysis of this last activity in France took account of the operation and maintenance activities (regulatory controls, maintenance programmes, etc.), modifications, replacements of major components, and operations that comply with the generic ASNR notices received (900MW series) or to be received by 2040 (1,300MW and 1,450MW series) and with the technical requirements that allow the French nuclear fleet to continue operating beyond 40 years. All activities across the nuclear fleet in operation in France are eligible under activity 4.28.

  As a result of the Taxonomy definition, activities related to nuclear generation and the construction of new nuclear power plants in the United Kingdom are excluded from the European taxonomy. This significantly affects the taxonomy ratios of the Group, which is making significant investments particularly in the Hinkley Point C project.

- **Electricity distribution**: construction and operation of interconnected electricity distribution and transmission networks (4.9).
- **Electricity generation from renewable energies**, which include:
  - electricity generation using solar power technology (4.1);
  - electricity generation from onshore and offshore wind power (4.3);
  - construction and operation of electricity generation of hydropower plants: reservoir, run-of-river, and pumped-storage plants (4.5; 4.10);
  - electricity storage (4.10);
  - maintenance and repair of renewable energy technologies (activity 7.6).
- **Sales of electricity stemming from purchase obligations**: this legislative and regulatory system in force in France requires EDF to purchase volumes of electricity generated by certain generation sectors and then to sell it in an optimised manner in the same way as EDF's own production. This activity, not explicitly mentioned in the regulations, was, after analysis, considered as contributing substantially to the mitigation of climate change and as being related to eligible activities.
- **Local heating/cooling networks, cogeneration of heat/cold and power from bioenergy** (4.14; 4.20).
- **Energy efficiency and performance services, research and development**, which correspond to:
  - installation, maintenance and repair of energy efficiency equipment (7.3), and professional services related to the energy performance of buildings (9.3);
  - research, development and innovation expenditures to reduce or avoid emissions (activity 9.1).
- **Fossil gas related activities**, which include:
  - electricity generation from fossil gaseous fuels (4.29);
  - high-efficiency co-generation of heat/cool and power from fossil gaseous fuels (activity 4.30).

The following table summarises nuclear energy and fossil gas related activities. It is applicable for each taxonomy indicator. The additional information required by the taxonomy on these activities is given in section 3.2.7.4.4.

	Nuclear energy related activities	
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle. (4.26)	NO
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear facilities to generate electricity or industrial heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using the best available technologies. (4.27)	YES
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear facilities that generate electricity or industrial heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades. (4.28)	YES
	Fossil gas related activities	
1	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that generate electricity using fossil gaseous fuels. (4.29)	YES
2	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels. (4.30)	YES
3	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cold using fossil gaseous fuels. (4.31)	NO

3.2.7.2.2 Taxonomy non-eligible activities under current legislation

In the case of the following activities, the Group has not identified a direct contribution to one or more objectives of the European taxonomy, or they are not covered by the regulations:

- selling electricity not produced by EDF or whose source of generation is not taxonomy-eligible. Thus, the aggregation activity, which consists of selling electricity purchased from (renewable) electricity generators or from players with load shedding capacity, was considered ineligible because it is equivalent to selling;
- selling gas;
- purchases and sales on wholesale markets in connection with electricity and gas optimisation operations;
- electricity generation from nuclear energy carried out outside the European Union, for the Group, in particular the activity of EDF Energy in the United Kingdom;
- supply of equipment, services for nuclear power plants and selling of fuel.

It should be noted that **turnover**$_T$, as defined by the Taxonomy, is the total amount of turnover falling within the scope of IFRS 15 "Revenue from contracts with customers".

This definition thus excludes the Group's trading margin from the Taxonomy turnover, although it is included in the "Sales" figure in the financial statements.

3.2.7.3 Taxonomy-alignment of the Group's eligible activities

An eligible activity will be said to be "Taxonomy-aligned" if it meets the technical criteria to qualify as a substantial contribution to one of the six environmental objectives, does not significantly harm the other environmental objectives (DNSH), and complies with the minimum safeguards.

To assess the taxonomy-alignment of its activities, each Group entity has verified compliance with the criteria for substantial contribution to climate change mitigation or adaptation.

3.2.7.3.1 DNSH (Do No Significant Harm) criteria

When analysing the **DNSH criteria**, EDF refers to its **environmental management system** (EMS), its Corporate Social Responsibility (CSR) policy, and its Ethics Charter, which all commit its entities to a precautionary approach, acting responsibly and developing technologies which respect the environment. Management of the identified risks, including those associated with climate change, is fully integrated into the Group's global risk management process and internal control system. The most significant risks are subject to control plans in line with the guidelines of the Corporate Social Responsibility (CSR) policy and are described, as are the related action plans, in section 3.2 "Environmental information".

Pursuant to this policy, the EDF group undertakes to assess the impacts of climate change on its current and future activities, adapt existing installations to make them less sensitive to climate conditions and more resilient to extreme weather events, incorporate climate change scenarios into the design of new installations, adapt the Group's offerings, internal operations, and expertise to encompass climate change, and take into account the systemic dimension of climate change.

All EDF group entities take account of climate risks when mapping their risks, whether physical risks or "transition risks". The DNSH criteria have been analysed for each Group activity.

The Group's EMS covers the environmental objectives of the Taxonomy as follows.

Water is an essential resource to generate most types of power, either to cool nuclear and thermal power stations, or to drive hydroelectric power stations. In addition, water is a "common good", the management of which involves the development of collective rules. This is why the **Group is committed**, in its CSR policy, to **protecting and managing water in an integrated and sustainable manner,** both quantitatively and qualitatively and to consulting with the territories in which it operates, by fully integrating the local dimension of water, in particular the multi-use of water under increasing climatic constraints. The policies and actions implemented in relation to water are detailed in section 3.2.4. "ESRS E3 - Water resources".

The Group adopts a responsible approach to its **waste** by developing a **circular economy** approach to promote the control of its waste production, reuse, recycling and the recovery of products and materials throughout the value chain (material and energy recovery). It thus aims to prioritise and limit as accurately as possible the use of incoming minerals, processed products such as cement and steel as well as uranium throughout the industrial transformation sector. The Group also takes full responsibility for its radioactive waste. Its decommissioning procedures for permanently shut-down nuclear power plants in France are completely safe and respect the environment. EDF optimises and manages the radioactive waste from operations and decommissioning for which it is responsible, and develops processing channels to reduce the volume of stored waste.

The Group also ensures compliance with the discharge limits set by regulations and implements a programme to **control discharges and monitor the environment**. The impact studies, including a health component, carried out upstream of projects, and the application of discharge limits make it possible to ensure that there is no significant impact on the environment or stakeholders. In addition, for nuclear power plants, the environmental monitoring carried out by each site confirms the absence of any significant impact of liquid chemical discharges on the aquatic environment.

Nuclear safety is the Group's top priority and a major, ongoing concern for the Group throughout the entire cycle, from procurement of fuel to decommissioning and waste management. Safety is assured by technical and organisational specifications designed to prevent a nuclear accident, and in the hypothetical occurrence of such an accident, to limit its consequences.

With regard to the generic DNSH relating to the **prevention and control of pollution**, which requires that the activity does not lead to the manufacture, placing on the market or use of substances specified in Annex C of Regulation (EU) 2023/2486 of 27 June 2023, in particular for our nuclear activities, the Group has set up a substance monitoring process based on its own manufacturing and operating/use processes and/or information provided by its suppliers. Through this process, the Group maintains an inventory of substances subject to the various EU regulations listed in Annex C of the aforementioned regulation.

The Group considers that its substances management process is robust in terms of regulatory anticipation, of regulatory compliance, of substitution studies in conjunction with its suppliers, and of management of risks related to the use of hazardous substances. The process also proactively covers those substances which are not yet subject to regulation but which are the subject of regulatory development discussions, notably REACH[1] authorisations and restrictions. The Group considers that the necessary analyses and documentation of the procedures were carried out in accordance with reasonable efforts; which leads it to consider that its activities are aligned with regard to this criterion.

Biodiversity preservation is also a major challenge for the Group: its activities, in its direct operations or in its value chain, interact with the natural land, aquatic and marine environments. The EDF group acts on its most significant impacts and dependencies, in line with the major pressure factors on biodiversity, in order to: reduce the contribution of its activities to these pressure factors; recreate spaces and conditions favourable to biodiversity; strengthen the improvement of knowledge and its sharing. In 2023, the Group renewed its commitment to two voluntary schemes: "Companies Committed to Nature", under the aegis of the French Biodiversity Office (Office français de la biodiversité – OFB), and "Act4nature International", under the aegis of the association Entreprises pour l'Environnement (EPE). The policies and actions implemented in relation to the preservation of biodiversity are detailed in section 3.2.5. "ESRS E4 - Biodiversity and ecosystems".

3.2.7.3.2 Compliance with minimum safeguards

The Group's compliance with the minimum safeguards criterion is based on robust processes in terms of:

- protection of human rights (see section 3.3.1 "The Group's social commitments");
- fight against corruption (see section 3.4.2.3.1 "Anti-corruption programme");
- taxation (see section 3.4.2.4 "Tax policy - Contribution to development through taxation");
- fight against anti-competitive practices (see section 3.4.2.3.4 "Preventing breaches of competition law").

(1) EU regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

In accordance with the United Nations Guiding Principles on business and human rights (UNGPs), EDF undertakes to respect, at the very least, the international standards for the protection and defence of human rights and fundamental freedoms, and in particular the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, and the fundamental conventions of the International Labour Organization (ILO).

In 2021, EDF published a set of guidelines[1] listing the commitments of the Group and the fundamental requirements for its business relationships in terms of human rights and fundamental freedoms, environmental protection, protection of personal health and safety and business ethics. These EDF group human rights commitments were approved and signed by the Chairman and Chief Executive Officer.

The implementation of these commitments is based on principles of action that apply to all the Group's activities in a continuous progress approach, notably:

- initial and ongoing assessment and management of environmental and societal (E&S) impacts and risks, including those caused by the activities of business partners and contacts;
- organisation, throughout the world, of a transparent dialogue and consultation process for each new project. EDF strives to put its commitments into practice ahead of its investment processes, even as regards its business partners and contacts, by requiring its suppliers and subcontractors to comply with CSR requirements in operations with their mutual business contacts. It is particularly attentive to the rights of local and indigenous communities and vulnerable groups;
- provision of whistleblowing systems for reporting and handling matters of concern; these systems must be accessible and notified to anyone who could be impacted by the Company's operations, as well as guaranteeing confidentiality and protecting internal whistleblowers (employees and external workers). The matters reported are assessed and remedial measures are taken if necessary.

This public document applies to EDF and the companies it controls[2]. The subsidiary Enedis has drawn up its own vigilance plan to meet the requirements of French Law 2017-399 of 27 March 2017.

In the event that a Group entity receives a formal warning or is sanctioned or convicted by the authorities for an offence relating to human rights, tax matters, corruption or anti-competitive practices, the Group reviews the relevant processes and puts in place remedial actions to ensure continued compliance with the minimum safeguards. In 2024, the Group was not subject to any convictions that would call into question the alignment of EDF's activities.

3.2.7.3.3 Analysis of nuclear activity

The Group refers to Regulation (EU) 2022/1214 on economic activities in certain energy sectors to assess the technical and environmental criteria for taxonomy-alignment regarding its nuclear activities in France. The analyses conducted cover the existing nuclear fleet, as well as projects for the construction and operation of new facilities (Flamanville 3 power plant, preparatory studies and work under way for EPR2).

In summary, the assessment of compliance with the technical criteria is mainly based on:

- transposition of the Euratom directives into French law and compliance with the Euratom treaty and European Union environmental law (criteria 1.a and 1.b);
- the legal and regulatory framework set up in France to secure the financing of long-term expenses for the dismantling of basic nuclear installations and long-term storage of radioactive waste, implemented through the obligation for operators of nuclear facilities to build up funds (dedicated assets)[3]; the entire system is overseen by the administrative authorities (criteria 1.c, 1.d and 4);
- the existence of operational final storage facilities in France for all very-low-level (VLLW) and short-lived low- and intermediate-level radioactive waste (LILW) from nuclear facilities in operation or being decommissioned, as well as the French National Plan for Managing Radioactive Matter and Waste (Plan national de gestion des matières et déchets radioactifs – PNGMDR) governing the commissioning of high-level radioactive waste storage facilities in France[4] (criteria 1.e, 1.f and 7 for activity 4.27; criteria 1.e, 1.f and 7 for activity 4.28);
- EDF's compliance with applicable nuclear safety requirements, as confirmed by the results of inspections by the French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de radioprotection – ASNR), particularly regarding the performance of metallic nuclear fuel cladding in the event of an accident (criterion 2);
- implementation of the project notification process in accordance with Article 41 of the Euratom treaty currently in force (criterion 3);
- compliance with the safety criteria defined in Directive 2009/71/Euratom, particularly relating to extreme natural risks as defined in the regulations and the most recent IAEA and WENRA (Western European Nuclear Regulators' Association) international guidelines. For the existing nuclear fleet, this compliance is demonstrated by the periodic safety review process applied to installations, which is governed by law (criteria 5 to 7 for activity 4.27 and criteria 5 and 6 for activity 4.28).

The environmental criteria were analysed based on:

- the Life-Cycle Assessment of EDF's nuclear kWh published in 2022, which concluded that the carbon content was under 4 gCO_2e/kWh, far below the threshold of 100 gCO_2e/kWh (substantial contribution criterion);
- the safety reviews implemented during 10-year inspections, intended to improve protection as much as possible against the risks or drawbacks of basic nuclear installations regarding security, public health and safety or protection of nature and the environment in economically acceptable conditions, taking account of the state of knowledge, techniques and practices, and the characteristics of the installation's environment (Article L. 593-18 of the French Environment Code) and the IPCC[5] scenarios (DNSH criterion "climate change adaptation");
- the regulatory framework specific to each nuclear power plant, which sets limitations in terms of water withdrawal and radioactive, chemical and thermal effluent discharge, and defines obligations in terms of regular environmental monitoring, declarations to the public authorities, and information to the public (DNSH criterion "sustainable use of water and marine resources");

(1) www.edf.fr/sites/groupe/files/contrib/groupe-edf/engagements/2021/rse/edfgroup_rse_referentiel-ddv-2021_en.pdf
(2) Excluding Enedis, the distribution network operator, which is a subsidiary managed in compliance with the management independence rules defined in the French Energy Code.
(3) See section 6.1, note 15.1.2.2 "Strategic allocation and composition of dedicated assets" to the consolidated financial statements for the financial year ended 31 December 2024.
(4) The Cigéo project is France's deep geological storage facility project for long-lived medium- and high-level radioactive waste. It is designed to store highly radioactive long-lived waste generated by all French nuclear facilities (see chapter 1 "The Group, its strategy and its activities", section 1.4.1.1.2.3 "The challenges of nuclear operations").
(5) Climate change assessment reports: impacts, adaptation and vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body responsible for assessing climate change science: www.ipcc.ch/reports/.

- implementation by the Group, in compliance with the applicable regulatory framework, of a closed nuclear fuel cycle strategy as defined in national energy policy guidelines. Furthermore, the Group optimises and manages the conventional and radioactive waste from operations and decommissioning for which it is responsible, and develops processing channels to reduce the volume of stored waste (DNSH criterion "transition to a circular economy");
- implementation of administrative procedures defined by the regulations, which must be followed to obtain the necessary authorisations for radioactive discharge. In terms of spent fuel and waste management, the French National Plan for Managing Radioactive Matter and Waste complies with the Euratom directives and is designed to guarantee sustainable management of radioactive substances and waste that respects the principle of protection of human health, safety, and the environment (DNSH criterion "pollution prevention and control");
- impact studies and analyses of effects on the environment and biodiversity, conducted for each facility prior to its construction and updated in response to regulatory changes, modifications to installations and new environmental data according to the criteria defined in amended Directive 2011/92/EU (DNSH criterion "prevention and restoration of biodiversity and ecosystems").

Following the analyses conducted, the Group has concluded that its nuclear activities in France are aligned with the Green Taxonomy for the fleet currently in operation and for new plant construction projects.

3.2.7.3.4 Conclusion on the taxonomy-alignment of the Group's activities

- **Nuclear activities:** nuclear activities in the European Union, for the existing nuclear fleet and for new build projects, are aligned.
- **Fossil gas related activities:** to date, due to technical criteria particularly in terms of maximum emission levels (gCO_2/kWh), all the Group's gas-fired energy generation activities are eligible, but not aligned.
- **Electricity distribution:** all the technical criteria are met and this activity is aligned.
- **Power generation from renewable energies:** all the technical criteria are met except for a tiny fraction of hydropower plants: only a tiny fraction of these activities does not meet the technical criteria to qualify as a substantial contribution. Therefore, except for a small part, this activity is aligned.
- **Heating or cooling networks and cogeneration facilities:** facilities using more than 50% renewable energy, 50% fatal heat, 75% heat from cogeneration, or 50% from a combination of these types of energy or heat are considered aligned. The rest of these activities is eligible but not aligned.
- **Eligible energy efficiency and performance, research and development services:** these services are considered aligned with the Taxonomy.

3.2.7.4 Taxonomy indicators

The three Taxonomy indicators, *i.e.* proportion of turnover ("$Turnover_T$"), proportion of capital expenditure ("$CAPEX_T$") and proportion of operating expenditure ("$OPEX_T$"), are based on consolidated Group data (excluding companies accounted for using the equity method) (see chapter 6 "Financial statements").

When the definitions in the regulations lack precision, the main rules applied by the Group are specified.

Summarised distribution of activities

The Group's activities mainly contribute to the climate change mitigation objective and only marginally to the climate change adaptation objective. In addition, the Group is undertaking specific actions on the other four environmental objectives, which were identified as part of the work on the CSRD.

The table below presents the taxonomy indicators broken down by environmental objective. In accordance with regulations, the percentages presented in this table may be "double-counted" since the same data may be included in several objectives (CCM and CCA). This concerns the CAPEX indicator for 3% and the OPEX indicator for 2%.

2024	Proportion of CAPEX		Proportion of turnover		Proportion of OPEX	
By objective:	Taxonomy-aligned	Taxonomy-eligible	Taxonomy-aligned	Taxonomy-eligible	Taxonomy-aligned	Taxonomy-eligible
Climate change mitigation (CCM)	59%	62%	55%	60%	62%	66%
Climate change adaptation (CCA)	3%	3%	n/a	n/a	6%	6%
Water and marine resources (WTR)	n/a	n/a	n/a	n/a	n/a	n/a
Pollution prevention and control (PPC)	n/a	n/a	n/a	n/a	n/a	n/a
Circular economy (CE)	n/a	n/a	n/a	n/a	n/a	n/a
Biodiversity and ecosystems (BIO)	n/a	n/a	n/a	n/a	n/a	n/a

2023	Proportion of CAPEX		Proportion of turnover		Proportion of OPEX	
By objective:	Taxonomy-aligned	Taxonomy-eligible	Taxonomy-aligned	Taxonomy-eligible	Taxonomy-aligned	Taxonomy-eligible
Climate change mitigation (CCM)	64%	67%	53%	59%	70%	73%
Climate change adaptation (CCA)	n/a	n/a	n/a	n/a	n/a	n/a
Water and marine resources (WTR)	n/a	n/a	n/a	n/a	n/a	n/a
Pollution prevention and control (PPC)	n/a	n/a	n/a	n/a	n/a	n/a
Circular economy (CE)	n/a	n/a	n/a	n/a	n/a	n/a
Biodiversity and ecosystems (BIO)	n/a	n/a	n/a	n/a	n/a	n/a

n/a: not applicable

3.2.7.4.1 $CAPEX_T$

The annual $CAPEX_T$ increased by €3.7 billion from €22.7 billion in 2023 to €26.4 billion in 2024. The breakdown between activities remained stable and the portion of $CAPEX_T$ relating to sustainable (taxonomy-aligned) activities changed from 64% in 2023 to 59% in 2024. A large part of this was generated by nuclear activities, for €6.7 billion, *i.e.* 26% (notably the *Grand Carénage* industrial refurbishment programme), electricity distribution activities, for €5.7 billion, *i.e.* 22% (notably grid deployment) and renewable energies (solar power, wind power, hydropower, *etc.*) for €2.6 billion, or 10%.

The exclusion of the United Kingdom from the taxonomy on nuclear activities affects the ratios of the Group, which has notably invested significant amounts in connection with the Hinkley Point C project. The $CAPEX_T$ associated with electricity generation from nuclear energy and the construction of new nuclear facilities in the United Kingdom, which is non-eligible, amounted to €7.7 billion in 2024, or 29% of the Group's $CAPEX_T$.

In addition, in 2024, $CAPEX_T$ from fossil-fired gas activities amounted to €538 million, or 2% of the Group's $CAPEX_T$.

Definition of the indicator and calculation method

The "$CAPEX_T$" ratio referred to in Article 8.2.b of Regulation (EU) 2020/852 is calculated using:

- **in the denominator:** all investments known as "$CAPEX_T$", comprising gross additions to property, plant and equipment, intangible assets (excluding goodwill) and right-of-use assets (IFRS 16 Leases), including those resulting from business combinations (consolidation of a subsidiary) in the consolidated financial statements. It therefore does not include financial investments by the Group in companies accounted for by the equity method, or investments made by those entities. With the aim of harmonising with the definition of net investments in the cash flow statement, $CAPEX_T$ now include, as a deduction, investment subsidies. Their inclusion in the 2023 $CAPEX_T$ ratio would not have significantly modified the comparative indicators, not restated;
- **in the numerator:** capital expenditure related to:
  - an eligible (or aligned) activity,
  - a CAPEX plan whose objective is to create or transform an activity that will be taxonomy-eligible or-aligned,
  - individually eligible (or aligned) investments that are not related to a core eligible (or aligned) activity. The main individually non-significant investments for which alignment was not analysed concern leased buildings and car fleets.

Supporting assets such as IT systems have been considered taxonomy-aligned when they relate to entities whose overall activities have been classified as aligned. For entities with a complex distribution of support functions between aligned and non-aligned activities, supporting assets are classified as non-aligned.

Changes in CAPEX over the next three years

For the years 2025, 2026 and 2027, the Group forecasts an increase in the net annual investments[1] and expects to reach €26 billion per year, of which at least 95% allocated to low-carbon activities[2] (see section 3.2.2.1.2.4 "Invested resources and current and future expenditures related to the climate change objective").

In addition, as part of its support for the decarbonisation of the energy mix in non-interconnected areas, EDF, through its subsidiary PEI, has launched the construction of the Ricanto bioenergy power plant in Corsica, an essential project to guarantee the security of the electricity system and the energy transition of the island. It will replace the Vazzio fuel-oil thermal power plant and will run on liquid biomass, a vegetable-based fuel made from colza or sunflower oil (see the EDF press release of 22 November 2024, "The EDF group launches the construction of the Ricanto bioenergy power plant in Corsica").

"Green" financing

The Group has an active "green" financing policy using various instruments. Approximately €11.7 billion of equivalent financing was issued during the year, mainly to **refinance investments made before 2024** (approximately €0.5 billion of green financing was allocated to nuclear and renewable investments made in 2024).

By way of illustration, EDF issued three dedicated green bonds on 17 June 2024 to:

- the existing nuclear fleet for an amount of €1 billion;
- new renewable and hydropower generation capacities for an amount of €750 million;
- electricity distribution, linked in particular to adapting the network to the needs of the energy transition for an amount of €1,250 million.

On 9 September 2024, EDF issued green bonds for a total amount of 310 million Swiss francs (approximately €335 million), the net proceeds of which were allocated to investments in electricity distribution.

On 17 September 2024, EDF issued green hybrid bonds with a nominal amount of €1,150 million and £500 million (approximately €575 million) dedicated to investments made as part of the extension of the lifespan of existing nuclear reactors in France.

In addition, on 21 January 2025, EDF issued a green bond in the amount of US$ 500 million dedicated to investments made as part of the extension of the lifespan of existing nuclear reactors in France.

The allocation of funds raised *via* EDF's green financing is certified by one of the Statutory Auditors (see section 6.7 "Information on allocation of the proceeds of EDF's green financing"). It is also disclosed on the sustainable finance page of the EDF website.

(1) The investment plan is not based on the gross $CAPEX_T$ investments as defined by the Taxonomy Regulation and is used to describe our current investments. The investment plan presented by the Group is based on the net investments.
(2) The Group's low-carbon activities include nuclear activities (electricity generation, design and production of equipment for nuclear power plants), network activities, renewable activities (solar, wind, hydro), electricity sales activities, as well as most energy efficiency and performance services activities.

Reconciliation with the financial statements

The following table provides a reconciliation between the net investments presented in the cash flow statement (CFS) in the review of the financial position and 2024 results (see section 5.1.4 "Net financial debt, cash flows and investments"), and the reported $CAPEX_T$.

(in millions of euros)	31/12/2024	31/12/2023	Change
$CAPEX_T$	**26,431**	**22,712**	**3,719**
Effect of changes in the scope of consolidation	(730)	(157)	(573)
Increase in right-of-use assets (leases)	(905)	(711)	(194)
Change in payables on acquisition of fixed assets	(693)	(823)	130
Other, including effects of deconsolidation	(1,701)	(1,921)	220
Net investments in the information on net financial debt, cash flows and investments (see section 5.1.4)	**22,402**	**19,100**	**3,302**

Breakdown of $CAPEX_T$ by activity

CAPEX 2024			
Economic activities	**Code(s) (2)**	**CAPEX (3)**	**Proportion of CAPEX (4)**
A.TAXONOMY-ELIGIBLE ACTIVITIES	In millions of euro		%
A.1 Environmentally sustainable activities (Taxonomy-aligned)			
Electricity generation from nuclear energy in existing installations	**CCM** 4.28	4,901	19%
Electricity generation from nuclear energy in existing installations	**CCA** 4.28	60	0%
Construction and safe operation of new nuclear power plants	**CCM** 4.27	1,746	7%
Transmission and distribution of electricity	**CCM** 4.9	5,015	19%
Transmission and distribution of electricity	**CCA** 4.9, CCM 4.9	721	3%
Electricity generation from hydropower	**CCM** 4.5	411	2%
Electricity generation from hydropower	**CCA** 4.5	13	0%
Electricity generation from wind power	**CCM** 4.3	897	3%
Electricity generation using solar photovoltaic technology	**CCM** 4.1	863	3%
Storage of electricity	**CCM** 4.10	58	0%
Storage of electricity	**CCA** 4.10	5	0%
Installation, maintenance and repair of renewable energy technologies	**CCM** 7.6	313	1%
Hydrogen production	**CCM** 3.10	30	0%
Electricity generation from bioenergy	**CCM** 4.8	195	1%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	168	0%
Installation, maintenance and repair of energy efficiency equipment	**CCM** 7.3	21	0%
Installation, maintenance and repair of energy efficiency equipment	**CCA** 7.3	3	0%
Specialised services related to the energy performance of buildings	**CCM** 9.3	100	0%
Anaerobic digestion of organic waste	**CCM** 5.7	25	0%
Anaerobic digestion of organic waste	**CCA** 5.7	3	0%
Infrastructure favouring low-CO_2 road and public transport	**CCM** 6.15	12	0%
Installation, maintenance, repair of electric vehicle charging stations	**CCM** 7.4	30	0%
Research, development and innovation close to the market	**CCA** 9.1	23	0%
CAPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**15,613**	**59%**
of which enabling		6,331	24%
of which transitional		6,647	25%
A.2 Taxonomy-eligible but not environmentally sustainable activities (non-Taxonomy-aligned activities)			
Electricity generation from fossil gaseous fuels	**CCM** 4.29	326	1%
Installation, maintenance and repair of energy efficiency equipment	**CCM** 7.3	11	0%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	63	0%
High-efficiency heat/cold cogeneration elec. gaseous fossil fuels	**CCM** 4.30	37	0%
Acquisition and ownership of buildings	**CCM** 7.7	281	2%
Acquisition and ownership of buildings	**CCA** 7.7	16	0%
CAPEX of Taxonomy-eligible but not environmentally sustainable activities (non Taxonomy-aligned activities) (A.2)		**734**	**3%**
Total (A.1 + A.2)		**16,347**	**62 %**
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES			
Electricity generation from nuclear energy and construction of new nuclear power plants outside the EU		7,742	29%
Other non-eligible activities		2,342	9%
CAPEX of Taxonomy-non-eligible activities (B)		**10,084**	**38%**
TOTAL (A + B)		**26,431**	**100%**

(1) Y - Yes, the activity is taxonomy-eligible and taxonomy-aligned with the relevant environmental objective.
N - No, the activity is taxonomy-eligible but not taxonomy-aligned with the relevant environmental objective.
NEL - Not eligible, the activity is taxonomy non-eligible for the relevant environmental objective.
EL - Eligible, the activity is taxonomy-eligible for the relevant environmental objective.

Substantial contribution criteria						Do No Significant Harm (DNSH) criteria									
Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Pollution (8)	Circular economy (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Pollution (14)	Circular economy (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Proportion of Taxonomy aligned CAPEX Year N-1 (18)	Enabling activity (19)	Transitional activity (20)
Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	H	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	22%	-	T
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	4%	-	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	23%	H	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	2%	-	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	4%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	7%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
56%	**3%**					**59%**	**59%**	**59%**	**59%**	**59%**	**59%**	**59%**	**64%**		
36%	5%					41%	41%	41%	41%	41%	41%	41%	24%		
43%	0%					43%	43%	43%	43%	43%	43%	43%	26%		
EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL										
el	nel	nel	nel	nel	nel								2%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								1%		
nel	el	nel	nel	nel	nel								0%		
3%	**0%**												**3%**		
													67%		

3.

3.2.7.4.2 Turnover$_T$

Turnover$_T$ (excluding trading activities) amounted to €116.8 billion in 2024 (€136 billion in 2023), a €19.3 billion decrease. This change was mainly due to energy sales (electricity and gas) made in a context of declining market prices, despite an increase in nuclear (+41.3TWh) and hydropower (+11.8TWh) generation in France. These items had no significant impact on the share of aligned turnover$_T$. The slight increase in this indicator, from 53% in 2023 to **55% of aligned turnover$_T$** in 2024, stems mainly from the electricity distribution business.

The exclusion of the nuclear activities in the United Kingdom from the taxonomy penalises the Group's ratios. The turnover related to electricity generated by nuclear energy in the United Kingdom, which is not eligible, amounted to €4.8 billion in 2024, or 4% of the Group's turnover$_T$.

Moreover, in 2024, turnover$_T$ from thermal activities amounted to €19,705 million, including gas for €19,478 million, fuel oil for €164 million and coal for €63 million.

Definition of the indicator and calculation method

The turnover ratio referred to in Article 8.2.a of Regulation (EU) 2020/852 is calculated as the proportion of net turnover (sales) generated by products or services associated with taxonomy-eligible (or taxonomy-aligned) economic activities (numerator), divided by consolidated turnover excluding trading (denominator) (see section 6.1, note 5.1.2 "Sales" to the consolidated financial statements for the financial year ended 31 December 2024). It does not therefore include turnover generated by companies accounted for by the equity method.

In France, the EDF group manages its generation in an integrated approach, and optimises its generation facilities based on the upstream-downstream balance. Consequently, the turnover (sales) recognised is allocated based on volume output by different types of generation, taking account of market purchases/sales as indicated in the published electricity balance (see section 5.1.3.1.1 "Change in Group sales and breakdown by segment").

Breakdown of turnover$_T$ by activity

TURNOVER 2024

Economic activities	Code(s) (2)	Turnover (3)	Proportion of turnover (4)
A. TAXONOMY-ELIGIBLE ACTIVITIES	In millions of euros		%
A.1 Environmentally sustainable activities (Taxonomy-aligned)			
Electricity generation from nuclear energy in existing installations	**CCM** 4.28	31,547	27%
Transmission and distribution of electricity	**CCM** 4.9	17,548	15%
Electricity generation from hydropower	**CCM** 4.5	5,354	5%
Electricity generation from wind power	**CCM** 4.3	3,334	3%
Electricity generation using solar photovoltaic technology	**CCM** 4.1	1,960	2%
Storage of electricity	**CCM** 4.10	480	0%
Installation, maintenance and repair of renewable energy technologies	**CCM** 7.6	861	1%
Electricity generation from bioenergy	**CCM** 4.8	430	0%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	672	1%
Cogeneration of heat/cold and power from bioenergy	**CCM** 4.20	62	0%
Installation, maintenance and repair of energy efficiency equipment	**CCM** 7.3	562	0%
Specialised services related to the energy performance of buildings	**CCM** 9.3	1,377	1%
Electricity generation/non-fossil renewable gas fuels	**CCM** 4.7	243	0%
Valorisation of materials from non-hazardous waste	**CCM** 5.9	16	0%
Infrastructure favouring low-CO_2 road and public transport	**CCM** 6.15	66	0%
Installation, maintenance, repair of electric vehicle charging stations	**CCM** 7.4	113	0%
Install., maint., rep. measurement inst., building energy perf. regulation	**CCM** 7.5	51	0%
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**64,676**	**55%**
of which enabling		*21,058*	*18%*
of which transitional		*31,547*	*27%*
A.2 Taxonomy-eligible but not environmentally sustainable activities (non-Taxonomy-aligned activities)			
Electricity generation from fossil gaseous fuels	**CCM** 4.29	3,360	4%
Installation, maintenance and repair of energy efficiency equipment	**CCM** 7.3	1,140	1%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	178	0%
High-efficiency heat/cold cogeneration elec. gaseous fossil fuels	**CCM** 4.30	580	0%
Electricity generation from hydropower power	**CCM** 4.5	190	0%
Acquisition and ownership of buildings	**CCA** 7.7	19	0%
Turnover of taxonomy-eligible but not environmentally sustainable activities (non Taxonomy-aligned activities) (A.2)		**5,467**	**5%**
Total (A.1 + A.2)		**70,143**	**60%**
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES			
Nuclear power generation activity outside the EU		4,778	4%
Other non-eligible activities		41,859	36%
Turnover of taxonomy-non-eligible activities (B)		**46,637**	**40%**
TOTAL (A + B)		**116,780**	**100%**

(1) Y - Yes, the activity is taxonomy-eligible and taxonomy-aligned with the relevant environmental objective.
N - No, the activity is taxonomy-eligible but not taxonomy-aligned with the relevant environmental objective.
NEL - Not eligible, the activity is taxonomy non-eligible for the relevant environmental objective.
EL - Eligible, the activity is taxonomy-eligible for the relevant environmental objective.

Substantial contribution criteria						Do No Significant Harm (DNSH) criteria									
Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Pollution (8)	Circular economy (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Pollution (14)	Circular economy (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Proportion of Taxonomy aligned turnover Year N-1 (18)	Enabling activity (19)	Transitional activity (20)
Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	H	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	27%	-	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	12%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	4%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	4%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	2%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
55%						**55%**	**55%**	**55%**	**55%**	**55%**	**55%**	**55%**	**53%**		
33%						33%	33%	33%	33%	33%	33%	33%	15%		
49%						49%	49%	49%	49%	49%	49%	49%	26%		
EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL										
el	nel	nel	nel	nel	nel								5%		
el	nel	nel	nel	nel	nel								1%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
nel	el	nel	nel	nel	nel								0%		
5%	**0%**												**6%**		
0%	**0%**												**59%**		

3.2.7.4.3 $OPEX_T$

$OPEX_T$ increased by €1.5 billion compared to the previous year, amounting to €11.2 billion at the end of 2024. The share of aligned $OPEX_T$ decreases slightly, from 70% in 2023 to **66%** in 2024 across all activities, with the exception of renewable energy generation.

The exclusion of the United Kingdom's nuclear activities from the taxonomy has a marginal negative impact on the Group's indicators. $OPEX_T$ associated with this activity, amounted to €436 million in 2024, *i.e.* 4% of the Group's $OPEX_T$.

Definition of the indicator and calculation method

The "$OPEX_T$" ratio referred to in Article 8.2.b of Regulation (EU) 2020/852 is calculated using:

- **in the denominator**: direct non-capitalised costs related to research and development, building renovation measures, short-term leases (not accounted for under IFRS 16), maintenance and repairs, and any other direct expenditure related to the day-to-day servicing of property, plant and equipment that is necessary to ensure the continuous and efficient operation of these assets;
- **in the numerator**: operating expenses:
  - related to assets or processes associated with taxonomy-eligible (or aligned) activities, or
  - are part of an OPEX plan whose objective is to create/expand a taxonomy-aligned activity, or
  - individually eligible (or aligned) that are not part of a main eligible (or aligned) activity.

All OPEX related to the Taxonomy is included in the following lines of the Group's consolidated income statement: "Other external expenses" and "Personnel expenses". They also include the expenses relating to repairs of welds at the Flamanville 3 power plant that are presented in other operating income and expenses (see section 6.1, note 7 "Other income and expenses" to the consolidated financial statements for the financial year ended 31 December 2024). They do not therefore include OPEX incurred by companies accounted for by the equity method.

Of these costs, only the types of expenses specified above are taken into account in the ratios, drawing on the general accounts or cost accounts where necessary.

The Group's taxonomy $OPEX_T$ indicator includes direct expenditure related to the day-to-day servicing of property, plant and equipment comprising personnel expenses and purchases relating to the maintenance and repair of generation assets, which for the nuclear fleet currently in operation includes expenses related to management operations, *i.e.* facility monitoring expenses. This excludes operational expenditures related to production itself.

Expenditures for support functions directly related to maintenance and repair are included in the $OPEX_T$.

In the case of the hydropower and electricity distribution activities, expenses relating to concession fees are not considered as $OPEX_T$.

Breakdown of $OPEX_T$ by activity

OPEX 2024			
Economic activities	**Code(s) (2)**	**OPEX (3)**	**Proportion of OPEX (4)**
A. TAXONOMY-ELIGIBLE ACTIVITIES	In millions of euros		%
A.1 Environmentally sustainable activities (Taxonomy-aligned)			
Electricity generation from nuclear energy in existing installations	**CCM** 4.28	3,208	28%
Construction and safe operation of new nuclear power plants	**CCM** 4.27	224	2%
Construction and safe operation of new nuclear power plants	**CCA** 4.27	134	1%
Transmission and distribution of electricity	**CCM** 4.9	874	8%
Transmission and distribution of electricity	**CCA** 4.9, CCM 4.9	265	2%
Electricity generation from hydropower	**CCM** 4.5	448	4%
Electricity generation from wind power	**CCM** 4.3	189	2%
Electricity generation using solar photovoltaic technology	**CCM** 4.1	79	1%
Storage of electricity	**CCM** 4.10	43	0%
Installation, maintenance and repair of renewable energy technologies	**CCM** 7.6	746	7%
Electricity generation from bioenergy	**CCM** 4.8	15	0%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	169	2%
Cogeneration of heat/cold and power from bioenergy	**CCM** 4.20	34	0%
Installation, maintenance and repair of energy efficiency equipment	**CCM** 7.3	141	1%
Specialised services related to the energy performance of buildings	**CCM** 9.3	444	4%
Valorisation of materials from non-hazardous waste	**CCM** 5.9	14	0%
Infrastructure favouring low-CO_2 road and public transport	**CCM** 6.15	58	1%
Research, development and innovation	**CCA** 9.1	299	3%
OPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**7,384**	**66%**
of which enabling		*2,870*	*26%*
of which transitional		*3,432*	*31%*
A.2 Taxonomy-eligible but not environmentally sustainable activities (non-Taxonomy-aligned activities)			
Electricity generation from fossil gaseous fuels	**CCM** 4.29	230	2%
Transport networks, distribution of low-carbon renewable gases	**CCM** 4.14	50	0%
High-efficiency heat/cold cogeneration elec. gaseous fossil fuels	**CCM** 4.30	18	0%
Electricity generation from a hydropower power plant	**CCM** 4.5	22	0%
Acquisition and ownership of buildings	**CCM** 7.7	147	2%
OPEX of Taxonomy-eligible but not environmentally sustainable activities (non Taxonomy-aligned activities) (A.2)		**467**	**4%**
Total (A.1 + A.2)		**7,851**	**70%**
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES			
Nuclear power generation activity outside the EU		436	4%
Other non-eligible activities		2,905	26%
OPEX of taxonomy-non-eligible activities (B)		**3,341**	**30%**
TOTAL (A + B)		**11,192**	**100%**

(1) Y - Yes, the activity is taxonomy-eligible and taxonomy-aligned with the relevant environmental objective.
N - No, the activity is taxonomy-eligible but not taxonomy-aligned with the relevant environmental objective.
NEL - Not eligible, the activity is taxonomy non-eligible for the relevant environmental objective.
EL - Eligible, the activity is taxonomy-eligible for the relevant environmental objective.

Substantial contribution criteria						Do No Significant Harm (DNSH) criteria									
Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Pollution (8)	Circular economy (9)	Biodiversity and ecosystems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Pollution (14)	Circular economy (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Proportion of Taxonomy aligned OPEX Year N-1 (18)	Enabling activity) (19)	Transitional activity (20)
Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N / NEL[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	H	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	32%	-	T
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	7%	-	T
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	11%	H	-
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	5%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	2%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	3%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	2%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	-	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	5	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%	H	-
yes	nel	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	1%		
nel	yes	nel	nel	nel	nel	yes	yes	yes	yes	yes	yes	yes	0%		
60%	**6%**					**66%**	**66%**	**66%**	**66%**	**66%**	**66%**	**66%**	**70%**		
31%	8%					39%	39%	39%	39%	39%	39%	39%	22%		
46%	0%					46%	46%	46%	46%	46%	46%	46%	39%		
EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL	EL/NEL										
el	nel	nel	nel	nel	nel								3%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
el	nel	nel	nel	nel	nel								0%		
4%													**3%**		
													73%		

3.2.7.4.4 Regulatory information on activities related to nuclear energy and fossil gas

Additional information on $CAPEX_T$ for nuclear energy and fossil gas related activities

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (denominator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	1,746	7%	1,746	7%	-	0%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	4,961	19%	4,901	19%	60	0%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of CAPEX**	**8,907**	**33%**	**8,139**	**30%**	**768**	**3%**
8	**TOTAL $CAPEX_T$**	**26,431**	**100%**	**26,431**	**100%**	**26,431**	**100%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (numerator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	1,746	11%	1,746	11%	-	0%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	4,961	32%	4,901	31%	60	1%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of CAPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of CAPEX**	**8,907**	**57%**	**8,139**	**52%**	**768**	**5%**
8	**Total amount and total proportion of taxonomy-aligned economic activities in the numerator of $CAPEX_T$**	**15,613**	**100%**	**14,785**	**95%**	**828**	**5%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-eligible but not taxonomy-aligned economic activities	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	326	1%	326	1%	-	0%
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	37	0%	37	0%	-	0%
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to delegated regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of CAPEX**	**371**	**2%**	**355**	**2%**	**16**	**0%**
8	**Total amount and total proportion of taxonomy-eligible but not taxonomy-aligned economic activities in the denominator of $CAPEX_T$**	**734**	**3%**	**718**	**3%**	**16**	**0%**

	Taxonomy non-eligible economic activities	(in millions of euros)	(in %)
1	*Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX*	-	0%
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	7,327	28%
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	415	1%
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of CAPEX	-	0%
7	**Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of CAPEX**	**1,604**	**6%**
8	**Total amount and total proportion of taxonomy-non-eligible economic activities in the denominator of $CAPEX_T$**	**10,084**	**38%**

Additional information on turnover$_T$ for nuclear energy and fossil gas related activities

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (denominator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	31,547	27%	31,547	27%	-	0%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of turnover**	**33,129**	**28%**	**33,129**	**28%**	**-**	**0%**
8	**Total turnover$_T$**	**116,780**	**100%**	**116,780**	**100%**	**116,780**	**100%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (numerator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	-	0%	-	0%	-	0%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	31,547	49%	31,547	49%	-	0%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of turnover	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of turnover**	**33,129**	**51%**	**33,129**	**51%**	**-**	**0%**
8	**Total amount and total proportion of taxonomy-aligned economic activities in the numerator of turnover$_T$**	**64,676**	**100%**	**64,676**	**100%**	**-**	**0%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-eligible but not taxonomy-aligned economic activities	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	3,360	4%	3,360	4%	-	0%
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	580	0%	580	0%	-	0%
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of turnover**	**1,527**	**1%**	**1,508**	**1%**	**19**	**0%**
8	**Total amount and total proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of turnover$_T$**	**5,467**	**5%**	**5,448**	**5%**	**19**	**0%**

	Taxonomy non-eligible economic activities	(in millions of euros)	(in %)
1	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	4,778	4%
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of turnover	-	0%
7	**Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of turnover**	**41,859**	**36%**
8	**Total amount and total proportion of taxonomy-non-eligible economic activities in the denominator of turnover$_T$**	**46,637**	**40%**

Additional information on $OPEX_T$ for nuclear energy and fossil gas related activities

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (denominator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	358	3%	224	2%	134	1%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	3,208	28%	3,208	28%	-	0%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of OPEX**	**3,818**	**34%**	**3,254**	**29%**	**564**	**5%**
8	**Total $OPEX_T$**	**11,192**	**100%**	**11,192**	**100%**	**11,192**	**100%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-aligned economic activities (numerator)	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	358	5%	224	3%	134	2%
3	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	3,208	43%	3,208	43%	-	0%
4	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	-	0%	-	0%	-	0%
5	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	-	0%	-	0%	-	0%
6	Amount and proportion of taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the numerator of OPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of OPEX**	**3,818**	**52%**	**3,254**	**44%**	**564**	**8%**
8	**Total amount and proportion of taxonomy-aligned economic activities in the numerator of $OPEX_T$**	**7,384**	**100%**	**6,686**	**91%**	**698**	**9%**

		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
	Taxonomy-eligible but not taxonomy-aligned economic activities	(in millions of euros)	(in %)	(in millions of euros)	(in %)	(in millions of euros)	(in %)
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	230	2%	230	2%	-	0%
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	18	0%	18	0%	-	0%
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%	-	0%	-	0%
7	**Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of OPEX**	**219**	**2%**	**219**	**2%**	**-**	**0%**
8	**Total amount and total proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of $OPEX_T$**	**467**	**4%**	**467**	**4%**	**-**	**0%**

	Taxonomy non-eligible economic activities	**(in millions of euros)**	**(in %)**
1	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with section 4.26 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with section 4.27 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with section 4.28 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	436	4%
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with section 4.29 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with section 4.30 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with section 4.31 of annexes I and II to Delegated Regulation (EU) 2021/2139 in the denominator of OPEX	-	0%
7	**Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of OPEX**	**2,905**	**26%**
8	**Total amount and total proportion of taxonomy-non-eligible economic activities in the denominator of $OPEX_T$**	**3,341**	**30%**

3.3 Social information

3.3.1 The Group's social commitments

Personal well-being and solidarity development are key issues of the Group's *raison d'être*. This concerns both its employees and its stakeholders. The four main CSR commitments identified in this respect are the health and safety of all individuals, ethics and human rights, the promotion of equality, diversity and inclusion, and the fight for the prevention of energy poverty and for social innovation.

In 2021, the EDF group published a set of guidelines[1] listing the commitments of the Group and the fundamental requirements for its business relationships in terms of human rights and fundamental freedoms, environmental protection, protection of personal health and safety and business ethics. These EDF group human rights commitments were approved and signed by the Chairman and Chief Executive Officer.

The commitments apply to the activities of EDF SA and all the companies it controls, for all Group employees, with the exception of RTE and Enedis.

The notion of "business relationship" includes suppliers and subcontractors with whom an established commercial relationship is maintained, as well as project partners.

In compliance with contractual obligations, failure to meet these requirements, when repeated and not corrected after observations are made, may result in the termination of relations.

3.3.1.1 Human rights commitments

3.3.1.1.1 Compliance with international standards

The EDF group does not tolerate any infringement of human rights and fundamental freedoms, either in its activities or in those of its business relationships when their activities are related to this relationship[2].

International Standards

In accordance with the United Nations Guiding Principles on business and human rights (UNGPs), the EDF group undertakes to respect, at the very least, international standards for the protection and defence of human rights and fundamental freedoms, and in particular the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, and the fundamental conventions of the International Labour Organization (ILO). Since January 2025, the Group has been a member of the TISFD (Taskforce on Inequality and Social-related Financial Disclosures) alliance, whose objective is to foster the emergence of economic practices that promote fairer societies. This alliance brings together around a hundred organisations from various sectors.

Conflicting standards

If the laws of a country where it operates conflict with these international standards, the EDF group endeavours to find a solution to render it compliant with both the spirit of the international standards and national laws.

Vigilance approach

To ensure that human rights and fundamental freedoms are respected in its operations, the EDF group has implemented a vigilance approach to identify, assess and prevent any potential infringement of human rights or fundamental freedoms. This vigilance approach has been designed to comply with the French Duty of Vigilance Law and is based on the recommendations of the UN Guiding Principles on business and human rights.

Vulnerable persons

The EDF group pays special attention to the impact of its operations on individuals recognised as vulnerable under international human rights law and investigates, in complete transparency, impartiality and good faith, any alleged infringements of human rights or fundamental freedoms connected to the operations of the Group's entities, providers and subcontractors.

Proven cases of injury

If an infringement of human rights or fundamental freedoms is proven in the operations of the Group's entities, the EDF group has agreed to engage in dialogue with the victims and/or their representatives to address the situation, pursuant to the OECD Principles for Multinational Enterprises with which the EDF group complies.

Practical sheets to better understand the Group's human rights commitments

A series of eight thematic sheets sets out and contextualises each human rights commitment published in the document "Human rights and fundamental freedoms, health and safety, environment, and business ethics: the EDF group's commitments and requirements", published in 2021. These sheets, available in five languages (French, English, Spanish, Italian and Mandarin), explain the Group's commitments, international reference frameworks, definitions relating to these commitments, the main risk factors, the main risk control actions and the available tools, where applicable, on the following topics:

- fair and favourable working conditions;
- security forces;
- the fight against harassment and violence at work;
- non-discrimination;
- freedom of association;
- Indigenous populations;
- child labour;
- forced labour.

3.3.1.1.2 The rights of Group employees and workers in the value chain

The Group's CSR policy also covers the Group's commitments in terms of the rights of employees and workers in the value chain. These commitments are reflected notably through the items described below.

For further details on the CSR policy, see section 3.1.3.6 "Corporate social responsibility policy" and for governance, in section 3.1.2 "Governance".

The EDF group is committed to respecting the internationally recognised human rights below, which represent the salient issues identified in risk mapping in view of its activities, and asks its business relationships to respect them.

The rights of employees

The EDF group is committed to human rights and fundamental freedoms and complies, as a minimum, with the provisions of the standards published by the International Labour Organization (ILO). Further details are available in section 3.3.1.1.1 "Compliance with international standards".

(1) www.edf.fr/sites/groupe/files/2023-02/edfgroup_rse_referentiel-ddv-2021_fr.pdf
(2) www.edf.fr/groupe-edf/agir-en-entreprise-responsable/responsabilite-societale-dentreprise/bien-etre-et-solidarite/droits-humains

Combating discrimination

In terms of the prevention of discrimination, the EDF group guarantees equal treatment for its employees and is against any form of distinction, exclusion or preference, whether based on presumed race, skin colour, gender, age, religion, political beliefs, national origin, social origin, disability, family status, sexual orientation or gender identity. In the countries where it operates and for its own operations, the EDF group actively promotes equality in the workplace and equal treatment for equal work for the women and men working for the Group and strives to achieve balanced work teams at all levels of the Company. Diversity is encouraged at all staffing levels and employees must be protected from all forms of discrimination or retaliation.

Combating harassment, sexism and violence

The EDF group does not tolerate any form of harassment or violence, whether within or outside the workplace, relating to the working relationships established in the workplace. The Group is committed to preventing and protecting its employees from all forms of harassment, sexism and violence in the workplace.

Refusal of all forced labour

The EDF group is against all types of forced labour, as defined in the ILO fundamental conventions as well as any form of human trafficking. In particular, for the projects and operations implemented by the Group, it ensures that all employees have given their free, informed consent for the performance of all their duties. In particular, the EDF group ensures that its intermediaries and recruitment agencies do not use any practices that could result in forced labour. The Group is committed to protecting the free movement of workers and, in particular, will not confiscate the travel documents, identity papers or any other personal belongings of workers in any circumstances whatsoever.

No child labour

The EDF group is against all types of child labour, as defined in the ILO fundamental conventions. The Group commits to not employ anyone under the age of 15 (subject to the exceptions set out in ILO Convention 138) or anyone under the age of 18 for work considered dangerous as provided for in the ILO convention.

Freedom of association, right to collective bargaining and trade union rights

The EDF group upholds an individual's right to freedom of association and the right to collective bargaining as defined by the ILO. The Group recognises that all employees are free to form and/or join the workers' organisation of their choice and will not interfere with that right.

In accordance with the Group's Global Framework Agreement on Corporate Social Responsibility, the EDF group is committed to respecting and protecting the autonomy and independence of trade unions, in compliance with applicable laws and regulations. It aims to guarantee the effective exercise of trade union rights and recognises the representative trade union organisations in the Company as contact people and partners. The EDF group respects strict neutrality as to whether or not its employees choose to belong to a trade union, and if so, which trade union they wish to be represented by. Employees are not discriminated against because of their union membership and/or activities. Notably, the EDF group sets aside a number of hours dedicated to the performance of trade union functions and mandates, as well as a supervised career path for employees holding representative and/or trade union positions. The EDF group prohibits any harassment, intimidation, sanction or discrimination against an employee because of their trade union activities, and does not discourage employees from joining organisations of their choice. The Group respects the right to collective bargaining and the role of workers' organisations in the collective bargaining process.

Work time

The EDF group complies with the ILO standards and all applicable laws and regulations governing working time, based on the following principles, subject to the exceptions approved by the ILO: regular working weeks should not exceed 48 hours; working weeks are limited to 60 hours, including overtime; workers should have at least one day off for every seven days worked, except in emergencies or unusual situations; workers should have at least three weeks of paid leave for a full year of service; workers are entitled to at least 14 weeks of maternity leave.

Compensation, working conditions, and social benefits

The EDF group strives to comply with the ILO standards on pay, working conditions and employee benefits. The Group is committed to paying a decent wage, covering the basic needs of its employees and their families, and to providing adequate social security cover for all its employees. When employee accommodation is provided by the Company, the EDF group ensures that decent housing or accommodation is provided in compliance with the ILO standards.

At the EDF group, in 2024, all employees received a decent wage, in accordance with the applicable benchmarks.

Respect of health and safety for all

In an environment that is undergoing rapid, far-reaching changes, the human aspect is a core component of the Group's strategic plan. To tackle the industrial and commercial challenges it faces, the Group must remain a socially responsible and committed employer and customer and a benchmark in terms of health and safety.

The EDF group is committed to the health and safety of all, notably in terms of environmental health, of the development of air quality, of the reduction of noise, visual or light pollution, and of commercial offerings related to comfort and well-being. The Group's entities comply with the highest standards defined in the nuclear safety policy, the hydropower safety standards and the Group's prevention and health and safety policy. Lastly, each new project is analysed from the point of view of the health and safety of the people involved, and with regard to its impact on the environment and the health of local residents[1].

The Group's health and safety policy was updated in April 2024.

The Group strives to be a reference in the area of Health and Safety. The policy is based on a commitment signed jointly by the Chairman and Chief Executive Officer and all members of the Executive Committee. The policy defines a consistent framework and all policies and action plans of the Group's different subsidiaries must comply with the policy. This Group policy applies to all the companies controlled by the EDF group, in all the countries in which EDF operates. It concerns both its employees and its subcontractors.

The priorities of the policy are firstly to eradicate serious accidents and fatal accidents, but also to reduce the number of accidents, to fight against absenteeism, and to improve the physical and psychological health of its employees at work. The policy aims to anchor throughout the Group the foundation formed by the Group's life-saving rules and the BEST health and safety management reference framework.

The Group's Executive Committee reviews health and safety figures and monitors action plans regularly. A Group Strategic Health and Safety Committee oversees the implementation of the policy.

EDF is committed to improving the physical and mental health of its employees and subcontractors. The top priority is to protect them and, most importantly, to eradicate serious and fatal accidents.

(1) See in notably the BEST requirements guide for the EDF group for Health and Safety Management, and its self-assessment tool.

In line with the steps taken within the Group to eradicate serious and fatal accidents, the policy aims to develop a collective safety requirement supported by both Group and subcontractor employees. It reinforces the momentum of progress with service providers by promoting the implementation of joint actions (EDF and partners) in the field (joint visits, charters, etc.).

3.3.1.1.3 The rights of affected communities

The EDF group is committed to protecting the rights of the local communities affected by its operations and arranging, systematically and worldwide, transparent, debated discussions and consultations for each new project relating to a facility drawing on a budget of more than €60 million and having a significant impact on the territories or the environment.

The Group recognises the role of human rights and environmental defenders from all walks of life, both among its suppliers and in civil society. It is committed to protecting the exercise of their rights and ensures that it identifies the risks to human rights and environmental activists caused by its business operations and allows them to speak freely about its operations.

The EDF group identifies, for each project, the potential impact on the health, living conditions and environment of local communities, with reference to the performance standards of the International Finance Corporation (World Bank Group) and proposes suitable measures.

Indigenous populations

The EDF group is committed to respecting the specific characteristics and rights of indigenous peoples as defined in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and ILO Convention 169, which provides, in particular, that "indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation."

The EDF group is aware of the unique issues facing indigenous peoples and is committed to following the best international standards in this area and, more specifically, the UNDRIP (United Nations Declaration on the Rights of Indigenous Peoples), ILO Convention 169 and World Bank standards. In particular, the EDF group recognises the criteria for characterising indigenous peoples included in these standards, including historical and geographic "pre-existence", "cultural distinctiveness", "self-identification", and "non-dominance". The EDF group upholds the individual and collective rights of indigenous peoples and communities, including their right to self-determination, their right to land, territories and resources, and their right to FPIC (Free Prior and Informed Consent) in its projects and activities, as defined by ILO Convention 169.

Whenever its operations threaten or affect the livelihood of a community, the Group implements compensation and/or restoration measures for their livelihood matching or exceeding the level prior to its operations.

The EDF group is committed to respecting and protecting or safeguarding, in agreement with the populations concerned, any expressions of their culture, religion or heritage present on the land used for its operations.

In terms of the use of security forces, the Group is committed to protecting the safety of its employees and sites in strict compliance with human rights, including those of local communities, and only authorises the use of force for preventive or defensive purposes in a manner proportionate to the nature and severity of the threat.

3.3.1.1.4 The rights of consumers and end-users

EDF's vigilance plan follows the United Nations Guiding Principles on business and human rights (UNGP), the Organization for Economic Cooperation and Development (OECD) Guidelines, the fundamental conventions of the International Labour Organization (ILO) and the UN Universal Declaration of Human Rights.

In this context, the Group published its duty of care guidelines on its website, entitled "Human rights and fundamental freedoms, health and safety, environment, and business ethics: the EDF group's commitments and requirements". These guidelines list the EDF group's commitments and requirements (EDF and its controlled subsidiaries) and the fundamental requirements for its business relations in terms of human rights and fundamental freedoms, environmental protection, protection of human health and safety, and business ethics. These commitments notably concern human rights relevant to consumers and end-users.

This vigilance plan and other specific human rights documents were taken into account to identify material impacts, risks and opportunities in relation to consumers and end-users. For more information on these IROs as well as actions to remedy the impacts on human rights (see section 3.3.5 "ESRS S4 - Consumers and end-users"). This section also details consumer and end-user policies, aligned with applicable internationally recognised instruments such as the United Nations Guiding Principles on business and human rights. The section includes details on any reported cases of non-compliance with internationally recognised instruments that involve consumers or end-users in its value chain upstream and/or downstream of EDF.

Since 2022, a person specialising in business and human rights has been a member of the EDF group's Stakeholder Council in order to better integrate this expertise within said body. A key forum for dialogue with external stakeholders, the Group's Stakeholder Council is a multi-disciplinary, equal-opportunity, voluntary body made up of thirteen leading figures from civil society, including consumer representatives.

3.3.1.2 The EDF group's whistleblowing system

The EDF group's whistleblowing procedure was revised in 2023 to take account of the Waserman Law of 21 March 2022, transposing into French law the European directive on the protection of whistleblowers, and its implementing decree of 4 October 2022. After being validated by the competent authorities, the revised whistleblowing procedure will come into force on 1 June 2023.

3.3.1.2.1 Scope

In order to make report-handling more secure and to strengthen the confidentiality and security of personal data, in 2018, the Executive Committee decided to set up a single whistleblowing system for all wrongdoing reported under the Sapin II Law and the Duty of Vigilance Law, as well as wrongdoing reported by employees and external employees, and third-party direct witnesses, alleging harassment and discrimination. This Group system benefits all Group entities, except for the subsidiaries in the regulated sector, Enedis and RTE, which have their own whistleblowing system to uphold their managerial independence.

Whistleblowers may choose to use the Group whistleblowing system or the other channels available to them (manager, human resources, employee representatives, local ethics and compliance officers, mediators, etc.).

The referee body for the EDF group procedure for collecting and processing reports of wrongdoing, appointed by the Executive Committee, is the Group Ethics and Compliance Division (DECG)[1].

(1) Decree of 4 October: The referee is tasked with gathering the wrongdoing report and with processing it in compliance with the procedure. This referee is appointed by the Company.

Information concerning the whistleblowing system is available on the EDF website and is therefore accessible to all (external employees, suppliers and subcontractors and third parties (customers, local residents, etc.). The website notably reminds users that the Group's whistleblowing procedure guarantees protection against any retaliation or discriminatory measures for any whistleblower who meets the conditions set out in the legislation in force. These points are also included in the *"Whistleblower Support Guide"* and in the EDF Code of Conduct.

This information is also available on the intranet, notably through an animation on the Group's whistleblowing system, including a video, the Whistleblower Support Guide, and a link to the Group platform; posters are also placed at the sites ("*How to alert?*" which summarises the employees and workers who may report, the facts that may be reported, the respect for the confidentiality and protection of the whistleblower, as well as the procedures for referral to the whistleblowing system, with a QR code allowing direct access to the support guide as well as a QR code allowing direct access to the outsourced platform).

In addition, each entity's Ethics and Compliance Manager (EDF and subsidiary divisions) is in charge of communicating the whistleblowing procedure to employees (relaying information through their own community or during awareness-raising campaigns, notably during the "Ethics & Compliance All Actors" week). With regard to suppliers and subcontractors, the whistleblowing system is included in the CSR charter between EDF and its suppliers, which is a component of the contract.

3.3.1.2.2 Accessibility of the system

The Group whistleblowing system, managed from an independent server that is not connected to EDF's IS, can be accessed at any time *via* the EDF group website. The interface is available in several languages (French, English, Italian, Spanish, German, Portuguese, Dutch and Mandarin) in France and abroad, and the whistleblower can report wrongdoing in the language of their choosing.

Locally, it is possible to carry out an alert in writing to the Ethics and Compliance Manager or line manager, human resources and any other authorised functions in the entity's local implementation note.

EDF Renewables uses the EDF group's Grievance Mechanism. For certain large international projects, a local grievance system is set up.

3.3.1.2.3 Reporting wrongdoing

The EDF group whistleblowing procedure to report facts constituting:

- a violation or an attempt to conceal a violation of the law or a regulation falling under the EDF group's scope of responsibility;
- a violation or an attempt to conceal a violation of an international commitment ratified by France, of a European Union law, or of the Code of Conduct, falling under the EDF group's scope of responsibility;
- a threat or damage to the general interest falling under the EDF group's scope of responsibility;
- a risk or serious infringement of human rights and fundamental freedoms, the health and safety of individuals or the environment, falling under the EDF group's scope of responsibility and its business relations.

3.3.1.2.4 Analysis of the admissibility of reports

Once the report has been submitted, whistleblowers receive confirmation within seven days from the delivery of such report. Whistleblowers can submit reports anonymously in countries where this is authorised. These anonymous reports are admissible as long as the factual elements are sufficiently detailed and precise to demonstrate the reality of the facts reported.

Each whistleblowing report is examined for admissibility by the DECG whistleblowing committee in order to determine, before investigating the actions reported, whether it meets the criteria defined in section 3.3.1.2.3 "Reporting wrongdoing", and whether the appropriate protective measures can be identified.

During the admissibility phase, the recipient of the alert can discuss with the whistleblower and rely on experts (Group Ethics and Compliance Division, Legal Department, Ethics and Compliance Managers, Duty of Vigilance Managers) to obtain the additional information necessary for the finalisation of the admissibility analysis.

3.3.1.2.5 Processing of admissible reports

Upon confirmation of the whistleblowing report's admissibility, the investigating officer appointed signs a specific confidentiality undertaking and has a maximum of three months within which to communicate to the whistleblower the information on the measures envisaged or taken in order to remedy the wrongdoing reported, and on the reasons for those measures.

The processing of whistleblowing reports (verification of the facts, interviews with the persons concerned, searching for evidence, etc.) is conducted with the support of line experts, of ethics and compliance managers, of the support functions (DECG, HRD, DSIE, Legal Affairs Department, Audit Department, etc.) or, where necessary, with the support of an external consultant. These experts are bound by the same strict confidentiality obligations (with the prior signature of a confidentiality undertaking).

Upon completion of the investigation into the matter, if the facts reported are found to be true, an action plan is implemented. The whistleblowing report will be closed only upon complete fulfilment of that action plan.

3.3.1.2.6 Whistleblower protection: mechanisms in place to identify, report and investigate non-compliance/unlawful behaviour

The Group procedure for processing whistleblowing was reviewed during 2023, to factor in the developments entailed in the transposition in French law of the European Directive for whistleblower protection. The Group's ethics, compliance and duty of vigilance whistleblowing procedure applies to all EDF group entities. This whistleblowing procedure guarantees protection against any retaliation or discriminatory measures for any whistleblower who meets the conditions set out in the legislation in force. The Group Ethics and Compliance Division is responsible for managing and monitoring the implementation of this procedure. As indicated in the Whistleblower Support Guide, available on the EDF website, the status of "whistleblower" covers professional protection against any reprisal measures, and the DECG also keeps archived data in order to ensure the whistleblower's protection (see section 3.3.1.2 "The EDF group's whistleblowing system").

3.3.1.2.7 2024 results

Whistleblowing results are consolidated and included in the annual ethics and compliance report submitted to the Executive Committee and presented to the EDF Board of Directors' Corporate Responsibility Committee. The DECG consolidated all admissible alerts made in 2024 at the EDF group, and Enedis (*via* the Group system or any other channel).

In 2024, 449 admissible alerts were recorded (including 93 in the Group whistleblowing system); 335 alerts related to incidents located in France and 114 abroad; 151 related to EDF and 298 to Group subsidiaries. Among them, 45% of the cases reported relate to harassment/discrimination. In 2024, 65% of the alerts processed were sufficiently detailed to give rise to corrective actions or disciplinary sanctions (16 dismissals pronounced for proven harassment). 42% of alerts for which the facts were not proven nevertheless gave rise to actions to improve processes.

Types of alerts	Alerts admissible in 2024, all types of stakeholders concerned
Rights and protection of individuals	46
of which human rights	1
Harassment – discrimination	203
Fraud – corruption and conflicts of interest	139
Other categories	61

Types of stakeholders involved in human rights alerts:	Alerts admissible in 2024
Total human rights alerts	1
• of which workers in the value chain	1
• of which affected communities	0
• of which consumers or end-users	0

Note for these 2024 results:

- alerts admissible in the Group system: 61% in 2024;
- the 2024 results of investigations following alerts: 45% of investigations were non-proven, 46% proven and 9% partially proven;
- the whistleblower's relationship with the Group (all channels combined): 80% employees, 10% third-parties, 9% external employees, 1% occasional employees.

Measures taken following alerts (all channels combined): 57% corrective, 10% disciplinary and corrective, 22% disciplinary, 6% judicial, 4% judicial and corrective, 1 disciplinary, judicial and corrective case, and 1 disciplinary and judicial case.

3.3.1.2.8 Focus on serious human rights incidents for the Company's workforce

Incidents of discrimination and harassment

As explained in section 3.3.1.2.7 "2024 results", alerts for acts of harassment/discrimination are monitored in a separate category by the alert system.

Certain acts of harassment/discrimination, whether or not reported by the whistleblowing system, may result in fines, penalties and compensation for damages.

These incidents of harassment/discrimination have had financial consequences for EDF. More specifically, the amount of compensation paid by EDF in 2024 for the aforementioned offences, by virtue of a court decision that has become final, amounted to €35,000 for harassment and €18,000 for discrimination. Convictions for discrimination and moral harassment are related to career developments considered by the judges to be abnormal, notably due to involuntary transfers imposed without justification. In addition, one conviction refers to trade union discrimination at the time of an individual's reinstatement after a trade union secondment agreement.

Fines, sanctions and/or compensation actually paid by a Group entity are taken into account. Provisions and convictions for which an appeal with suspensive effect is pending are therefore excluded.

Serious human rights incidents

It collects the number of serious human rights incidents and complaints affecting the Group's workforce during the reporting period, as well as the total amount of fines, sanctions and compensation for damages resulting from these incidents/complaints.

According to the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct, the following are included as violations of human rights in the context of labour law:

- discrimination in the workplace based on gender, race or ethnic origin, nationality, religion or belief, disability, age, sexual orientation, or other relevant forms of discrimination;
- harassment as a specific form of discrimination;
- forced or compulsory labour;
- human trafficking;
- child labour exploitation;
- failure to maintain a safe and healthy working environment;
- failure to respect the right of workers to form or join trade unions and representative organisations of their own choosing.

Only the violations listed above should be taken into account. This excludes violations related to local regulations that are more restrictive than international law. The 2012 UN Interpretative Guide to Guiding Principle 14 states that "the severity of the impacts will be based on their magnitude, extent and whether or not they are irremediable." This means that both the severity of the impact (its magnitude) and the number of individuals who are or will be affected (its extent) are taken into account. The "irremediable" aspect is the third important factor, used here to signify any limit on the ability to restore those concerned to a situation at least identical, or similar, to their situation before the negative impact.

On the applicable ILO conventions and the Group's requirements and commitments in relation to possible impacts, the Group established guidelines entitled "Human rights and fundamental freedoms, health and safety, environment, and business ethics", which are available on EDF's website[1].

There were no serious incidents in terms of human rights in 2024 (an alert is being processed; it is not recorded as not proven at this stage of the investigation). Fines, sanctions and/or compensation actually paid by a Group entity are taken into account. Provisions and convictions for which an appeal with suspensive effect is pending are therefore excluded. Referrals from OECD National Contact Points (NCPs) are also taken into account.

(1) www.edf.fr/sites/groupe/files/contrib/groupe-edf/engagements/2021/rse/edfgroup_rse_referentiel-ddv-2021_en.pdf

3.3.2 ESRS S1 - Own workforce

The EDF group is committed to safeguarding the human rights and fundamental freedoms of its staff and complies, notably, with the provisions of the standards set by the International Labour Organization (ILO).

In alignment with its responsibility to promote equality, respect for diversity and inclusive values, the EDF group is dedicated to developing concrete action to promote equality in the workplace and enhancing occupational and social integration of disabled people, combating sexism, violence and all forms of discrimination, and providing support for parents — without compromising the managerial independence of regulated infrastructure operators. As a socially responsible employer, the Group is committed to maintaining and enhancing a high-quality social dialogue and strives to secure the development of skills required for the Group's business lines over the long term, by integrating all aspects of Corporate Social Responsibility (CSR) into its operations and projects and giving employees the opportunity to develop their employability throughout their careers.

The EDF group is committed to protecting the health and safety of all individuals. In this regard, the Group develops the highest standards in terms of nuclear and hydropower safety, and health policies for its employees and subcontractors (reducing the number of accidents, eradicating fatal accidents, developing the management of psychosocial risks, adapting work organisation methods (notably in a climate change context), guaranteeing a high level of social welfare, etc.).

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunities

Sustainability matters	Material impact	Description	Time horizon
Human rights[1] (see sections 3.3.2.3 and 3.3.1)	Infringements of workers' rights	Construction and operating activities can lead to deteriorated working conditions and violate the rights of employees.	Short term
Health and safety for all[1] (see section 3.3.2.6)	Health and safety for all (cross-functional S standards)	Activities and possible accidents/incidents, including those related to safety, throughout the value chain can affect the health and safety of workers and subcontractors (*e.g.* chemicals, ionising radiation, musculoskeletal disorders and anxiety disorders) as well as the health and safety of local communities (*e.g.* accidents during the transport of raw materials, operating accidents, soil/air/water pollution, waste generation, use of security forces).	Short and medium term
	Improving working conditions	The possibilities for flexible working hours provided by the Group (specific leave and flexible working hours) as well as non-professional support actions (notably the psychological unit) can improve employees' working conditions.	Short and medium term
Equality, diversity and inclusion for all[1] (see section 3.3.2.7)	Discrimination	The professional environment may be the source of discrimination that undermines the rights and freedoms of the individuals concerned (*e.g.* incidents, harassment, unequal wages).	Short, medium and long term
	Equality, diversity and inclusion	The EDF group's commitment to equality, diversity and inclusion has a positive impact on employees and society (for example, *via* actions in education to encourage women to pursue careers in science, etc.).	Short, medium and long term
Skills development (see sections 3.3.2.4 and 3.3.2.5)	Skills development	Employee training, as well as certain professional mobility programmes offered by the Group, enable the development of employees' skills.	Short, medium and long term

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

Sustainability matters	Material risk or opportunity	Description
Human rights[1] (see section 3.3.2.3)	Human rights risks	The risks of human rights violations within the Group's activities can lead to financial, legal and reputational consequences.
Social dialogue (see section 3.3.2.2)	Social dialogue	A blocked or degraded social dialogue risks hindering the generation of energy, the development of projects, as well as offers & services, and impacting employee engagement and therefore the implementation of the Group's strategy.
Health and safety for all[1] (see section 3.3.2.6)	Health and safety accidents/ incidents	Accidents/incidents involving employees can disrupt the smooth running of production and lead to increased operating costs and extraordinary expenses.
Skills development (see sections 3.3.2.4 and 3.3.2.5)	Inadequate skills	Risks of inadequate skills externally and internally (*e.g.* for the needs of renewable or nuclear sectors) may generate tensions over resources and lead to the Group's inability to implement its strategy.
Employee attraction and retention[2] (see section 3.3.2.4)	Employee attraction and retention	Working conditions, opportunities for professional development, CSR performance and the quality of social dialogue within the EDF group (in particular *via* the global CSR agreement, employee representation on the Board of Directors, etc.) represent an opportunity to attract skills and retain employees within the Group.

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

(2) Sub-theme defined by EDF.

No significant current financial impact has been assessed for material risks and opportunities.

Certain potential impacts were identified as material, although no specific improvement targets have been set: the EDF group has been implementing actions for years to control them manage these impacts, which, to date, led to satisfactory results. Due to the importance of the subjects, only a disclosure of results is planned for now, enabling users of the sustainability report to access this data. The subjects on which the EDF group intends to make progress are health and safety, as well as equality, diversity and inclusion. The Group training policy, planned for 2025, will help in setting a target for future publications.

A workforce trajectory in line with the Group's strategic orientations

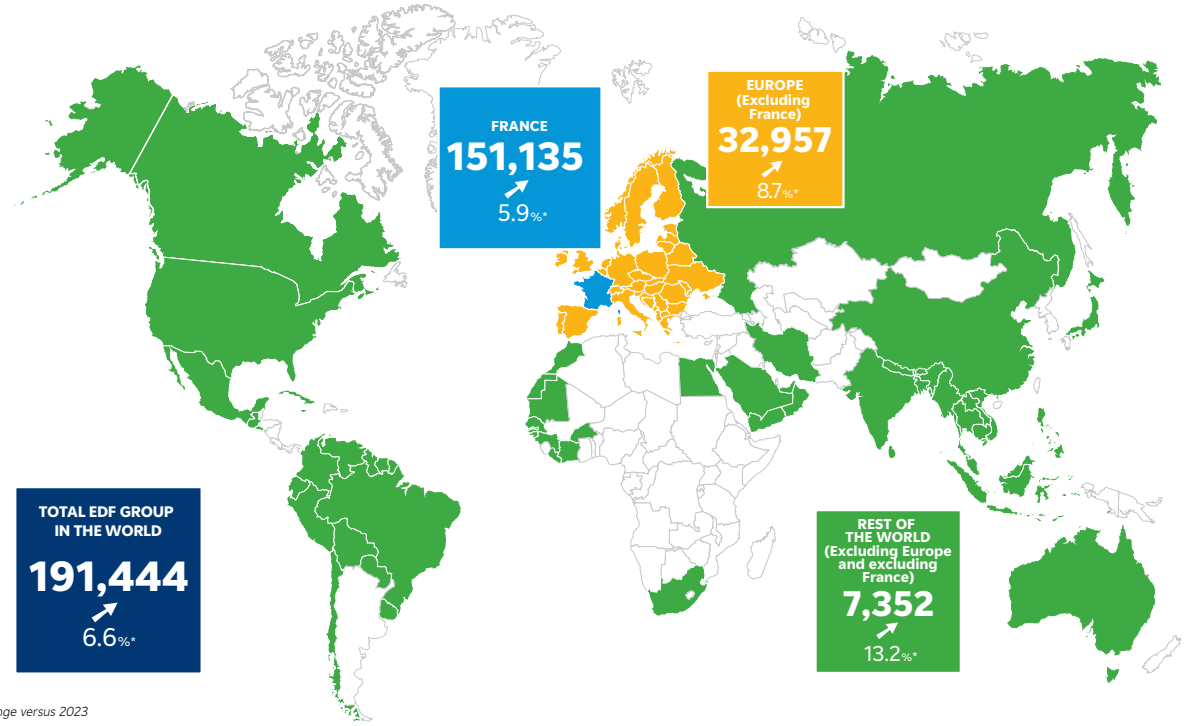
The EDF group's consolidated workforce totalled 191,444 employees as of 31 December 2024 (with subsidiaries consolidated). The 6.6% increase compared to 2023 is explained by the growing need for the skills required by the energy transition industries, in order to meet unprecedented industrial challenges. In addition, Arabelle Solutions joined the Group in 2024, with its workforce reinforcing the Group's nuclear activities.

The Group's workforce in France

The EDF group is undergoing continuous transformation, adapting its business model to meet the challenges of the energy transition in France. This includes a maintenance programme for existing power plants, new nuclear, developing renewable energies, reinforcing networks, developing new commercial offers, notably electric mobility, heat pumps, optimisation of support functions, digitalisation of internal service sector processes, targeted development abroad. In France, the Group's companies' workforce amounted to 151,135 employees as of 31 December 2024. The workforce grew 5.9% compared to 2023. The Group's companies in the nuclear, renewable energy and energy service sectors are expanding quickly to support the development of their business, with workforce numbers in France growing by 15% for Framatome, and by 8% for Cyclife. In the renewable energy sector, the workforce increased by 5% for EDF Renewables in France.

The International Group's workforce

96% of the Group's global workforce is European and 79% is based in France.



** Change versus 2023*

Breakdown of employees by country in which the Group has 50 or more employees representing at least 10% of its total number of employees.

In number of employees	2024
France	151,135
United Kingdom	19,165

3.3.2.1 Policies relating to the EDF group's workforce

3.3.2.1.1 Corporate social responsibility

The EDF group's global Social and Environmental Responsibility master agreement

On 27 January 2025, the EDF group, along with 18 trade unions representing the Group's employees and two global trade union federations (IndustriAll Global Union and ISP), signed the new 2025-2030 global master agreement on the EDF group's Social and Environmental Responsibility. This agreement commits the entire Group to a set of principles common to all its companies in terms of respect for employees and all stakeholders impacted by the Group's activities and projects and the fight against global warming.

The provisions of this collective agreement cover all employees of companies under EDF's control. The Group's companies are committed to progress, ensuring that their policies, activities and practices comply with the commitments of this agreement. The Group also promotes this agreement among its suppliers and subcontractors.

This agreement also guarantees the right to collective bargaining and effectively reflects its commitment to "make upholding human rights a prerequisite to all its business activities, and not tolerating any violation of these rights, whether by the Group itself during the course of its business, or by its suppliers, subcontractors and partners". It confirms that, in the event of conflicting standards with applicable laws in countries where it operates, the EDF group undertakes to apply the most protective human rights provisions while complying with the national laws. In order to ensure the long-term implementation of this agreement, the commitments regarding deployment within the controlled companies have been strengthened.

Agreement monitoring

The CMDRSE (Global Dialogue Committee on Social and Environmental Responsibility) is the committee for monitoring the implementation and compliance with the commitments of this agreement.

Its main missions include:

- analysing the Group's balance sheet from a social responsibility perspective;
- identifying gaps and areas for improvement;
- arbitrating in the event of differing interpretations of the agreement's provisions;
- contributing to the resolution of conflicts related to the application of the agreement's commitments.

Its composition: 25 members from different Group companies representing the signatories of the agreement. It is a multilingual international body, reflecting the Group's diversity, which currently includes French, British, German, Italian, Belgian, Brazilian, Chinese and Polish.

The CMDRSE of the new agreement will meet annually in "Plenary" format, and in a restricted format called "Steering Committee" twice a year to prepare the annual plenary's work. Work will also continue between meetings in the form of working groups on key issues, such as the procedures for exercising the EDF group's duty of vigilance within its supply chain, the respect for the human rights of its employees, subcontractors, and affected populations, the freedom of association and

the transparency of social dialogue to support transformations, the initiatives to foster the Just Transition, and the anchoring of the commitments of this agreement in all the companies controlled by the Group.

In 2024, the final annual plenary meeting of the previous global agreement was held in June, in Belgium, preceded by a working day with all the signatory trade unions and followed by a day of training on international social dialogue. This meeting also enabled employee representatives to discuss with Group representatives on various topics at the heart of their concerns, such as the latest news on international development projects, the health and safety of employees and service providers, and future changes as part of the new European Directive on the Duty of Vigilance (CS3D).

Long-term social welfare

With regard to employee benefits, the Group is guided by three principles: a principle of responsibility, a principle of ownership by beneficiaries, and a principle of balance between competitiveness and sustainability. Indeed, on this last point, to ensure sustainable employee benefits adapted to the local market, they must be financially sustainable in the long term for both employees and employers.

3.3.2.1.2 Health and safety prevention policy

Respect for the health and safety of all is at the heart of the EDF group's priorities. The health and safety policy was updated in April 2024. See section 3.3.1.1.2 "The rights of Group employees and workers in the value chain" – "Respect of health and safety for all".

3.3.2.1.3 Skills development policy

The skills development policy, "Groupe France", updated in 2022, aims to boost the transformation of training and professional capacity-building practices to secure the skills needed for the Group's businesses in the long term, particularly in the context of the energy transition and the development of new nuclear power. This policy aims to shift from a focus on training and employment management to a skills-based management, and to anchor the acquisition of learning within the framework of a learning company and knowledge management. These approaches seek to improve the circulation and capitalisation of knowledge by encouraging the transfer, sharing, storage and dissemination thereof. This policy is due to be updated in 2025.

3.3.2.1.4 Combating discrimination and promoting inclusion

The EDF group makes diversity one of the keys to the success of its "*Ambitions 2035*" corporate plan. It is also an essential element of its commitments as a responsible company in line with its *raison d'être*. Seeking and promoting the diversity of profiles and their full integration is decisive in enabling the Group to reflect its customers and civil society. This is also one of the conditions for enhancing the Group's attractiveness.

The Group's ethics and compliance policy outlines its compliance programmes and the main rules that managers must be aware of, comply with and ensure compliance within their entities, in strict accordance with the specific risks of faced by these entities. This policy was updated in June 2023. It also includes the harassment and discrimination prevention programme. The rights of the employees covered are detailed in section 3.3.1.1.2 "The rights of Group employees and workers in the value chain".

In addition, the EDF group is committed to developing concrete actions to promote professional equality and the professional and social inclusion of people with disabilities, to combating sexism and violence, to fighting all forms of discrimination and to supporting parenthood.

Within the Group France scope, training and awareness-raising tools as well as reference documents promoting inclusion are made available to employees, the HR department and management. These resources aim to prevent and combat discrimination on the grounds of gender, sexual orientation, real or assumed origin, religious convictions, health status or disability.

3.3.2.2 Interaction process with the EDF group workforce and its representatives

To understand its employees' perspectives, the EDF group interacts with them both through social dialogue and surveys. A total of 136,318 people responded to the MyEDF group survey in November 2024. Conducted by the international research institute IPSOS, this survey strictly guarantees the anonymity and confidentiality of responses, allowing all Group employees to express their views on their professional situation as well as their perception of their company, both at the local level and at Group level.

3.3.2.2.1 Social dialogue

The first half of 2024 was marked by the installation of the Social and Economic Committees (SEC) and the Central Social and Economic Committee (CSEC) following the professional elections in November 2023. Installation seminars were organised to help elected representatives and trade union representatives to become better acquainted with the functions of the SEC and its committees.

In this context of renewal and installation of actors, social dialogue has facilitated discussions, which are strategic for the Group across the various bodies (CSEC, FGC, EWC), including the "*Ambitions 2035*" corporate plan launched in September 2024.

The 2024 social agenda was the subject of several discussions with central union delegates and central union secretaries at the end of 2023 and during 2024. The negotiation of a new global master agreement on the EDF group's Social and Environmental Responsibility was concluded with employee representatives in November 2024 (see section 3.3.2.1.1 "Corporate social responsibility").

EDF's consultation and coordination body

The consultation and coordination body of the company (*Instance de concertation et de coordination de l'entreprise* – ICCE) is a forum for social dialogue, exchange and/or consultation with EDF's representative trade union organisations, led by the Group Social Dialogue Director and organised on a quarterly basis. They are devoted to discussions on social or development issues that do not fall within the remit of the employee representative bodies, or on emerging issues, decisions or political orientations. In 2024, the project on a common social foundation for the EDF group, the "being an EDF group ambassador" system and the shared core of mandatory training within the Group were presented to this body.

Employee representative bodies (ESC, FGC, EWC)

All EDF group companies have set up employee representative bodies in accordance with the legislation in force and, for France, on the occasion of collective agreements to set up SECs and Central SECs, where applicable. For the parent company EDF SA, the mapping of the Employee Representation Bodies in 2024 included 48 establishment SECs and a Central Social and Economic Committee (Central SEC). In addition, the EDF group has maintained a European Works Council since 2001, as well as a France Group Committee (FGC) since 2008.

France Group Committee (FGC)

The France Group Committee, set up by collective agreement at the EDF group in 2008, is a representative body for the employees of the Group's various companies in France. As the 2018 collective agreement renewing the body expired in May 2022, it was updated by unanimous agreement on 25 April 2022.

The mission of the FGC is to ensure cross-functional social dialogue on economic and financial matters, as well as on the situation and employment prospects at the Group. To this end, the Committee is reported to in several areas:

- strategy, outlook, innovation and emerging activities, synergies developed and general activities of the Group in France, from an economic, industrial, commercial and environmental standpoint;
- the Group's financial position in France, including disclosure of the consolidated balance sheet and financial statements, as well as the corresponding Statutory Auditor's report;
- the annual or multi-year changes and forecasts on employment, including those relating to work-study programmes, as well as any preventive actions planned based on these forecasts, are reviewed at both the Group level in France and within each of its constituent companies. The work of the regional dialogue bodies is also examined in annual meetings;
- the implementation of EDF group policies and in particular health and safety at work.

The FGC brings together 28 employees representatives of the French subsidiaries (EDF, Dalkia, EDF Renewables, Framatome, Enedis, IZI confort, Électricité de Strasbourg, Dalkia Electrotechnics).

In 2024, the FGC met four times.

The four ordinary meetings examined the Group's economic and financial situation, as well as the Group's strategic orientations, and also made it possible to share the Group's employment and mobility assessment, the Skills project, and the Group's 2023 Health and Safety Assessment with a focus on Enedis.

European Works Council (EWC)

The European Works Council (EWC), set up by a collective agreement in 2001 (revised in 2005 and 2015, then by an amendment of 21 November 2021) at the EDF group is a mandatory legal body representing the employees of the Group's various companies within the European Union and the European Economic Area. The collective agreement, negotiated under the European Directive of 6 May 2009 and transposed into the French Labour Code by the Order of 20 October 2011, governs the establishment, operation and mandate of the EWC.

The EWC's mission is to ensure cross-functional social dialogue on economic, financial and strategic matters, as well as on the employment situation and prospects at the Group and in the European subsidiaries. In this regard, the Committee is reported to in several areas:

- Group news, notably on the health and safety policy, CSR and the duty of vigilance;
- the Group's economic, financial and social situation, notably at European level;
- any information deemed useful by the Chairman on the Group's global strategy.

The European Works Council is composed of 38 representatives of the employees of the parent company and the European subsidiaries (French, German, British, Italian, Belgian and Polish).

In 2024, the EWC met twice for two ordinary meetings. The EWC Secretariat met twice in 2024 to prepare for the plenary sessions and discussed the Group's current situation in Europe, and changes in the geographical scope of the EWC.

Through working groups, EWC employee representatives carry out work at the European level in connection with European news and Group policies (health and safety, site closures, consolidated accounts, energy transition, equality and diversity).

Duty of vigilance and social dialogue

The CDRS serves as the main forum for dialogue with employee representatives on the exercise of the EDF group's duty of vigilance. Since the agreement came into force in 2018, a progress report on this issue has been systematically presented at each meeting of the Agreement Monitoring Committee (three times a year on average including one Plenary session). The CDRS provides an opportunity to monitor the implementation of planned actions and to discuss the latest legal and legislative developments affecting the Duty of Vigilance: implementation of new obligations arising from European legislation on sustainability information (CSRD), adoption in the spring of the European directive on the Duty of Vigilance for companies, lessons to be learned from the 1st conviction on the merits of a French Group under its Duty of Vigilance. The CDRS Steering Committee held in January 2024 was an opportunity for a particularly intense discussion with officials of the International Federation for Human Rights (FIDH) to review current human rights issues and exchange points of view on the difficulties encountered by companies and NGOs in this area. Lastly, the CDRS contributed to the drafting of the 7th vigilance plan through several discussion sessions between management and CDRS members, with many of their suggestions being taken into account.

3.3.2.2.2 Collective bargaining indicators

Through the HR department, each Group company records the number of its employees benefiting from a collective agreement.

The social dialogue indicator measures the existence of collective agreements in the key companies controlled. These agreements guarantee negotiations with employee representatives to define the status of employees. In accordance with International Labour Organization principles, agreements can be sectoral, national, regional, or at the level of an organisation or a site.

Through the channel of HR managers, each division or subsidiary reports once a year on the number of employees benefiting from a collective agreement.

Collective bargaining coverage	2024
Percentage of employees covered by a collective bargaining agreement	86.1%
Percentage of employees covered by a collective agreement in the EEA(1)	93.9%
Percentage of employees covered by a collective agreement in France	94.3%
Percentage of employees covered by a collective agreement outside the EEA(1)	38.0%

(1) In the European Economic Area, France is the only country in which the Group has more than 10% of its total number of employees.

Details on the indicators

The indicator is calculated by establishing the ratio between the number of employees benefiting from a collective agreement and the physical workforce as of 31 December. The indicator's scope covers the Group.

3.3.2.3 Repair procedures and channels for EDF group employees to raise concerns

Employees can use the Group's whistleblowing system, set up in accordance with the Sapin II and Duty of Vigilance laws, which guarantees anonymity and is available in the Group's six languages (see section 3.3.1.2 "The EDF group's whistleblowing system").

It enables the reporting of acts contrary to laws and regulations, a crime or a misdemeanour, a breach of the EDF Code of Conduct, a breach of an international commitment, a threat or serious harm to the general interest.

3.3.2.4 Company employees - Attractiveness and employee loyalty

3.3.2.4.1 Actions and indicators relating to the workforce

Attracting, recruiting and retaining the talent needed to meet the energy transition's challenges, is a key component of the Group's strategy.

3.3.2.4.1.1 The EDF group, one of the main industrial recruiters

The energy transition sectors will have to recruit several hundred thousand individuals in France over the next 10 years, including more than 10,000 per year in the nuclear sector alone, according to the Match study published in 2023. These massive hires require the mobilisation of all players in the energy transition ecosystem. To meet this challenge, the EDF group launched the operational excellence "Skills" project in 2023. The actions carried out as part of this "project" are planned for the extended company, and across the regions where they are rolled out in practice. They are implemented in partnership with players in the national education system, the public employment services, and associations, together with local authorities. In this context of sharply increasing skills needs and of unprecedented tensions on available resources, the EDF group, a major player in the energy transition in France and around the world, is one of the main industrial recruiters with nearly 16,700 permanent hires worldwide in 2024, including nearly 11,000 in France. Moreover, the Group welcomed and supported around 9,600 work-study students worldwide as at the end of 2024.

Hires/departures of Group employees	Unit	2024
Total departures of employees who have left the company	Number	18,902
of which retirements/inactivity	*Number*	*3,103*
Employee turnover rate	%	9.9%

Details on the indicators

- "Total departures of employees who have left the company" indicator:

This indicator is the sum, over a year, of retirements, resignations, dismissals and all departures from the Group due to reasons other than the previous three.

- "Turnover rate" indicator:

This indicator represents the ratio between the total number of departures over a year ("total departures" indicator) and the number of employees as of 31 December of the year.

3.3.2.4.1.2 Dynamics of the employer brand

To attract the right candidates, the company relies on an innovative employer brand that reflects its *raison d'être*. EDF remains one of the most attractive employers for students, work-study students and young graduates, as evidenced by several external inter-company rankings published in 2024, such as that of Epoka, Universum or HappyTrainees[1].

3.3.2.4.1.3 Attracting to the energy transition professions

In the years to come, the Group will continue to face major industrial challenges, making it crucial to start preparing for the orientation and professional integration of younger generations to meet the recruitment challenges of tomorrow.

In view of future recruitment needs and the fact that industrial jobs are still too unattractive, especially for women, the EDF group has decided to step up its efforts as a major player in skills challenges and in diversifying the profiles it seeks. Diversity is embedded in the corporate project: it is sought, integrated and valued. To attract people to the energy transition, the Group is rolling out varied and innovative actions with its partners to enhance the appeal of these professions and in school relations.

The University of Nuclear Professions (UMN), created in 2021, supports the skills of the nuclear sector through local actions and a dedicated portal, "My Future in Nuclear". In 2024, the nuclear professions week attracted more than 16,000 participants, doubling the 2023 participation. UMN also adapted training courses to industrial needs, launched 43 new training courses, and introduced the "Nuclear Passport" in around a hundred institutions.

The network sector, *via* industrial partnerships, has created network classes in vocational high schools, reaching nearly 2,000 students in 2023-2024, with a target of around 3,000 students by 2024.

The new energy systems sector (renewable energies and energy services) has created an energy transition label, which qualifies around a hundred diplomas focused on training for energy transition professions.

3.3.2.4.1.4 Recruiting the talent needed to meet the challenges of the energy transition

In 2024, the EDF group increased its recruitment compared to 2023, to meet the needs in industrial, technical, digital and customer relations skills. The business lines concerned include nuclear generation, renewable energies, energy services, networks and information technologies.

EDF continues to promote work-study programmes and internships as key elements of its recruitment, while increasing the proportion of experienced employees. EDF is strongly committed to welcoming high school students and works with associations to support students in priority neighbourhoods, notably young girls.

(1) entreprises-preferees2024.eventmaker.io/ universumglobal.com/fr/ https://choosemycompany.com/fr/classements/2024

In 2024, to attract and integrate skills to the Group, EDF continued to modernise its recruitment processes and improved them with more innovative and digital tools (matching tools offered to candidates, digital tool for collecting applications on forums) while diversifying its sourcing.

The EDF group has strengthened coordination for school relations and the sharing of candidate pools, with a Group school relations network and Group agreements with post-baccalaureate institutions. EDF uses digital communication adapted to this audience, and has launched podcasts to attract talent.

The EDF group is continuing its actions to increase the number of women in its external hires, through the promotion of female role models, partnerships with influencers, and an active presence in schools to encourage young women to pursue technical professions. EDF supports initiatives such as Fem' Energia and integrates women into all stages of recruitment. For instance, in 2024, EDF Renewables carried out an initiative in partnership with the Rêv'elles association, which aims to promote equal opportunities and diversity. The Group also had around 700 *Elles Bougent* sponsors in France in 2024, who are mobilising to meet young women regarding this topic.

Recruitment of women in technical professions and in information systems (EDF SA)	2024
Total number of hires in technical professions	2,309
Share of women among hires in technical professions (%)	20%
Total number of hires in the information systems business units	348
Share of women among hires in information systems professions (%)	30%

Commitment to professional integration and inclusion

EDF is mobilising for an inclusive economy, particularly for young people, in partnership with *Collectif d'Entreprises*, working for a more inclusive economy. In 2024, EDF recruited permanent/fixed-term contracts and work-study students from Priority Urban Neighbourhoods (*quartiers prioritaires de la ville* - QPV) and Revitalised Rural Areas (*zones rurales revitalisées* - ZRR). EDF participates in inclusion-through-sport days and carries out recruitment through sport initiatives to identify candidates for jobs in short supply. The "one young person, one mentor" programme offers more than 1,000 mentoring proposals to meet the challenges of **youth employment** and skills development.

The EDF group is a pioneer in the professional integration of **people with disabilities**, participating every year in the Hello Handicap fair, a 100% digital event with around 20,000 job offers. Candidates can conduct interviews with managers and HR, without the need to travel.

EDF SA, has set up a system of **skills-based sponsorship** with two orientations: senior skills sponsorship for employees nearing retirement, facilitating their transition to volunteering, and career skills sponsorship for all employees, offering a rewarding experience during a career through a general interest mission. The assignments generally last two years, with around one hundred employees participating in this programme in 2024.

In 2024, EDF strengthened its partnerships to facilitate the **recruitment of people for retraining and reintegration**, notably with France Travail. EDF uses Operational Employment Preparation systems and organises "job dating" operations for employees in shrinking sectors or those affected by Employment Protection Plans (French PSE).

3.3.2.4.1.5 Actions to promote internal mobility within the EDF group

Internal mobility is reinforced on a Group-wide basis, with the aim of building diversified career paths within the major business lines (nuclear, energy services, renewable energies, networks). The Company strives to involve employees in their career paths by ensuring visibility with regard to the offers available throughout the Group, and by supporting them in better understanding the needs of companies in the short and medium term.

Internal mobility is also a priority for **redeployed employees**, who receive special support.

The EDF group is continuing to develop **retraining courses** enabling employees to improve their skills in new jobs. These courses not only target employees positioned in declining jobs but also employees who voluntarily wish to move towards jobs for which there is a need for deployment.

3.3.2.4.1.6 Remuneration, a performance and attractiveness lever

Total remuneration is an essential lever for the contribution of each employee to the performance of the EDF group, as well as its attractiveness.

The Group is committed to offering its employees fair and competitive remuneration, while also paying great attention to the level of social welfare it proposes, particularly in terms of cover against the major risks of life. The overall remuneration policy is guided by four principles:

- competitiveness with the external market;
- internal equity and consistency;
- financial sustainability;
- readability for employees and managers.

The policy is based on fixed remuneration and individual and/or collective variable remuneration which serves to recognise the achievement of objectives, connected to the companies' economic results. It must also ensure consistency in the level of job remuneration with the market, taking into account all the benefits provided to employees.

Total annual remuneration	2024
Pay ratio	26.5

Clarification of indicators

The pay ratio refers to the ratio of the total annual remuneration of the highest-paid person to the median total annual remuneration of all employees (excluding the highest-paid person).

The material scope taken into account for the calculation of the above indicator is all employees continuously present in 2024, of the main companies of the EDF group in France (namely EDF SA France, Enedis, Framatome France, and Dalkia France) and in the United Kingdom (namely EDF Energy), *i.e.* around 153,600 employees, which represents more than 80% of the Group's workforce worldwide. The remuneration taken into account includes the basic salary, as well as all cash and in-kind benefits.

3.3.2.4.1.7 Salaried employees by gender

In number of employees at the Group	2022	2023	2024
Male	127,130	132,264	140,663
Female	44,360	47,286	50,625
Other*	N/A	N/A	0
Not declared*	N/A	N/A	156
Total employees	171,490	179,550	191,444

** Data were only collected from 2024 for these two categories.*

Details on the indicators

The indicators on the breakdown of the Group's workforce by gender are defined as follows:

- according to four gender categories: male, female, other gender and undeclared gender; this last indicator corresponds to an absence of an answer to the question of the employee's gender qualification; the breakdown is carried out according to the legislative tolerances in force in each country and according to the data available to each entity;
- the workforce recorded is the physical workforce at the end of the period (at 31 December of the year);
- this workforce is recorded by country and by Group company, according to the geographical location of the employees recorded by each company.

The number of female managers and the number of female employees indicators are monitored by country and by Group company.

The EDF group's companies and EDF SA have managed to maintain their rate of female representation stable despite entry-exit balances that do not allow a favourable evolution of the proportion of women in the employment body. This stability is observed despite significant increases in female hires over the past two years.

3.3.2.4.1.8 Salaried workforce by type of contract

Employees at 31/12/2024	Men	Women	Other	Not declared
Number of employees (workforce)	140,663	50,625	0	156
of which number of employees on permanent contracts (permanent workforce)	132,860	46,776	0	25
of which number of employees on fixed-term contracts (temporary workforce)	7,803	3,849	0	131

Temporary employees include employees with non-guaranteed hours:

Employees at 31/12/2024	Men	Women	Other	Not declared
Number of employees on non-guaranteed hours (workforce)	450	46	0	0

Clarification on indicators

The indicators on the breakdown of the Group's workforce by type of contract and gender are defined as follows:

- according to four gender categories: male, female, other gender and undeclared gender; this last indicator corresponds to an absence of an answer to the question of the employee's gender qualification; the breakdown is carried out according to the legislative tolerances in force in each country and according to the data available to each entity;
- for the following types of contracts:
  - > permanent,
  - > fixed-term contracts, which include non-guaranteed hours contracts (employees who are employed by the company without being guaranteed a minimum or fixed number of hours of work; this definition differs from country to country, as national legislation applies).

3.3.2.5 Training and skills development

The skills development policy, "Groupe France", updated in 2022, aims to boost the transformation of training and professional capacity-building practices with a view to securing the skills of the Group's businesses over the long term, particularly in the context of the energy transition and the development of new nuclear power.

3.3.2.5.1 Actions related to skills and training

The Group invested nearly €664 million in 2024, providing nearly 7.9 million hours of training and professional capacity-building. The optimisation of the training offer catalogue has improved the user experience for employees and managers, also thanks to a dedicated search engine, hosted on the Group intranet, allowing access to all the offers, across various methods. A common interface is also being rolled out to bring together the two current Group digital platforms. The Group now offers a range of teaching methods, from classroom-based training to knowledge management, including on-the-job and supported learning, virtual classes and all combinations of blended learning methods. This means that nearly a quarter of the training and professional capacity-building hours consumed were consumed digitally (EDF SA figure).

Furthermore, work has been initiated to enable the selection of external content providers, who will then interface with the Group platforms to optimise its catalogue of soft skills and tertiary and cross-disciplinary training courses.

The Skills project was launched in 2023 and continued in 2024. This project will help to fill positions within the EDF group and in the energy transition sectors (Nuclear Sector, Network Sector, New Energy Systems Sector), with the aim of ensuring "the right skills, at the right time, in the right place" to meet the needs arising from workload plans. It is one of the Group's four internal transformation projects.

The project is designed to take a long-term view (10 years) and adopt a broader approach by also integrating the energy transition sectors. It aims to:

- anticipate skills needs and adapt them locally to strategically plan resources over 10, 5 and 3 years;
- develop employees' skills to have them at the right time and in the right place;
- attract and integrate the skills that EDF needs at the Group and its industrial partners;
- work with the field to test and industrialise systems.

In terms of achievements, the Group was able to implement in particular the following actions in the four areas of the Skills project:

- area 1 - Anticipate skills needs and adapt them locally to strategically plan resources over 10, 5 and 3 years: construction of a 10-year vision for the Group's nuclear sector, development of a shared family/business line nomenclature for all the Nuclear sector at the Group level;
- area 2 - Develop employees' skills to ensure they are available at the right time in the right place: continue to optimise the training offering and facilitate access to the offering (single catalogue, Powerskills), development of training communities practices and knowledge in the context of knowledge management, enhancement of Group mobility, change in internal retraining offers, etc.;
- area 3 - Attract and integrate the skills that EDF needs at the Group and its industrial partners: implementation of a regionalised 3-year Group recruitment plan, colouring of courses from professional certification to master's level in the nuclear and networks sectors, creation of an "energy transition jobs" label in conjunction with the national education system, creation of certified titles on initial training courses corresponding to its needs, development of actions to promote the Group's business lines, establishment of employee ambassadors identified under the "EDF that's me" banner, simplification of the recruitment process and diversification of the profiles recruited;
- area 4 - Work with the field to test and industrialise systems: organisation of visits by around 2,500 1st and 2nd year high school interns, generalisation of innovative approaches in the field (Forindustrie, etc.), mapping and responses to regional AMI-CMAs, continued coordination of skills management players at regional hub level, etc.

In line with the Group's Skills Development policy for France and to enhance the standardisation and digitisation of the tertiary and managerial offerings while facilitating and enriching the construction of modular personalised pathways, the selection of external content providers was finalised. The EDFLEX self-service training content platform was interfaced with the Group's Powerskills platform, allowing the entire digital offering to be directly accessible from Powerskills. Powerskills and EDFLEX will be rolled out in 2025.

EDFLEX provides a rich content offering (more than 50,000 resources selected by experts) in various formats (videos, podcasts, articles, MOOCs, etc.) in more than 25 languages.

The Group is also pursuing its Training Differently approach, notably by encouraging the transfer of knowledge and know-how, and promoting the implementation of knowledge management (KM) and learning organisation approaches. Knowledge management aims to facilitate access to knowledge, to establish a culture of transmission of knowledge and to promote cooperation among peers and experts. It thus contributes to operational excellence (saving time, sharing good practices, contributing to safety and security objectives) by also serving the specific challenges of the sectors and entities. Knowledge management helps to address changing situations by providing tools, initiatives, good practices and methodologies. It supports and complements or reinforces training actions. It also preserves the Company's capital and, more specifically, its intellectual assets.

To preserve skills within the company, the EDF group's 2025-2030 Global Framework Agreement on Social Responsibility, signed on 27 January 2025 (see section 3.3.2.1.1 "Corporate social responsibility"), includes the fact that the Group fosters the transfer of knowledge and know-how among generations and promotes the implementation of knowledge management.

Lastly, the Executive Committee decided to set up a shared core aimed at developing the Group's global culture and protecting it in the following fields:

- health and safety: the 10 life-saving rules and the importance of collective vigilance;
- cybersecurity: protecting oneself from the theft and loss of one's IT equipment and taking care of one's digital identity (on social networks);
- ethics and compliance: anchoring the "Ethics and Compliance" Code of Conduct through the prevention of corruption and influence peddling.

The monitoring of this shared core concerns all Group employees. It will be implemented through compulsory e-learnings and will be available in the Group's main languages.

The EDF group is preparing the roll-out of this system for 2025 with an annual update cycle.

3.3.2.5.2 Targets and indicators related to training and skills development

The Group invested nearly €664 million in 2024, providing nearly 7.9 million hours of training and professional capacity-building.

Training hours within the Group	2022	2023	2024
Average number of training hours per employee	38 h	40.5 h	41.4 h

The increase in this average number of hours per employee at the Group is mainly due to the training of new hires and increased recruitment in 2024.

Details on the indicators

The average number of training hours per employee is the ratio of the total annual training hours against the number of employees present at the end of the year.

The Group training policy, planned for 2025, will make it possible to work on establishing a target for future publications.

3.3.2.6 Health and safety for all

3.3.2.6.1 Health and safety actions

The basis of health and safety management

The 10 life-saving rules

The Group focused its commitment on the 10 life-saving rules, identified in 2014 on the basis of an analysis of the fatal accidents that have befallen the EDF group over several decades. The update in 2024 of the prevention and health and safety policy was accompanied by a review of the key rules, the wording of which was improved to take into account feedback and strengthen their implementation in the field.

The BEST reference framework

Pursuant to the new policy, the self-assessment of their health and safety management system with regard to the BEST reference framework, carried out by the Group's departments, divisions and companies is now replaced by a three-year assessment supplemented by a peer review. This change, which will take place from 2025, aims to strengthen the consistency of the assessment at Group level and to enable entities to benefit from the vision and experience of their counterparts.

ISO 45001/MASE or VCA certifications

The share of employees belonging to entities whose management system is certified (ISO 45001, MASE or VCA) was 26% in 2024 compared to 35.4% at end-2023 and end-2022, as entities increasingly rely on the Group's internal guidelines (BEST).

This figure is published on the "edf.fr" website and on those of the certified entities.

"Safety Stop"

The Group's health and safety policy specifies that when the safety conditions relating to the life-saving rules are not met, a "NoGo" must be activated to correct the situation before starting. In the same way, when unforeseen circumstances no longer allow the safety rules to be respected, a "safety STOP" should be marked.

Moreover, a Group Safety STOP event is organised every year, for each team, in October. This year, it was held on 17 October 2024. It provided an opportunity to discuss health and safety issues in the field and in work groups, focusing on the 2024 theme of "Working together for our health and safety".

Sharing the analysis of "high potential events" (HPE)

In order to ensure the continuous improvement loop, and to maintain risk awareness, high potential events (HPE) are collected, analysed and shared at Group level; 80% of these HPEs are near misses or dangerous situations. Particular emphasis is placed on those related to the Group's 10 life-saving rules.

In 2024, a safety criterion of the EDF SA profit-sharing agreement focused on increasing the HPE/LTI ratio with a view to encouraging the collection of HPEs in the field and reducing the number of accidents with lost time.

Health and Safety audits

Audits are carried out each year across the Group, in particular in the form of site visits. These site visits are documented in a report shared locally with the audited teams.

See section 3.6.1 "The EDF group's CSR commitment and duty of vigilance framework" – "The Group's reference standards for its commitments and requirements with respect to the environment, human rights, and health and safety".

Anxiety-depressive disorders and stress

For many years, the EDF group has been working to prevent psychosocial risks that can lead to anxiety-depressive disorders. A risk assessment method was defined at Group level. Based notably on the use of the responses to some twenty questions from the MyEDF survey, it enables the identification of the risk factors specific to each collective but also protective factor, such as recognition, work ethic, participation in setting objectives.

Furthermore, a framework contract provides external support to develop training actions and support groups in difficulty.

A training offering is provided for managers to support them in conducting return-to-work interviews at the end of each work stoppage, making it possible to welcome back employees under the best possible conditions. The systematic performance of these interviews is one of the requirements of the new health and safety prevention policy.

Lastly, a "Listening and Support" platform allows to talk, 24 hours a day, seven days a week, in complete confidentiality, with a psychologist by telephone or *via* a chat in different languages. In addition, the platform can be accessed through a smartphone app providing users with awareness-raising resources and tools. This platform, which is accessible to all Group employees in France, is also open to individuals living in the employees' households and to employee service providers.

Musculoskeletal disorders (MSDs)

The health and safety function is strengthened through recruitment, at various levels of the Company, in order to carry out workstation studies and define ways to reduce the arduous nature of activities. In addition to actions to improve workstations, a training offering is made available to employees in both technical and tertiary functions. Physiotherapists and osteopaths work in several entities. Service companies organise warm-up sessions before starting work, as is the case for one of them on the EPR2 site in Penly.

A monitoring process on innovations available on the market is carried out to identify new forms of work. Several exoskeleton applications are in place to reduce the arduous nature of activities. These physical assistance devices provide relief to the upper limbs of the human body. They are, for example, used by jobs involving arm-intensive work tasks, in restrictive positions, with tools to be carried at arm's length. This is the case, for example, for grinding operations in the air at a nuclear site in France. In hydropower generation, the use of exoskeletons reduces the risk of injury during water intake screening operations, facilitating the use of rakes.

Radiation protection

The mobilisation of the various stakeholders is enabling the Group to continue the drive for improvement in the field of radiation protection and dosimetry (training and education of employees and management, increased monitoring of the cleanliness of installations, improvements to the equipment available to operators, optimisation of the installation of lead screens, standardisation of working methods and equipment among nuclear sites, increased supervision, etc.).

As a result, for the past decade the average annual collective dose is 0.69 man-Sieverts (manSv) per reactor, down by 1% from the previous decade, whereas the average volume of hours worked has increased by 35% from one decade to the other. In 2024, the average collective dose was 0.75 manSv per reactor. The average annual individual dose (EDF employees and industrial partners) will remain below 1 mSv in 2024 (0.99 mSv). It is well below the regulatory limit of 20 millisieverts over 12 months for the whole body.

EDF is voluntarily pursuing the ALARA (As Low as Reasonably Achievable) approach to controlling collective dosimetry by continuing to reduce radiation exposures through multi-year facility sanitation programmes and by testing new technologies aimed at reducing their source.

Health and safety actions related to subcontracting

In addition to integrating safety criteria into the various stages of contracting services and taking the best safety performance into account in the technical and economic evaluation of bids received during calls for tenders, the EDF group strengthened, through its new Prevention and Health and Safety policy adopted in 2024, the partnership dimension to be developed by the entities between principals and contractors. The new policy sets out the requirement to carry out joint prevention visits among all stakeholders to share, in a very concrete way, the prevention actions to be rolled out in the field. Moreover, representatives of service providers were involved in the drafting of the new policy and the updating of the Group's 10 life-saving rules.

Regular discussions were held with the MASE association[1] to update the partnership charter that has linked the EDF group to this association since 2019, providing an important relay for supporting companies, particularly very small enterprises and SMEs, in developing their health and safety management.

Improving working conditions

The well-being of people is a major focus of the Group's *raison d'être*. Various actions are implemented to support this commitment, in particular the fight against domestic and intra-marital violence (see section 3.3.2.7.1.2) as well as support for parenthood and family caregivers (see section 3.3.2.7.1.3). The results of the annual MyEDF survey in 2024 show that 88% of employees are satisfied with the health and safety conditions at work.

3.3.2.6.2 Targets relating to health and safety

In order to have comparable data between Group entities and measure accident rates directly related to the performance of activities, the EDF group set up a "LTIR" (Lost Time Injury Rate) indicator corresponding to the calculation of the frequency rate according to Anglo-Saxon standards. This indicator provides information on the overall level of safety of the employees of the Group and its partners during their professional activities. It enables management to focus on work-related accidents.

The overall LTIR objective is based on a process of continuous improvement. The selected value overall LTIR <1 in 2030 is determined on the basis of the best practices observed at the Group: EDF UK and Framatome, but also international leaders in the field of energy and the Oil & Gas sector.

Global indicator	2024 target	2030 target	Review	Scope	2024
Employee + supplier LTIR	**< 1.7**	< 1	Annual	Group	1.6

(1) Link to the website of the MASE association: "mase-asso.fr"

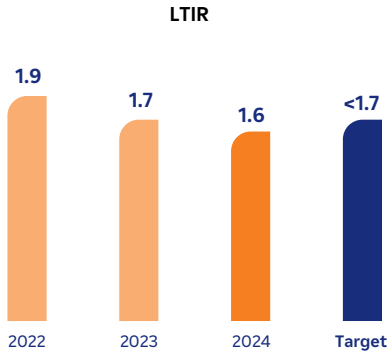
Details on the indicators

The Lost Time Incident Rate (LTIR): the Group's overall Lost Time Incident Rate represents the number of work-related accidents (employees and service providers, whatever the level of subcontracting, including co-contracting and temporary staff) with lost time of one day or more, occurring over a 12-month period, divided by one million hours worked. It is calculated by multiplying the number of work-related accidents in service leading to lost time by one million and divided by the number of hours worked by employees.

Group key performance indicator

In 2024, the overall LTIR (EDF + service providers) progressed with an increasingly significant overlap of the EDF LTIR and the service provider LTIR.

Although 2020 was an exceptional year, the Global LTIR has exhibited a steady downtrend since 2019, due to the reflecting improvements driven by the deployment of preventive measures for employees and service providers.



3.3.2.6.3 Health and safety indicators

EDF continues to record work-related fatal accidents, making it an absolute priority to eradicate these events, in particular by strengthening the application of the Group's 10 life-saving rules covering the main business risks (electrical, lifting, working at height, road risk, etc.).

Group indicators	2024
Rate of employees covered by the health / safety management system (as a %)	34.6%
Number of deaths due to accidents directly related to professional activities – Employees	1
Number of deaths due to work-related illnesses – Employees	2
Number of deaths due to accidents directly related to professional activities – Service providers	2

EDF SA indicators	2024
Number of recordable work-related accidents – Employees	410
Number of recordable work-related accidents – Service providers	537
Work-related accident rate – Employees	4.3
Work-related accident rate – Service providers	5.9

Details on the indicators

An accident is considered to be related to professional activities if the employee, at the time the event occurs, is under the instruction of the employer or if the occurrence is due to hazardous conditions (property, equipment or third parties) in the employer's scope of responsibility (employer site).

The percentage of employees covered by the health / safety management system (as a %) provides information on health and safety certification (MASE, ISO 45001, etc.) which contributes to control health and safety risks by offering better protection of employees.

The number of deaths due to work-related accidents and illnesses measures the number of fatal accidents of employees directly related to their professional activities as well as illnesses as a direct consequence of the exposure of a worker to a physical, chemical or biological risk or a risk resulting from the conditions in which they carry out their professional activities.

The number of fatalities due to accidents measures the number of fatal accidents of service providers directly related to their professional activities.

The latency between the occupational exposure, the appearance of the pathology and the death does not make it possible to identify the deaths due to occupational illnesses of subcontracted employees because they usually occur several years after the performance of the service.

The work-related accidents indicator shows the number and rate of work-related accidents with lost time and without lost time related to the professional activities of employees and service providers. It provides information on the workstations or sectors where accidents are most frequent (TRIR: Total Recordable Incident Rate). As accidents without lost time could not be fully accounted for by the Group, the indicator is presented for EDF SA only.

3.3.2.7 Equality, diversity and inclusion

In line with its commitments to promote equality, respect for diversity and inclusive values, the EDF group is dedicated to developing concrete action to promote equality in the workplace and occupational and social integration for disabled people, combating sexism, violence and all forms of discrimination, and developing support for parents — all while maintaining the managerial independence of regulated infrastructure operators.

As part of its Corporate Responsibility commitments, the Worldwide CSR Agreement, its Ethics Charter and its agreements, the EDF group is committed to setting targets for gender equality in the workplace, measuring progress and taking appropriate action. The EDF group's professional equality policy is based on principles such as equal treatment for men and women throughout their working lives, condemnation of any behaviour or practice that discriminates against employees, EDF's contribution to changing attitudes, and zero tolerance of sexist and sexual harassment in the workplace.

3.3.2.7.1 Actions related to diversity and gender balance

3.3.2.7.1.1 Actions related to gender balance

Strengthening the EDF group's Gender balance Goals

In terms of professional equality, the Executive Committee decided to strengthen in 2021, the company's goals for gender balance at Group level formulated in 2019.

The Group's gender balance goals are being implemented in three areas.

- 1st area: Break the glass ceiling, at all hierarchical levels, and accelerate progress at executive level

A target of increasing the number of women across the Group was set in 2021, common to all hierarchical levels: 33% in 2026 and between 36% and 40% in 2030, with an increased target of 40% women among the Group's executives at the end of 2030.

- 2nd area: Inspire interest in technical and digital professions

The EDF group aims to enhance gender diversity in science, digital technology and innovation, notably by continuing to raise awareness among young girls to encourage them to explore scientific, technical and digital careers, and by better integrating gender diversity into the Group's innovation programmes (Écosystème Pulse, Parlons Énergies, Dispositif Y). Each relevant entity develops a programme to increase the participation of young women in STEMs (Science, Technology, Engineering, Mathematics).

- 3rd area: Ensuring non-sexist communication, promoting gender balanced representation

The EDF group seeks to enhance gender diversity in both its internal and external representation, mainly by encouraging greater female participation in its public engagements.

3.

Management and controls of gender pay equality at EDF: the gender equality index

The gender equality index must be calculated by companies with more than 50 employees and published annually before 1 March. Companies were given a period of three years to reach the threshold of 75 points out of 100 after the first publication of their index. However, with the adoption of the Rixain Law, companies scoring below 85 must now implement corrective actions and notably a salary catch-up budget for women.

Therefore, companies are now required to deliver tangible results rather than solely allocating resources.

Professional gender equality index[1]

	Published in 2022 in respect of 2021	Published in 2023 in respect of 2022	Published in 2024 in respect of 2023
Professional gender equality index (EDF)[1]	90/100	90/100	95/100

(1) Index published before 1 March reference year+1 in respect of reference year.

In 2024, EDF reported a performance of 95 points out of 100 on this index.

With this improving score, EDF confirms its strong momentum in terms of gender diversity and equality. Over the past five years, the company has not published an index below 90 points.

Moreover, the Group is continuing its actions to raise awareness among managers and the Human Resources department on the deconstruction of gender stereotypes.

Attention is paid to the diversification of sourcing to promote the recruitment of diverse employees and enrich work teams. To this end, "recruiting without discriminating" training is made available to all employees in charge of recruitment.

See section 3.3.2.4.1.4 "Recruiting the talent needed to meet the challenges of the energy transition", regarding the increase in female external hires.

Likewise, Management Committees receive guidance on recognizing their cognitive biases, gender stereotypes and inclusive management. Work is underway to incorporate gender equality considerations into the managerial projects of the various entities.

Gender mix of the Board of Directors

The proportion of women on the Board of Directors is in compliance with the statutory threshold. The Committees in charge of remuneration, appointments and governance, of corporate responsibility, of risks and of audit are chaired by women (see section 4.2.1 "Members of the Board of Directors").

3.3.2.7.1.2 Actions related to the fight against sexism and violence

Combating sexism and violence

The EDF group is convinced that the Company's performance depends on the respect for the dignity of people at all levels and is committed to combating all forms of workplace violence and harassment and to combating sexism at work. The Group has zero tolerance for sexual harassment. Each employee, regardless of their level of responsibility, must be able to feel considered, respected and protected.

EDF provides a toll-free hotline, operating seven days a week, for all employees to confidentially seek support and obtain guidance on all harassment and discrimination concerns. A support team (with in-house and external skills) intervenes in investigations carried out when alerts are reported. The EDF group maintains a strict zero-tolerance policy for any form of workplace violence.

EDF launched an action to promote employee dialogue on gender diversity and changing mentalities: "Let's talk about gender diversity", the objectives of which are to:

- dialogue directly with employees on gender and gender equality;
- gather employees' perceptions of the reality and effectiveness of the actions carried out in their daily work;
- identify weak signals and priorities for action using collective intelligence.

EDF has created a new awareness-raising tool: "Stop sexist and sexual violence" ("*STOP aux violences sexistes et sexuelles*"), inspired by the Centre Hubertine Auclert's "violentometer" ("*violentomètre*"[1]) but specifically tailored to address workplace violence.

(1) www.centre-hubertine-auclert.fr/egalitheque/publication/le-violentometre

STOP GENDER-BASED AND SEXUAL VIOLENCE AT WORK

THIS TOOL IS INTENDED FOR ALL EMPLOYEES, WOMEN AND MEN. In 2021, more than 2 out of 5 women said they had experienced gender-based or sexual violence at work, compared with 1 out of 7* men.

** Source: French Ministry of Internal Security statistical service, Genesis 2021 survey, November 2022.*

Fight against domestic and intra-family violence: a support, awareness-raising and care system for victims

The subject of domestic violence was included for the first time in the EDF SA Professional Equality Agreement in 2017 and then included in the new 2021 agreement. It is now also included in the professional equality agreements of the companies Enedis (2021), EDF Renewables (2023), RTE (2020). It has taken on a sectoral dimension with the Professional Equality agreement for the electricity and gas industry branch (2024).

At EDF, these measures were operationally implemented in partnership with the Company's medical and social teams and the "one woman, one roof" ("*FIT, une femme un toit*") association notably. In 2024, EDF once again assisted, accompanied, supported and referred 164 employees who were victims of domestic violence, *i.e.* more than 817 employees supported between 2019 and 2024.

Actions and systems widely deployed at EDF

To carry out and deploy its actions and systems, EDF relies on a network of HR correspondents within the company. This network enables the company to address gender equality issues more effectively, by adapting them to very different professional environments according to the business lines and regions, while providing awareness-raising and training actions for all stakeholders (employees, managers, HR, employee representative bodies, etc.).

Every two years, EDF participates in the Sexism Barometer, in partnership with the other member organisations of StOpE and with the BVA survey institute to assess perceptions of gender-based and sexual violence at work.

To ensure healthy and safe working environments by promoting the inclusion of all types of diversity, EDF has appointed officers to address sexist acts and sexual harassment, as well as implemented targeted training courses. EDF uses innovative tools such as virtual reality and micro-learning to raise awareness among its employees.

3.3.2.7.1.3 Support for parenthood and caregivers

The topic of support for parenthood and family caregivers is an integral part of French legislation and applies to the Group's scope in France.

For Group companies in the electricity and gas industries, the EDF group is reinforcing its support systems for parenthood and family caregivers following the "Family rights" sector agreement of 15 December 2017:

- new rights for family caregivers (access to an advice and services platform, additional remuneration covering three caregiver leaves of absence to help a disabled or independence-loss relative);
- creation of parenting leave available to both women and men, accommodating the diverse structures of modern families, including single-parent families and parents of children with disabilities;
- possible extension of paternity and childcare leave for parents who wish to do so, by converting part of the birth bonus into additional days (with a basic minimum of 5 weeks of paternity leave and 16 weeks of maternity leave);
- financial aid for children's education costs;
- CESU system pre-financed to the tune of 80% by the company for parents of children under the age of 12 and increased support for single parents or parents of children with disabilities.

Breast-feeding mothers are supported by entitlement to paid authorised absence of up to one hour per day (not prorated on the basis of time worked), for one year following the child's birth.

The Group is committed to equal opportunities in career development for all through several types of action: at EDF, equal access to training and career advancement is reflected in the reimbursement of additional childcare costs following a long training course or one requiring travel.

3.3.2.7.1.4 Disability plan, a long-standing commitment

EDF is one of the first major French companies to be involved in the professional and social integration of people with disabilities, committing to go well beyond the legal requirements. The 12th EDF agreement for equal rights and equal opportunity, and the occupational inclusion of disabled people, was signed on 11 January 2023 for the 2023-2025 period.

At the sports level, this commitment has been reflected since 1992 by the partnership with the French Handisport Federation. EDF was also a partner of the Paris 2024 Paralympic Games.

The EDF group strives to embrace all skills and energies, without exclusion. Thus, the Group facilitates the professional integration of people with disabilities across its entities. By the end of 2024, the Group employed 8,096 individuals with disabilities, a sharp increase compared to 2023. In particular, in 2024, EDF employed 2,997 employees with disabilities (4.4% of its workforce as of 31 December 2024).

Group scope	2022	2023	2024
Number of employees with disabilities	6,791	7,054	8,096
% of employees with disabilities	4.0%	3.9%	4.2%

Details on the indicators

The indicator percentage of employees with disabilities is defined as follows:

- it is the ratio of the number of employees with disabilities to the total workforce at the end of the period;
- it refers to the workforce at the end of the period (as of 31 December of the year);
- this ratio is available for the Group's companies worldwide.

EDF pays particular attention to the integration and quality of life of its employees with disabilities. One of the flagship actions of the 2023-2025 agreement was the renewal of the Quality of Life at Work Survey. This survey, already carried out for the first time in 2021, covered 2,584 employees with disabilities at EDF and benefited from a participation rate of 72%, an increase of six points compared to 2021. As in 2021, the results highlight the generally positive feeling about the quality of integration into the Company (74% of employees say they are satisfied) and job satisfaction (78%, +4 points compared to 2021); EDF is working to improve career opportunities for employees with disabilities, aiming to ensure true equality of opportunities and preventing all forms of discrimination.

3.3.2.7.2 Target and indicator relating to diversity and gender balance

3.3.2.7.2.1 Obligations resulting from the Rixain Law: percentage of women among senior executives

French law 2021-1774 of 24 December 2021 (known as the "Rixain" Law), alongside Decree 2022-680 of 26 April 2022, requires all companies with more than 1,000 employees to achieve a 30% quota of women senior managers and executive managers(1) from 1 March 2026, rising to 40% from 1 March 2029.

These obligations apply to all companies with at least 1,000 employees for the third consecutive financial year. Thus, they will be applicable to EDF SA, as well as to the Group's corresponding French subsidiaries.

The Group's goal on executive diversity was reviewed in line with the Rixain Law: it was decided to extend the target of 40% women among executives to the Group scope by the end of 2030, which is an even more ambitious target.

The EDF group has set the following target for gender balance

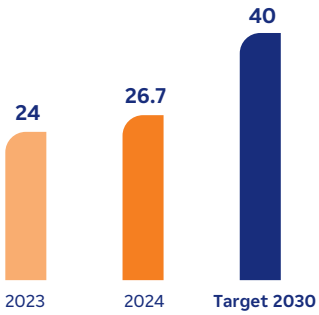
Sustainability matters	Target	Reference	Review	Scope	2023	2024
Gender balance	40% of women among the Group's executives by the end of 2030	Validation of the Executive Committee in 2024	Annual	Group	24%*	26.7%

** The scope for calculating the gender balance indicator, which only partially included the managers of the EDISON and Framatome subsidiaries, was completed in 2024.*

(1) In the Company's case this means EDF's Executive Committee.

As of 31 December 2024, the EDF group employed 304 women executives, representing 26.7% of the Group's executives (compared to 24% at the end of 2023). This increase reflects the improving gender balance among EDF SA executives and is also driven by the Group's subsidiaries in France and internationally.

Women among the Group's executives



The diversity, and notably the gender balance, of executives and future executives are essential drivers of the Group's transformation. Thus, beyond the deadlines of the Rixain Law in France, the EDF group has set itself the target of reaching 40% of female representation among all Group executives, including all of its foreign subsidiaries. This target is particularly ambitious in terms of timing, in particular for an industrial group that currently lacks a sufficient pool of women in the short term to quickly reach 40% women at the senior management level. However, the numerous actions aimed at promoting gender equality (see section 3.3.2.7.1.1 "Actions related to gender equality") allow for a gradual increase in the percentage of women within the Company.

Consequently, EDF updated its action plan to foster executive diversity in 2023, specifically to address this challenge.

The aim is to accelerate the increase in the proportion of women in senior management by working on the various stages of career management that can lead to this path, to act on direct levers (internal promotions and external recruitment of women executives and to mobilise senior managers around this objective (performance criteria in bonuses and contributions to Management Committees). Notably, the following actions were carried out or reinforced in 2024:

- increasing executive accountability by introducing in 2024 a new gender balance performance criterion in the bonuses of the Group's executives, in addition to the existing criterion in the long-term remuneration plan;
- strengthening the requirement for gender diversity in internal applications for executive positions in the appointment bodies;
- establishing an annual Career Committee (People Review) dedicated to women, notably potential future women executives;
- strengthening and expanding existing specific support for future women leaders (mentoring, coaching, co-development, leadership disclosure, etc.);
- the implementation of support and mobilisation of Management Committees, by raising awareness of cognitive biases and the need to implement inclusive management, allowing the integration of gender issues into the managerial projects of entities;
- sourcing of women executives or future executives outside the company to further increase the representation of women in the pool.

In addition to these actions, a longer-term structural transformation is underway for the company's talent management: the roll-out from 2025 of a new leadership development system, designed to identify and support the company's future leaders. This system will be accessible to a larger number of managers, with a view to greater inclusion, but will also be more attractive to younger generations, with the long-term aim of developing a more diverse and mixed management pool.

In terms of gender diversity, as of 31 December 2024, 31.4% of EDF SA's 10% most senior positions were held by women, compared with 30.6% as of 31 December 2023, an increase of 0.8 pt compared with 2023.

3.3.2.7.2.2 Other indicators related to diversity, gender balance

3.3.2.7.2.2.1. Workforce by gender and country

Breakdown of employees by gender and by country in which the Group has 50 or more employees representing at least 10% of its total number of employees

By number of employees by gender and country	Men	Women	Other	Not declared
France	111,256	39,877	0	2
United Kingdom	13,218	5,858	0	89

Details on the indicators

The breakdown by gender and by country shows the physical workforce at the end of the period (as of 31 December of the year).

3.3.2.7.2.2.2. Workforce by age

Breakdown of workforce by age group

Employees by age group as a number and %	2024
Employees under 30	32,664 (17%)
Employees 30 to 50	105,887 (55%)
Employees 50 and older	52,893 (28%)

Details on the indicators

The indicators on the breakdown of the Group's workforce by age are defined as follows:

- according to three age categories: under 30, between 30 and 50, and 50 and over;
- the workforce recorded is the physical workforce at the end of the period (as of 31 December of the year);
- this workforce is recorded by Group company, on a worldwide basis.

The breakdown of the workforce appears balanced and consistent with the medium term need for skills, reflecting EDF group's employment strategy. The proportion of employees under 30 (17%) stems from the Group's desire to integrate young graduates from work-study programmes and internships.

3.3.2.7.2.2.3. Pay

Pay gap	2024
% of pay gap between women and men	1.8%

Details on the indicators

The gender pay gap refers to the difference in the average level of pay between male and female employees, expressed as a percentage of the average pay level of male workers.

The material scope for calculating this indicator includes all employees of the main EDF group companies in France (*i.e.* EDF SA France, Enedis, Framatome France and Dalkia France) and in the United Kingdom (*i.e.* EDF Energy), *i.e.* approximately 153,670 employees at the end of 2024, representing more than 80% of the Group's workforce worldwide. The remuneration taken into account includes the base salary, and all cash and in-kind benefits.

3.3.3 ESRS S2 - Workers in the value chain

The Group's human rights commitments (see section 3.3.1.1 "Human rights commitments") apply to all employees across the Group's activities and business relationships when their activities are related to this relationship. As a result, the Group's various business lines ensure compliance with these commitments in their business relationships with their suppliers and subcontractors, as part of their activities and the projects developed by the Group.

During the double materiality analysis carried out in 2023/2024, the following impacts and risks were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunities

Sustainability matters	Material impact	Description	Time horizon
Human rights[1] (see section 3.3.3 as a whole)	Infringements of workers' rights	Upstream value chains and construction and operation activities can lead to deteriorating working conditions and to infringements of the rights of workers in the value chain. These impacts are concentrated around certain activities: construction, natural gas upstream chain, biomass, solar panels and batteries.	Short and medium term
	Discrimination	The professional environment may be the source of discrimination that undermines the rights and freedoms of the individuals concerned (*e.g.* incidents, harassment, unequal wages).	Medium and long term
Health and safety for all (see section 3.3.3 as a whole)	Health and safety for all (cross-functional with S standards)	Activities and possible accidents/incidents, including those related to safety, throughout the value chain may affect the health and safety of subcontractors (*e.g.* chemicals, ionising radiation, musculoskeletal disorders and anxiety-depressive disorders).	Short, medium and long term

(1) See the appendix for the sub-themes and sub-sub-themes of the associated ESRS.

Sustainability matters	Material risk or opportunity	Description
Human rights[1] (see section 3.3.3 as a whole)	Human rights risks	The risks of human rights violations prior to the Group's activities can lead to financial, legal and reputational consequences.
Health and safety for all (see section 3.3.3 as a whole)	Health and safety accidents/ incidents	Accidents/incidents involving subcontractors contributing to the construction, operation and maintenance of infrastructures can disrupt the due functioning of production and lead to an increase in operating costs and extraordinary expenses.

(1) See the appendix for the sub-themes and sub-sub-themes of the associated ESRS.

The generation, transport and distribution of energy can have various consequences for workers in the Group's value chain. The challenges may manifest as human rights violations or unsafe working conditions, and may result in adverse consequences for workers and their health, as well as financial, legal and reputational risks for the Group. Deterioration of climatic conditions such as heat and droughts can also worsen working conditions. Equally, upstream uranium mining operations related to the Group's activities may pose health risks due to exposure to radiation and the use of chemicals. Equal wages and adequate social protection are also important issues for workers. Lastly, the presence in areas of conflict and undemocratic regimes can expose workers and subcontractors to risks to their safety, health and fundamental rights.

The guidelines published in 2021 by the EDF group bring together the Group's fundamental requirements with regard to its business relations, in terms of respect for human rights and fundamental freedoms, guaranteeing the health and safety of individuals and business ethics. These EDF group human rights commitments were approved and signed by the Chairman and Chief Executive Officer (see section 3.3.1.1 "Human rights commitments").

The notion of "business relationship" includes suppliers and subcontractors with whom an established commercial relationship is maintained, as well as project partners.

Workers in the value chain include employees of suppliers and service providers, of the Group's upstream and downstream value chain.

The Group also ensures respect for the rights of vulnerable populations. Vulnerability is assessed in concrete terms and depends on the specific circumstances of the activity. They may be in a vulnerable situation due to their gender, age, disability, family responsibilities, social or cultural status, minority status, sexual orientation or gender identity. Migrant workers, low-skilled workers, temporary workers and informal workers not represented by trade unions are more exposed to poor working conditions.

No significant current financial impact has been assessed for material risks and opportunities.

The Group considers the interests, views and rights of its value chain workers, including respect for human rights, in determining its strategy and business model, notably through its dialogue process with value chain workers (see section on "Processes for dialogue with workers in the value chain").

Actual or potential negative impacts on workers in the value chain have been identified as arising from value chain activities and are therefore linked to the Group's strategy and business model. Two material risks are identified, namely the risk of violation of human rights (child labour, forced labour, indecent working conditions) and the risk of accidents and health and safety incidents of workers in the value chain, in the conduct of the Group's usual activities, but also *via* the deterioration of working conditions due to increases in heat waves and droughts. The financial materiality of these risks may vary by region, particularly due to exposure to heatwaves, droughts, and human rights risks.

As part of the identification of material impacts, risks and opportunities related to workers in the value chain, the Group has included all workers in the value chain on which the Group is likely to have a material impact. The impacts can therefore affect workers in the value chain in the following cases:

- the majority of the negative impacts identified for workers in the value chain may materialise for workers in the value chain located upstream of the Group's activities. These impacts may particularly affect certain profiles of workers such as unionised workers, women, or workers in certain geographical areas particularly exposed to certain risks;
- workers present on EDF group sites as part of the construction, operation, maintenance and decommissioning of electricity generation infrastructures, who are not part of the Group's workforce, may be affected by negative impacts, notably in relation to their health and safety. Impacts for this category of workers in the value chain are particularly salient in certain geographical areas or for migrant workers;
- an impact was identified, which could affect the health and safety of workers in the value chain located downstream of the Group's thermal electricity generation activities, due to the management of waste from the sector.

Potential material impacts of child labour or forced labour have been identified in the value chain, notably in:

- equipment or service supplier chains, notably in geographical areas outside Europe, North America and Australia;
- the supplier chain for the EDF group's renewable sectors, in particular the production lines for solar panels and batteries, in certain mineral production and extraction areas, notably in Asia;
- the construction of the Group's electricity generation infrastructure, particularly in the Gulf States and Southeast Asia.

Some of the negative impacts identified relate to one-off incidents specific to the Group's activities or to a particular business relationship, for example impacts on the health and safety of workers in the value chain due to hazards or operating accidents linked to the Group's facilities. Other negative impacts are widespread or systemic in the contexts in which EDF operates or sources supplies or in its business relationships, for example the potential impacts of forced labour in the manufacture or extraction of minerals for the solar panel and battery production chain, notably in Asia, or the presence of subcontractors in conflict zones or non-democratic regimes.

The Group has identified how workers in the value chain with particular characteristics (those who work in particular contexts or perform particular activities) may be more exposed to a risk of harm, *e.g.* migrant workers, or workers residing in areas of conflict or in undemocratic regimes. These communities were identified by means of a literature review and through the opinions of internal and external experts.

At the end of following its double materiality analysis, the Group did not identify any material positive impacts for workers in the value chain.

3.3.3.1 Policies related to value chain workers

3.3.3.1.1 Human rights commitments

EDF Group's commitments to human rights for workers across the value chain are detailed in section 3.3.1.1.2 "The rights of Group employees and workers in the value chain". These commitments are made available to workers in the value chain *via* the edf.fr website (see notably the space dedicated to suppliers[1]).

For EDF commitments regarding the health and safety of workers in the value chain, see section 3.3.1.1.2 "The rights of Group employees and workers in the value chain".

These two policies cover the Impacts, Risks and Opportunities (IRO) presented above (see section 3.3.3 "ESRS S2 - Workers in the value chain").

Measures aimed at remedying and/or enabling negative impacts on human rights to be remedied, or at facilitating their compensation, are detailed in the processes and actions below, and are specifically designed to prevent or correct these impacts in the Group's value chain.

3.3.3.1.2 Supplier policy

The supplier policy emphasises the EDF group's commitment to maintaining a performing and lasting partnership with its suppliers. It sets out the Group's *raison d'être* and CSR commitments from the perspective of responsible purchasing, including especially the Group's commitments relating to human rights, relationships with SMEs and companies who employ disabled people only and structures for integration through economic activity, to local anchoring and to raising supplier awareness.

The responsible supply policy remains central to this approach, with the systematic inclusion of health/safety, environmental, social and human rights-related clauses in agreements.

"Responsible supplier relations and purchasing" Charter

EDF is one of the first signatories of the Corporate Social Responsibility Charter. The objective of this charter is to change the relationship between customers and suppliers, in order to build, within a framework of reciprocal trust, a sustainable and balanced relationship among the latter. The charter is based on commitments which include the integration of environmental and societal issues in purchasing, including human rights.

This charter is accompanied by a certification process based on the RFAR (Responsible Supplier Relations and Purchasing) label framework. Obtained for the first time in 2015 and renewed in 2024 for three years, this French label, backed by the ISO 20400 standard, acknowledges companies that maintain sustainable and balanced relationships with their suppliers and validates in particular: the Company's CSR strategy, the organisation's diligence in monitoring the effective implementation of stated CSR commitments (including human rights) and the quality of the tools for measuring and steering the responsible purchasing approach, as well as the related improvement plans.

(1) www.edf.fr/en/the-edf-group/dedicated-sections/suppliers

CSR charter between EDF and its suppliers

The reciprocal commitments between EDF and its suppliers in terms of social responsibility are enshrined in the social and environmental responsibility charter, a contractual document of the trade. Updated in 2023, it refers to the Group's *raison d'être* and CSR commitments, and takes better account of the duty of vigilance.

Through this charter, the supplier undertakes to respect the conventions of the International Labour Organization (ILO), the principles of the United Nations Global Compact, the United Nations Guiding Principles on business and human rights (UNGP) and the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises. It must take all necessary measures to ensure that they are applied directly and through its subcontractors, in particular in the areas of compliance with the law, employee health and safety, ethical behaviour towards customers and respect for the environment.

This charter was rolled out in 2023 across EDF and Dalkia suppliers.

This charter is available on the EDF website[1]. An equivalent charter is used at Framatome.

Code of Conduct for those involved in the contracting process

The Group Purchasing Division distributes a "Code of Conduct for those involved in the contracting process".

It sets out the simple and inescapable rules governing the Group's relations with its suppliers based on major international human rights texts (the Declaration of Human Rights, ILO conventions, etc.).

This code is available on the EDF website[2].

In other Group companies

When they do not directly apply the systems described above, the major business lines or subsidiaries have equivalent commitments adapted to their specific industrial or geographical features.

Thus, in the United Kingdom, through EDF's CSR and ethics requirements manual in the United Kingdom, EDF requires its supply chain partners to comply with the same high standards in terms of sustainability, responsibility and ethical conduct, then those it requires from its own employees and business activities. EDF requires all its suppliers to respect fundamental employment rights, as defined in the Universal Declaration of Human Rights (UDHR), the conventions of the International Labour Organization (ILO) and the United Nations Global Compact (UNGP).

Suppliers must also implement robust measures to eliminate all forms of child labour or slavery, publish an annual statement on modern slavery, where applicable, and comply with minimum wage legislation in countries where they operate. In the United Kingdom, EDF has a Modern Slavery Statement covering all its employees and procurement. This statement, in accordance with the Modern Slavery Act, is published on its website. EDF, in the United Kingdom, also contributed to the register of declarations of this legislation.

3.3.3.2 Processes for dialogue with workers in the value chain

Global Social and Environmental Responsibility Agreement

Every employees of the Group and subcontractors are covered by the provisions of this collective agreement and the Group's subsidiaries implement this agreement with a commitment to continuous improvement (see section 3.3.2.1.1 "Corporate social responsibility" – "The EDF group's global Social and Environmental Responsibility master agreement"). For more details on social dialogue, see section 3.3.2.2.1 "Social dialogue".

Responsible subcontracting agreement

EDF's subcontracting policy focuses on three main themes: providing visibility to service providers and ensuring long-term supply partnership; helping the Group improve its subcontracting practices by defining criteria to support decision-making in terms of strategy, economics and social impact; developing socially-responsible subcontracting practices, *via* the new Global Framework Agreement on the EDF group's Corporate Social Responsibility signed on 27 January 2025, as well as the "Responsible Subcontracting Agreement" signed on 19 October 2006.

The Group may be required to use subcontractors with employees whose contracts are drawn up in a different country of operation. In this case, particular attention is paid to human rights, working conditions, housing conditions and employee health and safety. The EDF group implements a vigilance plan, including a mapping of the risks identified among its suppliers and subcontractors, a risk assessment, and appropriate actions for risk mitigation . CSR governance is organised at all levels of the Group: Board of Directors, Executive Committee and, in a consultative manner, an EDF group Stakeholder Council. CSR Agreement commitments are monitored by the global CSR Committee. Regarding EDF, a Committee to monitor the socially responsible subcontracting agreement, composed of signatory trade union organisations, meets twice a year.

Discussions with external stakeholders specialising in human rights

The Group continuously holds open discussions with various civil society stakeholders specialising in human rights (associations, personalities), together with workers in the value chain, who wish to maintain a dialogue, in order to nurture and advance its practices.

Moreover, EDF participated in meetings with other companies, lawyers, NGOs, and trade union federations through the non-profit organisation "Entreprises pour les droits de l'homme" (Businesses for Human Rights) (EDH), for open discussions on stakeholders' expectations and other companies' practices, and to improve the way human rights are tackled by the Group.

Since 2022, recognized specialists in human rights and links with finance at the United Nations or in green jobs at the International Labour Organization (ILO) have been members of the Group's Stakeholder Council in order to better integrate this expertise into this council, which is co-chaired by the Chairman of EDF and by Cécile Renouard (see section 3.1.3.2 "Interests and points of view of stakeholders" – "An open dialogue with all, involving all the Group's businesses and subsidiaries").

(1) www.edf.fr/sites/groupe/files/2023-02/edfgroup_rse_charte-fournisseurs_2023_fr.pdf
(2) www.edf.fr/sites/groupe/files/2023-03/edf_guide_bonne_conduite_pdf_web_251115.pdf

3.3.3.3 Redress procedures and channels for value chain workers to raise concerns

Company mediator

Since 2010, the EDF group has had a company ombudsman who can be contacted directly by suppliers, free of charge. Referrals to the mediator may be made either *via* the mediator's website[1] or by post[2], as indicated in the General Terms and Conditions of Purchase and on the supplier portal of the www.edf.fr.

Group whistleblowing system

Suppliers and their employees can use the Group's whistleblowing system, set up in accordance with the Sapin II and Duty of Vigilance laws, which guarantees anonymity and is available in the Group's six languages (see section 3.3.1.2 "The EDF group's whistleblowing system").

It enables to report acts contrary to laws and regulations, a crime or a misdemeanour, a breach of the EDF Code of Conduct, a breach of an international commitment, a threat or serious harm to the general interest.

Knowledge of repair procedures and existing channels by workers in the value chain

Knowledge of reporting or alert channels by workers in the value chain can be verified, notably during on-site audits at suppliers' sites (see section 3.3.3.4.2.4 "Supplier monitoring"), carried out by external and independent service providers.

Remedy procedures

Any serious environmental or social breach of EDF group's commitments and requirements will be subject to an in-depth joint analysis between EDF group and the supplier in order to define the actions to be taken to promptly address these gaps. If the Group's whistleblowing system is used, the reported facts are investigated by persons appointed according to the nature of the breach. A dialogue with the supplier is then initiated, and an external audit can also be carried out by EDF. The recommendations and actions made by EDF are then shared with the supplier.

Likewise, in accordance with the General Purchasing Conditions for EDF contracts, in the event of insufficient or unsatisfactory results from an on-site audit (see section 3.3.3.4.2.4 "Supplier monitoring"), the supplier is asked to implement the necessary actions to resolve the discrepancies noted in the report. Follow-up audits are carried out to verify the implementation of actions and enable suppliers to make progress over a determined period by the auditors, EDF and the supplier.

However, in case the supplier refuses to implement a progress approach to remedy these discrepancies or if the results of the follow-up audits are still insufficient, and in light of all the contractual monitoring elements (insufficient assessment sheets, ineffective action plans, unanswered formal notice, etc.), the contract foresees the suspension or termination of the contract and the EDF group reserves the right to terminate the contract with the supplier.

3.3.3.4 Actions to manage the material impacts and risks identified for workers in the value chain

3.3.3.4.1 Health and safety of employees and subcontractors

For the health and safety actions of subcontractors, see section 3.3.2.6 "Health and safety for all".

3.3.3.4.2 Responsible purchasing approach

The EDF group's responsible purchasing policy is at the heart of the Group's social and environmental responsibility practices in its supply chain. For EDF, it is structured by the Group Purchasing Division, which sets the general framework and has managed the Group's Purchasing function since April 2024 in compliance with the principle of subsidiarity of governance of the subsidiaries and the management independence of the network managers.

3.3.3.4.2.1 The Group Purchasing Division

The commitments and obligations of the Group in terms of responsible purchasing are incorporated into each stage of the purchasing process, including upstream, during the qualification of suppliers, as well as in the preparation phase of calls for tenders.

In line with the material sustainability challenges for the Group, the responsible purchasing approach includes actions aimed at managing negative impacts and material risks in relation to human rights and the health and safety of workers in EDF's value chain.

The Group's Responsible Purchasing approach is a process of continuous improvement in the relationship between the Group and its suppliers, based on four pillars:

- identifying the risks and opportunities of the purchasing categories relating to the themes of the Group's CSR policy;
- integrating CSR levers at all stages of the purchasing process (requirements, selection criteria, comparison criteria, contractual clauses or productivity partnerships);
- supporting suppliers during the contractual relationship;
- monitoring and measuring the CSR performance of purchases.

Identifying the risks and opportunities of the purchasing categories

Each entity in the purchasing function has a purchasing risk analysis that includes a CSR component. The mapping of risks specific to CSR issues analyses the risks and opportunities on the themes and associated sub-themes of the Group's CSR policy (see section 3.1.3.6 "Corporate social responsibility policy"). The mapping includes a risk rating for each category of purchase or supplier, weighted according to the nature and country of origin of the good or service purchased.

Risk mapping is the basis of the approach, thus making possible to determine the priority purchasing categories and suppliers requiring the implementation of measures (integration of CSR levers in purchasing), as well as supplier support and monitoring actions.

To control residual risks, the risk mapping is regularly updated by taking into account:

- the effective implementation of countermeasures;
- the results of the monitoring of priority categories and suppliers;
- regulatory monitoring and global news.

The risk mapping of each entity in the purchasing function feeds into the Group's vigilance plan, in accordance with the law on the duty of vigilance.

(1) www.mediateur.edf.fr

(2) mediateur.edf.fr | by post (Médiateur du groupe EDF–TSA 50026–50026 Paris cedex 08, France).

Specifically, the risks related to workers in the value chain are included in the CSR risk mapping of the entities in the purchasing function. Particular vigilance is set on human rights, compliance with international labour law and working conditions, housing conditions and the health and safety of workers.

Integrating CSR levers at all stages of the purchasing process

The integration of CSR levers in purchasing is the counterpart to the risks identified in the risk mapping. The levers deployed by the purchasing function take into account the nature of the activities of each Group entity, as well as the regulatory constraints of each sector (notably subject to the Public Procurement Code).

The levers can be deployed throughout the life cycle of a purchase, from the expression of needs to the end of the partnership relationship. These are shared within the Group's purchasing function:

- validation of a compliance commitment from all bidders (mandatory to participate in the call for tenders). Bidders notably undertake to comply with requirements pursuant to the Duty of Vigilance Law: respecting human rights and the fundamental rights of individuals, guaranteeing individuals' health and safety at work, protecting the environment, and complying with social and environmental legislation applying to their business;
- the "corporate social responsibility charter for EDF and its suppliers" including compliance with international human rights standards (see section 3.3.3.1.2 "Supplier policy", paragraph on the "CSR charter between EDF and its suppliers");
- contractual clauses enabling the Group's suppliers to be assessed and audited in order to verify their compliance with EDF's commitments and, in the event of proven serious breaches, to apply penalties or contract breaches;
- CSR criteria specific to the goods and services purchased, making it possible to select or compare suppliers' offers in the context of calls for tenders;
- specifications in the concession specifications to reduce the potential social and environmental impacts of the goods and services purchased, according to the technical fields concerned;
- the implementation of "Productivity Partnerships" offering the possibility of sharing with the suppliers concerned the gains associated with an optimisation of the good or service purchased. Optimisation may concern costs, deadlines, or carbon and resource issues (circular economy and waste reduction).

Supporting suppliers during the contractual relationship

The Group's Responsible Purchasing approach includes support for suppliers before and during the contractual relationship:

- supplier qualification is an assessment system prior to contracting. The Group's entities include CSR criteria in the process;
- the assessments, a system foreseen contractually, make it possible to question suppliers about their CSR commitments and their consistency with those of the Group;
- on-site audits at suppliers' sites are intended to test the CSR commitments adopted and consist of field audits (at head office, at the supplier's production site or at an EDF site).

All the business line and project entities of the Group are responsible for supporting suppliers in their scope of activity and region.

In 2024, the Group Purchasing Division organised the second edition of the "CSR Suppliers Club", which brings together around a hundred companies from the purchasing categories facing environmental and social challenges. In this context, around 60 partners from the transport, civil engineering, steel, IT and protective equipment sectors were invited to participate in collective intelligence workshops whose objective was to define in a sectoral approach the levers meeting the challenges of decarbonisation and water footprint reduction, which are to be deployed in the Group's purchases. These workshops made it possible to discuss the maturity of the sectors in a transparent and constructive manner and to align the players with the most relevant concrete levers to be implemented gradually. Moreover, this event also made it possible to raise awareness and discuss several CSR topics with these companies, among them human rights in purchasing activities.

Monitoring and measuring the CSR performance of purchases

In 2024, the purchasing function adopted performance indicators to manage the deployment of responsible purchasing at the Group's entities, and to assess the impact of practices on suppliers and the Group's non-financial results. These indicators are currently being standardised and instrumented.

In addition, the audit carried out by an external third party as part of the process to obtain the RFAR label makes it possible to compare the entity's practices with the standards of the ISO 20400 standard and to ensure the continuous improvement of the responsible purchasing approach (see section 3.3.3.1.2 "Supplier policy" – "Responsible supplier relations and purchasing charter").

Lastly, as a member of the Responsible Purchasing Observatory, EDF participates each year in the association's survey which measures the level of maturity of the practices deployed in comparison with the other members of the association.

Integration of health and safety in purchasing

The stringency of health and safety requirements is one of the essential criteria to select companies. This requirement must be reinforced at all stages of the purchase process. To do so, an approach based on the purchasing categories was developed to identify the most exposed categories (*e.g.* rotating machine maintenance) to take appropriate actions such as including standards in specifications, and suitability and/or admissibility criteria, and criteria in technical ratings.

This point was strengthened in 2024 by the new Health and safety prevention policy, which emphasises the partnership dimension thanks to exchanges among stakeholders during joint prevention visits on site.

3.3.3.4.2.2 Other methods applied in the Group's main subsidiaries

In 2024, the entities specialised in purchase practices came together in a single purchasing function, led by the Group Purchasing Division, with the objective to harmonise practices throughout the Group, while respecting the management independence of network operators. The integration of CSR in purchasing is a structuring dimension of the purchasing sector, which is composed of the purchasing functions of EDF, Dalkia, Luminus, EDF Energy, Hinkley Point C, Framatome, Enedis, Edison, EDF Renewables and Arabelle Solutions.

The first three areas of harmonisation within the sector are risk mapping, the share of purchasing levers (in particular concerning human rights), and the centralization of supplier assessment and audit practices.

Among the subsidiaries with equivalent commitment methods adapted to their industrial or geographical specificities:

- **EDF Renewables**

EDF Renewables maps CSR risks across all its strategic supplies, taking into account country risks related to suppliers' production sites, as well as any potential reputational risks.

EDF Renewables' responsible procurement is based on two pillars:

- 1- the supplier qualification process takes place in two stages:
  - > a request for the information phase, during which suppliers answer a list of questions and provide documents about their environmental and societal management, including information about human rights (policies, codes of conduct, commitments, procedures, supply chain management, and any sanctions),
  - > an audit phase on the production sites of the suppliers to verify that the practices adopted correspond to EDF Renewables' standards;
- 2 environmental and social clauses in contracts: when they enter into the agreement, providers undertake to abide by EDF Renewables environmental and societal requirements and to apply these to their own suppliers and subcontractors. Failure to fulfil these requirements may entail the repeal of the agreement.

- **Framatome**

Framatome's Supply Chain Department integrates CSR throughout Framatome's purchasing process, from specifications and the definition of certain supplier panels, to contractualisation.

In addition to the integrity checks carried out on the basis of ethical risks of its suppliers, which enables the detection of poor CSR practices, Framatome has drawn up a CSR risk map (environment, human rights, health, safety and security) of its supplies based notably on country risk (location of suppliers) and activity risk. Based on these mappings, a control is carried out to assess the level of compliance of suppliers with the duty of vigilance using an "ACESIA" CSR documentary assessment carried out by AFNOR auditors or an equivalent assessment provided by suppliers.

- **Dalkia**

In 2023, Dalkia overhauled its Responsible Purchasing approach by developing a CSR risk map for its purchases, including 49 purchasing segments and approximately 19,000 suppliers. Risks were analysed in all areas of CSR: environment, labour relations and working conditions, human rights, ethics and compliance. Ten purchasing categories are considered to be at risk: suppliers of work equipment, of gas, of heat pumps and refrigeration units, of mechanical and hydropower equipment and materials, of building products, of industrial chemicals, of measurement and metering, of electrical equipment, of services for heating and cooling production equipment and of multi-technical services.

- **Edison**

Edison implemented a qualification process based on the use of CSR criteria to be completed by suppliers and including questions on supplier sustainability objectives and the calculation of the carbon footprint.

In 2024, meetings continued on the theme of "Sustainability in the supply chain: a value shared with the country". For Edison, it involves working with the entire ecosystem of stakeholders in its supply chain (suppliers, partners, buyers and Edison employees) in sustainability issues in line with regional visions.

Furthermore, in 2024, Edison created and launched, in partnership with Altis (Università Cattolica del Sacro Cuore de Milan), the "Sustainable Procurement Academy", a platform dedicated to its suppliers to provide educational resources, tools and specialised courses on environmental, social and governance sustainability issues. The scope covers Edison's activities, including those of its suppliers.

- **Luminus**

The Luminus purchasing platform provides for specific selection criteria, depending on the calls for tenders. These non-financial criteria may concern carbon emissions, packaging, recycling, waste management or transport.

During call for tenders procedures, Luminus requires suppliers to accept the Code of Conduct as a prerequisite for any participation. Suppliers must also submit their accident statistics; which is used in the selection process.

In the selection process for suppliers of goods and services, the Luminus Purchasing department has developed a tool to help and encourage project teams to integrate CSR selection criteria.

Furthermore, for each on-site intervention, suppliers must carry out a risk analysis in addition to that already carried out by Luminus.

- **EDF in the United Kingdom**

In the United Kingdom, EDF employs around 11,500 people, with a supply chain of around 3,300 suppliers. All employees are required to comply with EDF's ethical guidelines (Code of Conduct and Ethics and business conduct policy). EDF has also implemented support guides to sensitize its staff to these principles and values, and provides the necessary tools to report any behaviour contrary to EDF's principles.

In the supply chain, the potential risks of slavery and human trafficking are assessed in order to identify the riskiest purchasing sectors. Suppliers are required to comply with a set of standards, including the obligation to conduct a self-assessment of their risks aligned with the 10 principles of the United Nations Global Compact. In the United Kingdom, EDF encourages its supply chain to improve their social and environmental practices. EDF also provides its suppliers with direct access to various resources, such as the Supplier's Guide to Diversity and Inclusion and the Sustainability and Ethics Supplier Requirements Manual, which are offered as part of the Supplier Relationship Management (SRM) process. Compliance with the United Nations Global Compact is verified during the supplier onboarding process. Obligations in relation to modern slavery are integrated in the upstream contracting process and suppliers are evaluated throughout the procurement cycle, from qualification to contract execution.

Moreover, contractual agreements require suppliers to adhere to applicable laws and EDF group policies. Additional checks are carried out throughout the relationship between EDF and the supplier, scaled according to the supplier's risk profile and level of criticality. Integrity checks are also carried out on main suppliers to ensure that they comply with EDF's minimum standards. Such suppliers are checked regularly, considering their level of risk and financial characteristics.

- **Arabelle Solutions**

Obligations related to the duty of vigilance, carried out during the supplier listing process (based on the "Know Your Supplier" process), involve several checks, depending on the Scope of the supplier and the associated risks. Suppliers who, on behalf of Arabelle Solutions, deal with government bodies (such as administrative service providers), suppliers recommended by customers and suppliers in construction and public works, are examples of high-risk categories subject to additional compliance assessments before integration. All suppliers and subcontractors who provide on-site services, managed by Arabelle Solutions, are subject to an additional review, assessed according to the nature of the security risks concerned. This analysis is carried out during the pre-qualification process, by the Environment Health and Safety (EHS) department in charge of approval. Additional controls relating to human rights are also carried out as part of the qualification process. Finally, Arabelle Solutions' General Purchasing Conditions include a specific section dealing with EHS requirements.

3.3.3.4.2.3 Procurement stakeholder training

Employee training helps convey the objectives and measures implemented to deploy the responsible purchasing approach within the Group. Responsible purchasing is included in many training and awareness-raising materials:

- initial training for buyers;
- onboarding training for apprentices in the purchasing teams;
- e-learning module available to all Group employees;
- training module for participants in the Group's "Environment and Society" programme;
- virtual classroom open to all Group employees.

A role-play on responsible purchasing was created and integrated to trainings. Built on a realistic concrete case, it allows to explore all possible levers that can be used during a purchase by being aware of the necessary trade-offs among various CSR issues, the costs and the deadlines of a purchase.

More generally, the "human rights into business" e-learning module, developed with the association "Entreprises pour les droits de l'homme" (EDH), is accessible to all employees. In 2023, a virtual classroom was also created to train employees in human rights. These tools are used to raise employees' awareness of the concepts covered by human rights and practical applications within the Group throughout the value chain (employees, suppliers, subcontractors, local communities, etc.). The Group also offers courses organised by EDH to provide training on human rights, the duty of vigilance and international standards, as well as the assessment of impacts on human rights.

Especially for EDF Renewables, new buyers joining the Purchasing Division of EDF Renewables are sensibilized to responsible purchasing practices and to the commitments of the Purchasing Policy and the Environmental & Social (E&S) Policy.

In addition, in 2024, buyers and audit engineers were specifically trained in E&S audits. The three training sessions provided allowed to train around 40 internal auditors.

3.3.3.4.2.4 Supplier monitoring

The verification of EDF suppliers' compliance with CSR commitments is mainly based on documentary and on-site assessments and audits. The prioritisation of these audits, carried out by the Group Purchasing Division, is based on risk mapping (see section 3.3.3.4.2.1 "The Group Purchasing Division").

CSR risk level

CSR risks regarding purchasing are described in the vigilance plan (see section 3.6.6.5.1 "Identifying salient risks").

Internal service assessments

The monitoring of suppliers, which includes a CSR component, begins with an internal evaluation of the services they provide. Supplier monitoring is mainly carried out by the Division or Contract Management, which uses Performance Assessment Sheets.

Documentary and on-site CSR audits are systematically carried out.

Documentary audits (CSR)

These audits are completed and documented by the supplier and then systematically verified by an independent body, French standards agency AFNOR. The suppliers to be assessed are mainly selected based on the supplier risk mapping and the needs of buyers and business lines, on the contracts in progress.

In 2024, the Group Purchasing Division continued its CSR documentary audit campaign on human rights, specifically targeting suppliers in purchasing categories covered by international reports on non-compliance with human rights, in the areas of work clothing) and PPE, IT equipment, intellectual services, static and rotating machinery, command control, civil engineering and real estate.

As part of a risk management approach, suppliers in categories with a major residual CSR risk were questioned (relocation, document management, handling in tertiary services).

The suppliers to be assessed are mainly selected based on the supplier risk mapping, the needs of buyers and business lines, and ongoing contracts . The categories assessed are chosen according to their risk levels, but also to ensure a total coverage of categories with major residual risk over a period of two to three years.

The assessments enable buyers and suppliers to engage in a continuous improvement approach in Corporate Social and Environmental Responsibility.

Over 2024, around 350 suppliers were surveyed through the ACESIA platform.

Pursuant to General Terms and Conditions of Purchase signed by the supplier as part of its contract with EDF, in case of an unsatisfactory assessment, an audit may be requested to verify *in situ* by an authorised body whether the social and environmental impacts linked to the activity of the contractor and its sub-contractors comply with the provisions of the contract and EDF's Corporate Social Responsibility Charter. However, in case of satisfactory results, the virtuous practices of suppliers can be highlighted, as was the case in the Company's business travel management tool, by indicating establishments that have distinguished themselves positively through their practices.

On-site CSR audits ordered by the Group Purchasing Department

The scope of these audits covers all areas of CSR: environmental policies, commitments and practices, human rights (personal health and safety, child labour, forced labour, working conditions, prevention of discrimination and harassment), business ethics.

On-site supplier audits are conducted by external, independent providers. CSR audits are triggered on the basis of supplier risk mapping and feedback on contract performance conditions, capitalised by the Purchasing Category Managers with the assistance of the business line entities.

The audits aim to assess the CSR commitments adopted, and consist of on-site audits (head office, supplier's production site, or EDF construction site).

CSR audits are carried out on purchasing categories where progress is expected. In 2024, , almost 32% of the audits carried out were outside France (mainly in China and Morocco) and concerned mostly industrial sites, industrial supplies (PPE and work clothing), static machines and training.

Pursuant to General Terms and Conditions of Purchase signed by the supplier as part of its contract with EDF, in case of insufficient or unsatisfactory audit result, the supplier is required to implement the necessary actions to address the discrepancies noted in the report. Follow-up audits are conducted to verify the implementation of the actions. If the follow-up audits still appear to be insufficient, and in the light of all the contractual monitoring elements (insufficient evaluation sheets, inefficient action plans, letter of formal notice without response, etc.), the suspension or termination of contract is provided for in the contractual clauses.

Monitoring of suppliers and service providers of other Group entities

In the **EDF Renewables** group, the environmental and social assessment of suppliers is part of the supplier qualification process and is carried out in two phases:

1. Multidisciplinary documentary analysis: suppliers must complete, among other things, the EDF Renewables CSR questionnaire (sustainability questionnaire), a tool structured around four assessment areas:

- CSR governance;
- environmental issues;
- social management;
- responsible purchasing practices.

Precise responses accompanied by supporting documents are expected. Non-documented responses are not considered in the assessment.

2. Following this first step, and if no critical alert is identified, the production site of the supplier to be qualified is audited. In addition to the technical criteria, environmental and social aspects are also audited to verify that commitments and management systems described in the CSR questionnaire are effectively and correctly implemented, and correspond to EDF Renewables standards.

In addition, the Purchasing and Sustainable Development departments of EDF Renewables organise annual meetings with qualified suppliers to share the CSR strategy of the main suppliers.

- In 2024, **Dalkia** sent its new self-assessment questionnaire, including a CSR module, to 1,655 subcontractors. This questionnaire is required of all new Dalkia subcontractors. In addition, the purchasing categories managers carried out nine audits.
- Based on the mapping of **Framatome**'s CSR risks, a control is carried out to assess the level of compliance of suppliers with the duty of vigilance (human rights, health-safety and environment) using an "ACESIA" CSR documentary assessment carried out by AFNOR auditors or equivalent assessments provided by suppliers.
- **Luminus** has developed an evaluation mechanism for its service providers carrying out work on its generation sites. These assessments cover, among other things, the safety and worker protection procedures implemented by its suppliers. The results of these assessments are used for ongoing market improvement purposes and in the supplier selection process for future projects.
- When listing suppliers, the Supplier Quality department may decide to carry out a Supplier Responsibility Governance (SRG) audit to assess the supplier's compliance with local legislation and **Arabelle Solutions**' requirements. This decision depends mainly on the location of the supplier (*e.g.* restricted/sanctioned or high-risk country) and its supply chain. The SRG questionnaire contains a series of questions and checklists designed to collect information on: business processes; child labour and forced labour; compliance in terms of wages and working hours; living conditions (when on-site housing is provided); environmental performance, health and safety performance; working conditions, discrimination and harassment, the management system and associated indicators. In 2024, 8 SRG audits were carried out, out of a total of 84 supplier audits of all types (Quality Management System, Non Destructive Testing, Nuclear Safety, etc.). All audited suppliers are located in India. In case of a significant discrepancy, the result of the audit leads to the rejection of the partnership with the supplier. Audit controls are recorded in the supplier management tool, and actions are monitored until they are completed.

3.3.3.4.3 Responsibility in the fuel supply chain

3.3.3.4.3.1 Uranium supply chain

EDF primarily secures its supplies through long-term contracts diversified in both origins and suppliers, in most of the main producing countries (Australia, United States, Canada, Kazakhstan, etc.). The clauses authorising the completion of audits and setting out EDF's expectations in terms of enforcement of fundamental rights and main international standards by suppliers and sub-contractors have progressively been added to contracts.

Audit Framework

The uranium mine audit system used by EDF since 2011 ensures that the ore is extracted and processed in good environmental, social and societal conditions. The assessment method and grid were developed with the World Nuclear Association (WNA)[1]. This method is based on international standards including "The World Nuclear Association's Sustaining Global Best Practices in Uranium Mining and Processing: Principles for Managing Radiation, Health and Safety, and Waste and the Environment", "The Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines & Mining and Metals Sector Supplement" and "The International Council on Mining & Metals (ICMM)'s Sustainable Development Framework". The issue of safety, which is particularly critical in the mining sector (process safety), constitutes a standardised framework recognised by all players in the sector. It takes into account the issues of human rights and fundamental freedoms (human rights, whistleblowing register, rights of indigenous peoples and radiation protection), health and safety of people and the environment, in the broadest sense of that term (greenhouse gases, water, biodiversity waste, site clean-up after extraction).

Audits

EDF conducts mine audits every year using internal resources with occasional support from external auditors. The reports present the main strengths, recommendations and suggestions. Among these, the most recurring relate to health and safety (such as radiological controls, the provision and wearing of appropriate personal protective equipment, the display of safety instructions and the location of fire equipment in premises, or the organisation of training on nuclear safety), a reminder of the need to analyse the causes and trace the corrective actions after any incident or accident, the actions to monitor the environmental footprint (notably CO_2 emissions), working and accommodation conditions (notably at the remote sites) or the correction of discrepancies observed (calibration of measuring instruments, traceability of certifications issued). Audit recommendations are incorporated into suppliers' action and continuous improvement plans. Each supplier is audited every three years.

3.3.3.4.3.2 Coal supply chain

Since the takeover of its coal contracts by JERA Trading (JERAT), EDF no longer has direct contractual relationships with mining companies or the market, but remains a promoter of Bettercoal, the responsible coal procurement initiative of which EDF was a founding member. Bettercoal brings together energy companies, port institutions and coal terminals to advance CSR in the coal supply chain, particularly in the mines, and notably to ensure respect for fundamental rights.

The operational approach is based on a code that sets out ethical, corporate and environmental principles and provisions relevant to mining companies. It takes into account general performance requirements, including management systems, but also performance requirements regarding: ethics and transparency, human and labour rights (such as the prevention of forced and child labour, the right to a decent wage), social issues, including health and safety, and the environment.

JERA Trading, an EDF supplier, has become a member of Bettercoal. No transactions were carried out in 2024.

(1) Guidelines for Evaluating Supplier Performance at Uranium Mining and other Processing Sites in the Nuclear Fuel Supply Chain.

3.3.3.4.3.3 Gas supply chain

Edison and the EDF group's Gas Asset Management Department (DGAG) implement a business integrity evaluation process that incorporates human rights considerations. These integrity checks are carried out through an extensive process of knowing the potential counterparty (Know-Your-Counterpart), which is part of the EDF group's ethics and compliance policy. This verification is carried out even before the start of any relationship with a potential counterparty, and the verification is repeated periodically even after the establishment of a commercial relationship.

Regarding counterparties involved in gas supply contracts, Edison and DGAG regularly monitor new information (including in terms of human rights) that may have a negative impact on the reputation of the counterparties and that of the EDF group. This evaluation applies to all of the Group's contracts, and in particular to the Group's long-term gas commitments (longer than five years).

Regarding the Group's gas trading activities, EDF Trading applies a due diligence process to all existing or potential counterparties that includes human rights issues. This process is based on international human rights standards that the Group is committed to respect in its business relationships. In addition, EDF Trading continuously monitors its counterparties to identify any potential problems.

3.3.3.4.3.4 Biomass supply chain

The Group application note on sustainable biomass includes a human rights section indicating the main risks that may exist in this value chain: child labour, forced labour, degraded working conditions, respect for the rights of indigenous populations. These risks may be exacerbated by the potential presence of vulnerable workers (migrant workers, informal work situations, etc.). The Group recommends implementing pre-contractual procedures concerning supply chain compliance, as well as the inclusion of specific clauses when contracting. In addition, suppliers are required to comply with the CSR charter between EDF and its suppliers, a component of contracts (see section 3.3.3.4.2.1 "The Group Purchasing Division").

3.3.3.4.3.5 Fuel transportation

As part of the chartering policy of the Group's companies, the chartering and approval of vessels that are to unload liquid fuels at port facilities operated by the Group systematically includes an inspection or vetting carried out with the support of Rightship's services. This company assesses vessels according to its vetting which includes various criteria related to the protection of workers, including:

- checking that the shipowner is not blacklisted for abandoning seafarers (ILO list);
- this same verification is carried out for the vessel itself;
- the search for any alerts for "Human rights at Sea infringements - Poor working-living conditions";
- checking that the vessel does not fly the flag of a country that is not a signatory to the MLC convention (Maritime Labour Convention) of 2006 and in this case, if it complies with an equivalent system.

In addition, vessels chartered by Edison for the transport of small-scale LNG[1] are under the French flag, and the Contracting State must comply, for all aspects related to the ownership, operation and management of the vessel, with the following rules:

- international conventions, laws and regulations, including international sanctions;
- European Union regulations and directives;
- the laws and regulations of the flag State of the vessel;
- the laws and regulations of the ports and other places where the vessel calls, and the waters through which it transits.

Lastly, for vessels chartered by Edison and EDF for FOB contracts[2], also flying the French flag, the contracts provide for employment conditions for the ship's staff and crew in line with the standards of the International Transport Workers Federation (ITF). The vessel must have a Blue Card (international certification) or equivalent certification.

In contractual terms, the shipowner must report to the Group all information relating to the health and safety of employees and the environmental impact of vessels, including spills at sea and pollutant emissions.

3.3.3.4.4 Process for taking into account workers' rights in projects

3.3.3.4.4.1 The Group's investment decision-making process

Projects and investments subject to the approval of the various Commitments Committees, and particularly those of the Group Executive Committee (CECEG) are the subject to a right of inspection of the Impact Division based on a screening grid that translates the issues of the Group's CSR commitments into operational terms. Where necessary, the Impact Direction requires due diligence investigations specific to these issues. For the analysis of significant projects for the CECEG, see section 3.1.2.1.2.5 "Group Executive Committee Commitments Committee (CECEG)".

Regarding ethics and compliance investigations in the context of EDF's external growth operations, the EDF group regularly subscribes to or acquires shares in French or foreign entities in the context of partnerships, major projects or external growth or investment operations. A methodological guide lists and proposes in a practical manner the various procedures to be carried out in terms of ethics and compliance, including the duty of vigilance. In this respect, it includes a series of procedures to be carried out or actions to be implemented throughout an acquisition project in a chronological and gradual manner according to the level of risk identified at each stage of the project in terms of human rights, health, safety and environment.

3.3.3.4.4.2 In international projects

At the project management level

Depending on the context of the project, a Human Rights Impact Assessment (HRIA)[3] is conducted. It relies on the principles defined by the UN Guiding Principles on business and human rights. These studies place the identification of impacted human rights at the centre of the analysis. They include an assessment of the state of human rights in the country as well as in the project area, a mapping of human rights-oriented stakeholders (listing "rights-holders" and "duty bearers"), an analysis of the project's impacts on these rights, and the development of mitigation measures. This type of study identifies the activities at risk according to their importance and sensitivity. These studies are generally entrusted to national or international consultants specialising in the topic, and managed by EDF's internal human rights contacts. The conclusions of these studies are intended to be integrated into all development, construction, operation and end-of-life activities of the project, *via* an *ad hoc* management system (internal human rights policy, human rights contact and correspondents, contractual tools, audits and performance monitoring, reporting, etc.). They concern both affected communities and workers, the use of security forces, the whistleblowing system and the protection of whistleblowers, etc.

(1) Small-scale LNG: Small-scale LNG generally refers to LNG-related facilities (reception terminals, storage units, vessels, etc.) with similar characteristics but of a smaller scale than the conventional LNG infrastructures.
(2) FOB, or "free on board" means that the seller provides the goods without transport and insurance costs.
(3) EIDH - Human Rights Impacts Assessment and Management.

In operational terms

In operational terms, a large number of projects are developed internationally, particularly by the Group's International Department or by EDF Renewables.

The activities of the International Management of EDF SA will now be grouped within EDF Renewables. This merger project meets two main objectives: (i) implement more effectively the Group's low-carbon energy activities (excluding nuclear and hydropower in France) and flexibility solutions, in line with the goals of the "*Ambitions 2035*" corporate plan and with the evolution of the market; (ii) make the Group's organisation more efficient and understandable internationally for all external and internal stakeholders. This project is intended to be rolled out in the first half of 2025.

Human rights risks are understood and managed at the various stages of the projects:

- at the pre-development phase, for "new" countries, an assessment is carried out using the Verisk Maplecroft® tool, or other internal and external sources. Specific due diligence can also be carried out for particular sectors with identified risks;
- during the development phase, a Human Rights Impact Assessment and Management (HRIAM) study may be launched, depending on the country risks identified and the specific features of the project, in order to clarify the human rights context in the project area, in relation to future development and construction activities:
  - > draw up a matrix of risks and opportunities generated by the project regarding human rights,
  - > identify "rights-holders",
  - > identify social and environmental studies that need to incorporate a human rights component,
  - > submit a human rights policy proposal for the project.

Failing this, a human rights section may be included in the impact study of each Group project.

- human rights clauses are systematically included in the project's main contracts ("EPC"[1] type), for the construction of major infrastructures such as hydropower, solar power and wind farms, but also for smaller contracts such as photovoltaic generators for "C&I" (Commercial and Industrial) customers, notably in sub-Saharan Africa;
- during the construction phase, claim and complaint management systems are set up for workers and communities (in addition to systems provided by EDF and any lessors).

In Uzbekistan, EDF, Nebras, Sojitz and Kyuden are developing a combined cycle gas turbine. Its construction is entrusted to Harbin Electric International and its financing is provided by the International Finance Corporation. More than 1,100 workers are currently mobilised at the site, half of whom are recruited locally and the other half of whom are Chinese workers. They should be close to 2,500 at the peak of construction. Particular attention is paid to the working conditions of workers on the construction site with the application of good international practices for health and safety aspects (OHS). The accommodation conditions were particularly controlled at the start of construction, when the remote camp was not yet available. In 2024, attention was paid to contractual aspects (employment contracts, quality of payslips, notably for Chinese employees recruited in China), compliance with working hours, free movement of employees, as well as health and safety aspects (start of work at height). The requirements of the client (the Project) are reported in the construction contract and "cascaded" into the chain of subcontractors. An ESHS team (dedicated to the environmental, social and health and safety fields) is in charge of verifying the due CSR performance of the manufacturer and its subcontractors, in close collaboration with the same team present on the manufacturer's side. The 30 hectares of agricultural land required for the construction of the power plant did not necessitate the physical removal of people. The fifteen or so farmers who used this land and trees (whether fruit bearing or not) were compensated, at a level higher than that required by national regulations. Support programmes for their professional activities are rolled out. An independent consultant (the Lender's Independent E&S Consultant - LIESC) checks quarterly that the lenders' ESHS requirements are being met. The drawdowns of loans throughout the construction phase are subject to compliance with these covenants.

Following the acquisition of US Chillers, a Dalkia subsidiary based in Dubai, Qatar, Bahrain, Saudi Arabia and the United States, and its integration into the Group, an internal health and safety audit was carried out in 2023. This entity has around 380 employees outside the United States, 99% of whom are migrant workers. A diagnosis of working conditions and health and safety was finalised, and the roll-out of health and safety practices was undertaken. The following measures were implemented: work to bring into compliance the collective housing for workers in Dubai and Bahrain, and establishment of a minimum wage. Integration work continued in 2024, with the following actions notably:

- the roll-out of ISO 9001 and 14001 standards in Bahrain and Qatar at the end of 2024;
- the planed roll-out of ISO 9001, 14001 and 45001 standards in Saudi Arabia in 2025 and 45001 in the UAE, Bahrain and Qatar in 2025/2026;
- the introduction of an indemnity for the use of their personal smartphone and an indemnity for the cleaning of clothes;
- roll-out for Dalkia US Chillers of safety training sessions at customer sites from November 2024 until the end of 2025;
- an audit of the housing conditions of subcontractors in Saudi Arabia and the definition of an action plan to be undertaken by local management in 2025.

3.3.3.5 Targets and indicators for workers in the value chain

In 2025, the purchasing function plans to standardise the criteria for assessing the performance of responsible purchasing, through the following three pillars:

- equipping the purchasing functions;
- onboarding suppliers;
- measuring the impact of the value chain.

A target on supplier support is being defined in 2025: it will make it possible to integrate the contributions of all entities in the purchasing sector.

The indicators and results for 2024 are described in the table below:

Sustainability matters	Related indicators	Target	Review	Scope	Results
Supplier support	Number of qualifications, audits and assessments including a CSR or Health and Safety component	Group target being defined	Annual	EDF SA Dalkia Edison Framatome	31 audits 3,633 assessments

(1) EPC contract: Engineering Procurement and Construction: www.cmr-group.com/en/nuclear-power-plant-copy-270

3.3.4 ESRS S3 - Affected communities

The EDF group is committed to protecting the rights of the local communities affected by its operations and arranging, systematically and worldwide, transparent, debated discussions and consultations for each new facility project over €60 million funding with a significant impact on the territories or the environment (see section 3.3.4.2 "Dialogue with affected communities").

The EDF group is committed to contributing to securing the development of the regions where it operates through its contribution in terms of local jobs (including solidarity-based jobs and training), local purchases and the creation of economic value, and through its tax payments. Thanks to the diversity of skills and local services it offers, the Group contributes to the quality of economic and social life in the regions where it operates. In developing countries, the EDF group is especially committed to access to energy and the development of low-carbon energies.

During the double materiality analysis carried out in 2023/2024, the following impacts and risks were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunities

Sustainability matters	Material impact	Description	Time horizon
Human rights[1] (see section 3.3.4 as a whole)	Infringements of the rights of local populations	Construction activities can lead to population displacement or negative consequences for local communities, in particular indigenous communities, due to inadequate consultations.	Short, medium and long term
Health and safety for all[1] (see section 3.3.4.4.1)	Health and safety for all (cross-functional with S standards)	Activities and possible accidents/incidents, including those related to safety, throughout the value chain can affect the health and safety of local communities (*e.g.* accidents during the transport of raw materials, operating accidents, soil/air/water pollution, waste generation, use of security forces).	Short, medium and long term
Local development[2] (see sections 3.3.4.4.2, 3.3.4.4.3, 3.3.4.5)	Contribution to development	The Group contributes to the development of the regions where it operates in terms of local jobs, local purchases, the creation of economic value and the generation of tax revenue.	Short, medium and long term
	Regional resilience	The use of infrastructure can contribute to improving the resilience of regions, notably in countries with a low rate of access to electricity.	Short, medium and long term

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.
(2) Sub-theme defined by EDF.

Sustainability matters	Material risk or opportunity	Description
Dialogue and consultation with stakeholders[1] (see section 3.3.4.2, 3.3.4.3, 3.3.4.5)	Insufficient consultation with stakeholders	The risks of inadequate stakeholder involvement and consultation mechanisms for the creation and modification of structures may lead to the abandonment of projects led by the Group.

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

The construction and operation of energy infrastructures can have negative consequences for local communities and the environment. This may include human rights violations, population displacement, health and safety deterioration due to air, water and soil pollution, as well as potential accidents related to various forms of energy production. In addition, inadequate supply chains and consultation processes can also have negative impacts. However, the Group strives to contribute to the economic and social development of the regions in which it operates, for example through its contributions to employment, tourism, education, taxes and fees. Favouring local purchases and supporting the development of SMEs, the Group helps local development. Moreover, by operating and developing new low carbon electricity production assets, EDF provides infrastructures that can benefit local communities affected by climate change. Lastly, EDF participates in the electrification of countries where electricity is a vector of access to water, health, education or development.

The Group considers the interests, opinions and human rights of the communities affected by its activity including respect for human rights, in determining its strategy and business model, notably *via* its dialogue process with the concerned communities. A material risk for the EDF group identified from the dual materiality analysis is the potential cancellation of projects carried out by the Group because of the lack of consideration, or perceived lack of consideration of feedback from local community consultations or of a public debate in France (interests of the population, elected representatives) in decision-making. For more information on the dialogue process with local communities, see section 3.3.4.2 "Dialogue with affected communities".

A potential negative impact on affected communities, which may stem from an inadequate dialogue process, has been identified, notably during the construction of infrastructures in certain regions *via* this process of dialogue with affected communities, the Group aims to avoid or reduce the severity of potential material impacts related to population movements or activities and incidents affecting the health and safety of communities.

As part of the identification of material impacts, risks and opportunities affecting local communities, the Group has included all affected communities on which it is likely to have material impacts. Those impacts can affect communities in the following ways:

- most of positive and negative impacts may affect communities living or working near the Company's operating sites, facilities or other places of activity, or more remote communities affected by the activities carried out on these sites (for example, in the case of potential water pollution downstream);
- some of the negative impacts identified concern communities in the Company's value chain (for example, communities affected by the operation of suppliers' facilities or by the activities of logistics or distribution service providers);
- negative impacts have been identified for communities at both ends of the value chain (for example, at the point of metal or mineral extraction, or near waste disposal sites which are potentially radioactive);
- a negative impact has been identified for the Group's construction activities as being particularly likely to affect local or indigenous communities, especially in certain geographical areas.

Among the negative impacts identified, some are related to one-off incidents specific to the Group's activities or to a particular business relationship, for example impacts on the health and safety of populations related to operational hazards or accidents linked to the Group's facilities. Other negative impacts are widespread or systemic in the contexts in which EDF operates or sources supplies or in its business relations, for example the impacts on the health and safety of populations linked to the production of raw materials upstream in the value chain or the presence in conflict zones or in non-democratic regimes.

The Group has identified the way in which affected communities with particular characteristics, *i.e.* those operating or living in particular contexts, or those with of a vulnerable nature, may be more exposed to a risk of harm, for example, the case of indigenous peoples or populations residing in areas of conflict or in non-democratic regimes. These communities were identified by means of a literature review, as well as through the opinions of internal and external experts.

Positive impacts identified include regional development and value creation in terms of employment, tourism, training, taxes and fees; local purchases that may benefit local businesses, local residents and public authorities in the regions where the Group's facilities are located. In certain regions, the Group must adapt its facilities to climate change, which may also benefit local communities. Internationally, the Group is developing projects for the electrification of the country and/or its energy transition and can thus improve access to water, health, education or economic development.

A material risk for the EDF group, identified from the dual materiality analysis is the potential cancellation of projects carried out by the Group because of the lack of consideration, or perceived lack of consideration, of feedback from local community consultations or of a public debate in France (interests of the population, elected representatives) in decision-making. This risk is identified for the France scope and therefore does not apply to all affected communities.

No current significant financial impact has been assessed for the material risks and opportunities identified above.

3.3.4.1 Policies related to affected communities

The EDF group is committing to respecting the rights of local communities and indigenous populations affected by its activities. The IROs presented above are covered by the Group's human rights commitments (see sections 3.3.1.1 "Human rights commitments" and 3.3.1.1.3 "The rights of affected communities") and by the Group's Corporate Social Responsibility policy in its commitment relating to territorial responsibility (see section 3.1 "General information").

3.3.4.1.1 Commitments towards affected communities

The EDF group is committing to respecting the rights of the local communities concerned by its activities (see sections 3.3.1.1 "Human rights commitments" and 3.3.1.1.3 "The rights of affected communities").

3.3.4.1.2 Commitments towards indigenous populations

The EDF group is committed to respecting the specificities and rights of the indigenous populations affected by its activities (see sections 3.3.1.1 "Human rights commitments" and 3.3.1.1.3 "The rights of affected communities" – "Indigenous populations").

3.3.4.2 Dialogue with affected communities

3.3.4.2.1 Consultation, concertation and public debate

Dialogue and consultation are one of the core social commitments of the EDF Group. Due to its history, its public service missions, and its role as an investor and operator of energy facilities in France and internationally, the EDF group capitalises on its extensive experience of listening, dialogue and consultation with a wide range of stakeholders, projects and regions.

Principles for dialogue and relations in projects

The EDF group's goal is to organise a process of dialogue and consultation around each new project, throughout the world, which is transparent and adversarial, involving local and indigenous communities throughout the project life cycle. The methods are specifically adapted according to the nature, importance and stage of the life cycle of the projects, on the one hand, and to the stakeholders concerned, including local communities or indigenous peoples, on the other.

For all projects worth more than €60 million, the EDF group uses a societal approach based on the Equator Principles[1] for stakeholder identification and participation, paying particular attention to local communities and indigenous peoples. The impacts of each project are assessed on the basis of reasonable environmental and social due diligence.

Dialogue and consultation are initiated as far upstream of projects as possible, as are public complaints and reporting mechanisms. Dialogue takes place directly with the affected communities or their legitimate representatives or with proxies depending on the projects and their regulatory and local context (see sections 3.3.4.3 "Remedy procedures and channels for affected communities to raise concerns" and 3.3.4.4 "Actions to manage material risks and opportunities for affected communities").

A public claim mechanism is set up at a very early stage of the project. Public reporting is provided. Details of the Group doctrine with respect to dialogue, consultation, and stakeholder relations are to be found in a collection of practical guides.

Specific consultation of indigenous peoples

Indigenous people may constitute vulnerable groups among the communities affected by a new development. Projects are subject to an informed consultation process, respecting the rights and protections guaranteed to indigenous people by national and international legislation. The specific circumstances that require the Free, Prior and Informed Consent (FPIC) of indigenous peoples may notably include the following cases:

- projects having an impact on the lands and natural resources subject to the traditional ownership or customary use of those peoples;
- projects requiring the displacement of indigenous peoples;
- projects with a significant impact on the cultural heritage essential to the identity of these peoples.

Mechanisms for listening to and dialoguing with stakeholders in France

The forms of listening, dialogue and consultation implemented by EDF are varied. They are always adapted to the uniqueness, context and specificities of each project and region. A wide range of tools is used, from opinion surveys to stakeholder listening systems, conducted in the form of surveys (mainly online surveys and questionnaires) as part of regulatory dialogue procedures.

EDF develops regional dialogue mechanisms that continuously inform and involve the public around the projects, construction sites and facilities operated by the EDF group. Depending on the scope and duration of the projects, other formats or consultation mechanisms are organised to inform and involve the public upstream, during and after the completion of projects: voluntary consultation, prior consultation, ongoing consultation.

These consultation mechanisms are supplemented by the regulatory public inquiry procedure that takes place as part of the examination of project authorisation applications. They enable the competent authorities to formally consult, inform and collect the opinion of the public, prior to the administrative authorisation decision.

EDF's major projects may be the subject of "public debates"[2], under the aegis of the National Commission for Public Debate (CNDP – *Commission Nationale du Débat Public*).

3.3.4.2.2 Structuring dialogue with stakeholders

In France, dialogue and consultation processes are structured within EDF organisations to address the various stakeholders: civil society players, customers, suppliers, employees and employee representatives, partners, authorities, shareholders, etc. (see section 3.1.3.2 "Interests and points of view of stakeholders"). Thus, the various levels of EDF are involved: Executive Committee, major business lines, regional and local (operating) units, the operational teams in charge of project development. At the intersection between EDF and the projects developed in the regions, EDF relies on a Department of Territories and Regional Action (DTAR), whose role is to establish regional cross-functional dialogue and internal coordination and to dialogue with stakeholders as close as possible to the Group's projects and operational activities.

At the international level, each consolidated subsidiary rolls out the Group's principles of dialogue and consultation through its own local organisation.

Continuous improvement of dialogue and consultation practices

The EDF group has developed a process to improve dialogue and consultation practices, through:

- developing skills for managers and project managers:

An offer to develop stakeholder knowledge for employees, nurture understanding of issues, and improve the management of dialogue and consultation practices has been implemented. Open to all the EDF group's French divisions and subsidiaries, the offer targets those in charge of relations with stakeholders: project leaders, managers, regional delegates, communicators and members of the Regional Delegations.

EDF has set up an intranet site to share experiences among the project teams. It is a collaborative tool for sharing knowledge in the form of a database. It brings together documents, guidelines, methodologies and feedback on the procedures carried out for nuclear, thermal, hydropower and renewable projects. Details of the Group doctrine with respect to dialogue, consultation, and stakeholder relations are to be found in a collection of practical guides. All of these sharing channels make it possible to disseminate lessons, capitalise on good practices and develop skills in order to continuously improve dialogue and consultation processes, tools and actions.

- making high-level expertise available:

The EDF group's R&D has 30 years' worth of cutting-edge expertise in the local acceptability of projects and devotes part of its research work to this topic. This expertise helps the Group to understand issues of acceptability, notably regarding environmental and societal aspects. In addition to their many contributions in terms of guidance and proactive measures, these experts assist departments and project managers.

The effectiveness of consultation actions is mainly measured through consultation reviews carried out by the National Commission for Public Debate in the form of a cross-analysis. For example, for the Penly EPR2, the main conclusions of the assessment[3] highlight the following results, namely that the debate made it possible to:

- hear a wide range of expressions and contributions from the public, including young people through various ways;
- discuss whether it was advisable to carry out a project, and its alternatives, the socio-economic issues involved and its impacts on the environment and regional planning;

(1) See the following website: equator-principles.com

(2) impactons.debatpublic.fr/debat-public/qu-est-ce-qu-un-debat-public/index.html

(3) www.debatpublic.fr/nouveaux-reacteurs-nucleaires-et-projet-penly/les-enseignements-du-debat-4131

- answer questions from audiences during physical and remote meetings and on the debate's internet platform, as well as to participate in prior discussions on technical controversies and present project management arguments;
- discuss themes and issues, both at the national level for the programme, and at the local level for the Penly project;
- provide the information needed to make the siting decision[1], while taking into account the recommendations and requests for clarification from the Special Debate Commission by the project management team and its accompanying memorandum[2] which makes it possible to clearly demonstrate the long-term commitment to consultation.

3.3.4.3 Remedy procedures and channels for affected communities to raise concerns

Systems to collect and handle complaints, alerts, warnings and claims have been set up at Group level[3] (see also section 3.3.1.2 "The EDF group's whistleblowing system") and are accessible for each project. These systems are accessible to any person potentially impacted by the Group's activities and guarantee the confidentiality of alerts and callers. Furthermore, systems to collect and process questions are also set up locally.

At the international level, each project sets up a request and complaints management mechanism (RCMM).

In Malawi, the consortium between EDF and the Norwegian company SCATEC is developing the Mpatamanga project to build a 361MW hydropower plant, launched by the government, which began in 2022 with commissioning scheduled for 2025 or 2026. This project has a request and complaints management mechanism allowing stakeholders to send their requests, complaints and questions to the project company MHPL (Mpatamanga Hydro Power Limited, a company incorporated under Malawian law). These can be addressed in different ways:

- in physical from, to a member of MHPL, the Ministry of Energy in Lilongwe or a member of a GVGRC (Group Village Grievance Redress Committee)[4];
- by phone, SMS or WhatsApp;
- by post or email.

Requests and complaints are sorted by category for processing by MHPL and GVGRC:

- Complaints are handled according to the standard request and complaint management procedure described in the diagram below;
- incidents are handled according to the ESHS (Environmental, Social, Health and Safety) incident resolution procedure;
- gender-based violence, harassment, sexual exploitation and abuse are addressed through the GBV (Gender-Based Violence) procedure;
- questions, observations and comments are sent pursuant to the QCC (Questions, Comments & Concerns) management process. MHPL informs stakeholders of the existence of this mechanism through GVGRCs in the field as well as through the dissemination of information at the community cinema and other media. Since the start of the project, 20 complaints have been received, of which 19 have been resolved and one was still in the process of being resolved at the end of 2024.

In Oman, EDF Renewables, as part of a consortium with the South Korean company Korea Western Power Co, is developing the Manah I solar power plant, which will have a capacity of 500MW. This facility, equipped with more than one million bifacial solar panels and trackers, covers a total area of 15 million square metres. It is scheduled to be commissioned in 2025.

To ensure an effective communication and management of concerns during the construction phase, the project incorporates a complaints management mechanism based on two main pillars:

- the introduction of a dedicated WhatsApp number, allowing employees to send written or voice messages;
- the communication of this number, as well as details of the complaints management system, during onboarding sessions for new employees.

Complaints received are recorded in a specific register managed by the project's HSE (Health, Safety and Environment) team. This multi-lingual team ensures an adequate handling of complaints, reflecting the project's commitment to a responsible management of stakeholder feedback.

3.3.4.4 Actions to manage material risks and opportunities for affected communities

3.3.4.4.1 Health and safety for all

The EDF group is committed to protecting the health and safety of all individuals. Notably, the Group develops the highest standards in terms of nuclear and hydropower safety, health policies for its employees and subcontractors (reducing the number of accidents, eradicating fatal accidents, developing the management of psychosocial risks, adapting work organisation methods, guaranteeing a high level of social welfare, etc.), sales offerings related to comfort and well-being, improvement of air quality and reductions in noise, visual or light pollution (see section 3.3.1.1.2 "The rights of Group employees and workers in the value chain" – "Respect of health and safety for all").

To fulfil this commitment, the actions implemented are described in each corresponding section, namely:

- safety: for details of the actions making it possible to ensure the safe operation of nuclear and hydropower plant facilities, see section 3.4.5.3 "Safety" of the G1 standard;
- pollution: for details of actions to avoid or reduce significant negative impacts related to the introduction of substances, vibrations, heat, noise, light or any other contaminant present in the air, water or soil liable to have an effect on the health of communities, see standard ESRS E2 in section 3.2.3 "ESRS E2 - Pollution";
- biodiversity: for details of actions to avoid, reduce or offset damage to biodiversity likely to have an effect on the health of communities, see standard ESRS E4 in section 3.2.5 "ESRS E4 - Biodiversity and ecosystems".

(1) www.debatpublic.fr/nouveaux-reacteurs-nucleaires-et-projet-penly/les-suites-du-debat-3367
(2) www.debatpublic.fr/sites/default/files/2023-07/EPR2-Penly_Note-accompagnement-EDF_Vdef%2028-06-2023.pdf
(3) www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/ethics-and-compliance-programme/whistleblowing-system
(4) Group Village Grievance Redress Committee (GVGRC): committee formed at the village level involved in managing complaints from communities impacted by the project. A GVGRC is made up of a member of the village development committee, two people affected by the project, a representative of the community police, women, young people and the local religious organisation, as well as a member of the National Resource Management Committee, a worker and the village chief.

3.3.4.4.2 Projects in France and internationally

3.3.4.4.2.1 The Group's investment decision-making process

See section 3.3.3.4.4 "Process for taking into account workers' rights in projects" and 3.3.3.4.4.1 "The Group's investment decision-making process".

3.3.4.4.2.2 Projects in France

Among EDF's major projects in France, some are subject to "public debates" (see section 3.3.4.2.1 "Consultation, concertation and public debate"). Thus, following the debate organised in 2023 on the programme of new nuclear reactors and on the project to build two EPR2 reactors in Penly, two other four-month public debates were launched in 2024: on the project to build two EPR2 reactors in Gravelines and on the project to build a Technocentre in Fessenheim. The CNDP organised a comprehensive and multifaceted consultation mechanism (public meetings, thematic workshops, mobile debates, webinars, field visits, etc.) and opened dedicated websites accessible to all[1]. In addition to providing information on projects and on consultation procedures, they allow anyone to express their views, by participating in an online discussion forum or by asking questions about the projects to which EDF is committed to respond within 15 days, for the Gravelines EPR2, and 8 days, for the Technocentre.

EDF Hydro, as part of the Vouglans-Saut-Mortier project, aimed at installing a turbine-pump on the left bank of the Saut-Mortier reservoir, in the immediate vicinity of the current hydropower plant in the Jura, organised a voluntary consultation process from the launch of the studies. This approach, under the aegis of the CNDP, has led to several changes to the project to achieve the optimum balance between the various energy, environmental and water-use issues. This early approach was highlighted during the public inquiry that took place between May and June 2023. Since the summer of 2024, the project has entered the construction phase. Dialogue and consultation are continuing with, for example, the establishment of an Environmental Monitoring Committee.

In addition to dialogue and consultation in the framework of projects, EDF continuously monitors the management of the hydropower facilities that it operates in consultation with stakeholders (State, local government, water agencies, associations, etc.). As such, EDF plays a part in national and local water governing and management bodies (national water committee, basin committees, local water commissions, etc.).

In Corsica, in Ajaccio, EDF Production Électrique Insulaire (PEI) is developing the Ricanto bioenergy power plant project, for which the regulatory consultation process was completed in 2024. With a capacity of 130MW, this power plant will run on bioliquids and will replace, by 2027, the Vazzio power plant, which runs on heavy fuel oil. It will make it possible to cover the electricity needs of Ajaccio and its region, to ensure jobs and industrial activity in the Ajaccio region in the long-term, and to contribute to the balance of the Corsican energy mix. The consultation process, initiated in 2020, was an opportunity to discuss all the questions that arose concerning the characteristics of the project, its effects on its environment and the methods of its implementation. In order to gather the public's contribution, several participation solutions were provided: a website[2] dedicated to the project and paper registers made available in the town halls. Public meetings were also organised. Meetings in Ajaccio supplemented the system, in the form of discussions with the public in the most frequented places (shopping centres, markets, etc.), *via* telephone hotlines and through thematic workshops to further develop certain topics (technical characteristics of the project and fuel supply to the power plant, then environmental effects of the project and socio-economic issues). All meetings were held in a room near the Ricanto site. They were broadcast live *via* an exchange platform to allow as many people as possible to participate.

Several information materials were disseminated to inform the public of the progress of the consultation: a regulatory information notice published on the Internet, in the press and posted on-site; flyers distributed in mailboxes in neighbourhoods near the project and available at town halls housing paper registers; advertisements in the regional pages of *Corse Matin*, etc.

The inquiry commission published its final report, which concluded with an unqualified favourable opinion on the project.

Following the favourable opinions of the CODERST (Regional Council for the Environment and Health and Technological Risks) on 7 February 2024, the environmental authorisation orders were signed on 15 February 2024. Consultations will continue throughout the project and during operation.

3.3.4.4.2.3 International projects

At the international scale, projects development includes a Stakeholder Engagement Plan (SEP), which consists in identifying relevant stakeholders and determining, informing and collecting their opinions, answering to them, and involving local and indigenous communities throughout the life cycle of projects.

In Cameroon, the Nachtigal project, for which the construction of a 420MW hydropower plant began in 2019 with a gradual commissioning scheduled between 2024 and 2025, has rolled out a SEP – stakeholder engagement plan – across all phases of the project.

The stakeholders in the Nachtigal project were identified, the main ones being: PAPs - people affected by the project - (farmers, fishermen, fishers, operators, sandblasters), young people, women, decentralised local government, district chiefs, traditional authorities (village chiefs, notables), local communities, ministries and school managers.

The SEP included various stakeholder engagement strategies:

- Information and consultation meetings for people affected by the project, vulnerable people, leaders of local organisations, village leaders, mayors and school managers;
- awareness-raising meetings on health and safety topics for schools, local associations and companies;
- targeted campaigns (by phone, text message, e-mail) dedicated to central and local administrations and local associations to invite them to attend information meetings;
- community consultation forums organised in the villages;
- the definition of a framework for regional consultation with mayors, and regional and municipal councillors;
- a focus group for vulnerable people and fishers;
- site visits and meetings with local residents and manufacturers.

In total, more than 140 meetings were organised with stakeholders on the topics of resettlement, livelihood restoration, training, economic development and awareness-raising.

Communication methods were also defined in the SEP, including direct correspondence, posters and flyers, the Nachtigal website, social networks, a WhatsApp group for administrative and municipal authorities, local radio with a monthly programme, as well as billboards.

(1) participer-debat-gravelines.cndp.fr/projects ; www.debatpublic.fr/projet-technocentre-fessenheim
(2) www.centraleduricanto.fr

In Chile, EDF Renewables promotes, as early as possible, the establishment of community relations with the stakeholders identified in the areas of interest of the projects. For example, at the Quebrada Locayo Wind Farm and the Fénix Wind Farm (two wind projects under development), EDF Renewables works with consultants in community relations before the start of the project's environmental assessment. In the event that indigenous peoples are identified, EDF Renewables deploys early dialogue with these communities taking into account the standard of ILO Convention 169, for example on the Fénix Wind Farm project with the Mapuche communities.

3.3.4.4.3 Benefits for local populations

The Group also contributes to local development through employment, taxes, and procurement, as well as *via* a large number of initiatives promoting local economy together with its action to facilitate access to energy in developing countries.

Local value creation

At the local level, the Group rolls out a large number of initiatives to contribute to the dynamism of the economic, social and human development of local businesses in France (see section 3.4.3 "Sustainable and balanced relationships with suppliers").

The EDF group supplier policy favours local roots and value creation in the regions (see section 3.3.3.1.2 "Supplier policy").

More than 95% of purchases are made in France, mainly due to the division of contracts into lots, which facilitates access to the Group's contracts. 97% of purchases are made in the European Union (99% when the European Free Trade Association (EFTA) countries are added).

In the nuclear sector, each existing site has a person in charge of territorial impact who communicates short, medium and long-term partnership opportunities to the local businesses and assesses the positive economic impacts for the departments and regions. Within the limits of compliance with the Public Procurement Code, local companies are informed and invited to position themselves to forge partnerships with the Group. The national projects relating to nuclear construction (EPR2), decommissioning (Fessenheim, Meuse and Haute-Marne support programme) and maintenance (Grand Carénage industrial refurbishment programme) are mobilised to dialogue with the regions on the positive benefits for the region. EDF SA is also involved in associations monitoring nuclear suppliers (SFEN, GIFEN).

In line with previous years, the Group Purchasing Division participated in the programmes and events of the Pacte PME association, such as, in 2023, the decarbonisation alliance. This alliance aims to support small and medium-sized enterprises (SME) in their efforts to reduce the carbon footprint of their activities, driven by key accounts. EDF encourages its SME suppliers to learn about climate issues, to sign the decarbonisation charter, and to follow a programme for the implementation of an action plan.

The Group Purchasing Division is also present at the Regional Action Divisions to promote partnerships between EDF and its local suppliers, notably through the chambers of commerce and industry.

In France, the supplier policy also has a long track record of giving preference to relationships with SMEs and companies who employ disabled people only (STPA) and structures for integration through economic activity (SIAE). EDF makes full use of the possibilities offered under Directive 2014/25/EU, allowing certain purchases to be reserved for these sectors.

In 2024, EDF's purchases from the solidarity sector amounted to €17.1 million.

In 2024, the Group Purchasing Division, with the Disability mission of the Group Human Resources Division, organised a webinar on solidarity purchasing, led by its partner Hosmoz. In line with this approach, EDF's purchasing teams are involved in discussing with adapted and sheltered employment sector in collaboration with their purchasing segments (notably the real estate and general services segments).

Furthermore, the EDF group contributes to the development of France's regions; it pays over €1 billion annually in local taxes to local government. Further information on the Group's tax policy is available in section 3.4.2.4 "Tax policy - Contribution to development through taxation".

Internationally, as part of the construction of the Nachtigal hydropower plant (see section 3.3.4.4.2.3 "International projects"), the project accelerated the socio-economic development of the region in five areas:

- health: construction of a radiology department, provision of a medical ambulance, awareness-raising campaigns (fight against onchocerciasis, ophthalmology, odontology, etc.);
- access to water: training of 165 people, including 4 municipal employees and 161 members of the Management Committees of boreholes built by NHPC (Nachtigal Hydro Power Company, a company incorporated under Cameroonian law);
- education and professional development: construction and equipment of 9 classrooms, 3 technical workshops, awarding of excellence awards to 63 students in the project area and opening of internship opportunities at NHPC;
- the development of income-generating activities: construction of 44 shops, support for the economic projects of 20 women's associations;
- electrification.

The Project also supported local employment, during the construction phase, with the employment of 1,004 workers, 93% of whom were nationals and 12% were women, and the recruitment, at NHPC, of 126 employees, of whom 95% were nationals and 31% were women. In the field of hydropower in mainland France, the "EDF, one river, one territory" programme, organised through seven regional agencies, has been working since 2012 with the industrial actors of hydropower valleys to facilitate access to EDF Hydro's markets for very small enterprises and SMEs. More than 1,800 companies are listed on supplier purchasing panels. Through loans from their investment fund, this local programme has created or preserved more than 730 jobs in the valleys by granting loans to more than sixty local companies.

The employment footprint of a region, project or field of activity breaks down into direct impacts (EDF employees, see section 3.3.2.4.1.1 "The EDF group, one of the main industrial recruiters"), indirect impacts (impact of EDF's purchases on its entire supplier chain) and induced impacts (impact of the consumption of employees and suppliers, and uses generated by taxes and levies). Both EDF employees and the employees of companies in the supply chain spend some of their salary in the region and pay taxes and duties.

Through its activity, EDF contributes to the economic development of the regions where it operates, including in a context of declining activities or regions.

The 2024 study shows that around 374,000 jobs (including nearly 65,000 direct jobs) are supported by EDF in France. Across France as a whole, one direct job generates around 4.8 indirect and induced jobs.

Around 1.2% of French jobs are thus "supported" by EDF.

Declining activities and territories

Power plant closures: greater solidarity

The Group seeks to offset negative impacts of site closures by implementing redeployment mechanisms adapted to each situation in order to offer affected employees local employment solutions when possible.

Specific consultations negotiated with the trade unions govern the closure of power plants and provide with specific financial support measures. These closures are accompanied by actions to develop new local economic activities, in order to compensate for job losses and tax revenue of the municipalities hosting these facilities.

For example, the former fuel oil power plant in Porcheville, which has been shut down since 2017, will soon house a fleet with 12,000 solar panels and a battery storage facility. Support for industrial reconversion

The Group is part of the national re-industrialisation programme by and for the regions, launched in 2018 and extended for the 2023-2027 period, which is called Contrats Territoires d'Industrie (CTI - Industrial Region Contracts). This initiative is part of a strategy of industrial reconquest and regional development. It aims at leveraging in a coordinated manner, all the levers of intervention that fall within the remit of the State and its operators, local authorities, public institutions or companies, to serve industry and their regions.

Several projects have been launched in Aramon (thermal power plant closed in 2015), notably with the reuse of old industrial equipment at other Group sites, in line with the circular economy approach at the heart of the EDF's strategy. Similarly, support for the reconversion of this power plant also favoured the installation of tranche 2 of the solar power plant, on a flood-prone part of the site, thus bringing the total installed capacity to approximately 10MWp. This restructuring programme has led to the creation of CleanTech Vallée (an association composed of 11 public and private members) and CleanTechBooster, which has supported more than 40 companies and promoted the creation of more than 50 jobs.

Access to electricity in developing countries

Most major EDF projects, especially those in Africa and Asia, are designed to improve access to electricity on a local, regional and national scale, such the Nachtigal hydropower dam project in Cameroon.

EDF is notably developing off-grid projects designed to provide residential customers and very small enterprises, mainly in Africa, with electrical services, including ZECI in Côte d'Ivoire or Bboxx in Togo (see section 1.4.5.3.7 "Africa").

At the end of 2024, the total number of off-grid customers will be around 560,000, *i.e.* 40,000 additional customers in 2024.

The International Division mainly develops three types of services:

- solar home systems, autonomous photovoltaic systems based on solar panels and batteries, enabling remote populations which are not connected to the electricity grid to meet their basic energy needs. They are often sold in bundles with energy-efficient appliances, such as lamps, radios, fans or televisions;
- solar pumps, which enable small holder farmers in areas not connected to the grid to irrigate their land using sustainable energy;
- mini-grids, electricity generation and distribution systems of less than 10 megawatts (MW) serving customers *via* a local distribution network.

Besides these projects, EDF intends to develop new business models that combine its traditional know-how with technological and economic innovation.

These measures are supplemented by Group sponsorship

In terms of international access to energy, the EDF group also operates under the patronage scheme through the EDF group Foundation, which supports structures serving general interest that are operating internationally and provides volunteers, who are employees of EDF group entities, to carry out missions in this context, or *via* partnerships with associations such as Electricians without borders (*Electriciens sans Frontières*) and Energies without borders (*Énergies sans Frontières*), and finally through partnerships led by its subsidiaries. Électriciens sans Frontières, of which EDF and Enedis are partners, strive to overcome unequal access to electricity and water worldwide.

In 2024, the EDF group Foundation supported 33 international projects, for a total of €1.54 million, including 26 projects representing financial support of €1.15 million in which electricity is a vector for access to water, education, training and professional integration. The EDF group Foundation operates internationally through a combined contribution of financial sponsorship and Group employee skills sponsorship (51 volunteers for a total of 495 working days of assignment in 2024).

3.3.4.5 Targets and indicators for affected communities

EDF is currently considering setting a target in relation to the IROs for 2025.

For projects of over €60 million examined by the CECEG (see section 3.1.2.1.2.5 "Group Executive Committee Commitments Committee (CECEG)") having a significant impact on the regions or the environment, the concerned Group entities implement appropriate dialogue and consultation measures, in line with the so-called "Equator" principles.

The Group's key performance indicator in this respect is the annual proportion of such projects for which a dialogue and consultation processes has been initiated. Practically speaking, this means that as a minimum, each project has initiated or implemented a dialogue and consultation strategy and that the various stakeholders (in particular local and indigenous communities) are taken into account, *e.g.* through specific measures being taken to address their expectations.

The indicator used to assess the positive impact of regional development. It measures the share of the amount ordered from companies registered in the country. This rate illustrates the contribution of EDF SA to the French economic fabric for the first level of its subcontracting chain.

Sustainability matters	Indicator	Target	Reference	Review	Scope	2023 performance	2024
Dialogue and consultation with stakeholders	Annual rate of projects for which a dialogue and consultation process is engaged	100%	2021	Annual	Projects of over €60 million examined by the CECEG	100%	100%
Local development	Local purchasing rate	To be defined in 2025	New indicator	Annual	EDF SA scope	94.5%	95.4%

Details on the indicators

The projects for which a stakeholder dialogue and consultation process is initiated are those having a significant impact on the regions or the environment, through prior studies: regional diagnostics, impact studies, etc.

The regional purchasing rate is calculated for EDF SA, for the first level of the subcontracting chain in 2024. The indicator may change in 2025 in order to take all of the Group's subsidiaries into account.

3.3.5 ESRS S4 - Consumers and end-users

Through the diversity of its activities, the EDF Group maintains close relationships with a wide range of customers: individuals, businesses, local authorities, and public administrations. The EDF group aims to establish itself as a reliable and trusted partner for its customers. The supply of energy, the group's main mission, involves proximity to 34.9 million electricity customers and 6.6 million gas customers worldwide (based on a consolidated scope, broken down by delivery points). The Group also supports customers in reducing their carbon footprint in several ways:

- by assisting its customers to promote decarbonisation through energy efficiency and electrification, from industrial processes to mobility, as well as in tertiary and residential buildings;
- by helping its residential, business, and local authority customers to take a more active role in their energy consumption (through self-consumption and digital consumption management solutions);
- by encouraging, additionally, its customers to consume more responsibly by sharing advice on virtuous everyday habits ("eco-habits").

Supporting vulnerable customers is a central component of EDF's approach to a fair and inclusive energy transition.

This is why the EDF group confirms and renews its commitment to its customers facing energy poverty, by increasing the understanding of this diverse, complex reality, and by implementing support solutions based on public solidarity mechanisms and specific initiatives.

EDF also places strong emphasis on the protection of customer data and the security of its broader information assets.

As part of its dual materiality analysis, , consumers and end-users-related issues were identified as material in terms of electricity continuity and supply, personal data protection, social inclusion and energy poverty. These topics are further detailed in the relevant sections below.

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption

- Negative impact
- Positive impact
- Risk
- Opportunities

Sustainability matters	Material impact	Description	Time horizon
Personal data protection[1] (see section 3.3.5.3)	Personal data leaks	The processing of large volumes of data may heighten the risk of personal data breaches, particularly through cyberattacks, potentially infringing on the rights and freedoms of the individuals concerned.	Short and medium term
Electricity continuity and supply[2] (see section 3.3.5.1)	Electricity continuity and supply	The Group's energy distribution to its customers may be disrupted by internal or external events of various kinds (extreme weather events, strikes, cybersecurity or geopolitical, industrial, regulatory or competitive events, supply-demand imbalances), that could impact the sale of energy to customers.	Short term
	Public service missions	The Group's activities secure the supply of energy to customers across the entire value chain, from generation to distribution and supply.	Short and medium term
Social inclusion of consumers and/or end-users[1] (see section 3.3.5.2)	Management of electricity consumption and uses	The provision of data from smart meters, support for self-consumption and initiatives to raise awareness around sobriety and energy efficiency help customers better manage their electricity consumption and use, help customers better manage their electricity use, generate financial savings, and enhance support for vulnerable customers.	Short and medium term

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

(2) Sub-theme defined by EDF.

Sustainability matters	Material risk or opportunity	Description
Social inclusion of consumers and/or end-users[1] (see section 3.3.5.2)	Increase in arrears	Rising energy prices may increase the number of households facing energy poverty and therefore lead to the non-payment of energy bills.
Electricity continuity and supply[2] (see section 3.3.5.1)	Flexibility solutions	The need to secure customers' energy supply and empower them to better manage their bills is opening up new market opportunities for the Group, notably through the development of innovative flexibility solutions.

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

(2) Sub-theme defined by EDF.

In 2024, the types of customers affected by these impacts were individual electricity customers (31.5 million for the G4): further details on these impacts are available in the following sections.

The Group's activities may have varying effects on energy users. Cyberattacks can lead to serious consequences for customers, including identity theft or hacking of online accounts. Some households may experience energy poverty, resulting in difficulties paying bills. Supply interruptions can also have a negative impact on consumers. Nevertheless, through its integrated presence across the entire value chain, the Group contributes to securing energy supply, which can benefit consumers. In addition, by providing smart meters data, supporting self-consumption and actions to raise awareness of sobriety and energy efficiency, EDF enables customers to better manage their electricity consumption and promotes support for vulnerable customers.

No significant financial impact has currently been identified in connection with the material risks and opportunities mentioned above.

Downstream of the EDF value chain, cases of non-compliance with internationally recognised human rights instruments concerning consumers and end-users may arise. For instance, this could occur in the event of data breaches that infringe on consumer rights and freedoms, or in the case of disruptions to electricity supply that pose risks to consumer health and safety. EDF's commitments made to avoid such impacts on consumers and end-users are outlined in section 3.3.1.1.4 "The rights of consumers and end-users".

Any serious human rights-related issues concerning consumers or end-users, when reported, are addressed in section 3.3.1.2 "The EDF Group's whistleblowing system".

3.3.5.1 Electricity continuity and supply

As explained in section 1.4.1 "Electricity generation", the EDF group operates one of the largest generation facilities in the world, thus contributing to its public service mission in France by meeting the needs of consumer and end-users.

To ensure a continuous supply of electricity to consumers and end-users, the EDF group must also guarantee, as part of its public service mission:

- the availability of sufficient electricity at all times;
- the routing of this electricity to consumers and end-users.

These two aspects are managed simultaneously to ensure the continuity of electricity supply to consumers and end-users. The Group's electricity distribution activities are carried out solely in France by Enedis, Électricité de Strasbourg and EDF SEI and concern approximately 39 million households in France.

3.3.5.1.1 Policy on electricity continuity and supply for consumers and end-users

EDF S.A.'s public service commitments focus on ensuring the continuity of electricity supply to consumers, and include:

- providing electricity to customers who choose to remain on the regulated sales tariffs;
- generating electricity, including implementation of the energy policy and maintaining secure and environmentally-friendly electricity production;
- fulfilling obligations to purchase or enter into additional remuneration contracts for electricity generated by installations falling within the scope of these measures;
- contributing to the safety of the electricity system. In this regard, EDF plans to sign several contracts with RTE, to optimize production facility operations and ensure plant availability for grid stability.

These commitments are detailed in the Public Service Agreement signed on 24 October 2005 by the French State and EDF pursuant to Article L. 121-46 of the French Energy Code. This contract specifies the terms and conditions of financial compensation for service commitments and remains in force pending the signature of a new contract, in accordance with its own stipulations.

This contract relates to issues including social impacts and opportunities related to the creation of flexibility offers and the associated sustainability issues. A Monitoring Committee has been set up, which brings together the relevant State services and is chaired by the minister responsible for energy. An annual meeting is held to monitor the commitments of all parties to the contract. A three-year review is prepared jointly by the French State and EDF. Under Article 1 of the Law of 9 August 2004, this document will be sent to Parliament.

These public service commitments apply to the EDF group in France across its entire value chain, from electricity generation to distribution and supply. This contract also stipulates commitments for the electricity distribution network.

Ensuring a high-quality service and supply of energy is a major objective for the EDF group, in particular through the network operator Enedis[1]. This is why a policy of continuous improvement is being pursued to ensure a more robust, intelligent and flexible network.

Electricity systems that are not interconnected to the grid in mainland France, or non-interconnected zones (NIZ), are operated by EDF, *via* its Island Energy Systems Division (EDF SEI). They include Corsica, the overseas departments (except Mayotte) and the overseas communities of Saint-Barthélemy, Saint-Martin and Saint-Pierre-et-Miquelon, as well as several Ponant islands (Sein, Ouessant, Molène, Chausey). EDF SEI ensures a balance between supply and demand on a daily basis. It manages all the networks and sells electricity at the regulated tariff, guided by an active energy efficiency policy;

The additional electricity generation costs in these territories compared to mainland generation costs is regarded by the legislator as a public service cost and are therefore covered by the State budget. The costs incurred by the network operator are financed by the TURPE network access tariffs paid by users of the Public Electricity Transmission and Distribution Networks, and by the Electricity Equalisation Fund (FPE).

Lastly, the Électricité de Strasbourg (ÉS) group, 89%-owned by EDF, is an Alsatian energy company committed to supporting the energy and economic performance of its region. Its operation span four main business areas: electricity and gas distribution, energy supply, energy services and renewable energy generation. This portfolio enables the ÉS group to offer its customers tailored support for the energy transition.

Through its distribution subsidiary Strasbourg Électricité Réseaux, the ÉS group carries out the distribution network operator activities in accordance with the rules of independent management and the Code of Conduct. Strasbourg Électricité Réseaux operates, maintains, develops and modernises an electricity network of over 15,000 kilometres serving 400 municipalities in Alsace. It overseas nearly 600,000 delivery points with various voltage levels, and interconnects with the networks of Enedis and two other downstream grid operators.

(1) An operator of a distribution network managed in accordance with the rules of managerial independence.

3.3.5.1.2 Dialogue process related to electricity continuity and supply for consumers and end-users

The EDF group's customers benefit from several methods of dialogue with the Group's entities.

The Group's action to develop digital resources has provided greater access to information. The rapid rise in the number of consultations of online energy use monitoring platforms illustrates the cultural change driven by evolving energy costs.

With 5,000 customer advisors, all based in France, the Individual Clients Market Department supports customers in France, from the moment they request a subscription, offering a contract adapted to their uses and their households needs. They also help them in understanding and managing their invoices. EDF is investing in its digital tools to enable its customers to monitor their consumption and their bills free of charge. In 2024, EDF's consumption monitoring tools, including the EDF & MOI app, recorded 210 million visits from 7.4 million single users. The operator of the Enedis distribution network also rolled out a comprehensive information system to help each customer to know if they were affected by a scheduled load shedding, using various information channels adapted to the diversity of customers (interactive voice server, website[1], emails or SMS).

The development of these various digital services provides more information to customers, and therefore greater transparency, enabling them to better manage the impact of the interruption of supply on their business, and to limit it.

EDF SEI and Électricité de Strasbourg also offer an institutional website, a private digital space and dedicated applications so that customers can receive information at all times and monitor their consumption.

3.3.5.1.3 Procedures for remedying negative impacts and channels for consumers and end-users to raise concerns about electricity continuity and supply

Customer complaints are treated as opportunities to restore confidence and improve processes.

In the event of a dispute relating to the contract performance, EDF's customer can submit an oral or written complaint to Customer Service. If the customer is not satisfied with the response provided by Customer Service, they may refer the matter to the internal appeal body by post.

If the customer disagrees with the response provided by the appeal body, they may refer the matter directly and free of charge to the EDF group's Consumption Mediator, which is referenced by the Consumer Mediation Assessment and Monitoring Committee (CECMC) on the website mediateur.edf.fr, or by post.

Independently of these remedies, if, within a period of two months, the Customer's written complaint to EDF has not enabled the dispute to be settled, the Customer has a further period of ten months to refer the matter directly and free of charge to the National Energy Mediator, referenced by the Consumer Mediation Assessment and Monitoring Committee (CECMC), on the website energie-mediateur.fr, or by post.

In the Energy Mediator's annual report published in 2024, EDF reported a rate of 44 disputes per 100,000 contracts, placing it in 4th place.

For disputes unrelated to energy contracts, the customer may submit a complaint to the electricity distribution network operator, Enedis or Strasbourg Électricité Réseaux, by email, post or *via* the distributor's website. Customers can find detailed complaint-handling procedures on the network operators' official websites.

In the departments managed by SEI, a single point of contact is available. If a compensation claim is included, the claim must be sent by registered letter. In the event of an agreement on the amount of compensation, the network operator or its insurer pays the customer the agreed amount of compensation. In the event of refusal of compensation or disagreement on the amount of compensation, the customer can organise or ask the network operator to organise an out-of-court appraisal. If no agreement is reached at the end of the appraisal, the customer may refer the matter to the competent court.

These methods of out-of-court settlement of disputes are optional for the customer. They may therefore refer the matter to the competent courts at any time.

In the event of a complaint, ÉS customers can choose an out-of-court settlement procedure directly with ÉS or submit a complaint online or by post to the Strasbourg Electricité Systèmes operator. The response given will include information on possible remedies.

3.3.5.1.4 Actions to manage the impacts and risks identified in relation to the continuity and supply of electricity for consumers and end-users

In order to ensure the quality of the energy supply to its customers, the EDF group works to continuously improve the management of its networks to make them more robust and flexible.

3.3.5.1.4.1 More flexible networks

This action plan focuses on Enedis, the distribution network operator. The EDF group intends to achieve its main objectives of maximising energy injection while respecting the operating and maintenance constraints of the public networks, though no specific deadline has been set.

The future electricity system will be more decentralised and will integrate increasingly large amounts of solar power. For Enedis, this means enhancing the flexibility of network management to ensure its widespread daily use in both directions, the development – together with customers – of connected facilities management , and the adaptation of the interface with RTE, strengthening its capacity to produce, use, store and provide quality data.

In order to meet the needs of the electricity system, Enedis relies on digital transformation and innovative services, thus developing flexibility solutions. In 2024, Enedis was ranked as "the smartest network in the world" for the third consecutive time in the Smart Grid Index.

Enedis offers its Power Modulated Alternative Connection Offering for generators exceeding 250 kW. Renewable energy producers with installations of more than 250 kW can now take advantage of this offering, accessing this cost-effective grid connection, provided they accept occasional power limitations based on grid conditions. Moreover, since 2021, Enedis has been conducting an experimental approach in partnership with RTE in the Landes and Somme departments. In these regions, wind and solar power facilities will be able to connect without waiting for the reinforcement of the source substations, in exchange for the occasional capping of the producers. This approach helps to support the regions in achieving their regional planning objectives.

(1) coupures-temporaires.enedis.fr.

In non-interconnected areas, the continued growth in consumption, the development of renewable energies and the increasing number of connected generation facilities have led the grid operator EDF SEI to further develop and strengthen the electricity networks.

3.3.5.1.4.2 Better management of intermittence, flexibility and storage development

Innovative solutions for load balancing

EDF offers customers with high-voltage electricity the option of subscribing to a demand response contract, enabling a reduction in electricity consumption at EDF's request in exchange for remuneration. This offering may apply to all EDF customers supplied with high voltage, whether they are industrial or tertiary consumers. This load shedding for large customers ensures that the supply-demand balance is maintained, and therefore that customers, including private customers, continue to be supplied in the event of very high demand.

Innovative solutions for storage

One of the actions implemented was the storage development strategy initiated in 2018. This concerns the Group worldwide, with projects completed and under way in several countries such as France, the United Kingdom, the United States, Saudi Arabia and South Africa. The Group's customers are involved in this action as some projects involve storage on their site. The Group's other storage projects are STEP (pumped-storage hydropower plants), hybridisations of batteries with renewable energies or batteries directly connected to the grid. To date, the Group has commissioned battery installations in the United Kingdom and the United States for 140MW, and has secured the development of projects for a volume of 0.9GW.

Innovations to manage energy consumption

One of the actions implemented was carried out by Datanumia, a wholly-owned subsidiary of EDF, an expert in data recovery, developing innovative digital solutions to monitor and optimise energy consumption and the carbon footprint of individuals and professionals in the tertiary sector, industry and local authorities. Leveraging Datanumia's expertise, the Group has developed a multi-fluid and multi-site energy management platform, which constitutes a veritable dashboard for its business customers, enabling them to save energy.

Dalkia Analytics offers an energy and environmental performance management service for sites facing industrial challenges, enabling the identification of new energy saving opportunities through artificial intelligence. This action also aims to support ISO 50001 certification and decarbonisation initiatives. To date, the Group has rolled out this offering at more than 100 sites.

Energy efficiency is a crucial energy transition lever in the island systems. EDF contributes to the elaboration and implementation of the local energy demand management strategy. A key tool supporting this strategy is capital grants, with over €600 million approved by the CRE for the period 2019-2023. EDF actively promotes the demand management operations funded by these grants for all types of customers, notably through the "Agir Plus" label. EDF SEI is finalising the rollout of 1.2 million digital meters in the French overseas departments (excluding Mayotte) by the end of 2024 (and in Corsica by the end of 2025). This represents an investment of around €270 million. These smart meters will contribute to an in-depth modernisation of customer relations and strengthen the drivers of the energy transition.

3.3.5.1.4.3 Technical and financial innovations

EDF's objective is to provide its customers with sustainable electricity at a competitive price and to support them in reducing their consumption, while facilitating the management of networks.

For the individual customer market in France, the retailer EDF supplies electricity at the regulated sales tariff (French TRV) and through a complete range of market offerings, adapted to customers' expectations and their consumption profiles. This range is structured around two types of market offerings:

- the "Green Electric" range (Green Electric, Green Electric Weekend, Green Electric Auto and Green Electric Regional) helps to finance and support renewable energy generation in proportion to customers' consumption, using renewable energy guarantees of origin;
- the "Zen Electric" range provides customers with supply offerings adapted to their consumption profile and their lifestyle ("Zen Week-end" and "Zen Week-end Plus", "Zen Week-end option Flex", a load shedding market offering, "Zen On Line" and "Zen Fix", with a fixed price per kWh excl. tax for two years).

On the business market, customers eligible for the regulated sales tariff, including, from 1 February 2025, all very small businesses and assimilated entities, including for their sites > 36 kVA, can benefit from these offerings. Moreover, EDF provides a range of market offerings for all non-residential consumers. In order to provide visibility and stability for its customers, EDF's current offerings cover a period of up to five years and also include nuclear generation allocation contracts (CAPN). EDF is also diversifying its range of supply offerings through sectoral offerings that meet specific customer expectations. EDF is also developing Power Purchase Agreement (PPA) type contracts or contracts that complement collective self-consumption.

Lastly, EDF provides a range of services to monitor and manage energy consumption, and to support residential and non-residential customers in reducing their consumption.

3.3.5.1.4.4 Adjustment of distribution networks

Adapting distribution networks to climate change plays a key role in ensuring the continuity and supply of electricity. The actions implemented are presented in detail in section 3.2.2.2.2 "Climate change adaptation", paragraph on the "Adjustment of distribution networks".

3.3.5.1.5 Targets and indicators relating to electricity continuity and supply

To ensure that the quality of the service provided by the operators reaches a satisfactory level for consumers and end-users, the CRE[1] has established a set of performance indicators to monitor and evaluate the operators' service quality.

The key indicator to measure the quality of the network is the average annual outage duration per connected consumption installation.

Also called SAIDI or Criterion B, this quality indicator is adopted by all electricity distribution system operators. This indicator helps demonstrate the quality of service of electricity distribution to the end consumer and serves as a criterion for inter-comparison among the various electricity operators. It excludes exceptional incidents and outages related to the transport network.

(1) Since its creation on 24 March 2000, the French Energy Regulation Commission (CRE) has overseen the due functioning of the electricity and gas markets in France, for the benefit of all consumers.

The target selected for the interconnected zones indicator is the regulatory target defined by the CRE for Enedis. The target of 62 minutes for the average annual duration of outages experienced by low voltage customers (SAIDI indicator/Criterion B) ensures that Enedis provides a quality electricity distribution service and guarantees energy supply for its consumers. This target was set by the incentive regulation as part of the TURPE.

ES is not affected by the incentive regulation for this Criterion B, due to its very efficient results (notably thanks to the nature of the urban and underground network). In 2024, the average annual outage duration for ES low-voltage customers was 6 minutes. The regulatory target must therefore only be compared with Enedis's performance.

The target selected for the non-interconnected areas indicator is the regulatory target defined by the CRE for EDF SEI.

Sustainability matters	Related indicators	Target	Reference	Review	Scope	2023 performance	2024
Electricity continuity and supply	Average annual duration of outages experienced by Low-voltage customers for interconnected zones	62 minutes	348 minutes in 1980	Annual	Mainland France	72.9 minutes	71.6 minutes
	Average annual duration of outages experienced by Low-voltage customers for non-interconnected zones	220.2 minutes	The CRE's annual deliberation	Annual	France (Corsica and French Overseas Departments and Collectivities)	276.6 minutes	264.1 minutes

In 2024, Enedis recorded an average power outage duration of 71.6 minutes, . exceeding the target set at 62 minutes by the incentive regulation under the TURPE. This rise is mainly due to a succession of climatic hazards (storms, thunderstorms, floods). To deal with these hazards, resilience programmes are being scaled up, which in the short and medium term is reflected in an increase in work interruptions. This increase is also accentuated by projects related to the connection of renewable energy sources.

In 2024 for EDF SEI, the average outage duration for low-voltage customers was 264.1 minutes, exceeding the target set by the incentive regulation under the TURPE due to multiple factors: climatic hazards, temperature fluctuations and impacts on underground networks, social crisis with more difficult access conditions, multiplicity of construction work.

3.3.5.2 Combating energy poverty

3.3.5.2.1 Policy on combating energy poverty for consumers and end-users

Difficulties in accessing energy and the persistence of energy poverty continue to worsen across most developed countries, both in terms of the number of households affected and the severity of the impacts experienced. Vulnerability depends on a variety of factors, including geographic location, household income, the size and type of housing, and the source of energy used. The COVID-19 pandemic further exacerbated an already growing issue.

Measuring energy poverty remains complex and varies significantly between countries. In France, the National Observatory of Energy Poverty, of which EDF is a partner, reported that in 2021, 11.9% of the most disadvantaged French households spent more than 8% of their income on home energy bills. Furthermore, during the winter of 2022-2023, 26% of the population reported experiencing cold in their homes for at least 24 hours.

Although less well-known and poorly documented, summer energy poverty is also a growing concern in the context of climate change According to the French Energy Mediator's barometer, 55% of French people stated they had suffered from heat in their home for at least 24 hours with one in four French people suffer from it frequently during the summer, and 16% reporting near-continuous discomfort throughout the summer[1].

In the United Kingdom, the indicator published by public authorities showed that, as of early October 2024, 6 million households were experiencing energy poverty. In contrast, Italy and Belgium currently lack both an official definition and a dedicated indicator for this issue.

Pursuant to Article 1 of the Law of 10 February 2000, the public electricity service contributes to social cohesion and the fight against exclusion.

As part of the public service contract signed on 24 October 2005 by the French State and EDF (see section 3.3.5.1 "Electricity continuity and supply"), EDF SA undertakes to:

- informing consumers about the rules for using the temporary supply maintenance scheme for people facing energy poverty (for more details, see section 3.3.5.2.4.6);
- provide a local contact specially dedicated to customers in difficulty in order to better support them and collaborate with them to find solutions, in partnership with social services and charities;
- carry out a price assessment in order to optimise the prices for customers in difficulty and provide guidance to help them manage their energy consumption more effectively.

Electricity is a basic necessity that must be accessible to all and in all regions. The Group, based on its public service values, aims to provide competitive and sustainable electricity, seeking to balance the various fundamentals of its business model. In view of the observed intensification of the problems of access to energy and energy poverty, the EDF group renews its commitment to its customers facing energy poverty, by increasing awareness of this diverse and complex reality, by rolling out support solutions around public solidarity schemes and specific initiatives, and by developing all forms of social innovation.

The Group entities concerned implement support systems adapted to the situation of their customers.

3.3.5.2.1.1 Preventing and combating energy poverty

Across diverse national contexts in terms of regulation, economics, politics and competition, the EDF group is committed to preventing and combating energy poverty alongside public and social players and associations.

The EDF group's approach is to understand energy poverty in order to take more effective action in the following four areas:

- information and advice;
- services to manage energy consumption;
- aid for the payment of energy bills or renovation work;
- payment terms.

(1) Ademe, Sobriety and Lifestyles Barometer, 2024

In France, this approach is reinforced by an additional commitment that replaces the cut-off for unpaid bills by a power limitation when this is technically feasible.

3.3.5.2.2 Dialogue process on combating energy poverty for consumers and end-users

3.3.5.2.2.1 Combating energy poverty

Pimms mediation and social mediation

EDF is involved in numerous social mediation structures throughout France, including some forty "Pimms médiation" (multi-service information and mediation points). As part of its partnership with the national conciliation network Pimms, EDF participates among others in the development of mobile Pimms (itinerant multiservice points), providing humane neighbourly responses to the everyday needs to residents in remote areas far from city centres.

Électricité de Strasbourg provides the same support for its customers facing energy poverty.

In Belgium, the United Kingdom and Italy, Luminus, EDF Energy and Edison are implementing strategies to help customers manage their consumption and prevent the accumulation of debt. In Belgium, Luminus uses applications to monitor consumption in real or near real time and proactively contacts customers with high annual invoices to offer staggered financing solutions. In the United Kingdom, EDF Energy uses the Right Track platform to tailor communications and the handling of requests to individual customer needs, using a variety of contact channels such as email, SMS, post and telephone calls. Communications are designed to be clear and understandable and are reviewed by specialised teams to ensure effectiveness. In Italy, Edison has developed the Coco app to enable customers to monitor and analyse their energy consumption: alerts can also be sent in the event of significant changes. These approaches show a shared commitment to transparency and proactive support, while adapting to the specific needs of customers.

For more information, see section 3.3.5.2.4.2 "Information and advice for vulnerable customers".

3.3.5.2.3 Procedures for redressing negative impacts and channels for consumers and end-users to raise concerns about energy poverty

See the description of the negative impact remediation procedures and channels for consumers and end-users to raise concerns in section 3.3.5.1.3 "Procedures for remedying negative impacts and channels for consumers and end-users to raise concerns about electricity continuity and supply". This description also applies to other sustainability issues. EDF Energy, Luminus and Edison also provide their customers with contact options when needed.

3.3.5.2.4 Actions to manage the impacts and risks identified for consumers and end-users in relation to the fight against energy poverty

3.3.5.2.4.1 Understanding energy poverty

EDF's initial efforts consist of gaining a better understanding of the complexity of energy poverty situations to more accurately identify the customers most at risk and therefore be able to provide more effective support. EDF is leading the "Energy poverty & social innovation" R&D programme, which aims to enhance understanding of vulnerable customers, innovate new products and services, inform strategic positioning and promote solidarity actions both internally and externally. This programme mainly concerns EDF and its most vulnerable customers. The EDF group also collaborates with regional players in France, notably by participating in the work of the National Energy Poverty Observatory (*Observatoire national de la précarité énergétique* - ONPE), which makes available the GEODIP (Geolocalising Energy Poverty) tool to visualise areas of energy poverty linked to housing and household car use.

3.3.5.2.4.2 Information and advice for vulnerable customers

Solidarity is a core value of EDF, which has been implementing a dedicated policy for economically disadvantaged customers for nearly 30 years. Through its 230 solidarity experts and more than 3,000 partnerships, EDF works daily with social workers, charities and social mediation entities to implement customised solutions for customers in difficult situations.

The EDF group has set up active and continuous communication through various channels to provide more effective support for its most vulnerable customers. The main action consists of providing information on the procedures and the rights of these customers, as well as advice on adopting eco-friendly habits, such as the #GestesUtiles programme "I turn off, I lower, I defer" during the winter of 2022-2023, taking out an adapted energy supply contract, such as the one proposed by the Fair Price Board of EDF SEI, or considering energy renovation work, for example with the Agir Plus offers provided in island regions to these customers.

The Group has dedicated teams focused on supporting vulnerable customers and has established numerous partnerships with social assistance organisations such as the Communal Social Action Centres (Centres communaux d'action social), charities and mediation structures.

In France, 5,000 Customer Relations advisors are made aware of and trained in energy poverty situations. They detect the first signs of hardship and offer the first forms of assistance. The EDF advisor checks that the customer receives the correct rate based on their consumption habits and that the bill reflects the accurate index. The advisors provide personalised guidance to customers on how to reduce their energy consumption and discuss suitable payment arrangements. They also inform customers about available energy vouchers and refer them to additional support services where appropriate.

230 EDF Solidarity Experts, dedicated to solidarity, collaborate directly with social action organisations to provide the most effective possible support to the most vulnerable customers.

EDF Energy advisors can offer customers a range of payment methods and options. Customers have the choice of repaying their debt through a Repayment Plan *via* Direct Debit, Cash Cheque (which includes online payments, IVR, payment cards and cheques), or an elective move to PAYG. The timing for the Repayment Plan is adjusted according to their financial capacity.

Should a customer struggle to meet ongoing payments and/or debt repayments, EDF Energy offers a range of tailor-made support packages (see payment aid).

In Italy, Edison has introduced concrete measures to support households adversely affected by rising energy prices, such as the possibility of applying bill instalment plans – even for bills that are not yet due – with greater flexibility than the regulations require, and without charging interest. Courtesy reminders are sent to customers to remind them of the due dates of payment plans and extensions of the period are granted to customers who are late. For customers in difficulty, Edison Energia was able to offer tailor-made instalment payment plans to meet the needs of households.

Edison has partnered with Banque de l'Énergie to provide broad support to the most vulnerable residential customers. In 2022, it joined the Manifesto Fighting against Energy Poverty with a first project in 2023, and additional projects in 2024, including solidarity energy communities. Edison also decided to contribute to the activities of the Fondation Banque de l'Énergie with a three-year commitment, holding a position on both the Board of Directors and the Steering Committee.

3.3.5.2.4.3 Services to manage energy consumption

EDF provides services to reduce and optimise energy consumption in order to reduce customers' energy bills. These services also contribute to the deployment of an energy sufficiency policy. These actions include:

- promoting free consumption monitoring tools, such as the EDF&MOI app, EDF Dom&Corse and the customer space, which provide an overview of consumption in euros and kWh;
- offering energy renovation work, such as insulation, implementing efficient and low-carbon heating solutions, installing solar panels for self-consumption in Italy or installing solar water heaters, high-performance air conditioning systems and ventilators in the French overseas departments.

Examples of actions to reduce energy consumption

- Info Watt

Since 1 October 2022, for customers benefiting from energy vouchers, and equipped with a communicating meter, EDF proposes its "Info Watt" service, in response to the legal obligation on this matter. This is a free-of-charge service affording real-time display of electricity consumption, in euros and in kWh. This system identifies the most energy-consuming appliances and habits. Thus, each Info Watt beneficiary has no difficulty in being aware of his/her consumption, adapting habits by means of eco-practices, controlling consumption and making savings on bills.

- Unis-Cité partnership

As part of the "Solidarity" programme, Unis-Cité mobilises 370 young people in civic service. Their mission consists of raising awareness among the most vulnerable households about the challenges of the energy transition, supporting them in controlling their energy consumption, helping to identify people experiencing energy poverty, and providing information on the existing preventive (Ma prime rénov) and remedial (Chèque énergie) support measures by actively reaching out to individuals and offering them guidance.

- *Association nationale des compagnons bâtisseurs* partnership

EDF has formed a partnership with the French National Association of Master Builders (Association nationale des compagnons bâtisseurs) to run training sessions on eco-friendly actions for the regional associations and for residents of priority urban neighbourhoods (Quartiers prioritaires de la ville–QPV).

- SLIME 2 programme

In Reunion Island, EDF carries out awareness-raising and demand-side management (DSM) diagnosis actions for households facing financial hardship. These actions are carried out in partnership with regional government *via* the Local Intervention Services for Energy Management (SLIME 2 in French).

- "Smarter" networks

For the Low Voltage (LV) network, the deployment of smart meters by Enedis now enables us to have a real-time vision of the electricity characteristics at each delivery point. In areas not interconnected with continental Metropolitan France, as well as outside Europe, Enedis and EDF are continuing to install connected electricity meters, allowing consumers to monitor their electricity consumption.

These various actions aimed at improving energy consumption are carried out in the Group's various regions and are part of the local regional and NGO contexts. These actions are intended to be continued in the coming years and to be adapted according to local needs.

Examples of home improvement initiatives

- *Toits d'abord* programme

EDF and the Foundation for housing disadvantaged people (*Fondation pour le logement des défavorisés)* run the Roofs first (*Toits d'abord)* programme aimed at building and rehabilitating housing occupied by people with very modest incomes. In 10 years, the programme has made it possible to build 6,000 energy-efficient housing units and to rehouse 13,000 particularly vulnerable people. In 2023, the programme was extended for another three years, with EDF contributing €6.4 million from 2024 to 2026.

- *Territoire zéro exclusion énergie* programme

EDF supports the *Territoire zéro exclusion énergie* ("Zero Energy Exclusion Territory") programme run by the Stop à l'Exclusion Énergétique association, which aims to renovate 3,000 heat sink housing units occupied by the most vulnerable households over a three-year period. EDF is the primary founder, contributing €7 million between 2024 and 2026.

- EDF Energy bonus

In France, this support offer assists with energy-saving renovations. It is part of a public system, which has been enhanced under the Recovery Plan.

- *Mon chauffage durable* offer

The *Mon chauffage durable* ("My Sustainable Heating") offering is a mechanism that allows the replacement of fossil fuel boilers with heat pumps, or electric radiators with efficient and intelligent radiators. This offer is part of the *Coup de pouce chauffage* ("Heating Boost") scheme launched by the French government in 2019. For a heat pump, EDF exceeds the regulatory requirements, offering additional premiums in 2024.

- Complete renovation offer

Since 2022, EDF has expanded its energy renovation support by launching its *Rénovation globale* ("Complete Renovation") offer, enabling all owners of single-family homes to fully renovate their housing, within a secure framework, targeting at least a 55% reduction in energy consumption compared to pre-renovation levels.

- *Agir Plus* offer in French overseas departments & Corsica[1]

The Agir Plus offers are designed to help customers with their energy renovation work by providing advice and financial support. They are carried by a set of qualified and certified RGE (Recognised Guarantor of the Environment) EDF partners.

- Ashoka Partnership

In response to the energy crisis, EDF has strengthened its communication and awareness-raising efforts targeting the most vulnerable populations. These efforts aim to promote best practices in energy consumption, provide clear information on available financial assistance, and help prevent payment arrears and difficult situations.

To meet these challenges, EDF partners with two Ashoka Fellows, Réseau Éco Habitat and Voisin Malin, who contribute to identifying success factors and effective strategies for engaging and supporting vulnerable individuals in their energy transition.

- Alogia offer

EDF and its partner Alogia are committed to support senior citizens through the energy transition. This offer, aimed at social-housing landlords, addresses two important societal challenges: helping seniors stay in their homes by improving comfort and safety, while also combating energy poverty.

(1) reunion.edf.fr/particulier/realiser-des-economies-d-energie/se-lancer-c-est-facile-et-accessible-2

- Energy Company Obligation

In the United Kingdom, the energy company obligation (ECO4) is a government obligation imposed on energy suppliers targeting only vulnerable customers. It runs from April 2022 to March 2026 and encompasses both measures to reduce carbon emissions and to fight energy poverty by improving energy efficiency. The objective of the programme is to improve energy efficiency and reduce heating bills for consumers living in energy poverty. Suppliers must install several measures in the houses to ensure that the DPE of consumers is improved by at least two levels. EDF Energy is at the forefront of the implementation of this obligation and is on track to comply with the system before its end date.

In 2023, an additional obligation was imposed on suppliers with the launch of the Great British Insulation Scheme. This programme offers individual insulation measures to low-income households owning properties in certain housing tax brackets. This programme has proven to be more difficult to implement than ECO4 due to the economic viability of the insulation works of many properties that cannot be carried out within the cost budget determined by the government. Nevertheless, EDF obtained and continues to obtain results significantly higher than those of the sector during the first year of the programme. At the same time, EDF Energy has been at the forefront of proposing changes in the programme to the government in order to allow economically viable houses to receive insulation measures. A consultation with the British government is expected on the changes for the final phase of the programme starting in 2025.

3.3.5.2.4.4 Payment support

EDF is actively working to help its most vulnerable customers manage their energy or housing-related expenses through various initiatives. The actions carried help prevent situations of energy poverty. The EDF group is taking action to ensure that the electricity bill does not constitute an additional aggravating factor for the most vulnerable customers. To achieve this, EDF provides enhanced support for public schemes or on its own initiative by deploying specific actions.

Depending on the situation, EDF provides:

- financial aid for people experiencing difficulties in paying for their housing expenses as part of a contribution to the French Housing Solidarity Fund (Fonds solidarité logement - FSL). With €224 million paid in 2024, EDF is the largest contributor to the FSL, after government agencies;
- reductions in energy bills, such as the "Edison Cashback programme" in Italy, which offers reductions in exchange for the use of an energy consumption monitoring app and electronic billing;
- enhanced support for people who benefit from the energy voucher in France;
- bonuses as part of national energy-saving programmes, such as energy saving certificates, *Précarité Énergétique* in France or "The Energy Company Obligation" and "The Great British Insulation" in the UK;
- the adjustment of monthly instalments to minimise the risk of an unforeseen adjustment in the annual invoice;
- customised bill instalment plans for Edison;
- bonuses in addition to premiums, for example the "sustainable heating" offering, which complements the "boost" bonus;
- an energy donation in France;
- ranges of tailor-made support packages for EDF Energy, including temporary support credit, a temporary debt repayment freezes, debt cancellation ("Fresh Start") and ongoing support *via* top ups ("Helping Hands") and referrals to the EDF Energy Customer Assistance Fund.

3.3.5.2.4.5 Payment terms

To assist its customers facing temporary or structural financial difficulties that may lead to energy poverty, the EDF group offers flexible payment solutions. These solutions may include payment delays, and, in some cases, even debt write-offs, an approach EDF Energy has implemented under specific conditions through the "Fresh Start" programme since the 2022 crisis. These measures can be put in place when payment difficulties are brought to the attention of EDF customer service, helping to prevent customers' excessive debt while ensuring continued access to energy and maintaining EDF's solvency.

3.3.5.2.4.6 Power limitation in France

In November 2021, EDF committed itself to no longer requesting that electricity be cut off for unpaid bills from residential customers in France. With this measure, EDF goes further than its regulatory obligations outside the winter grace period by replacing the cut-off with a power limit of 1kVA. This measure took effect on 1 April 2022 and is applied in all cases, unless it is physically or technically impossible to limit the power of the home's electricity supply. In 2024, 427,000 customers were affected by a power limitation. In the spring of 2023, EDF partnered with the *Fondation pour le logement des défavorisés* to survey households with unpaid bills which had lived under a power reduction. The results revealed that, when properly informed beforehand, a large percentage of households—despite facing financial hardship—understood and accepted the transition from an outright disconnection to a reduced power supply. While not a comfortable situation, this approach maintains customer accountability by encouraging individuals to proactively contact EDF to find a solution tailored to their circumstances. The measure has been widely welcomed, as it guarantees continued access to essential energy for basic daily and social needs, while also giving social support organisations more time and flexibility to assist affected households in finding sustainable, long-term solutions.

3.3.5.2.5 Targets and indicators related to the fight against energy poverty

The effectiveness of actions aimed at avoiding energy poverty is monitored through the number of avoided power limitation cases in France or outages for non-payment in other countries. When customers adhere to their agreed payment deadlines, they not only manage to absorb their debt related to their energy bill but also avoid a power limitation if they live in France and a disconnection in other countries.

In addition to all the actions carried out by the EDF group in terms of solidarity and social innovation, this performance indicator measures the Group's ability to alleviate and reduce challenging situations such as power limitation or, more critically, disconnection for non-payment.

This new Group performance indicator replaces the previous performance indicator, *i.e.* the number of advisory actions carried out with customers as part of the Energy Support system, which only applies to the EDF Commerce scope in France.

For this year, the results are only presented for mainland France; the other entities concerned by this indicator will present their results in 2025.

This is a specific indicator for the EDF group.

A target will be defined for this performance indicator based on the results obtained in 2024 and 2025 in consultation with the entities concerned who interact with their customers and consumers.

Sustainability matters	Indicator	Target	Review	Scope	2024
Social inclusion of consumers and/or end-users	Number of non-payment power limitations avoided compared to the number of non-payment power limitations implemented	To be defined in 2026	Annual	Mainland France (EDF SA and ES)	Number of power limitations implemented: 426,938 Number of power limitations avoided: 398,612

In 2024, without the payment aids and support put in place by EDF and Électricité de Strasbourg, the number of power limitations suffered by customers would have been almost twice as high.

3.3.5.3 Respect for privacy/Personal data protection

3.3.5.3.1 Privacy policy/personal data protection for consumers and end-users

Particular attention is paid to the protection of the personal data of EDF customers but also of employees, service providers and employees. It notably aims to guarantee the compliance of personal data processing pursuant to EU Regulation 2016/679 of 27 April 2016, known as the General Data Protection Regulation (GDPR). Regular controls, with the support of the legal and cyber teams, are carried out each year, either by the Data Protection Officer directly, or by their local contacts to maintain this compliance and ensure the implementation of an appropriate level of data protection.

EDF's commitments in terms of respect for privacy and protection of personal data are formalised in the instruction note on protection of personal data, which is attached to the Group's Ethics and Compliance and Information Systems Governance and Digital Transformation policies. In France, EDF had already appointed a "*Correspondant Informatique et Liberté*" (CIL) as early as 2006. In 2018, EDF appointed its Data Protection Officer (DPO), pursuant to the RGPD regulation, and commissioned them as Data Protection Officer for EDF and Lead DPO for the Group. The DPOs ensure compliance with the regulations on the protection of personal data at the Group, and notably the protection of customer personal data. For their work, the Lead DPO has contacts at all EDF entities. Around twenty Data Protection Officers (DPOs) have been appointed in the subsidiaries in France and Europe, where required. Additionally, an "Interlocuteur Informatique et Libertés" (I2L) has been appointed as the GDPR contact within each EDF department. These commitments apply across all activities, throughout the entire value chain, and to all stakeholders — with no specific exclusions — and are applicable worldwide. Responsibility for implementing these commitments lies with the Company's Legal Representative, namely the Chairman and Chief Executive Officer of EDF, and is delegated through the established chain of authority. The Data Protection Officer (DPO), supported by the I2Ls, advises data controllers, monitors the implementation of the commitments, and co-develops the action plans required to enhance compliance. The DPO also submits biannual compliance reports to the Executive Committee.

3.3.5.3.2 Dialogue process with consumers and end-users in relation to privacy/personal data protection

Interactions with consumers and end-users concerning the protection of their personal data are processed through all communication channels. Processes are in place to handle requests relating to the exercise of data protection rights and to ensure that individuals are fully informed — whether through EDF advisors or via the digital tools provided to customers. Consumers and end-users are encouraged to use EDF's digital platforms (such as the EDF website and the "EDF et MOI" mobile app) to manage their personal data and maintain control over their information. Recent statistics show that more than 10.5 million customers connect to digital services at least once a year. More than 2.2 million of them logged on to consumption monitoring tools at least 24 times during the year. On average, users connected a little over 26.5 times per year. This upward trend continued in 2024, reflecting a growing customer commitment to managing energy use and lowering their energy bills.

3.3.5.3.3 Procedures for remedying negative impacts and channels for consumers and end-users to raise their privacy/data protection concerns

EDF's customers, as well as all the natural persons concerned, have the possibility to exercise their rights under the conditions provided for by regulations:

- the right to withdraw their consent at any time to any processing based on prior collection;
- a right of access as well as a right to rectification in the event that this information proves to be inaccurate, incomplete and/or out of date;
- a right to object to the use by EDF of this information, notably for commercial prospecting purposes, except when the data is required for the processing of a legal obligation or the performance of the contract between them and EDF;
- a right to have their data erased ("right to be forgotten");

- a right to limit the processing of their data. This right means that the processing of personal data concerning them is limited, so that they can be stored, but not used or otherwise processed;
- a right to data portability, applicable when data is processed based on the individual's consent or for the performance of a contract.

EDF provides them with several channels to exercise these rights by using the following means of contact:

- using a dedicated form from the customer area;
- by email;
- by post.

However, if they encounter difficulties, they can contact the Data Protection Officer by email or by post.

They also have the option of filing an appeal with the National Commission for Information Technology and Civil Liberties.

This information is specified in the information notices and personal data protection charters available on EDF's digital spaces.

3.3.5.3.4 Actions to manage the impacts and risks identified for consumers and end-users in relation to privacy/personal data protection

In order to ensure respect for privacy and personal data protection, a personal data protection compliance control plan is drawn up annually and presented to the Group's Governance. In addition to these control actions, all customer advisors regularly receive training in personal data protection so that they can respond to customer requests regarding the exercise of their rights in this area. The most complex requests are managed jointly with the entity's *Interlocuteur Informatique & Liberté* (I2L) and the Data Protection Officer (DPO).

As part of its commitment to respect for privacy and personal data protection, the EDF group offers specific training in IT safety for its employees. These training courses are adapted to different profiles, including users, project managers, application developers, and IT safety managers, among others.

3.3.5.3.5 Targets and indicators related to privacy/personal data protection

The EDF group is highly invested in issues related to the protection of its customers' data. A target and the corresponding indicator are being considered for the next publication in order to be able to report on the significant efforts made to guarantee a high level of data safety while taking into account the numerous regulations in force.

3.4 Information on business conduct

3.4.1 Description of the processes to identify and assess material impacts, risks and opportunities

Several business conduct issues concern the EDF group:

- systems put in place to ensure ethical business practices;
- relations with suppliers: the quality of the relationship between EDF and its suppliers is at the heart of the success of the Group's activities;
- crisis and safety management: if an exceptional incident happens, the crisis management measures can be costly, and may be above the costs of repairing the induced damages and the earnings losses due to the disruption to supply of goods and services by the Group;
- lobbying: the assessment of the EDF group's lobbying involves an annual review process that may trigger follow-up actions.

During the double materiality analysis carried out in 2023/2024, the following IROs were identified as material:

Caption	
🟡	Negative impact
🟢	Positive impact
🔴	Risk
🔵	Opportunities

Sustainability matters	Material impact	Description	Time horizon
Effectiveness and integrity of whistleblowing systems (see section 3.4.2.5)	🟡 Infringements of the rights of whistleblowers	The lack of effectiveness or integrity of whistleblowing systems leading to the identification of whistleblowers may infringe on the rights of the individuals concerned.	Short term
Management of relationships with suppliers (see section 3.4.3)	🟡 Deterioration of the financial health of suppliers	Any non-compliance with payment deadlines by the Group may deteriorate the financial health of certain suppliers.	Short and medium term
	🟢 Responsible purchasing	The company can contribute to the acceleration of the CSR issues of its suppliers, thus changing the practices of its ecosystem.	Medium and long term

Sustainability matters	Material risk or opportunity	Description
Governance[1] (see section 3.4.1.6.2)	🔴 Public policy risks	Public policies may impose strategic orientations that are not aligned with sustainable investment and divestment decisions in line with the evolution of the Group's business model, creating governance and financial risks for the Group.
	🔵 Public policy opportunities	Public policies aligned with the Group's strategic orientations and priorities can create market opportunities and make it easier to secure financing sources for the Group.
Lobbying ethics, compliance and transparency[1] (see sections 3.4.2 and 3.4.6)	🔴 Business ethics and transparency of lobbying practices	Lack of transparency in stakeholder engagement practices or violations of ethics (corruption and anti-competitive practices) and of the Code of Conduct by Group employees or upstream value chain employees, may lead to legal (investigations, regulatory non-compliance, litigation), financial (fines) and reputational risks.
Management of relationships with suppliers (see section 3.4.3)	🔴 Dependence on certain suppliers	Incidents in the supplier relationship or the Group's excessive dependence on certain suppliers may affect the continuity of operations.
	🔵 Quality of supplier relationships	A long-term, high-quality relationship with suppliers can lead to pooled gains on purchasing conditions, for example through framework contracts.
Safety and crisis management[2] (see section 3.4.5)	🔴 Operations and cybersecurity incidents	The Group could risk the loss of its operating license and many other financial consequences in the event of a serious operating incident or cyberattack. The continuity of nuclear activities could also be called into question in the event of a serious incident occurring in the context of the activities of another nuclear operator. This risk is further detailed in chapter 2 "Risks and control frameworks" (risks 1B and 1C)

(1) See section 3.1.5.3 "ESRS benchmark by sustainability issue" to find out the sub-themes and sub-sub-themes of the associated ESRS.

(2) Sub-theme defined by EDF.

Public policies, supplier relationships and ethical issues can have consequences for the Group. Group strategies that are not aligned with public policies can create risks, but conversely, aligned policies can create new opportunities. Whistleblowers, supplier relations, and compliance with the Code of Conduct are also important issues and can have financial and reputational consequences if poorly managed. A cyberattack could also have major financial and operational consequences. On the other hand, a good-quality relationship with loyal suppliers can lead to operational gains, and the company can contribute to improving CSR issues within its ecosystem.

The identification of risks, opportunities and dependencies related to the conduct of business was carried out based on internal and external sources, such as the Group's risk mapping and SASB sector reports. The Group also identified its business dependencies by conducting a dependency analysis of its value chains.

No significant current financial impact has been assessed for material risks and opportunities.

3.4.2 Governance and business conduct policies

3.4.2.1 The role of governance bodies in relation to ethics and compliance

[G1-1] For more information on the general governance of the EDF group, see section 3.1.2 "Governance".

The EDF group's Executive Committee is responsible for determining the orientations and priorities of the ethics and compliance programme, allocating the necessary resources and ensuring the monitoring and control of its implementation. The Board of Directors of EDF, through its Corporate Responsibility Committee, oversees the Company's incorporation of ethical and compliance considerations into its works. Every year, the Executive Committee and the Corporate Responsibility Committee also receive an activity report drawn up by the Group Ethics and Compliance Division (DECG).

Newly appointed directors receive training from the Director of the DECG when they take up their duties.

The Group Ethics and Compliance Division and its ethics and compliance network

Reporting to the General Secretary, the Group Ethics and Compliance Division manages and coordinates, in line with the Business Lines concerned, the implementation of the Group's ethics and compliance programme.

A network of around 50 Ethics and Compliance Officers (RECs) within the Group's various entities and subsidiaries, both in France and abroad, shares and deploys the Group's Ethics and Compliance Policy. The RECs participate in the Management Committees and report directly to the Group entities' executive managers.

EDF is a member of several anti-corruption groups and non-profits. In particular, in 2016, EDF joined Transparency International France, through which it participates in the Forum of Engaged Companies (*Forum des entreprises engagées*, or FEE), which promotes the highest standards of transparency and integrity.

3.4.2.2 Corporate Social Responsibility (CSR) policy

See details in section 3.1.3.6 "Corporate social responsibility policy".

3.4.2.3 Group Ethics and Compliance policy

The EDF group, while respecting the management independence of the regulated infrastructure operators, promotes a culture of integrity and applies a zero tolerance policy towards fraud and corruption. Ethical conduct in accordance with the law is the absolute rule for all Group employees, at all levels of the organisation, and without exception. The EDF group is committed to respecting and ensuring respect for human rights in all its activities and wherever it operates.

The Group Ethics, Compliance and Duty of Vigilance Whistleblowing Procedure is used to monitor the application of the Group's Ethics and Compliance policy.

The Group Ethics and Compliance Division implements the Group Ethics and Compliance policy based on the following guidelines:

Thirteen compliance programmes

The PECG lists the Group's compliance programmes as well as the main rules that senior executives must know, comply with and enforce in their entities. It was updated, and validated by the Executive Committee in January 2020.

It includes thirteen compliance programmes:

- preventing the risk of corruption and influence peddling;
- preventing conflicts of interest;
- combating fraud;
- complying with international sanction programmes;
- preventing harassment and discrimination;
- preventing market abuse;
- preventing the risk of money laundering and financing of terrorism;
- EMIR compliance[1];
- compliance with the REMIT regulation[2];
- preventing breaches of competition law;
- personal data protection;
- export control (dual-use goods);
- the duty of vigilance (covering environmental, human rights and health and safety issues).

Group Ethics Charter and its values

The Group Ethics Charter defines the shared values of the work collective. It places ethical requirements at the heart of the Group's responsibility and, in accordance with the Chairman's commitment, promotes ethical behaviours across all professional activities. The Group Ethics Charter focuses on the Group's three values, "Respect, Solidarity and Responsibility", each featuring four requirements. It is available in French and English on the EDF[3] website and in 11 other languages in which the Group works.

(1) European Market Infrastructure Regulation.

(2) Regulation (EU) No. 1227/2011, known as the "REMIT" regulation, on the integrity and transparency of the wholesale energy markets.

(3) www.edf.fr/sites/groupe/files/contrib/groupe-edf/engagements/Ethique%20Conformite/charte-ethique/20190416-edf_charte_ethique_fr_page_hd.pdf

3.4.2.3.1 Anti-corruption programme

In accordance with the Law of 9 December 2016 on transparency, combating corruption and the modernisation of the economy, known as the "Sapin II" Law, EDF set up an anti-corruption compliance programme taking into account legal requirements.

An Ethics and Compliance Code of Conduct included with the internal rules of procedure and a disciplinary mechanism

This Code of Conduct, which will be revised in June 2023 to take account of regulatory changes relating to the whistleblowing system, defines and illustrates, through practical examples, the various types of behaviour that employees are likely to encounter as a result of the Group's activity and organisation, and which should be prohibited because they are likely to constitute corruption or trading in influence. It sets rules for all the themes identified during the corruption risk mapping process. It prohibits facilitating payments, and restricts gifts and invitations. Breach of any of its rules may result in disciplinary sanctions. It can be viewed by employees and third parties on EDF's site in French and English[1].

3.4.2.3.2 Financial ethics

The Ethics and Compliance policy sets out the requirements to be followed to prevent market abuse, the risk of money laundering and the financing of terrorism. A Code of Ethics for Trading in Securities complements this policy. The Group Ethics & Compliance Policy specifies the requirements for compliance with the European EMIR regulation[2].

The implementation of this EMIR regulation by the EDF group, the implications for entities as well as the related processes and controls are described in the EDF group EMIR Policy Paper support guide.

3.4.2.3.3 Integrity and transparency of the wholesale energy market (REMIT regulation)

In accordance with the Group Ethics and Compliance policy and the Group REMIT instruction note, entities concerned must put in place a compliance programme for the European REMIT regulation (on the integrity and transparency of the wholesale energy market). A Group Compliance Officer is tasked with preventing risks of non-compliance, by developing an appropriate control environment. The operational adaptation of this regulation at the EDF group is implemented by the entities concerned through associated processes and controls. For EDF and the French subsidiaries, e-learning training has been available since 2019 on the Group's internal training portal. As of the end of 2024, 2,194 people had been trained through this system.

3.4.2.3.4 Preventing breaches of competition law

The EDF group has made the prevention of anti-competitive practices (cartels and abuse of dominant positions) a major issue for its employees. With this in mind, the Group has implemented a Competition Law Compliance Programme since 2010. The programme, which is binding on all employees, aims to ensure that all the operations of Group entities in France and worldwide comply with competition law. Any suspicion of anti-competitive practices may be reported under the whistleblowing system set up by the Group (see section 3.3.1.2 "The EDF group's whistleblowing system").

One e-learning awareness-raising course on competition law available on the Group's internal training portal brought together 584 participants in 2024. It is also included in the training course for directors of the EDF group, who also benefit from additional awareness-raising as part of a face-to-face module.

3.4.2.3.5 Export control and international sanctions

As part of its activities, in particular nuclear, EDF and its subsidiaries carry out various operations for their own needs, or those of third parties, requiring the use of goods and technologies, notably those with "dual use" ("DUG"), *i.e.* civil and military use. This may expose them to certain risks inherent to specific French, European and/or foreign regulations in this area, some of which have extraterritorial scope, and which may require obtaining a license/authorisation from the competent authorities prior to any transfer, export, re-export, brokerage or transit of such goods and technologies.

Some regulations, particularly in the United States, have introduced restrictions on access to goods and technologies applicable to foreign entities that may affect both DUGs and any other commercial goods.

The Group, or some of its partners, may be exposed, directly or indirectly, to sanctions programmes, in particular (i) international sanctions adopted by the United Nations Security Council, (ii) sanctions adopted by regional organisations such as the European Union, and (iii) sanctions adopted unilaterally by certain states, some of which have extraterritorial scope.

A Group Export Control and International Sanctions Department was set up in August 2019 to strengthen the Group's ability to comply with these regulations. A memorandum of instructions describing the compliance procedures to be implemented was adopted by the Executive Committee on 4 May 2020.

In April 2022, the Export Control and International Sanctions Department set up two e-learning modules on "export control" and "international sanctions" in French and English, accessible to all Group employees *via* the Group's internal training portal. At the end of 2024, nearly 1,400 Group employees had received training, mainly *via* these e-learning modules, in addition to those trained by the Export Control and International Sanctions Department, in targeted face-to-face sessions or Teams.

3.4.2.4 Tax policy - Contribution to development through taxation

EDF has implemented a Group tax policy to define the applicable principles, in terms of taxation, to all of the Group's relations[3] with its financial or business partners and the government or tax authorities. The tax policy, approved in 2017 by the Executive Committee, is overseen by the Group Senior Executive Vice-President in charge of the Performance, Impact, Investments and Finance Department. For more information, a report on the Group's tax transparency is available[4].

3.4.2.4.1 Group tax policy

A wide scope

The policy covers all the Group's taxes: direct and indirect taxes, duties, contributions, any tax or customs deductions which are ultimately the responsibility of the Company or its customers (when EDF merely acts as a collector on behalf of third parties).

(1) avere.org/wp-content/uploads/2019/02/the_electrification_alliance_-_declaration-2017-030-0453-01-e.pdf (Electrification Alliance Electricity for an Efficient and Decarbonised Europe).
(2) European Market Infrastructure Regulation.
(3) With the exception of regulated infrastructure managers, for whom it represents a guide.
(4) www.edf.fr/sites/groupe/files/2024-12/2024-12-23-rapport-transparence-fiscale-2023.pdf

This policy must be applied at the Group, by all controlled entities regardless of their nature or geographical location, with the exception of regulated infrastructure managers, for whom it constitutes a guide. Group staff must comply with this policy, which aims to reduce the tax risks to which they are exposed through their activities.

The policy follows the following guidelines:

- strengthen the tax performance of the Group in strict compliance with national and international tax laws and regulations;
- control tax risks through continued, systematic improvement, in all Group entities, of the identification and management of fiscal risks;
- implement the tools, reporting and actions necessary for the continued, optimum, forward-looking management of tax cash flows, as well as attentive and proactive monitoring of the Group's effective tax rate[1];
- ensure the conditions necessary for obtaining constructive relations with the tax and government authorities of all kinds by maintaining a transparent, professional relationship with them.

Ethical principles

In the context of the allocation between countries of operating margins internal to the Group, EDF strives to apply a transfer price policy in accordance with the principles of the OECD to justify the resulting revenues. EDF has no legal implantation in a territory listed as a non-cooperative state or territory as defined by French and international legislation which is not determined by economic activity reasons and under no circumstances purely by tax reasons. Similarly, cash flow through these countries is prohibited where it is for tax reasons only.

Presence in Luxembourg and Ireland

Like all major French and international groups, EDF relies on captive and mutual insurance companies to supplement the cover provided by traditional insurance markets. The captive and mutual insurance companies enable EDF to reduce the cost of its insurance schemes and the total sum of premiums paid. EDF has three captive insurance companies, based in Ireland and Luxembourg:

- Wagram Insurance Company DAC (wholly-owned by EDF), an insurance company founded in 2003 in Dublin which is involved in the majority of the Group's insurance schemes;
- Océane Ré (wholly-owned by EDF), a reinsurance company founded in 2003 in Luxembourg to reinsure EDF's nuclear civil liability risk;
- Tereco I and II (wholly-owned by Framatome), a reinsurance company within the Framatome consolidation scope located in Luxembourg, to reinsure a portfolio of risks including that of Framatome's nuclear civil liability.

3.4.2.4.2 Taxes paid by the Group

At the end of 2024, as in 2023, the Group electronically transmitted its country-by-country reporting for the 2023 financial year to the French tax authorities, in accordance with the provisions of Article 223 *quinquies* C of the French General Tax Code.

In 2024, the EDF group incurred taxes and duties amounting to €(4,142) million in EBITDA, a €78 million increase compared to 2023.

The income tax expense amounted to €(4,887) million in 2024, corresponding to an effective tax rate of 28.09%, compared with a tax expense of €2,470 million in 2023, corresponding to an effective tax rate of 25.13%.

The €(2,417) million change in the tax expense from 2023 to 2024 is analysed in section 6.1, note 9 "Income taxes" to the consolidated financial statements for the financial year ended 31 December 2024[2].

The income taxes paid by the Group amounted to €3,384 million, compared to €3,695 million in 2023.

The EDF group contributes to the development of France's regions by paying over €1,000 million a year in local taxes to local government.

3.4.2.5 Protection of whistle-blowers: mechanisms in place to identify, report and investigate non-compliance/unlawful behaviour

The whistleblower protection process is described in detail in section 3.3.1.2 "The EDF group's whistleblowing system").

3.4.3 Sustainable and balanced relationships with suppliers

The EDF group deploys a Responsible purchasing approach, which applies the Group's CSR policy (see section 3.1.3.6 "Corporate social responsibility policy") to all of its subcontractors. The application of corporate responsibility to suppliers is at the heart of the activities of all the Group's entities, through prescriptions, contractualisation, contract management, the management of industrial programmes and local presence.

Responsibility for contractualisation and contract management is divided across the Group between the entities themselves (business lines and projects), or by entities specialising in purchasing. In 2024, the entities specialising in the act of purchasing came together in a purchasing function, the aim of which is to harmonise practices throughout the Group and to generate synergies within this sector, in close collaboration with suppliers. The integration of CSR into purchasing is a structuring dimension of the purchasing function. The Group Purchasing Department manages the Group's purchasing function, while respecting the management independence of network operators. It comprises the purchasing functions of EDF SA (including the Nuclear Fuel Division), Dalkia, Luminus, EDF Energy, Hinkley Point C, Framatome, Enedis, Edison, EDF Renewables and Arabelle Solutions.

The purchasing sector includes around 2,100 buyers, working with around 150,000 active suppliers (having had a business relationship over the past five years) and addresses a total purchasing volume of €30 billion.

EDF's responsible purchasing policy is at the heart of the Group's social and environmental responsibility practices in its supply chain.

3.4.3.1 Responsible purchasing

The responsible purchasing approach covering all areas of CSR, the environment, human rights and health and safety discussed in section 3.3.3.4.2 "Responsible purchasing approach" describes the key actions implemented to ensure sustainable and balanced relations with suppliers.

Integration of responsible levers in the act of purchasing

When implementing purchasing contracts, the Group Purchasing Department ensures that financial balance is maintained with respect to suppliers, in particular through compliance with payment deadlines and pricing analysis and structuring actions.

(1) Tax cash: tax actually paid or recovered.
(2) https://www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/reports-and-indicators/non-financial-kpis/esg-indicators

Each buyer shall sign the mandatory ethical undertaking which lists the principles to be complied with in relationships with current and prospective suppliers.

The other levers are presented in section 3.3.3.4.2 "Responsible purchasing approach" in the section dedicated to workers in the value chain, as well as in the sections dedicated to environmental issues.

Support and monitoring of suppliers

The Group's purchasing functions have contacts dedicated to suppliers: the strategic managers, by purchasing category or supplier, who manage relations with the main contractual partners. Through regular reviews, the strategic managers support the supplier panel through risk analyses, progress plans and portfolio reviews. The position of strategic manager makes it possible to anchor the responsible purchasing approach at the heart of the contractual relationship.

Specific measures are taken to help SMEs gain access to the EDF group's markets, notably through the Pacte PME association. Additional information on this initiative is available in section 3.3.4.4.3 "Benefits for local populations".

The other support and monitoring systems are presented in section 3.3.3.4.2 "Responsible purchasing approach".

Management of relationships with suppliers

The Group's purchasing departments implement productivity partnerships with suppliers, so that investments and gains on performance improvement actions (including social and environmental performance) are shared. The regular reviews conducted by the strategic purchasing managers ensure constructive dialogue throughout the lifespan of the contracts.

The quality of the relationship between EDF and its suppliers is validated by obtaining the RFAR label (EDF has been certified since 2015).

Management of dependencies between EDF and the supplier chain

A parameter steered by strategic managers, the degree of dependency of the Group's suppliers is measured and collected in the supplier database. Support is provided for high levels of dependency, for example: to support the diversification of customers of a strategic supplier, or to manage the end of contracts.

Specific case of suppliers to the French nuclear sector

In 2024, in line with the Excel plan launched in 2020, the Engineering and Supply Chain Department (DISC) was created to continue the development of an efficient supply chain for nuclear projects. In particular, a collaborative approach with strategic and major suppliers is used.

With a view to having one in two employees working in the nuclear industry in 2030 and who are not yet in the sector, one of the challenges is to attract, train and recruit to ensure the availability of the skills necessary for the implementation of the Group's industrial projects.

EDF also decided to rely on the certification of a new quality standard adapted to nuclear suppliers, the ISO 19443 standard, which complements the ISO 9001 management standard with requirements specific to the nuclear sector (safety culture, identification of IPSN products and services - Important for nuclear safety - skills & qualifications, control of counterfeit, fraudulent and suspect items - CFSI, etc.). This certification is a guarantee of investment by all stakeholders in the fundamentals of nuclear quality and safety.

EDF encouraged suppliers of IPSN products and services to commit to this ISO 19443 certification. The EDF entities concerned have also signed up to this approach, together with its suppliers. With the support of GIFEN[1], which regularly communicates on the benefits of the approach, the certification process is being rolled out in the supply chain with nearly 200 French suppliers already certified (source NQSA[2]).

3.4.3.2 Payment practices

The Group complies with the regulatory payment terms of the countries in which it operates in order to prevent the deterioration of the financial health of suppliers. Additional initiatives such as the collaborative invoicing offering are put in place to maintain the financial health of suppliers and preserve sustainable business relationships. In particular, the Group offers its suppliers the option of using the reverse factoring system, a mechanism that allows suppliers to transfer their receivables from EDF to a factoring company. For the group, this programme does not involve any change in the substance or characteristics of the receivables that suppliers have on EDF. The related debts are therefore recognised in "trade payables" in the Group's financial statements. For payments in France, the target average supplier payment period is based on the LME Law[3], *i.e.* a maximum period of 60 calendar days.

Sustainability matters	Related indicators	Target	Review	Scope	2024
Management of relationships with suppliers	Number of days of supplier invoice payment deadlines	60	Annually	France, United Kingdom, Italy and Belgium.	In France: 60 days In the United Kingdom: 42 days In Italy: 38 days In Belgium: 46 days

(1) GIFEN: Groupement des industriels français de l'énergie nucléaire - French Nuclear Energy Industry Group (trade association)
(2) NQSA Nuclear Quality Standard Association: a non-profit association launched jointly by Framatome and Bureau Veritas in January 2011. Open to all major nuclear power plants, nuclear engineers and manufacturers, the NQSA promotes the application of the ISO standard and implements a nuclear-focused supplier assessment process.
(3) Law on the modernisation of the economy adopted in 2008, which aims to stimulate economic growth, the competitiveness of entities and the simplification of administrative rules by introducing measures on payment terms among companies.

Clarification of indicators

In accordance with regulations, the Group publishes (see below) its payment practices using a representative sample of the most significant EDF group entities in terms of supplier invoicing. In this respect, payment practices are described for France (including EDF SA, PEI, Edvance, G2S, Sofilo, Immobilière du Plateau, Framatome, Enedis, EDF Renewables, Électricité de Strasbourg and Dalkia), for the United Kingdom (including EDF Energy, Dalkia in the United Kingdom and EDF Renewables in the United Kingdom), for Belgium with Luminus and for Italy with Edison.

In France, the French entities (mentioned above) apply a contractual payment period of 60 days from the invoice issue date, in value terms, for approximately 79% of its annual invoices. They pay 11% of their supplier invoices within 30 days from the invoice issue date. And marginally, 4% of their invoices, in value terms, are payable in cash.

In France, the average time taken to settle the Group's supplier invoices is 60 days. This period is based on all invoices regardless of the contractual payment period and excludes intra-group invoices.

In the United Kingdom, Group entities with invoicing in the United Kingdom apply a payment term of 14 days from the date the invoice is issued or received, in value terms, for approximately 54% of its annual invoices; 16% of invoices, in value terms, are payable 60 days from the date of receipt of the invoice.

In the United Kingdom, the Group's average supplier invoice payment time is 42 days. This period is based on all invoices regardless of the contractual payment period and excludes intra-group invoices.

In Italy, Group entities with invoicing in Italy apply a contractual payment term of 30 days from the date of issue of the invoice, in value terms, for approximately 58% of its annual invoices; 25% of invoices, in value terms, are payable in cash. In terms of the number of invoices, Italy pays 79% of these invoices according to a standard deadline of 30 days from the deadline defined by the CADE resolution and the ARERA network code for the gas and electricity sector.

In Italy, the Group's average payment period for supplier invoices is 38 days. This period is based on all invoices regardless of the contractual payment period and excludes intra-group invoices.

In Belgium, Luminus uses payment terms that take into account the date of issue of the invoice or the date of receipt. In value terms, approximately half of the invoices are payable within 30 days (25% of the total number of invoices). Nearly 20% of the number of invoices are payable within 45 days; this represents only 5% of the total amount of invoices paid.

In Belgium, the average time for the payment of supplier invoices is just under 46 days. This term applies to all invoices, regardless of the contractual payment term, and excludes intra-group invoices.

To the Group's knowledge, there are three ongoing legal proceedings concerning late payments that may have occurred or have occurred during the last 12 months. None of these procedures had a significant impact on the Group's financial position or profitability as of 31 December 2024.

3.4.4 Prevention and detection of corruption

3.4.4.1 Anti-corruption programme

In accordance with the Law of 9 December 2016 on transparency, combating corruption and the modernisation of the economy, known as the "Sapin II" Law, EDF set up an anti-corruption compliance programme taking into account legal requirements and describing the key actions implemented as part of this programme.

Ethical whistleblowing system

The Group procedure for processing whistleblowing was reviewed during 2023, in order to factor in the developments entailed in the transposition in French law of the European Directive for whistleblower protection (see section 3.3.1.2 "The EDF group's whistleblowing system"). This same whistleblowing system is also open to third parties for issues covered by the "Duty of Vigilance" Law of 27 March 2017 relating to the duty of vigilance of parent companies and ordering companies.

Risk mapping

Ethics and compliance risk mapping is part of the Group Risk Division's annual internal control self-assessment process. Based on this, the EDF group entities draw up action plans appropriate to their operational contexts to prevent and mitigate these risks. Since 2018, a specific "corruption" risk map was prepared, which identifies and prioritises, by business sector and country, risks of exposure to corruption. In 2020, the methodology used for the mapping was improved, to enhance its focus on the operational specificities of the Group's various business lines and geographical locations.

Third-party integrity control system

The PECG requires the executive managers of the Group entities concerned to set up a system in their entities to control the integrity of the partners with which the Group intends to establish or continue a business relationship. The goal is notably to ensure that there is no risk of exposure to international sanctions, as well as to include, in each contract, a clause giving EDF or its subsidiary the right to immediately terminate the relationship in the event of non-compliance with an international sanctions programme. In 2021, this system was reviewed in line with the Group's corruption risk map.

Accounting controls

Control procedures, containing specific requirements for the detection and prevention of corruption, have been defined for the Group's various processes. Any anomalies likely to be characterised as fraud are forwarded to the entity's Ethics and Compliance Officer, following a technical analysis, where applicable.

Internal evaluation system

A system enables the entities to assess the level of implementation and the control of each key requirement, and to identify the improvement actions to undertake.

A system to prevent conflicts of interest

The entities have put in place a system designed to prevent conflicts of interest and raise employee awareness of high-risk situations, provide a system for employees to declare their links to organisations in which they have a personal interest, and require managers to resolve conflicts of interest with respect for individual freedoms. A support guide, including case studies to help managers identify and deal with conflicts of interest, was introduced in early 2021, and is also being used by RECs and managers to raise awareness among employees during dedicated meetings.

Combating fraud

In accordance with the "Combating fraud" memorandum of instructions, revised in October 2022 in order to simplify it and make it more workable, executive managers shall set up systems within their entities to raise awareness among their staff, put in place checks to detect potential cases of fraud, investigate incidents, report proven cases and sanction those responsible.

Training schemes

The Group Ethics and Compliance Division develops prevention and training actions for all staff at EDF and its subsidiaries (permanent and non-permanent employees – fixed-term contracts, temporary workers, service providers, interns, PhD students, etc.) and notably:

- a dedicated community on the Group Intranet providing a range of training materials;
- the introduction of e-learning training modules, in particular, an interactive training course on the code of conduct, in the form of two e-learning courses ("All employees" and "Exposed employees"), in French and English, enabling participants to deepen and test their knowledge (8,270 participants in 2024);
- targeted on-site training courses: generic training for new entrants to the ethics and compliance networks; for directors of subsidiaries or contract managers; and two training courses, in French and English, conducted by lawyers and targeting Group employees tasked with assessing third parties and with processing whistleblowing.

Additionally, the Group Legal Affairs Department and the Ethics and Compliance Department are also providing a "Preventing corruption and influence peddling" e-learning module, accessible to all employees on the e-campus platform, that teaches about how best to behave in situations relating to business relations, conflicts of interest, and gifts. It became mandatory for all employees moving to a new position exposed to corruption risks to follow an anti-corruption e-learning module (e-learning module integrated to the standard training given to managers, project managers, buyers and contract managers, etc.).

In 2024, 71.6% of employees exposed to the risk of corruption in the Group's main subsidiaries received training. Due to the Group's reorganisation in 2024, the recognition of employees on the EDF side was not possible for certain departments. The entire Group scope will therefore be taken into account in 2025.

Based on results across the entire Group scope, a target will be set for this indicator.

3.4.4.2 Incidents of corruption identified

The indicators relating to corruption are as follows:

- number of convictions for acts of passive or active bribery attributable to individuals or legal entities;
- amount of fines for breach of anti-corruption legislation;
- measure(s) taken to remedy non-compliance with anti-corruption procedures and standards and incidents of corruption. This indicator includes the measures put in place to remedy and prevent the repetition of such incidents (awareness-raising actions, amendment of prevention procedures, reinforcement of controls, etc.).

In 2024, there were no convictions for corruption offences involving legal entities or individuals. Consequently, information on remediation measures and the involvement of players in the value chain is not applicable.

3.4.5 Safety and crisis management

3.4.5.1 Crisis management and business continuity policy

The crisis management measures taken in the event of an exceptional incident can be costly, over and above the costs of repairing the damage caused by a disaster and the loss of earnings due to the disruption to supply of goods and services by the Group. EDF has a crisis management and business continuity policy to address this risk. This policy defines the organisational principles and arrangements required for its implementation. This policy is described in section 2.1.3 "Principal business control programmes".

3.4.5.2 The information systems and asset Security programme

Cybersecurity risk is one of the EDF group's major risks. For several years now, the EDF group has had an Information and Information Systems Security programme covered by the policies on asset Security against malicious acts, information systems Security, and IS Governance and digital transformation. This programme is described in section 2.1.3 "Principal business control programmes".

The main actions for cybersecurity risk control that were implemented in 2024 are described in section 2.2.1 "Operational performance risks", risk 1C "Risk of attacks against assets, including cyber-attacks".

3.4.5.3 Safety

The Group develops the highest standards in terms of nuclear safety and hydropower safety.

3.4.5.3.1 Hydropower safety

Hydropower safety at EDF comprises all the measures taken during the design, maintenance and operation of hydropower facilities to ensure the protection of people and property against water-related hazards caused by the presence or operation of the facilities.

The safety of people – general public, service providers and employees – is EDF's top priority. Hydropower safety is an imperative condition for the operation of the hydroelectricity producer business.

For developments related to hydropower safety, refer to section 1.4.1.3.1.3 "Hydropower safety".

3.4.5.3.2 Nuclear safety

The French Nuclear Safety and Radiation Protection Authority (*Autorité de sûreté nucléaire et de radioprotection* - ASNR) in France and the Office for Nuclear Regulation (ONR) in the United Kingdom ensure compliance with safety regulations, including for the transport of radioactive materials. An absolute priority for EDF, the safety of nuclear power plants is a concern at all times, from the design to the decommissioning of facilities, and including their operation. The "EDF group Nuclear Safety" policy was redefined in 2021 (see section 1.4.1.1.2.2 "Nuclear safety, environment, radiation protection"). The policy deals notably with operational and cybersecurity incidents.

Given the importance of the nuclear safety issue, clear and transparent information and communication on events and their possible impacts are promoted within the Group. This quality dialogue is sought and maintained with employees and their representatives, subcontractors, supervisory bodies (ASNR and ONR), local authorities and all other stakeholders in nuclear safety.

The Nuclear Safety Council, chaired by the Chairman & Chief Executive Officer of EDF, meets several times a year and, periodically reviews the annual nuclear safety report for the EDF group. A General Inspector for nuclear safety and radiation protection (IGSNR) is appointed by the Chairman and Chief Executive Officer to whom he reports. He carries out inspection assignments regarding all of the EDF group's nuclear activities. Each year, he issues an opinion on safety within EDF. The report is presented to and discussed by the Nuclear Safety Council. It is then made public.

For developments in nuclear safety, see notably sections 1.4.1.1.2.2 "Nuclear safety, environment, radiation protection", 1.4.5.1.2 "The activities of EDF Energy" and 2.2.2 "Specific nuclear operation risks".

Facility design

The operational safety of nuclear facilities is taken into consideration from the initial design stage, and is regularly monitored, together with the implementation of an employee engagement policy and large-scale investment programmes. The Group's nuclear safety policy is incorporated into training for both EDF group employees and subcontractors. Nuclear safety is subject to internal controls (annual reviews, internal control plans and nuclear inspection audits in France) and external controls (peer reviews between corporate members of WANO[1] and OSART[2]), audits conducted by experts from the International Atomic Energy Agency (IAEA).

Exercises

In the event of an accident, a crisis response procedure is in place to limit the environmental and human impacts and make sure the facility is safe. It is founded on two closely coordinated plans, designed to cover the local and national level. These are:

- the internal emergency plan for each nuclear site, developed by EDF;
- the special intervention plan, prepared by French prefectures in collaboration with the French government and EDF.

For greater effectiveness, these plans take account of risks both external (flooding, etc.) and internal (fire, etc.). The adequacy of the system for warning, informing and protecting people is regularly assessed through accident simulation exercises. Each year, approximately 100 exercises are organised for the entire French nuclear fleet, *i.e.* around one every three days. Around ten of these are national in scope, under the direction of the ASNR. They involve EDF and the public authorities, notably the prefectures. From its very first analyses following the Fukushima accident in March 2011, EDF has enhanced its crisis management procedure. It has set up a national system capable of providing rapid material and human assistance to any site experiencing a serious issue. Simulation exercises for this system, called the Nuclear Rapid Action Force (*Force d'action rapide nucléaire* - FARN), have been conducted from the regional bases at Civaux, Paluel, Dampierre and Bugey. The system can be deployed on a section of any site in difficulty. FARN allows parallel operations on six units on a same site.

Training

The Group's nuclear safety policy is an integral part of the training given to employees of EDF and its service providers. After an initial training course of several months – up to 24 months for key positions (safety engineer, operator, etc.) – each employee must undergo mandatory retraining. Training takes places every year, two years or three years, depending on the functions and fields of activity.

INES Indicator

	2022	2023	2024
Significant level-2 events on the INES scale *(number)*	0	1 *	0

** Event that was initially level 1, in the EDF Energy scope, reclassified to level 2 in 2024.*

Clarification of indicators

The INES indicator concerns the number of level 2 significant safety events (SSEs) on the International Nuclear Event Scale (INES). The indicator's scope covers the Group.

3.4.6 Political influence and lobbying activities

3.4.6.1 EDF's commitment to transparent, responsible lobbying

Lobbying activities are governed by the Group Responsible Lobbying Charter[3] and comply with the Group Ethics Charter[4]. Within the EDF group, lobbying activities are the responsibility of the management of each Group's entity.

EDF undertakes to carry out all its direct and indirect lobbying actions in line with the Paris Agreement and its objective of limiting global warming to 1.5°C above the pre-industrial level, together with institutional stakeholders, professional associations, non-governmental organisations and academia. EDF is also committed to conducting all its lobbying actions in line with its *raison d'être* and its just transition principles[5]. All EDF's key positions on climate issues are validated by the Public Authorities Relations Management Committee, with the exception of those concerning regulated infrastructure managers within the meaning of the Energy Code. This committee, chaired by the director of public and international affairs, meets every week and brings together the Group's Strategy Department, the Public Affairs Department, the European Affairs Department, the Regulation Department and the Legal Department.

The Group's commitment is assessed through a review process, the method and results of which are published[6]. It notably consists of annual reviews and assessments of EDF's main professional partner associations. This assessment measures their alignment with EDF's *raison d'être*, the Paris Agreement and its objective of limiting global warming to a level of 1.5°C compared to the pre-industrial level, and with the Just Transition principles. If this review process reveals material misalignments, EDF's position is to encourage associations to take a more proactive approach to climate advocacy.

(1) World Association of Nuclear operators.
(2) Operational Safety Analysis Review Team.
(3) edfgroup_responsible-advocacy-charter_20240605_va.pdf, charter signed by the Impact Group Director and the Group's Director of Governmental and International Affairs.
(4) www.edf.fr/sites/groupe/files/contrib/groupe-edf/engagements/Ethique%20Conformite/charte-ethique/20190416-edf_charte_ethique_fr_page_hd.pdf, charter signed by the Chairman and Chief Executive Officer of the Group.
(5) www.edf.fr/sites/groupe/files/2022-10/edfgroup_rse_transition-juste-et-inclusive_principes_2022_vf.pdf
(6) edfgroup_climate-policy-engagement-review2023_20240605_va.pdf

If EDF deems the probability of any positive change to be low, the review process may lead to the Group reconsidering its membership of certain organisations and/or considering joining new ones.

EDF is an interest representative within the meaning of the Sapin II Law[1]. To this end, it is registered on the list of interest representatives managed by the French High Authority for Transparency in Public Life (*Haute Autorité pour la transparence de la vie publique*, or HATVP). The network managers RTE and Enedis, as well as Dalkia are also registered: they each declare interest representation actions carried out during the year. The list of persons in charge of an interest representation identified in the register is updated regularly. EDF also files with the HATVP[2] an annual declaration relating to interest representation actions carried out, namely actions aimed at influencing a public decision, with national public officials identified by the legislator.

At the European level, EDF is listed on the Transparency Register of the European Parliament and the European Commission (no. 39966101835-69), regularly updates its data, and applies the related Code of Conduct. EDF presents its positions publicly *via* this transparency[3] register and associations of which it is a member[4]. Its main messages in the field are also posted on social media (LinkedIn, Twitter).

3.4.6.2 EDF promotes public policies that encourage decarbonisation

As the world's leading producer of electricity without direct CO_2 emissions[5], EDF is one of the leading non-state actors in international discussions on climate change. In line with its geographical presence, the Group is active worldwide, particularly in Europe and France. In particular, the Group is committed to promoting the acceleration of the electrification of uses and market organisations that promote a decarbonised electricity generation mix.

As regards conflicts of interest, see section 4.4.1 "Conflicts of interest", and for the terms of offices and duties of the Board of Directors' members and the Executive Committee, see sections 4.2.1 "Members of the Board of Directors" and 4.3 "Executive Management".

3.4.6.2.1 At the French level

EDF is working to hasten France's energy transition and end its dependency on fossil fuels. EDF is a member of the French Electricity Union (UFE), which promotes a set of reforms to prepare the future of the energy system as it moves towards "Net Zero Emissions[6]".

EDF supports the "1 Climate Pact"[7]. Launched in 2023 by MEDEF and its partners AFEP, College of Sustainable Development Directors (*Collège des Directeurs du développement durable* - C3D), Business and progress (*Entreprises et Progrès*), Companies for the environment (*Entreprises pour l'Environnement* - EpE) and the UN Global Compact - France Network. This initiative aims to highlight and promote the low-carbon innovations, solutions, technologies, products and services of companies established in France to successfully transition to a low-carbon economy.

EDF is involved in the development of the French Energy and Climate Strategy (SFEC) launched in 2022, which should be completed in 2025. It is France's roadmap to achieving carbon neutrality by 2050 and ensuring that society can adjust to the impacts of climate change. Notably, EDF responded to public consultations in 2023 and 2024, and submitted several stakeholder papers: EDF's stakeholder paper on the SFEC[8], EDF's stakeholder paper on the Multiannual energy programme and the National low carbon strategy[9], EDF's stakeholder paper on the National Climate Change Adaptation Plan[10].

As part of to the "Sport Sponsors Climate Pledge[11]" initiative, in May 2023, EDF committed to making any decision to sponsor a sporting event conditional, from 2025 onwards, on the implementation by the event of carbon reduction targets aligned with the Paris Agreement. EDF was a premium partner of the Paris 2024 Olympic and Paralympic Games. By providing decarbonised and 100% renewable electricity for the Games, EDF contributed to the objective of halving the carbon emissions related to the organisation of the event compared to the average of previous editions.

3.4.6.2.2 At the European level

The EDF group participates both in its own name (through its permanent office in Brussels) and through Eurelectric, the association representing the electricity industry in Europe. EDF's European Affairs Department (DAE), which reports to the General Secretariat, coordinates the commitments of EDF entities with professional associations and think tanks.

EDF actively supports the establishment of a robust European greenhouse gas market and an ambitious long-term energy and climate strategy, led by the European Energy Regulatory Commission.

In 2023, EDF made a significant contribution to the discussions on the texts of the Fit for 55 package and to the debates on the priorities that should drive the new European Commission. The Group advocated for an approach that makes it possible to preserve the climate goal of promoting carbon neutrality by 2050, while ensuring that the entire economy becomes more competitive and resilient, through four pillars:

- encouraging the electrification of uses, including through non-discriminatory energy taxation;
- ensuring that a full range of low-carbon technologies contributes to economically optimal decarbonisation, by supporting a mix based on controllable renewable energy assets, smart grids and decarbonised gas – notably electrolytic hydrogen – for sectors which are hard to electrify;
- demonstrating the resilience and flexibility of electricity as a major asset for the European energy system, by promoting smart integration;
- highlighting the benefits of digitisation.

EDF is committed to implementing the provisions resulting from the Fit for 55 package.

(1) For the definition of an interest representative, see: www.hatvp.fr/la-haute-autorite/lencadrement-du-lobbying/definition-stricte/
(2) With the exception of RTE, transmission network operator, and Enedis, subsidiary independently managed within the meaning of the Energy Code.
(3) With the exception of RTE, transmission network operator, and Enedis, subsidiary independently managed within the meaning of the Energy Code.
(4) EDF and the companies it controls. Control is established, in particular, if EDF holds, directly or indirectly, a majority of the share capital or the voting rights within the governing bodies of the relevant companies. Excluding RTE and Enedis which are independently managed subsidiaries within the meaning of the provisions of the Energy Code.
(5) See section 3.2.2.1.1.1 "A 'Net Zero Emissions' ambition supported by an ambitious carbon trajectory" .
(6) ufe-electricite.fr/transition-energetique-au-service-des-francais/
(7) 1pacteclimat.fr/
(8) archivephase1.concertation-strategie-energie-climat.gouv.fr/cahier-dacteur-ndeg66-edf
(9) concertation-strategie-energie-climat.gouv.fr/voir-les-cahiers-dacteurs-deposes
(10) consultation-pnacc.ecologie.gouv.fr/voir-les-cahiers-dacteurs-deposes
(11) Sport supports climate commitment – ChangeNOW.

In 2024, the Group's main actions focused on promoting the development of all sources of low-carbon electricity production, accelerating the electrification of the economy, notably by advocating for an action plan, targets and indicators for electrification, promoting low-carbon hydrogen, as well as advocating for a global and optimised approach to the energy system to serve industrial competitiveness. These issues were particularly developed in the "Net Zero 2050" scenario that EDF brought to European public decision-makers, and whose main focus is the need to significantly increase the share of low-carbon electricity consumption in final energy demand.

3.4.6.2.2.1 At the international level

Since 2017, the EDF group has been engaged in the Powering Past Coal Alliance, which promotes the phasing out of coal in EU countries by 2030 and in the rest of the world by 2050 in the wake of the Paris Agreement[1]. This coalition is behind the Coal Transition Commission, co-chaired by France, and the call by 25 countries to exclude all new coal-fired power plants from their nationally determined contributions to be updated under the Paris Agreement[2] between now and COP30 in November 2025.

EDF supports the development of all low-carbon energies around the world. Notably, EDF supports the Global Renewable Alliance calling for a tripling of renewable energy capacity and a doubling of the annual rate of improvement in energy efficiency worldwide by 2030[3]. EDF is a founding member of The Utilities for Net Zero Alliance (UNEZA), which was set up at COP28 in Dubai and whose secretariat is provided by the International Renewable Energy Agency (IRENA).

EDF also committed to working towards tripling the global nuclear capacity by 2050 by signing the "Net Zero Nuclear Industry Pledge" in September 2023, an initiative endorsed by more than 20 countries in a formal declaration at COP28, in the presence of EDF's Chairman and Chief Executive Officer[4].

The EDF group's commitment to the climate is recognised internationally, at Climate Week New York 2024, the InfluenceMap organisation ranked the EDF group among the 41 global companies leading climate action[5].

3.4.6.3 Regulation for the financing of political parties

The EDF group complies with the laws and regulations in force concerning the financing of political parties. In accordance with the legislation in force in France, EDF provides no financing to political parties.

The Group's Italian and UK subsidiaries have written directly into their codes of conduct the prohibition of financing political parties. It should be noted that such financing is prohibited by law in Belgium.

In countries where it is allowed (such as the United States), EDF group companies may determine whether they wish to provide financial support. In such case, the financing shall comply with the principle of neutrality. Every year, the Group companies concerned must report any financing to their parent company.

In 2024, only EDF Renewables made payments in the United States, consisting of US$87,150 in the form of Political Action Committee contributions and US$270,500 in the form of Corporate Contributions.

(1) poweringpastcoal.org/members
(2) poweringpastcoal.org/news/countries-join-call-to-action-for-no-new-coal-in-national-climate-plans/
(3) globalrenewablesalliance.org/supporters/
(4) www.edf.fr/sites/groupe/files/epresspack/6678/PR_EDF-COP28.pdf
(5) influencemap.org/briefing/Global-Leaders-in-Climate-Policy-Engagement-2024-29339

3.5 Report on the certification of sustainability information and verification of the disclosure requirements under Article 8 of Regulation (EU) 2020/852 (for the year ended December 31, 2024)

This is a translation into English of the Statutory Auditors' report on the certification of sustainability information and verification of the disclosure requirements under Article 8 of Regulation (EU) 2020/852 of the Company issued in French and it is provided solely for the convenience of English-speaking users.

This report should be read in conjunction with, and construed in accordance with, French law and the H2A guidelines on "Limited assurance engagement - Certification of sustainability reporting and verification of disclosure requirements set out in Article 8 of Regulation (EU) 2020/852".

To the Annual General Meeting of Electricité de France,

This report is issued in our capacity as Statutory Auditors of the *Electricité de France S.A.* ("EDF" or "the Group"). It covers the sustainability information and the information required by Article 8 of Regulation (EU) 2020/852, relating to the financial year ended December 31, 2024 and included in chapter 3 "Sustainability Statement and Vigilance Plan", sections 3.1 to 3.4.6 of the group management report (hereinafter referred to as the "Sustainability Statement").

Pursuant to Article L. 233-28-4 of the French Commercial Code, EDF is required to include the above-mentioned information in a separate section of the Group's management report. This information has been prepared in the context of the first-time application of the aforementioned articles, a context characterized by uncertainties regarding the interpretation of the legal texts, the use of significant estimates, the absence of established practices and frameworks, in particular for the double materiality assessment, and an evolving internal control system. It provides an understanding of the impact of the Group's activity on sustainability matters, as well as the way in which these matters influence the development of its business, performance and position. Sustainability matters include environmental, social and corporate governance matters.

Pursuant to II of Article L. 822-54 of the aforementioned Code, our responsibility is to carry out the procedures necessary to issue a conclusion, expressing limited assurance, on:

- compliance with the sustainability reporting standards adopted pursuant to Article 29*ter* of Directive (EU) 2013/34 of the European Parliament and of the Council of 14 December 2022 (hereinafter ESRS for European Sustainability Reporting Standards) of the process implemented by EDF to determine the information reported, and compliance with the requirement to consult the social and economic committee provided for in the sixth paragraph of Article L. 2312-17 of the French Labor Code (*code du travail*);
- compliance of the sustainability information included in the Sustainability Statement with the requirements of Article L. 233-28-4 of the French Commercial Code (*code de commerce*), including the ESRS; and
- compliance with the requirements set out in Article 8 of Regulation (EU) 2020/852.

This engagement is carried out in compliance with the ethical rules, including those on independence, and quality control, prescribed by the French Commercial Code.

It is also governed by the H2A guidelines on limited assurance engagements on the certification of sustainability information and verification of disclosure requirements set out in Article 8 of Regulation (EU) 2020/852".

In the three separate parts of the report that follow, we present, for each of the parts covered by our engagement, the nature of the procedures we carried out, the conclusions that we drew from these procedures and, in support of these conclusions, the elements to which we paid particular attention and the procedures that we carried out with regards to these elements. We draw your attention to the fact that we do not express a conclusion on any of these elements taken in isolation and that the procedures described should be considered in the overall context of the formation of the conclusions issued in respect of each of the three parts of our engagement.

Finally, where it was deemed necessary to draw your attention to one or more items of sustainability information provided by EDF in the Sustainability Statement, we have included an emphasis of matter paragraph hereafter.

The limits of our engagement

As the purpose of our engagement is to provide limited assurance, the nature (choice of techniques), extent (scope) and timing of the procedures are less than those required to obtain reasonable assurance.

Furthermore, this engagement does not provide a guarantee regarding the viability or the quality of the management of EDF, in particular it does not provide an assessment of the relevance of the choices made by EDF in terms of action plans, targets, policies, scenario analyses and transition plans, that extends beyond compliance with the ESRS reporting requirements.

It does, however, allow us to express conclusions regarding the process for determining the sustainability information to be reported, the sustainability information itself, and the information reported pursuant to Article 8 of Regulation (EU) 2020/852, as to the absence of identification or, on the contrary, the identification of errors, omissions or inconsistencies of such importance that they would be likely to influence the decisions that readers of the information subject to this engagement might make.

Our engagement does not cover any comparative data.

Compliance with the ESRS of the process implemented by EDF to determine the information reported, and compliance with the requirement to consult the social and economic committee provided for in the sixth paragraph of Article L. 2312-17 of the French Labor Code.

Nature of the procedures carried out

Our procedures consisted in verifying that:

- the process defined and implemented by EDF has enabled it, in accordance with the ESRS, to identify and assess its impacts, risks and opportunities related to sustainability matters, and to identify the material impacts, risks and opportunities, that are disclosed in the Sustainability Statement; and

- the information provided on this process in section "3.1.4 Double materiality assessment process" of the Sustainability Statement also complies with the ESRS.

We also checked compliance with the requirement to consult the social and economic committee.

Conclusion of the procedures carried out

On the basis of the procedures we have carried out, we have not identified any material errors, omissions or inconsistencies regarding the compliance of the process implemented by EDF with the ESRS.

Concerning the consultation of the social and economic committee provided for in the sixth paragraph of Article L. 2312-17 of the French Labor Code we have been informed by the Group that it is scheduled for March 27, 2025, as mentioned in section 3.1.3.2 "Interests and views of stakeholders" of the Sustainability Statement.

Elements that received particular attention

Below we have set forth the elements that have received particular attention in relation to our assessment of the compliance of the procedures implemented by EDF to determine the disclosures, with the ESRS.

Concerning the identification of stakeholders

Information on the identification of stakeholders is set out in section 3.1.3.2 "Interests and views of stakeholders" and those relating to their involvement in the procedures are mentioned in section 3.1.4.1.1.3 "Assessment of the IROs" of the Sustainability Statement.

- We interviewed management and any other persons we deemed appropriate and inspected available documentation.
- We assessed the relevance of the primary stakeholders identified by the Group in view of the nature of its activities and its geographical location, taking into account its business relationships and value chain.

Concerning the identification of impacts, risks and opportunities (IROs)

Information on the identification of impacts, risks and opportunities is provided in section 3.1.3.3.2 "Material impacts, risks and opportunities identified" of the Sustainability Statement.

- We gained an understanding of the procedures carried out by the Group to identify actual or potential impacts – both negative and positive – risks and opportunities (IROs), in relation to the sustainability matters mentioned in paragraph AR 16 of ESRS 1, "Application requirements", and where applicable, those specific to the Group, as presented in section 3.1.3.3 "Material impacts, risks and opportunities" of the Sustainability Statement.
- In particular, we assessed the approach taken by the Group to determine its impacts and dependencies, which may be a source of risks or opportunities;
- We gained an understanding of the Group's mapping of identified IROs, including a description of their distribution within the Group's own operations and its value chain, as well as their time horizon (short-, medium- or long-term), and assessed the relevance of this mapping with our knowledge of the Group and, with the risk analyses conducted by it;
- We assessed the manner in which the Group has taken into account the list of sustainability matters set out in ESRS 1 (AR 16) in its analysis.

Concerning the assessment of impact materiality and financial materiality

Information on the assessment of impact materiality and financial materiality is provided in section 3.1.4 "Double materiality assessment process" of the Sustainability Statement.

- Through interviews with management and the inspection of available documentation, we gained an understanding of the procedures implemented by the Group to assess impact materiality and financial materiality and assessed its compliance with the criteria defined in ESRS 1;
- In particular, we assessed the way in which the Group established and applied the materiality criteria defined in ESRS 1, including those relating to the setting of thresholds, in order to determine the disclosures published as metrics with regard to the material IROs identified in accordance with the relevant ESRS standards.

Compliance of the sustainability information included in the Sustainability Statement section of the Group management report with the requirements of Article L. 233-28-4 of the French Commercial Code, including the ESRS

Nature of procedures carried out

Our procedures consisted in verifying that, in accordance with legal and regulatory requirements, including the ESRS:

- the disclosures provided provide an understanding of the general basis for the preparation and governance of the sustainability information included in the Sustainability Statement, including the general basis for determining the information relating to the value chain and the exemptions from disclosures used;
- the presentation of this information ensures its readability and understandability;
- the scope chosen by EDF for providing this information is appropriate; and
- on the basis of a selection, based on our analysis of the risks of non-compliance of the information provided and the expectations of users, this information does not contain any material errors, omissions or inconsistencies, i.e., that are likely to influence the judgement or decisions of the users of this information.

Conclusion of the procedures carried out

Based on the procedures we have carried out, we have not identified material errors, omissions or inconsistencies regarding the compliance of the sustainability information included in the Sustainability Statement with the requirements of Article L.233-28-4 of the French Commercial Code, including the ESRS.

Emphasis of matter

Without qualifying the conclusion expressed above, we draw your attention to the information provided in in section 3.1.1 "Basis for establishing the Sustainability Statement" describing the limits caused by the uncertainties inherent to the first year of application of Article L. 233-28-4 of the French Commercial Code, the scope of collection of certain metrics, and the methodological details and uncertainties relating to the estimates made by the Group for the determination of quantitative metrics.

Elements that received particular attention

Below we have set forth the elements that received particular attention in relation to our assessment of the compliance of the sustainability information mentioned in the Sustainability Statement with the requirements of Article L. 233-28-4 of the French Commercial Code, including the ESRS.

Information provided in application of environmental standards (ESRS E1 to E5)

Disclosures relating to climate change (ESRS E1) are listed in section 3.2.2 "ESRS E1 - Climate change" of the Sustainability Statement.

Our work consisted primarily of:

- assessing, through interviews conducted with management and persons concerned, in particular the "Impact" Department, whether the policies, actions and targets implemented by the Group address the following areas: climate change mitigation, energy and climate change adaptation;
- assessing the appropriateness of the disclosures provided in the notes to the environmental section of the sustainability information included in the Sustainability Statement, and its overall consistency with our knowledge of the Group.
- With regard to the information published on greenhouse gas (GHG) emissions:
- we gained an understanding of the internal control and risk management procedures implemented by the Group to ensure the compliance of the reported information with ESRS requirements;
- we assessed the relevance of the scope used for the greenhouse gas emissions assessment, within the scope of the consolidated financial statements, its own operations and the upstream and downstream value chain;
- we gained an understanding of the greenhouse gas emissions inventory protocol used by the Group to draw up its greenhouse gas emissions assessment, and verified its implementation, over a range of emission categories and sites, for Scope 1 and Scope 2;
- with regard to Scope 3 emissions, we assessed the process for gathering the information on which the disclosures were based;
- we assessed the appropriateness of the emission factors used and the calculation of the related conversions, as well as the calculation and extrapolation assumptions, taking into account the uncertainty inherent to current scientific or economic knowledge, and the quality of the external data used;
- we reconciled physical data (such as energy consumption), on a sample basis, with the underlying data used to draw up the greenhouse gas emissions assessment and the supporting documents;
- with regard to the estimates we considered to be structurally significant, used by the Group to prepare its greenhouse gas emissions assessment through interviews with management, we gained an understanding of the method used to calculate the estimated data and the information sources on which the estimates were based and whether the methods were applied consistently.

With regard to our procedures regarding the Transition plan for climate change mitigation, our work primarily consisted of assessing whether the information published in the transition plan meets ESRS E1 requirements, with an appropriate description of the plan's underlying key assumptions, it being understood that we are not required to express a conclusion on the appropriateness or the level of ambition of the transition plan's objectives.

Information published in respect of water resources (ESRS E3) is mentioned in section 3.2.4 "ESRS E3 - Water resources" of the Sustainability Statement.

With regard to the information published concerning water consumption and water withdrawals for industrial processes:

- we gained an understanding of the internal control and risk management procedures implemented by the Group to ensure the compliance of the reported information with ESRS requirements;
- we assessed the relevance of the scope used for the evaluation of water consumption data and water withdrawals for industrial processes within the scope of the consolidated financial statements;
- we gained an understanding of the preparation protocols and methodological guidelines used by the Group to establish the metrics for water consumption and water withdrawals for industrial processes, and assessed their relevance and implementation, for a range water circuits types and sites;
- we reconciled physical data, on a sample basis, the underlying data used to compile the metrics, with the supporting documents;
- with regard to the estimates which we considered to be structurally significant, used by the Group to prepare the consolidated data, we gained an understanding of the method used to calculate the estimated data and the information sources on which the estimates were based, and whether the methods were applied consistently.

Compliance with the reporting requirements set out in Article 8 of Regulation (EU) 2020/852

Nature of procedures carried out

Our procedures consisted in verifying the process implemented by EDF to determine the eligible and aligned nature of the activities of the entities included in the consolidation.

They also involved verifying the information reported pursuant to Article 8 of Regulation (EU) 2020/852, which involves checking:

- compliance with the rules governing the presentation of this information to ensure that it is readable and understandable;
- on the basis of a selection, the absence of material errors, omissions or inconsistencies in the information provided, i.e., information likely to influence the judgement or decisions of users of this information.

Conclusion of the procedures carried out

Based on the procedures we have carried out, we have not identified any material errors, omissions or inconsistencies in relation to compliance with the requirements of Article 8 of Regulation (EU) 2020/852.

Emphasis of matter

Without qualifying the conclusion expressed above, we draw your attention to the information provided in paragraph 3.2.7.3.1 "DNSH (Do No Significant Harm) criteria" relating to the taxonomy of the Sustainability statement in connection with the DNSH "pollution prevention and reduction", which describes the process put in place and the analyses carried out by the Group with a view to making reasonable efforts, and in particular the steps taken with its suppliers to identify replacement solutions for certain substances.

Elements that received particular attention

Below we have set forth the elements that received particular attention in relation to compliance with the requirements of Article 8 of Regulation (EU) 2020/852.

Concerning the eligibility of activities

We assessed, through interviews and the inspection of relevant documentation, the compliance of the Group's analysis regarding the ineligibility of all its activities based on the criteria set out in the annexes to the delegated acts supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council.

Concerning the alignment of eligible activities

We assessed, through interviews and the inspection of the relevant documentation, the compliance of the Group's analysis regarding the alignment of eligible activities with the criteria set out in the annexes to the delegated acts supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council.

Our procedures primarily consisted of:

- assessing the choices made by the Group regarding the consideration of communications from the European Commission on the interpretation and implementation of certain provisions of the Taxonomy Regulation;
- inspecting, on a sample basis, the documentary sources used, including external sources where appropriate, and conducting interviews with the relevant persons;
- assessing, on a sample basis, the elements on which the management based its judgement when assessing whether the eligible economic activities met the cumulative conditions, derived from the Taxonomy Regulation, to qualify as aligned and particularly that they "do no significant harm" (DNSH) to any of the other environmental objectives;
- assessing the analysis conducted regarding compliance with the minimum safeguards, primarily in light of the information gathered when gaining an understanding of the Group and its environment.

Concerning key performance indicators and accompanying information

The key performance indicators and accompanying information are set out in section 3.2.7 "Green taxonomy" of the Sustainability Statement.

- With regard to total turnover, CapEx and OpEx (the denominators) presented in the regulatory tables, we verified the Group's reconciliation of the accounting data used to prepare the financial statements;
- With regard to the other amounts comprising the various metrics of eligible and/or aligned activities (the numerators), we assessed these amounts based on a range of activities, operations or projects that we determined to be representative, based on the activity to which they relate and their contribution to the metrics;
- Lastly, we assessed the relevance of the information set out in section 3.2.7 "Green taxonomy" of the Sustainability Statement with the other sustainability information in this report.

Paris la Défense and Neuilly-sur-Seine, February 20, 2025

The Statutory Auditors

KPMG SA		**PricewaterhouseCoopers Audit**	
Jacques-François LETHU	Quentin HENAUX	Amélie GRAFFAN-JEANPIERRE	Cédric HAASER

3.6 Vigilance plan

3.6.1 The EDF group's CSR commitment and duty of vigilance framework

The EDF group has a longstanding commitment to conducting business in a responsible manner, rooted in the values of respect, solidarity and social responsibility, while promoting sustainable solutions for individuals and the environment.

EDF's *raison d'être* is "To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive well-being and economic development." This statement was adopted and enshrined in EDF's articles of association at the shareholders' General Meeting held on 7 May 2020. To contribute to the "*Ambitions 2035*" company project, EDF has set itself three objectives and twelve commitments in terms of CSR[1] (see section 3.1 "General information").

Legal Framework

French Law No. 2017-399 of 27 March 2017 on the duty of vigilance of parent companies and ordering companies introduced, in Article L. 225-102-4 of the French Commercial Code, the obligation to draw up and implement a vigilance plan.

This plan must include "reasonable vigilance measures to identify risks and prevent serious violations of human rights and fundamental freedoms, the health and safety of individuals and the environment" that may result from the activities of the Company and its controlled subsidiaries, as well as the activities of suppliers or subcontractors with which it has an established business relationship, insofar as their activities are connected to that relationship.

It must also include a description of five measures:

1. risk mapping to identify, analyse and rank risks;
2. procedures for regular evaluation of the situation of controlled subsidiaries, subcontractors and suppliers based on the risk mapping;
3. appropriate action for risk mitigation or serious harm prevention;
4. a whistleblowing mechanism for reporting the existence or occurrence of risks;
5. a system for monitoring the measures implemented and evaluating their effectiveness.

The Group's vigilance plan sets out these five measures as follows:

- 3.6.1 The EDF group's CSR commitment and duty of vigilance framework
- 3.6.2 Governance, oversight and stakeholder involvement
- 3.6.3 EDF's key characteristics as regards the duty of vigilance law
- 3.6.4 Group risk mapping methodology
- 3.6.5 Main improvements to the EDF group's vigilance plan in 2024
- 3.6.6 Salient risks and risk prevention and mitigation measures (the elements of the annual report are included in the corresponding prevention and mitigation measures)
  - 3.6.6.2 Human rights and fundamental freedoms
  - 3.6.6.3 Environment
  - 3.6.6.4 Health and Safety
  - 3.6.6.5 Suppliers and subcontractors
- 3.6.7 Group whistleblowing system
- 3.6.8 Monitoring systems

The Group's reference standards for its commitments and requirements with respect to the environment, human rights, and health and safety

EDF's vigilance plan follows the UN Guiding Principles on business and human rights (UNGP), OECD Guidelines, the fundamental conventions of the International Labour Organization (ILO) and the UN Universal Declaration of Human Rights.

In this context, the Group published on its website its duty of vigilance framework entitled "Human rights and fundamental freedoms, health and safety, environment, business ethics: the EDF group's commitments and requirements"[2]. This framework brings together the commitments and requirements of the EDF group (EDF and the companies it controls, see section 3.6.3 "EDF's key characteristics as regards the duty of vigilance law") and the fundamental requirements of its business relationships in terms of respect for human rights and fundamental freedoms, protection of the environment, guaranteeing the health and safety of people, and business ethics.

These standards relate and refer to all the Group's public documents and internal policies, including:

- Group procedures, which are prescriptive and apply to all controlled subsidiaries: risk control and internal control, governance of subsidiaries and holdings, project management, ethics and compliance, CSR, health and safety, procurement;
- publicly-released internal documents: ethics charter, ethics and compliance code of conduct, CSR charter between EDF and its suppliers, Global Framework Agreement (GFA) on the EDF group's corporate social responsibility;
- external standards: the UN Global Compact, UN Guiding Principles on business and human rights, the OECD Guidelines for Multinational Enterprises, the WBCSD's CEO Guide to Human Rights, International Labour Organization (ILO) conventions on fundamental principles and rights at work and the elimination of discrimination, the UN Declaration on the Rights of the Child, the UN Declaration on the Elimination of All Forms of Discrimination against Women, the Global Reporting Initiative (GRI), and the French Supplier Relations and Responsible Purchasing Label Charter (RFAR).

(1) Corporate social responsibility.
(2) Published in French and English on the edf.fr website (www.edf.fr/sites/groupe/files/2023-02/edfgroup_rse_referentiel-ddv-2021_en.pdf).

EDF's vigilance plan reports on the various steps taken for each of the Group's CSR issues and commitments throughout chapter 3 of this document as follows:

Salient risks related to the duty of vigilance			Issues and commitments of the EDF group	
Area	**Type of risk**	**Risk**	**Descriptions of the 2024 mitigations and actions in the different sections of the Sustainability Statement**	
Human rights and fundamental freedoms	Cross-cutting	Risks related to harassment and discrimination.	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	
	Activities and projects	Risk of infringement of the rights of communities and indigenous peoples: • risks related notably to land issues and population displacement or the consequences of inadequate consultations. • risks related to the use of security forces.	**ESRS S3** Affected communities	
	Activities and projects	Risk of infringement of workers' rights, notably risks related to decent working and housing conditions.	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	
	Activities and projects	Risk of forced labour by subcontractors.	**ESRS S2** Workers in the value chain	
Environment	Cross-cutting	Impact on the climate: climate change and greenhouse gas emissions.	**ESRS E1** Greenhouse gas emissions	
	Cross-cutting	Impact on air and water quality.	**ESRS E2** Discharges with effects on air, water and soil quality	
	Cross-cutting	Impacts on resources.	**ESRS E3** Water and marine resources **ESRS E4** Biodiversity and ecosystems **ESRS E5** Resource use and circular economy	**ESRS 2** General information
	Cross-cutting	Potential impacts on biodiversity.	**ESRS E4** Biodiversity and ecosystems	
Human health and safety	Employees and subcontractors	Work-related accidents, work-related diseases (asbestos, chemicals, ionising radiation and noise).	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	
	Employees and subcontractors	Musculoskeletal disorders, anxiety-depressive disorders, including stress.	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	
	Local residents	Safety of nuclear and hydropower facilities.	**ESRS S3** Affected communities **ESRS E2** Pollution **ESRS E3** Water and marine resources	
	Local residents	Air quality.	**ESRS S3** Affected communities **ESRS E2** Pollution	

Salient risks related to the duty of vigilance			Issues and commitments of the EDF group	
Area	**Type of risk**	**Risk**	**Descriptions of the 2024 mitigations and actions in the different sections of the Sustainability Statement**	
Suppliers and subcontractors	Purchase category	Electricity Instrumentation and Control.	**ESRS G1**	
	Purchase category	Civil engineering, decommissioning and decontamination.	Governance information	
	Purchase category	Heavy lifting systems.	**ESRS S2**	
	Purchase category	Non-destructive controls/testing and maintenance in an industrial environment.	Workers in the value chain	
	Purchase category	Industrial goods and services.	**ESRS S3**	
	Purchase category	IT and telecom equipment.	Affected communities	
	Purchase category	IT solutions, publishing, hosting and support.	**ESRS E1**	
	Purchase category	Work on new and existing buildings.	Climate change	**ESRS 2**
	Purchase category	Production line for solar panels and batteries.	**ESRS E2**	General information
			ESRS E2	
			ESRS E3	
			Water and marine resources	
			ESRS E4	
			Biodiversity and ecosystems	
			ESRS E5	
			Resource use and circular economy	

3.6.2 Governance, oversight and stakeholder involvement

EDF strengthened its oversight of the vigilance plan in December 2020 with the appointment by two members of the Executive Committee of a Group Duty of Vigilance Compliance Manager[1]. This Manager is responsible for drawing up, rolling out and coordinating the vigilance plan and its implementation throughout the Group, in partnership with the Impact Division.

The vigilance plan and the resulting actions are validated by the CSR Strategy Committee headed by the Group's Chairman, and submitted to the Corporate Responsibility Committee, a Committee of the Board of Directors dedicated to social and environmental responsibility matters.

The vigilance plan is designed and overseen in collaboration with the Legal Affairs Division and the Impact Department within a Steering Committee and a Strategic Committee that also includes the Human Resources Division, the Purchasing Division, the Risk Division, the International Division, the Ethics and Compliance Division, the Export Control and International Sanctions Division, and representatives of subsidiaries with exposed activities. The CSR Strategy Committee defines the orientations and objectives of the vigilance plan in a collegiate manner, based on proposals from the Steering Committee. It ensures that these objectives are achieved and may redefine them following operational advances reported by the Steering Committee, which meets quarterly.

The implementation and coordination of the vigilance plan is supported by a network of Duty of Vigilance Managers appointed in each Group entity concerned, selected in view of their missions in the fields of CSR, ethics and compliance, or internal control (see section 3.6.5 "Main improvements in the EDF group's vigilance plan in 2024").

Stakeholder involvement

Dialogue with stakeholders is a major part of EDF's culture. It forms the basis of EDF's cooperation with our stakeholders.

The Global Framework Agreement (GFA) on the Group's social and environmental responsibility[2] signed by EDF, the 18 trade union organisations representing the Group's employees and two international trade union federations (IndustriAll Global Union and PSI) stipulates that its vigilance plan is "developed and set up in association with the company's stakeholders, including workers' representative organisations" (see section 3.3.2.1.1.1 "Corporate social responsibility" - paragraph "The EDF group's global Social and Environmental Responsibility master agreement"). Since 2018, the Committee for Dialogue on Social Responsibility (CDRS)[3], composed of representatives of all the signatories to the agreement, has been working on numerous topics related to the duty of vigilance (health and safety, exercise of the Group's responsibility in connection with international projects, etc.) and on the actions to be implemented to roll out and improve the Group's vigilance plan. Thus, in 2024, the meetings of the CDRS enabled its members to learn about the publication of the 2023 vigilance plan and to discuss the 2024 vigilance actions, including the living wage as well as the 2023 assessment and 2024 outlook on the Group's health and safety policy. Interventions by external experts in the non-profit sector were also organised to illustrate their view of major current issues in terms of human rights. Comments and suggestions of the Group's Stakeholder Council (see section 3.1.3.2 "Interests and points of view of stakeholders" – "An open dialogue with all, involving all the Group's businesses and subsidiaries"), relating to the vigilance plan, were also shared and discussed. In terms of the legislative framework, members were also briefed on developments in the draft European directive on the duty of vigilance and corporate sustainability responsibility (CS3D), as well as the Group's implementation of the CSRD directive on sustainability reporting.

These CDRS meetings are an opportunity to debate issues in order to answer members' questions about subjects related to the Group's duty of vigilance, or to local issues known to them.

(1) The Group General Secretary and the Group Senior Executive Vice-President in charge of innovation, corporate responsibility and strategy.
(2) Agreement signed on 27 January 2025.
(3) Since 27 January 2025, the CMDRSE (Global Dialogue Committee on Environmental and Social Responsibility) has been monitoring the implementation of and compliance with the commitments of the abovementioned agreement.

Externally, EDF participated in meetings with other companies, lawyers, NGOs, and trade union federations through the non-profit organisation "Entreprises pour les droits de l'homme" (Businesses for Human Rights) (EDH)[1], for open discussions on stakeholders' expectations and other companies' practices, and to improve its vigilance plan preparation processes.

Since 2022, personalities specialised in human rights and links with finance at the United Nations or green jobs at the International Labour Organization (ILO) have been members of the Group's Stakeholders Council (see section 3.1.3.2 "Interests and points of view of stakeholders" – "An open dialogue with all, involving all the Group's businesses and subsidiaries") in order to better integrate this expertise within this body.

Meanwhile, the Group continuously pursues open discussions with various civil society actors (associations, public figures) who wish to keep up this dialogue, for new ideas to advance its vigilance plan.

3.6.3 EDF's key characteristics regarding the duty of vigilance law

From the construction and operation of nuclear, hydropower, photovoltaic, wind and thermal power plants, to the development and operation of electricity grids, to marketing and helping customers to save energy, the Group is present at every step of the value chain in France and is expanding internationally (see section 1.4 "Description of the Group's activities").

Main countries of activity

The Group's core development scope in Europe is its "G4", comprising France, Italy, Belgium and the United Kingdom. The EDF group is present in these countries as a key player in electricity generation, with a significant customer portfolio in each region. Building on its strong local integration, the EDF group is developing a range of supply offerings, solutions and services coherent with local energy policy choices, to help customers reduce their carbon footprint.

In the rest of the world, outside the "G4", the Group is mainly developing through business models in which it does not have exclusive control of an asset, but an industrial role that capitalises on the Group's experience. EDF will look for growth drivers, by engaging in value-creating projects in growing markets, and by exporting its recognised expertise to countries looking for concrete solutions to succeed in the energy transition (see section 1.4.5 "International activities"). For countries considered to be "higher-risk" particular vigilance is exercised, including over relations with partners.

The Group is developing projects in various geographical areas including Brazil, the Andean Arc (Chile-Peru-Colombia), the Middle East (Saudi Arabia and the United Arab Emirates), West and Central Africa (Cameroon, Côte d'Ivoire, Togo), Southern Africa (Mozambique, Malawi), Laos, India, the United States, Australia, Germany, Spain and Uzbekistan.

Group-wide, EDF Renewables develops projects alone or in partnership, and operates and maintains facilities producing electricity from renewable energies in nearly 25 countries. EDF Renewables operates across the entire value chain. It is active upstream in project development, in engineering during the construction of wind and solar farms, and finally in the operation and maintenance of the facilities built. As of 31 December 2024, EDF Renewables holds 60.3% wind power projects, 37.0% solar power projects and 2.7% storage projects[2], and has begun a technological rebalancing initiative by accelerating its development in solar power. Its earliest installations are located in North America (United States, Canada and Mexico) and Europe, starting with France and the United Kingdom. EDF Renewables also started to rebalance the geographical distribution of its activities. It is strengthening its presence in other countries with high potential for growth in renewable energies such as South Africa, Brazil, China, India, the United Arab Emirates, Saudi Arabia, Morocco and Oman.

EDF Renewables' net installed wind power, solar power and storage capacity (as a %):

North America	37%
Europe	29%
China, Vietnam and India	12%
South America	12%
Saudi Arabia, Egypt and the United Arab Emirates	6%
Israel	3%
Morocco and Egypt	1%
South Africa	1%

Suppliers and subcontractors

The scope of EDF's suppliers and subcontractors represents approximately 18,000 tier-one suppliers. More than 95% of purchases are made in France and 97.4% are made in the European Union (99.3% when the European Free Trade Association (EFTA) countries are added)[3]. Certain subsidiaries' suppliers and suppliers involved in international projects are subject to special vigilance measures. Because the Group's activities are mostly industrial by nature, before making investment decisions EDF exercises upstream vigilance with regard to risks of serious infringements of human rights or harm to human health (concerning employees, contractors, local residents, local communities and customers) and risks to the environment that could arise, particularly during construction, operation, maintenance or decommissioning of facilities.

Scope of the vigilance plan

The scope of the vigilance plan covers EDF's activities, the activities of its controlled subsidiaries[4], and the activities of its suppliers and subcontractors with which it has an established business relationship, insofar as their activities are connected to that relationship.

The Group's Structure is detailed in section 1.2.1 "Structure of the Group".

Dalkia and Framatome, two subsidiaries with over 5,000 employees each, are included in the plan, together with all French and foreign subsidiaries.

RTE and Enedis, respectively operators of the French electricity transmission and distribution systems, are independently managed regulated subsidiaries and therefore publish their own vigilance plans.

(1) e-dh.org
(2) In net values.
(3) European Union, Switzerland and the United Kingdom notably.
(4) Fully-consolidated subsidiaries both in and outside France that are included in the scope of consolidation, as required by Article L. 233-16 II of the French Commercial Code (in France and abroad) (see note 3.3 "Scope of consolidation at 31 December 2023" to the consolidated financial statements for the financial year ended 31 December 2023).

3.6.4 Group risk mapping methodology

The process for identifying and ranking the risks used to develop the vigilance plan involves two complementary approaches: Group risk mapping, which covers the risks related to the duty of vigilance, and additional risk mapping, which specifically focuses on the entities most exposed to risks because of their activity and/or their location.

Pursuant to the Group's approach as presented in section 2.1 "Risk management and business control", each Group entity carries out its own risk mapping, under the responsibility of management, using a typology that aims to cover all risk categories that affect the Group, internal and external, operational and strategic. The EDF group risk mapping methodology guide describes the risks specifically related to the duty of vigilance. The Group asks entities to map risks affecting human rights and fundamental freedoms, health and safety at work, and the environment, which could be caused by its activities or the activities of its suppliers, service providers or partners. In 2023 and 2024, all the Group's entities risk managers were made aware of the importance of risk mapping for the duty of vigilance. Risk mapping information was shared between the Group Risk Division and the Impact Division for a better approach to these risks.

Risk mapping involves five successive steps: risk identification, risk assessment, risk ranking, risk control through definition of an action plan, and action plan management comprising monitoring the plan's application, and measuring its effectiveness.

Risk identification

To be reasonably certain that the principal risks are being identified, a separate approach for each business process and each asset is combined with an approach for each major risk type. Feedback, events, incidents, and near-misses are also taken into consideration as a source of risk identification, together with the results of audits. The final identification of risks is the outcome of a discussion between the main actors: managers, experts and stakeholders.

Risk assessment and ranking

The identified risks are qualitatively ranked based on:

- their impact, *i.e.* their potential severity: this is assessed by reference to multiple criteria, including evaluation of their impact on the physical or human environment;
- their probability of occurrence, *i.e.* their degree of likelihood: this is evaluated over an appropriate time horizon estimated on the basis of the history of the activity, past experience, or internal or external expertise;
- their level of control, *i.e.* the effectiveness of the actions implemented.

The main purpose of the general risk mapping exercise is to define and implement action plans (prevention, protection, mitigation) designed to reduce the impact and/or probability of risks.

Group risk governance

The EDF group's risk mapping is based on the entities' risk maps, internal control self-assessments, and cross-analyses of experiences reported by operational and functional entities.

The Group Risk Division identifies and assesses Group-level risks and draws up a Group risk map, which is validated by the Risk Committee (a body of the Executive Board) chaired by the Group's Chairman and then presented to the Board of Directors' Risk and Audit Committee.

Moreover, the implementation of the CSRD allowed to specify the consistency between the impact, risks and opportunities (IRO) identified in the context of the CSRD, and the main risks identified in the risk mapping (see section 3.1.4 "Double materiality assessment process"). Overall, all the risk analyses carried out in the various contexts have been set up with a view to over-arching consistency: Group risk mapping, CSRD or vigilance plan.

Assessment of Group-level structural risks for the vigilance plan in 2024

This approach enables to identify the principal risks at the level of the EDF group, presented in section 2.2 "Risks to which the Group is exposed". The resulting risks are ranked according to a three-level criticality scale (high, intermediate or moderate) assessed on the basis of their potential severity, their probability of occurrence, and their impact, taking into account existing measures.

Several of these risks are key in shaping the orientation of the vigilance plan, because they include at least one of the "human rights", "environment" or "health and safety" dimensions:

- ethics or compliance risk (see section 2.2.3 "Market regulation, political and legal risks", risk 3D "Ethics or compliance risk"): since 2019, this risk has included a "duty of vigilance" component, implementing a Group action programme and requiring Group entities to report back on their own action in this area;
- the risk of adaptation to climate change - physical risks and transition risks (5B): this risk includes a section on the impacts of the Group's activities on the climate;
- industrial safety risks and impact on environmental assets including biodiversity (1I), and risks specific to nuclear safety (2C) and hydropower safety (1F);
- the risk of managing complex large industrial projects, including EPR projects (1A): this risk includes a component regarding projects' potential impacts on human rights, the environment, health and safety;
- operational continuity risks for supply chains and contractual relations (1E): this risk specifically includes vigilance-based measures during the contracting and contract monitoring stages;
- the occupational health and safety risks for employees and subcontractors (1D): this risk is related to the industrial nature and diversity of the Group's activities, which reinforce the fundamental importance of complying with rules and taking into account the various risks that may affect people working at the Group's industrial facilities, in order to preserve health and safety in the workplace.

The risks specific to the duty of vigilance are detailed by area in section 3.6.6 "Salient risks and risk prevention and mitigation measures" and in terms of their relation to the Group's main risks mentioned above:

- salient risks related to human rights and fundamental freedoms: see section 3.6.6.2.1;
- salient risks relating to the environment: see section 3.6.6.3.1;
- salient risks relating to human health and safety: see section 3.6.6.4.1;
- salient risks relating to suppliers and subcontractors: see section 3.6.6.5.1.

3.6.5 Main improvements to the EDF group's vigilance plan in 2024

In 2024, several projects and actions were initiated or prolonged as part of a continuous improvement approach to the Group vigilance plan.

Adaptation and rollout of human rights commitments included in the Group's duty of vigilance standards

In March 2021, EDF drew up a document listing the commitments of the Group (EDF and its controlled subsidiaries) and the fundamental requirements for its business relations in terms of human rights and fundamental freedoms, environmental protection, protection of human health and safety, and business ethics. The Group summarises its duty of vigilance commitments in that document, and spells out its requirements for partners, financiers, suppliers, and subcontractors. This document, submitted to the members of the CDRS[1] (see section 3.6.2 "Governance, oversight and stakeholder involvement"), was signed by the Chairman of the EDF group. It is published in French and English on the edf.fr website (www.edf.fr/sites/groupe/files/2023-02/edfgroup_rse_referentiel-ddv-2021_en.pdf).

In 2023, EDF finalised the application of each of the human rights commitments in its duty of vigilance standards in order to clarify, contextualise and roll them out. Each commitment has its own human rights guide highlighting the international frames of reference and related definitions, the main risk factors, main risk control actions and, where applicable, available tools. These guides are available in French, English, Italian, Spanish and Simplified Chinese.

In 2024, EDF supplemented these tools by developing a file to identify potential risks of human rights violations by major type of raw material based on the technologies and the main producing or extracting countries.

The Group also published a page on its website explaining its commitments and actions to promote human rights (www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company).

Reinforced integration of the duty of vigilance in the procurement process

The Group Executive Committee Commitments Committee (CECEG) closely examines the most significant projects in terms of the scale of the commitments before the Executive Committee decides (see section 2.1.3.4 "Approval of capital commitments"). In this context, the EDF group's Commitments policy sets the framework for decisions on commitments and in particular states that the project must carry out an assessment of the risks of non-compliance with commitments and fundamental requirements in terms of respect for human rights and fundamental freedoms, of protection of the environment, of guaranteeing the health and safety of people, and of business ethics, in accordance with the law on the duty of vigilance. In addition, these projects are subject to an opinion by the Impact Department. This opinion is based on an analysis grid that translates the Group's CSR commitments into operational terms. Issues relating to the environment, personal health and safety, and human rights are therefore systematically addressed in the analysis of projects. Where necessary, the Impact Department requests due diligence specific to these issues (see section 3.6.6 "Salient risks and risk prevention and mitigation measures" - "Global actions to prevent and mitigate risks relating to the duty of vigilance").

For certain projects, when the corresponding risks and complexity so require it, the Group has recommended, since 2024, the development of a dedicated vigilance plan. These project-specific vigilance plans are worked on by the entities supporting these projects, then submitted to the Group's duty of vigilance managers.

Group-wide awareness campaigns and rollout of the vigilance plan

Duty of vigilance managers are appointed in each Group entity, selected based on their duties in matters relating to CSR, ethics and compliance, or internal control. Four meetings of the duty of vigilance managers' network took place in 2024, focusing mainly on the following:

- presentation of the Group's second autonomous vigilance plan for 2023 and the main actions for 2024;
- sharing information about the introduction of vigilance measures at certain Group subsidiaries;
- an intervention by the Sports Ethics Agency on the identification of criminal risks in the sports sector as part of relations with partners in anticipation of the Olympic Games;
- sharing the comments and suggestions of certain Group stakeholders on the vigilance plan;
- regulatory watch: developments regarding the draft of the Corporate sustainability due diligence directive and ongoing French disputes relating to the duty of vigilance.

Regarding trainings, the Group developed in 2021 a specific e-learning module on the duty of vigilance, to raise awareness and help roll out the Group's vigilance plan. In 2024, this e-learning module, as well as the one on human rights, were made available to the members of the EDF Board of Directors, as part of the new "CSR" training offering on the new e-learning platform. By the end of December 2024, around 3,000 employees had completed this e-learning module (2,500 at the end of 2023). In addition, a half-day of training, dedicated to the duty of vigilance, was also provided to the legal officers supporting EDF's Group Executive Committee Commitments Committee (CECEG).

These actions in 2024 are part of a year-round improvement process based on a regularly reviewed action plan.

3.6.6 Salient risks and risk prevention and mitigation measures[2]

3.6.6.1 Global actions to prevent and mitigate risks related to the duty of vigilance

Risk prevention and mitigation measures are implemented by each relevant entity, through application of cross-cutting and sector-specific policies using the common Group risk control methodology as a basis. This methodology involves establishing descriptions of action plans for dealing with risks and an evaluation of their effectiveness. Industrial projects are subject to a risk analysis covering the scope of application of the duty of vigilance, taking into account their nature, size, technical features and location. For the purpose of this analysis, environmental and social impact studies for projects located in non-OECD countries are based on the most demanding international standards (mainly those issued by the IFC, WB, and ADB[3]).

(1) Committee for dialogue on social responsibility (CDRS).
(2) The elements of the annual report are included in the corresponding prevention and mitigation measures.
(3) IFC: International Finance Corporation. WB: World Bank. ADB: Asian Development Bank.

In addition, to ensure that EDF's commitments regarding the environment, human health and safety, and human rights are not overlooked, the related issues are systematically addressed through the identified project risks when projects are submitted to the Group Executive Committee's Commitments Committee (CECEG) for assessment. In practice, this involves identifying the risks associated with projects both for the activities being developed and for the supplier and subcontractor relations envisaged for the purpose of the project. This risk identification is facilitated by the provision of a regularly updated screening grid used for analysis of projects in coherence with the Group's *raison d'être*, CSR commitments, and guidelines, as well as with international standards. This grid covers environmental, health and safety, human rights and ethics issues. In the milestones prior to the CECEG, these aspects are examined in the project validation bodies specific to each entity.

Furthermore, the EDF group regularly engages in share subscription or purchase operations concerning French or foreign entities, for purposes of partnerships, major projects, external growth or investment. In 2023, EDF finalised a methodology guide providing a list and practical presentation of the ethics and compliance due diligence work required. These requirements are based on the ethics and compliance policy, which covers the Group's compliance programmes, including the duty of vigilance. This guide sets out a series of due diligence checks to be performed and actions to implement in a chronological sequence for every phase of a proposed acquisition/partnership/project, based on the level of risk identified at each stage.

3.6.6.2 Human rights and fundamental freedoms

3.6.6.2.1 Identifying salient risks

In matters of human rights and fundamental freedoms, the Group's ethics and compliance policy, which includes the duty of vigilance, has led the EDF group to identify salient risks and associated mitigation measures with regards to the Group's activities and the countries where the company and its subsidiaries operates. The Group has used the *Verisk Maplecroft*®, human rights indices since 2021 for a more granular analysis of the human rights risks the Group could face in the countries where it operates, makes purchases and is developing.

The salient risks relating to human rights and fundamental freedoms identified are as follows:

Risk category	Salient risk	Geographic area	Risk criticality	Material negative impact	Group risk[1]
Cross-cutting	Risks related to harassment and discrimination	Global	■	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	3D
International activities and projects	**Risks of infringement of the rights of local communities:**				
	Risks related to land issues given the need for fair compensation and the implementation of sustainable livelihood restoration programmes.	All areas excluding Europe, North America and Australia	■■	**ESRS S3** Affected communities	1A
	Risks related to population displacements or the consequences of inadequate consultation with local communities, particularly indigenous communities.	Latin America, South-East Asia, India	■■	**ESRS S3** Affected communities	1A
	Risks related to the use of security forces.	Areas near conflict zones or authoritarian regimes	■■	**ESRS S3** Affected communities	1A
	Workers on construction sites and in operational activities:				
	Risks of infringement of workers' rights, notably risks related to decent working and housing conditions.	All areas excluding Europe, North America and Australia Gulf countries Europe, North America and Australia	■■ ■■ ■	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	1E, 1A, 1B
	Risks of forced labour by subcontractors.	Gulf countries, South-East Asia	■	**ESRS S2** Workers in the value chain	1E, 1A, 1B

Net criticality of control actions: ■■■ *high* ■■ *intermediate* ■ *moderate*

(1) See section 2.2 "Risks to which the Group is exposed".

3.6.6.2.2 Principal prevention, mitigation and monitoring measures implemented

The implementation of human rights commitments is part of the deployment of the Global Framework Agreement (GFA) on the Group's social responsibility and the EDF group's standards on CSR commitments and requirements (see section 3.3.1 "The Group's social commitments").

Preventing and fighting against all forms of discrimination, physical or moral violence, intolerance or injustice in life at work

See sections 3.3.2.1.4 "Combating discrimination and promoting inclusion" and 3.3.2.7.1 "Actions related to gender equality and diversity".

Preventing risks concerning infringement of the rights of communities and workers, and use of security forces, related to the Group's international activities and projects

See sections 3.3.3.4.4 "Process for taking into account workers' rights in projects", 3.3.4.2 "Dialogue with affected communities", 3.3.4.3 "Remedy procedures and channels for affected communities to raise concerns", 3.3.4.4 "Actions to manage material risks and opportunities for affected communities" and 3.3.4.4.2.3 "International projects".

Litigation under way in Mexico

In 2018, an NGO made a complaint to the OECD's French national contact point (NCP) about the planned Gunaa Sicaru wind farm, to be managed by a subsidiary of EDF Renewables in Mexico.

During the course of the OECD mediation process, the EDF group took part in two dialogue meetings with the applicants and provided some responses to the concerns raised. The French NCP closed the matter in spring 2020. On 12 July 2022, the same NCP published a follow-up statement noting the strengthening of EDF's corporate policy and its work done on human rights and engagement with stakeholders. As these measures met its recommendations, the NCP ended its monitoring of the matter[1].

The indigenous consultation process conducted by the Mexican authorities was suspended following an earthquake in 2018, and then due to the Covid-19 pandemic. The consultation process had still not resumed as of 31 December 2024, despite an order from a local judge requiring it to be resumed at the end of August 2024.

In parallel, in December 2019, EDF responded to a formal warning concerning the same project issued under the French duty of vigilance law by the same NGO and by four individuals. EDF was then subpoenaed on 13 October 2020 to appear before the Paris Court (*Tribunal Judiciaire*) in accordance with the French duty of vigilance law. The applicants have asked the court to order changes to EDF's vigilance plan, particularly in order to better address the risks posed to the rights of indigenous communities, and to order compensation for the prejudice caused by its alleged failure to fulfil its duty of vigilance. EDF contests both applications. On 30 November 2021, the pre-trial judge dismissed the associations' request to suspend the project as a precautionary measure, as well as their request for an injunction concerning the EDF vigilance plan, due to the lack of prior formal notice. The Court proposed mediation, and EDF accepted. The plaintiffs then appealed the pre-trial judge's decision. During the deliberation of 18 June 2024, the new 5-12 Chamber of the Paris Court of Appeal, in charge of emerging disputes, reversed the order of the pre-trial judge concerning the formal notice. Notably, the court considers that it must clearly identify the alleged breaches, and that the summons may relate to a vigilance plan different from that referred to in the formal notice. However, the court rejected the request to suspend the project on the grounds that the request for a precautionary measure relates not to the obligations of EDF SA in terms of its duty of vigilance, but to the project itself, and is subject to Mexican jurisdictions. No urgency or imminence of future attacks has been demonstrated. The case is referred on the merits to the Paris Court of Justice.

The progress of the project is monitored at the same time by the members of the CDRS (see section 3.6.2 "Governance, oversight and stakeholder involvement").

A special website on the Gunaa Sicaru project is available in English and Spanish: www.gunaa-sicaru.com

3.6.6.3 Environment

3.6.6.3.1 Identifying salient risks

Group risk mapping is established by reference to the Group's various industrial activities. Environmental risks are identified, assessed, and ranked through the environmental management system (EMS) and the internal control system, in liaison with Group risk management (see section 3.2.1 "Environmental management system (EMS)"). The identification of environmental risks is part of the Group's overall risk management practices (see chapter 2 "Risks and control framework"). Each entity defines action plans to reduce and control its risks on the basis of its risk mapping.

The 2024 update to the risk mapping confirms the 2023 risk analysis, and does not highlight any new environmental risks. The main change is that the impact of the acceleration of climate change is now taken into account, together with the systemic challenge of this risk for EDF and all of its stakeholders.

(1) www.tresor.economie.gouv.fr/Institutionnel/Niveau3/Pages/8fd9ecb1-2cb5-4e35-95b7-587b6793f341/files/f28dc42f-543f-46c1-8f32-b1d029b363d5

The salient environmental risks are as follows:

Salient risk	Generation activities most exposed	Risk criticality	Material negative impact	Group risk[1]
Greenhouse gas emissions with effects on the climate:				
– **Direct emissions** (Scope 1)	– Electricity and heat generation from fossil fuel	■■	**ESRS E1** Greenhouse gas emissions	5B
– **Indirect emissions** (Scope 3)	– Supply of gas and electricity, electricity generation by non-controlled plants	■■		5B
Discharges with potential effects on:				
– **air quality**: mainly SO_2, NO_X and dust emissions	– Electricity and heat generation from fossil fuel	■	**ESRS E2** Discharges with effects on air, water and soil quality	1I
– **water quality**: mainly thermal discharge from thermal power plant cooling systems	– Electricity generation by thermal power plants (nuclear, fossil fuels)	■		1I
Consumption with potential effects on:				
– **material resources**: including materials used in building new facilities, and waste generation	– All types of electricity generation (nuclear, thermal, hydropower, wind and solar power)	■ (existing generation) ■■ (projects)	**ESRS E5** Waste generation **ESRS E4** Impact *via* upstream resources	1I 1A, 1I
– **freshwater resources**: evaporation due to closed-circuit cooling of thermal power plants and to industrial processes	– Electricity generation by thermal power plants (nuclear, fossil fuels)	■■	**ESRS E3** Use of fresh water	1I
Potential impacts on biodiversity:				
– **Changing land and sea uses**: mainly land take for new projects	– All types of electricity generation (nuclear, thermal, hydropower, wind and solar power)	■■	**ESRS E4** Ecosystem degradation	1A, 1I
– **Overexploitation of natural resources**: notably forests	– Electricity and heat generation from biomass	■■	**ESRS E4** Impact *via* upstream resources	1I

Net criticality of control actions: ■■■ *high* ■■ *intermediate* ■ *moderate*

3.6.6.3.2 Principal prevention, mitigation and monitoring measures implemented

To prevent and mitigate risks of serious harm to the environment, EDF relies on its Environmental Management System (EMS) and its CSR policy, which commit its entities to a precautionary, responsible approach. The most significant risks are covered by risk control plans consistent with the Group's CSR policy orientations.

To define the environmental goals and related actions deriving from its CSR commitments and policy, the EDF group promotes Group-wide environmental awareness through its EMS (see section 3.2.1 "Environmental management system"). This management system relies on EDF's governing bodies, which define the environmental guidelines and objectives to be achieved, in line with the expectations of external and internal stakeholders (see 3.1.2.1 "The role of the governance, management and supervisory bodies").

In accordance with the requirements of the CSR policy, each of the Group's entities[2] and projects is implementing an environmental management approach adapted to its own concerns.

The EMS operates through Group, entity and function processes, to give stakeholders formal assurance that:

- environmental risks are under control and the EDF group complies with regulations and its commitments: each entity draws up and implements an environmental programme or action plan that takes account of the relevant Group commitments, its own significant environmental aspects and its regulatory obligations, considering its risks and opportunities;
- the Group's organisational efficiency is being improved in a way that is appropriate to the challenges faced: each entity is responsible for its own internal control, internal and external audits of its EMS, and interfaces with the Group EMS;

(1) See section 2.2 "Risks to which the Group is exposed".
(2) Companies with industrial, operational (installation, operation, maintenance), engineering, distribution and supply activities for goods and services.

- mandatory non-financial reporting on the entities' environmental activities is in place: each entity collects and communicates the required environmental information to the Impact Division.

The Group's EMS is certified compliant with international standard ISO 14001 by an external body, French standards agency AFNOR. All industrial sites are covered by an EMS, and more than 80% of them are certified.

3.6.6.3.2.1 Preventing impacts on the climate

See section 3.2.2 Climate change".

3.6.6.3.2.2 Preventing EDF's impacts on the air, water, soil, biodiversity and the production of waste

For impacts on air and soil, see section 3.2.3 "Pollution"; for impacts on water, see section 3.2.4 "Water resources"; for impacts on biodiversity, see section 3.2.5 "Biodiversity and ecosystems", and for waste production, see section 3.2.6.3 "Waste".

3.6.6.4 Health and Safety

3.6.6.4.1 Identifying salient risks

The mapping of risks to the health and safety of employees and subcontractors is carried out by the Health and Safety Division, which is responsible for health and safety management. This risk mapping is based on risk analyses performed by the Group's various entities and subsidiaries, in line with the Group's risk mapping (see section 2.2 "Risks to which the Group is exposed"). The salient risks to the health and safety of employees and contractors relate to the operation of industrial facilities (see section 2.2.1 "Operational performance risks", risk 1D "Risks to health and safety at work (employees and subcontractors)").

Risks concerning consumers and local residents relate to the operation of industrial facilities (see 2.2.1 "Operational performance risks", risk 1F "Hydropower safety risks" and risk 1I "Industrial safety risks and impact on environmental assets, including biodiversity" and 2.2.2 "Specific nuclear operation risks", risk 2C "Nuclear safety risks during operation resulting in nuclear civil liability").

Health and safety risks are as follows:

Risk category	Salient risk	Risk criticality	Material negative impact	Group risk[1]
Health and safety of employees and contractors	Risk of work-related accidents and work-related illnesses (asbestos, chemicals, ionising radiation and noise)	■■	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	1D
	Musculoskeletal diseases and anxiety-depressive disorders, including stress	■	**ESRS S1** Own workforce **ESRS S2** Workers in the value chain	1D
Health and safety of local communities	Safety of nuclear and hydropower facilities	■■	**ESRS S3** Affected communities **ESRS E2** Pollution **ESRS E3** Water and marine resources	1F, 2C
	Air quality	■	**ESRS S3** Affected communities **ESRS E2** Pollution	1I

Net criticality of control actions: ■■■ *high* ■■ *intermediate* ■ *moderate*

3.6.6.4.2 Principal mitigation, prevention and monitoring measures implemented

Rollout of the Health and safety policy

See sections 3.3.2.1.2 "Health and safety prevention policy" and 3.3.2.6 "Health and safety for all".

See section 3.6.6.5.2 "Principal prevention, mitigation and monitoring measures implemented" for health and safety in the purchasing process.

Safety of nuclear and hydropower facilities

See section 3.4.5.3.2 "Nuclear safety".

See section 3.4.5.3.1 "Hydropower safety".

Air quality

See section 3.2.3.2 "Air pollution: discharges of NOx, SO_2, dust".

(1) See chapter 2.2 "Risks to which the Group is exposed".

3.6.6.5 Suppliers and subcontractors

3.6.6.5.1 Identifying salient risks

The key risks relating to the duty of vigilance concerning suppliers and subcontractors are identified on the basis of a risk map covering all purchasing categories within EDF's scope. This concerns EDF's industrial, tertiary and IT purchases, excluding fuel purchases, and a portion of tertiary, IT and telecommunications purchases for certain subsidiaries. The methodology takes into account all CSR themes, by aligning itself both with the EDF group's CSR policy and the CSRD standards: carbon & climate neutrality (mitigation, adaptation), preservation of the planet's resources (pollution, water and marine resources, biodiversity, waste and the circular economy), well-being and solidarity (health and safety, human rights and solidarity-based purchasing), and responsible regional development. It makes it possible to identify actions to be carried out with suppliers at all stages of the purchasing process (strategy, contractualisation and market monitoring) and ultimately to determine the level of residual risk.

This risk analysis covers 184 purchase categories for approximately 18,000 suppliers that have a contract with EDF. More than 95% of purchases are made in France, mainly due to the division of contracts into lots, which facilitates access to the Group's contracts. Equally, 97.4% of purchases are made in the European Union (99.3% in the European Free Trade Association[1]).

Risks are assessed per purchase category. The assessment and prioritisation of gross risks are based on the scope of activity of the suppliers, with regard to the risk factors identified with the experts in each CSR theme. Geographical location is also a major factor in the assessment of risk.

Major risks have been identified in the various purchasing areas, mainly relating to health and safety, pollution and waste, greenhouse gas emissions, the use of rare materials and human rights; 16% of the purchasing categories analysed are classified as "major residual risk"; 51% are classified as "significant risk"; 34% are classified as "limited residual risk". Among the purchasing categories analysed and classified as having a major residual risk, the table below summarises the purchasing areas – by category groupings – with total invoicing of more than €50 million in 2024 (all the risks detailed below specify the main risk of Group 1E relating to supply chains, as well as the main risk of Group 1B relating to control of the nuclear fuel cycle concerning uranium supply in section 2.2 "Risks to which the Group is exposed"):

Fields of purchase	Carbon neutrality and the climate	Preserving the planet's resources	Health and safety	Human rights	Salient risk	Negative material impact
Electricity Instrumentation and Control	■■	■■	■■	■■	• Carbon neutrality and the climate: place of manufacture and transport. • Preserving the planet's resources: end-of-life management of equipment, pollution and impact on biodiversity. • Health and safety: electrical and chemical exposure, machine work. • Human rights: legality of labour, forced labour and child labour, due to the international subcontracting chain for certain items of equipment.	ESRS E1 ESRS E4 ESRS E5 ESRS S2 ESRS S3
Civil engineering, decommissioning and decontamination	■■	■■	■■	■■	• Preserving the planet's resources: risks of soil pollution, volume and traceability of waste. Noise and visual pollution. • Health and safety: use of construction site equipment and explosives, handling and heavy loads. • Human rights: legality of work and working conditions on construction sites.	ESRS E1 ESRS E2 ESRS E3 ESRS S2 ESRS S3
Heavy lifting systems	■■	■■	■	■	• Carbon neutrality and the climate: Energy consumption for the extraction and smelting of minerals (metal, steel). • Preserving the planet's resources: end-of-life management of equipment, some of which may be radioactive.	ESRS E1 ESRS E5
Non-destructive controls/testing and maintenance in an industrial environment	■	■■	■■	■■	• Preserving the planet's resources: electronic waste management. • Health and safety: exposure to radiation, risk of falls, heavy loads. Psycho-social risks related to specialist contractors' mobility, the pressure of deadlines and non-standard working hours. • Human rights: mineral extraction conditions in certain countries for the supply of electronic components.	ESRS E5 ESRS S2 ESRS S3

(1) European Union, Switzerland and the United Kingdom notably.

Fields of purchase	Carbon neutrality and the climate	Preserving the planet's resources	Health and safety	Human rights	Salient risk	Negative material impact
Industrial goods and services	■■	■■	■■	■■	• Carbon neutrality and the climate: CO_2 emissions related to the transport of equipment. • Preserving the planet's resources: air, water and soil pollution during the manufacturing phase, notably concerning clothing. Manufacturing and product end-of-life waste. • Health and safety: risk of falls, handling of heavy objects and exposure to chemicals. • Human rights: forced labour, child labour in the areas where equipment is manufactured.	ESRS E1 ESRS E2 ESRS E3 ESRS E4 ESRS E5 ESRS S2 ESRS S3
IT and telecom equipment	■■	■■	■	■■	• Carbon neutrality and the climate: CO_2 emissions related to the manufacturing location and transport of equipment. • Preserving the planet's resources: electrical and electronic waste, extraction of rare metals. • Human rights: child labour at manufacturing sites, notably for small equipment such as smartphones.	ESRS E1 ESRS E5 ESRS S2 ESRS S3
IT solutions, publishing, hosting and support	■	■	■	■■	• Human rights: legality of labour, risks of discrimination and harassment due to suppliers' global and offshore locations.	ESRS S2
Work on new and existing buildings	■■	■■	■	■	• Carbon neutrality and the climate: concrete manufacturing, transport. • Preserving the planet's resources: waste production.	ESRS E1 ESRS E5
Production line for solar panels and batteries(1)	■■	■■	■■	■■	• Carbon neutrality and the climate: CO_2 emissions related to the manufacturing location and transport of equipment. • Preserving the planet's resources: water consumption in water-stressed areas, water and soil pollution during the manufacturing and extraction phase for certain minerals. • Health and safety: unsuitable working conditions, exposure to chemicals. • Human rights: working conditions, forced labour, risk of discrimination in certain mineral production and extraction areas.	ESRS E1 ESRS E2 ESRS E3 ESRS S2 ESRS S3

Net criticality of control actions: ■■■ *high* ■■ *intermediate* ■ *moderate*

(1) Excluding EDF scope.

3.6.6.5.2 Principal prevention, mitigation and monitoring measures implemented

See section 3.3.3.1.2 “Supplier policy”.

Responsible purchasing process

See section 3.3.3.4.2 “Responsible purchasing approach”.

Closer consideration of climate and health and safety issues in the procurement process

See section 3.2.2.1.2.2.3 “Upstream: Decarbonising the Group’s value chain”.

See section 3.3.3.4.2.1 “The Group Purchasing Division” - “Integration of health and safety in purchasing”.

Supplier assessments

See section 3.3.3.4.2.4 “Supplier monitoring”.

Other practical procedures within the EDF group

See section 3.3.3.4.2.2 “Other methods applied in the Group’s main subsidiaries”.

Awareness raising and training

See section 3.3.3.4.2.3 “Procurement stakeholder training”.

Nuclear fuel procurement

See section 3.3.3.4.3 “Responsibility in the fuel supply chain”.

3.6.7 Group whistleblowing system

Scope

See section 3.3.1.2.1. “Scope”.

System

See sections 3.3.1.2.2 “Accessibility of the system”, 3.3.1.2.3 “Reporting wrongdoing”, 3.3.1.2.4 “Analysis of the admissibility of reports” and 3.3.1.2.5 “Processing of admissible reports” for the operating procedures of the whistleblowing system.

Whistleblowing alerts in 2024

See section 3.3.1.2.7 “2024 results”.

3.6.8 Monitoring system

The Group’s vigilance team is committed to developing the vigilance plan monitoring system in a continuous improvement approach. This system is based on the operational action plan which is monitored by the Steering Committee. This action plan is regularly presented to the CDRS (see section 3.6.2 “Governance, oversight and stakeholder involvement”).

Assessment of the vigilance plan monitoring system is included in the annual internal control plan, and a due diligence risk guide has been drawn up and implemented. Entities use this guide for self-assessment of their compliance with duty of vigilance requirements.

4.

Corporate governance

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4.1 Corporate Governance Code

EDF adheres[1] to the AFEP-MEDEF[2] Corporate Governance Code, subject to the specific laws and regulations applicable to the Company.

These specific laws and regulations result from the company's status as a public company and, in particular, Order no. 2014-948 of 20 August 2014 on the governance and capital transactions of companies with public shareholdings, its implementing regulations and Decree no. 53-707 of 9 August 1953.

They are detailed in this Universal Registration Document and notably relate to:

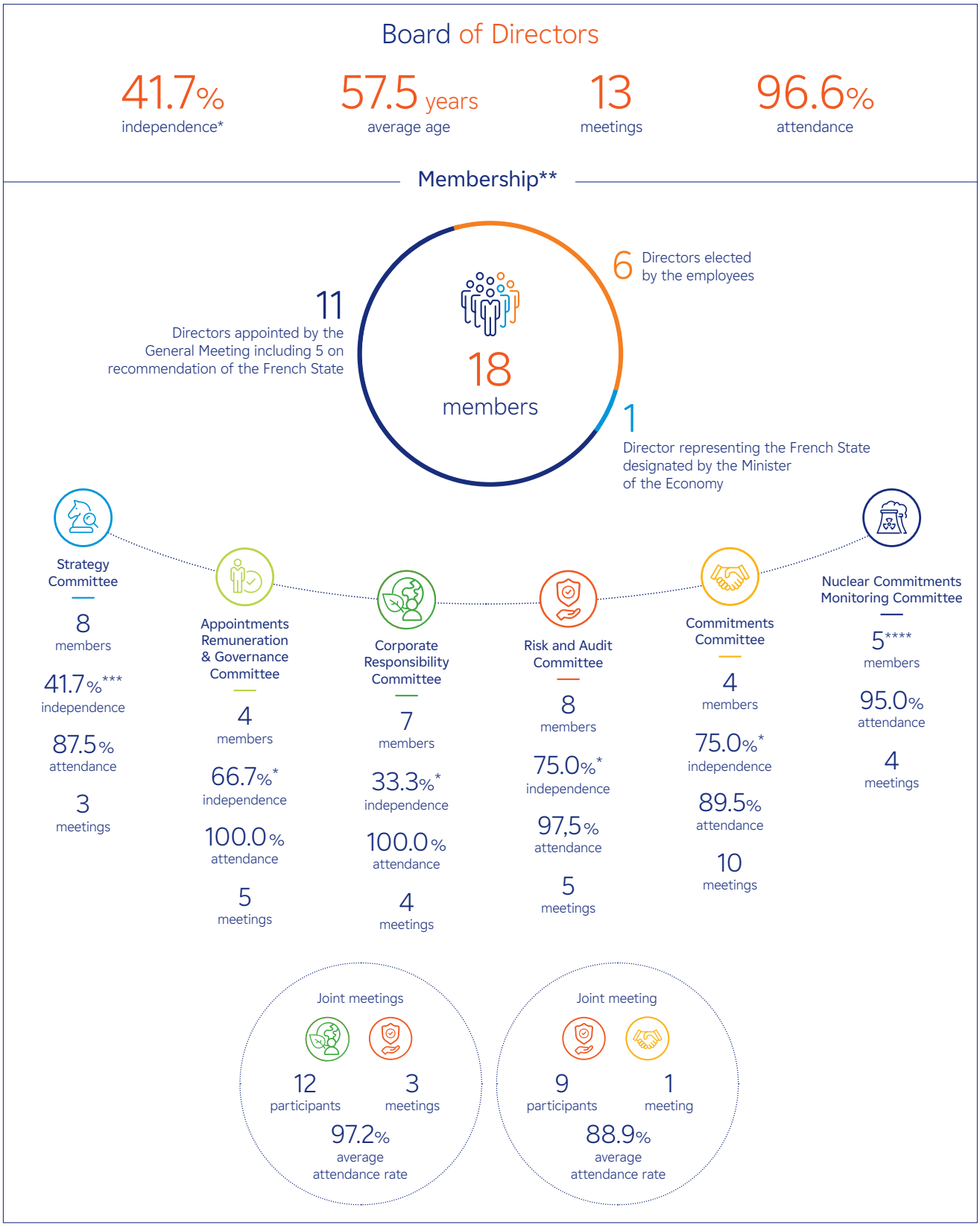
- the composition of the Board of Directors (see section 4.2.1 "Members of the Board of Directors");
- the rules governing the appointment of EDF's Chairman and Chief Executive Officer and the rules for exercising Executive Management (see section 4.2.2.2 "Appointment and powers of the Chairman and Chief Executive Officer" and section 4.2.2.4 "Balance of powers"); and
- the rules for setting the remuneration of the Chairman and Chief Executive Officer (see section 4.5.1.1 "Remuneration of the Chairman and Chief Executive Officer").

In addition to these specificities, the table below sets out the AFEP-MEDEF Code recommendations that are not applied by the Company, and provides explanations:

AFEP-MEDEF Code recommendation	The Company's position	Explanations
Company shares held by directors and corporate officers Recommendation 21: *"Unless otherwise stipulated by law, the director should personally be a shareholder and, by virtue of the provisions in the articles of association or the internal rules, hold a minimum number of shares that is significant in relation to the compensation awarded to them. If he or she does not hold these shares when assuming office, he or she should use his or her compensation to acquire them."* Recommendation 24: *"The Board of Directors sets a minimum number of shares that executive corporate officers must hold in registered form until the end of their term of office. [...] As long as this minimum holding requirement has not been met, corporate officers shall allocate to this purpose a portion of the options exercised or performance shares granted, as determined by the Board."*	Directors and corporate officers do not hold Company shares	Pursuant to legal provisions, directors and corporate officers may not hold Company shares. Since the squeeze-out of EDF's shares on 8 June 2023, the French State has held 100% of the Company's share capital in accordance with Article 111-67 of the French Energy Code. The percentage held by the French State is, where applicable, reduced in proportions below a limit, set by decree, of the share capital held by the Company's employees and by former employees who are members of the Group corporate savings plan.

(1) Pursuant to Article L. 22-10-10 of the French Commercial Code.
(2) AFEP-MEDEF Code, December 2022 version.

4.2 Members and functioning of the Board of Directors



* *Excluding Directors representing the employees.*
** *Membership of the Board as of the filing date of this Universal Registration Document.*
*** *All Directors attending meetings of the Committee, the attendance rate is calculated on the basis of the whole Board, excluding Directors representing the employees.*
**** *The regulatory texts governing the Nuclear Commitments Monitoring Committee do not set out any specific obligations with regard to its composition.*

4.2.1 Members of the Board of Directors

Pursuant to Articles 4 and 6 of Order no. 2014-948 of 20 August 2014, EDF is administered by a Board of Directors composed of between three and eighteen members, including members appointed by the General Meeting, some of whom are nominated by the State, a State Representative appointed by the Minister in charge of the Economy among public employees and one third of employee representatives elected in accordance with the provisions of Law no. 83-675 of 26 July 1983 on the democratisation of the public sector[1].

On the date of filing of this Universal Registration Document, the Board of Directors comprised 18 members:

- eleven Directors appointed by the General Meeting, including five on the recommendation of the French State;
- six Directors elected by the employees;
- one Representative of the French State.

The Government Commissioner[2], the Head of the State's General Economic and Financial Control Mission to the Company[3] and the Secretary of EDF's Central Social and Economic Committee attend meetings of the Board of Directors in an advisory capacity.

Between 1 January 2024 and the filing date of this Universal Registration Document, the following changes and events took place in the membership of the Board of Directors (personal information concerning the Directors is provided later in this chapter):

Name	Director/Category	Nature of the event	Date of Event
Colette Lewiner	Director appointed by the General Meeting	Resignation	11 June 2024
Bruno Even	Director appointed by the General Meeting	Appointment	11 June 2024

Colette Lewiner having announced her intention to resign from her directorship with effect from the close of the General Meeting of 11 June 2024, the Board of Directors, at its meeting of 10 June 2024, decided, on the advice of the Appointments, Remuneration and Governance Committee, to propose to the General Meeting the appointment of Bruno Even as an independent director for a term of 3 years, as an exception to the statutory 4-year term of office for directors, in order to maintain the staggered renewal of the Board of Directors (see section 4.2.2.1 "Term of office of Directors – Staggered renewal of the Board").

The terms of office of Luc Rémont, Nathalie Collin, Delphine Gény-Stéphann, Marie-Christine Lepetit and Michèle Rousseau expire at the General Meeting called to approve the financial statements for the year ended 31 December 2024. On the proposal of the Board of Directors, after consulting the Appointments, Remuneration and Governance Committee, the General Meeting will be called to approve the appointment and/or renewal of directors. The President of the French Republic announced, in a press release dated 21 March 2025, that he "intends, on the proposal of the Prime Minister, to appoint Mr Bernard Fontana as Chairman and Chief Executive Officer of Electricité de France [...]".

Diversity policy

Women in the Board of Directors and governing bodies

In application of Article L. 225-18-1 of the French Commercial Code and the Order of 20 August 2014 and of Order no. 2024-934 of 15 October 2024, EDF is subject to the regulations on balanced gender representation in Boards of Directors and Supervisory Boards. The Company must respect a proportion of at least 40% of Directors of each gender on the Board.

At the date of filing of this Universal Registration Document, the EDF Board of Directors had nine women, three of whom were among the directors elected by employees, *i.e.* a proportion of 50% women on the Board as a whole.

Gender diversity policy for governing bodies and senior executives

In accordance with the recommendations of the AFEP-MEDEF Code, on 16 December 2020 the Board also defined a policy on gender diversity in management bodies applicable to the Company, which sets out the objectives of the Group's gender diversity goals ("*Ambition mixité*") adopted by the Executive Committee[4] and which includes a number of commitments aimed at removing the 'glass ceiling' for women managers in terms of access to Management Committees and at executive level (see section 3.3.2.7 "Professional equality").

The objectives set by the Board **for the Company** were as follows:

- 30% women on Management Committees by 2023; this was achieved by the end of 2023, with 33.6% female Management Committee members, an increase of +1.8 compared to the end of 2023;
- 30% women among the Company's executives and future executives in 2025; this result was already achieved as of 31 December 2023, with 32% female executives and future executives. It should be noted that EDF now uses a separate indicator to monitor the diversity of the pools of future leaders, bearing in mind that the terms "future executives" or "talent" are no longer used in the context of the evolution of its talent management policy, in order to move towards a more inclusive policy. As at 31 December 2024, the percentage of women in the pools of future leaders was 36% at Company level.

Every year, the Corporate Responsibility Committee and the Board of Directors review the results achieved for this policy when the report on the gender equality policy is presented (see section 4.2.3.5 "Corporate Responsibility Committee").

(1) The election and status of directors representing the employees mentioned in section I of Article 7 of the Order of 20 August 2014 are subject to the same provisions as those applicable to employee representatives in companies subject to the Law of 26 July 1983 (chapters II and III of Section II of the Law).
(2) Article 15 of the Order of 20 August 2014.
(3) This remit exercises the French State's economic and financial supervision of EDF, in accordance with Article 8 of Decree no. 55-733 of 26 May 1955. It can exercise extensive supervisory procedures.
(4) See section 3.3.2.7.1.1 "Actions related to gender balance". In 2021, EDF's Executive Committee reinforced the Group's objectives, setting a target of 30% women at all levels of the Company (workforce, management and governance bodies) by 2026, and 36-40% by 2030.

This year, the Committee and the Board examined the measures put in place by EDF and took note of the Company's results in implementing this policy at their meetings of 8 October 2024 and 7 November 2024, respectively.

At Group level, as of 31 December 2024, women accounted for 26.7% of EDF's executives, 33% of the members of the Management Committees and 29.5% of senior management, while making up 26.4% of the total workforce. Moreover, the percentage of women in the pools of future leaders was, at Group level, 38% at the end of 2024.

At a meeting of 28 November 2024, the Appointments, Remuneration and Governance Committee was informed of the update of the targets set by the Group's "*Ambition mixité*" gender diversity goals – which had already been strengthened in 2021 (see section 3.3.2.7.1.1 "Actions related to gender balance").

Duties resulting from France's "Rixain" Law

French Law no. 2021-1774 of 24 December 2021 (known as the "Rixain" Law), supplemented by Decree 2022-680 of 26 April 2022, requires all companies with more than 1,000 employees to achieve a 30% quota of women senior managers and executive managers[1] from 1 March 2026, rising to 40% from 1 March 2029.

These obligations will apply to EDF SA, as well as to the Group's corresponding French subsidiaries.

As of 31 December 2024, at EDF SA:

- 27.5% of company executives were women (compared to 26.5% at the end of 2023),
- 23% of the members of its governing body (Executive Committee) were women.

The Group's goal on executive diversity was reviewed in line with the Rixain Law: it was decided to extend the target of 40% women among executives to the Group scope by the end of 2030, which is an even more ambitious target.

As the diversity and equality of managers and pools of leaders are essential levers for the Group's transformation, EDF boosted its action plan in 2024 to meet this objective (see section 3.3.2.7.2.1 "Obligations resulting from the Rixain Law: percentage of women among senior executives").

Other diversity criteria

In accordance with the recommendations of the AFEP-MEDEF Code, the Board of Directors regularly re-examines the desirable balance of its membership and the composition of its Committees. It defines a diversity policy applicable to members of the Board, based on criteria such as age, gender balance, and professional qualifications and experience.

After consulting the Committee in charge of governance issues, the Board of Directors, at its meeting of 14 February 2019, defined a diversity policy taking into account the Group's strategy and consisting of seeking skills and experience adapted to its challenges.

This policy was reviewed and updated by the Board of Directors at its meeting of 17 February 2021, in the context of the expiry of the terms of office of several directors at the end of the Annual General Meeting held in 2021, and taking into account the expectations that had been formulated by the directors during the external evaluation of the Board of Directors carried out at the end of 2020.

Since then, each time a director leaves the Board or their term of office is renewed, the Appointments, Remuneration and Governance Committee examines the candidates, taking into account the objectives sought in terms of age, parity, professional experience, complementary profiles and the maintenance of a sufficient proportion of Independent Directors on the Board. This proportion is defined as at least one third of Directors, as recommended by the AFEP-MEDEF Code for companies with a controlling shareholder (see section 4.2.3.6 "Appointments, Remuneration and Governance Committee").

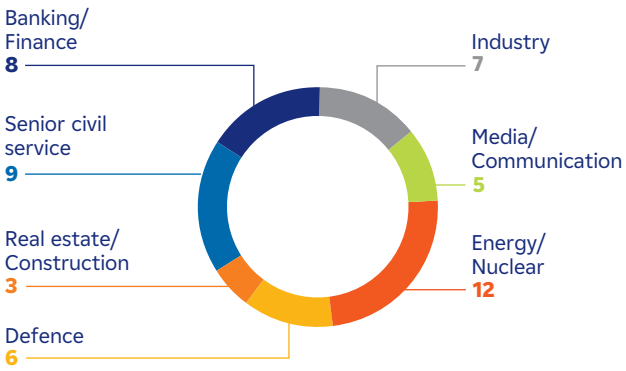
The members of the Board of Directors are questioned, during the assessments of the Board and its Committees, on their assessment of the composition of the Board of Directors and their expectations. For example, the last external evaluation carried out in 2024 showed that the appointment in 2024 of a new director with an industrial profile, in accordance with the suggestions made during the 2023 internal evaluation, was appreciated by the directors. (see section 4.2.2.6 "Assessment of the functioning of the Board of Directors and its Committees").

(1) In the Company's case this means EDF's Executive Committee.

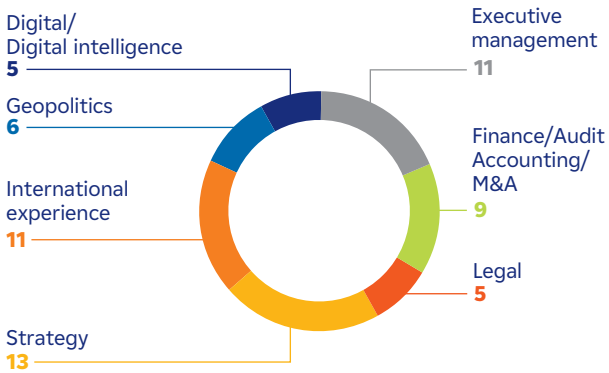
Business skills of the members of the Board of Directors

The graphs below show the mapping of sectoral skills and functional skills identified by the directors (self-assessment). Each director has also identified three key skills related to their training and/or professional background (see the detailed presentation of the directors' career path above).

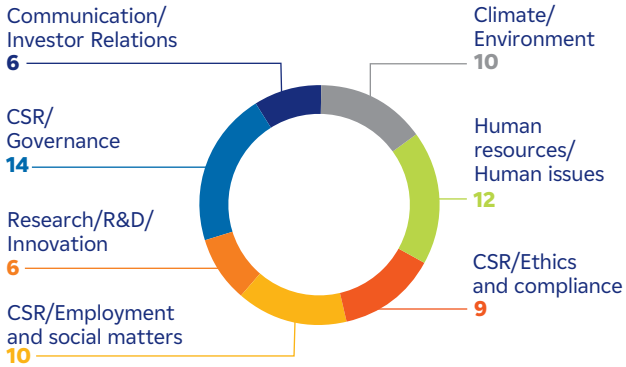
SECTOR-SPECIFIC EXPERTISE BY TYPE OF SKILL



FUNCTION-SPECIFIC EXPERTISE BY TYPE OF SKILL



THE BOARD'S CSR AND CLIMATE EXPERTISE



Information about the Directors

The table below summarises the main information concerning the members of the Board of Directors as at 31 December 2024.

SUMMARY PRESENTATION OF THE BOARD OF DIRECTORS

	PERSONAL INFORMATION			EXPERIENCE	ROLE WITHIN THE BOARD				ATTENDANCE TO COMMITTEES					
	Age	Gender	Nationality	Number of mandates in listed companies	Independence	Date of first appointment	Term of office shall expire on	Seniority in the Board (in years)	Strategy Committee	Risk and Audit Committee	Commitments Committee	Nuclear Commitments Monitoring Committee	Corporate Responsibility Committee	Appointments, Remuneration & Governance Committee
Directors appointed by the General Meeting														
Luc Rémont* Chairman and Chief Executive Officer	55	M	French	1		18/11/2022	GM 2025	2.33	C					
Nathalie Collin**	60	F	French	0	▲	22/07/2021	GM 2025[2]	3.5		■	■			C
Bruno Crémel	59	M	French	0	▲	16/05/2019	GM 2027[1]	5.67		■				
Bruno Even	57	M	French	0	▲	11/06/2024	GM 2027	<1			■			
Claire Pedini	59	F	French	0	▲	12/05/2016	GM 2027	8.68					C	■
Philippe Petitcolin	72	M	French	2	▲	16/05/2019	GM 2027	5.67	■	■	C			
Directors appointed by the General Meeting on the recommendation of the French State														
Anne-Marie Descôtes	65	F	French	0		28/11/2022	GM 2027	2.25	■					
Gilles Denoyel	70	M	French	0		16/05/2019	GM 2027	5.67				C		
Marie-Christine Lepetit	63	F	French	0		07/05/2012	GM 2025	12.69		C	■	■		
Michèle Rousseau	67	F	French	0		30/09/2016	GM 2025	8.29				■	■	
Delphine Gény-Stephann	56	F	French	1		12/05/2022	GM 2025	2.83					■	
Director representing the French State														
Alexis Zajdenweber	48	M	French	2		23/09/2022	20/11/2026	2.42	■					■
Directors elected by the employees														
Christophe Béguinet	59	M	French	0		23/11/2023	22/11/2027	1.25	■	■			■	
Aurélie Frionnet	47	F	French	0		23/11/2023	22/11/2027	1.25	■		■	■		
Fabrice Guyon	51	M	French	0		16/02/2023	22/11/2027	2.08	■	■		■		
Gérald Lacoste	48	M	French	0		23/11/2023	22/11/2027	1.25		■			■	
Sandrine Lhenry	50	F	French	0		28/07/2021	22/11/2027	3.5	■	■			■	
Cécile Pichot	50	F	French	0		23/11/2023	22/11/2027	1.25					■	■

**** Mr Luc Rémont is the only executive member of the Board of Directors***

***** Ms Nathalie Collin was appointed Chairwoman of the Appointments, Remuneration and Governance Committee on 28 June 2024***

(1) GM 2027: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026.
(2) GM 2025: Ordinary General Meeting called to approve the financial statements for the financial year ended 31 December 2024.

■ *Member of the Committee*
C Chairman of the Committee

▲ Independence as defined by the AFEP-MEDEF Code criteria

Personal information on the Directors and their appointments are shown in the table below and are provided as at 6 January 2025, unless otherwise stated.

DIRECTORS APPOINTED BY THE GENERAL MEETING

Luc RÉMONT, 55 years old

Chairman and Chief Executive Officer

Date of appointment to the Board: 18 November 2022

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2024[2]

Other positions: Chairman of the Strategy Committee

Nationality: French

Key skills:

- Executive management
- Industry/Energy/Nuclear
- International strategy

A graduate of the École Polytechnique and École Nationale Supérieure des Techniques Avancées (ENSTA Paris), Luc Rémont began his career in 1993 as an engineer at the French Directorate General of Armaments (Direction générale de l'armement). In 1996, he joined the French Ministry for the Economy, Finance and Industry where he held various positions. Firstly, at the French Treasury Department, he was in charge of relations with the European Bank for Reconstruction and Development (EBRD) and the World Bank, and then with the French State's holdings in companies in the transport sector. He then became a technical advisor in charge of investments, and then Deputy Chief of Staff for several French Ministers of Finance from 2002 to 2007. In 2007, he joined Merrill Lynch and in 2009 he became Managing Director of the corporate and investment bank, Bank of America Merrill Lynch in France. He joined Schneider Electric in April 2014 and became President of Schneider Electric France, and was then appointed Managing Director of Schneider Electric International Operations with responsibility for South America, Africa and the Middle East, India, East Asia and the Pacific in April 2017. Between 2015 and 2018, Luc Rémont was also President of GIMELEC, a group of 230 French companies that are designing and deploying electric and digital technologies for secure optimised energy management in buildings, industry and digital infrastructures. He was a member of the Board of Directors of Naval Group, the European leader in naval defence, from 2014 to 2020 and a Director of Worldline, the European leader in secure digital payments and transactions, from 2014 to 2023. Luc Rémont has been EDF's Chairman and Chief Executive Officer since 23 November 2022[1].

Other current appointments

Principal position held in the Group

- Chairman and Chief Executive Officer of EDF

Office/Position	Title	Country	
Chairman and Chief Executive Officer	EDF	France	
Director	Edison	Italy	G/L
Director	EDF Energy Holdings	United Kingdom	G
Chairman of the Board of Directors	EDF group Foundation	France	G
Chairman	Viva Fabrica Foundation	France	

Appointments which expired during the last five years

- Chairman of the Schneider Electric India Private Limited Board of Directors
- Director of Naval Group
- Director of Worldline
- Director of EDF Renewables
- Director of Dalkia

(1) Luc Rémont was appointed as EDF's Chairman and Chief Executive Officer by decree of the French President on 23 November 2022.

(2) See the press release of the Presidency of the French Republic of the 21 March 2025 stating " The President of the Republic is considering, on the proposal of the Prime Minister, appointing Mr. Bernard Fontana as Chairman and Chief Executive Officer of Electricité de France [...]"..

G: EDF group company – L: listed company.

Nathalie COLLIN, 60 years old

Director appointed by the General Meeting

Date of appointment to the Board: 22 July 2021

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ended 31 December 2024

Other positions: Chairwoman of the Appointments, Remuneration and Governance Committee, Member of the Risk & Audit Committee and the Commitments Committee

Nationality: French

Key skills:

- Executive management
- CSR/Governance
- Digital/Digital intelligence

Nathalie Collin has a master's degree in business and tax law from Pantheon-Assas Paris 2 University and is a graduate of ESSEC. Having been a consultant at Arthur Andersen from 1987 to 1990 and 1992 to 1993 and Chief Financial Officer at the Cité Mondiale des Vins et Spiritueux from 1990 to 1992, she became Chief Financial Officer for France at Interleaf in 1993, and subsequently Interleaf's Chief Financial Officer for Europe and Executive Vice-President, Finance in 1995. From 1997 to 2009, she held several positions at EMI Music France, becoming Chair of the Management Board in 2002. She was Co-Chair of the Management Board of French daily newspaper Libération from 2009 to 2011, and then Executive Vice-President of Le Nouvel Observateur press group from 2011 to 2014. In 2014, she joined La Poste Group as Deputy Chief Executive Officer in charge of Digital Technology and Communications, before becoming Chief Executive Officer of the General Public and Digital Technology Division in March 2021. Nathalie Collin was a member of the French Economic, Social and Environmental Council (Conseil économique social et environnemental) and the French National Digital Council (Conseil national du numérique) up to 2021. She is a director of GeoPost, CNP Assurances and the French National Institute for Research in Digital Sciences and Technologies (INRIA).

Other current appointments

Principal position held outside the Company

- Deputy CEO and CEO of the Consumer and Digital Division of La Poste Group

Office/Position	Title	Country
Deputy Chief Executive Officer	La Poste	France
Director	GeoPost	France
Director	CNP Assurances	France
Director	National Institute for Research in Digital Sciences and Technologies (INRIA)	France
Member of the Steering Committee	Docaposte	France
Member of the Steering Committee	LP11	France

Appointments outside the Company which expired during the last five years

- Director of La Banque Postale (France)
- Member of the Mediapost Steering Committee (France)

Bruno CRÉMEL, 59 years old

Director appointed by the General Meeting

Date of appointment to the Board: 16 May 2019
Last renewal: 28 June 2023
Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026
Other positions: Member of the Risk and Audit Committee
Nationality: French

Key skills:

- Financial analysis
- Strategy
- Management/Governance

A graduate of the École Centrale de Paris, the Paris Institute of Political Studies (IEP) and the National School of Administration (ENA), Bruno Crémel started his career as a Finance Inspector before joining the French Ministry for the Economy, Finance, and Industry as head of the Public Banks and Insurance Office of the State Shareholdings Department, where he coordinated the privatisation of several public banks and insurance companies. From 1998 to 2000, he was Strategic and Planning Director at the Kering group as a member of the Executive Committee, then Chairman of the Management Board of PPR Interactive. From 2000 to 2002, he was Chief of Staff for Laurent Fabius, Minister for the Economy, Finance and Industry. From 2002 to 2006, he was Chief Executive Officer of FNAC. From 2006 to 2012, he was General Partner and a member of the Executive Committee of the LBO France investment fund, where he oversaw the acquisitions of Maisons du Monde and Promovacances. He was appointed Chairman and Chief Executive Officer of Darty France in 2012. He joined the Partech investment fund in May 2014 and has been its General Partner and Deputy Chief Executive Officer since May 2016.

Other current appointments

Principal position held outside the Company

- General Partner and Deputy Chief Executive Officer of Partech Partners

Office/Position	Title	Country
Deputy Chief Executive Officer	Partech Partners	France
Chairman	Partech Growth GP	France
Chairman	Partech Growth II Holding	France
Chairman of the Board of Directors	Artaris	France
Director	Evaneos	France
Member of the Strategy Committee	Rouje	France
Director	Weglot	France
Director	Fonds de Dotation Française du Louvre	France
Director	Studocu	Netherlands
Director	Channable	Netherlands
Director	Payt	Netherlands
Board observer	TransferRoom	United Kingdom

Appointments outside the Company which expired during the last five years

- Director of Sendinblue (France)
- Director of Made.com (UK)
- Director of M-Files (Finland)
- Member of the Exporo Supervisory Board (Germany)

Gilles DENOYEL, 70 years old

Director appointed by the General Meeting on the recommendation of the French State

Date of appointment to the Board: 16 May 2019

Last renewal: 28 June 2023

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026

Other positions: Chairman of the Nuclear Commitments Monitoring Committee

Nationality: French

Key skills:

- Bank/Finance
- Senior civil service
- CSR/Governance

A graduate of Mines ParisTech Engineering School and the Paris Institute of Political Studies (IEP), and an alumnus of the National School of Administration (ENA), Gilles Denoyel was appointed Inspector of Public Finances at the French Ministry for the Economy and Finance in 1981 before joining the Treasury Department in 1985, where he was successively in charge of the CIRI (Interministerial Committee for Industrial Restructuring), the Financial Markets Bureau, the Insurance Sub-Directorate and finally the privatisation programme. In 1996, he joined the CCF group as Chief Financial Officer, then General Secretary in charge of Strategy and Operations, then Senior Executive Vice-President in charge of Finance: in this capacity, he played a significant part in CCF's integration into the HSBC group. In 2004, he was appointed Director and Deputy Chief Executive Officer, successively in charge of central functions, asset management and insurance, and then of all risk and control functions and relations with regulatory authorities. From 2015 to 2016, he was HSBC's International Institutional Relations President for Europe. He was also Chairman of the group of banks under foreign control in France from 2006 to 2016 and Treasurer of the Association française des banques (French banking association) from 2004 to 2016. A member of the Supervisory Board of Rothschild & Cie from May 2020 to December 2023, Gilles Denoyel has been Chairman of the Board of Directors of Dexia and Dexia Holding since May 2018 and a member of the Supervisory Board of Memo Bank since January 2018. He is also a member of the Board of Directors of Institut Aspen France.

Other current appointments

Principal position held outside the Company

- Chairman of the Board of Directors of Dexia and Dexia Holding

Office/Position	Title	Country
Chairman of the Board of Directors	Dexia Holding	Belgium
Chairman of the Board of Directors	Dexia	France
Member of the Supervisory Board	Memo Bank	France
Director	Institut Aspen France	France

Appointments outside the Company which expired during the last five years

- Member of the Supervisory Board of Rothschild & Cie (France)

Anne-Marie DESCÔTES, 65 years old

Director appointed by the General Meeting on the recommendation of the French State

Date of appointment to the Board: 28 November 2022

Last renewal: 28 June 2023

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026

Other positions: Member of the Strategy Committee

Nationality: French

Key skills:

- Strategic analysis
- International and EU relations
- Diplomacy of influence

An alumna of the École Normale Supérieure and the National School of Administration (ENA), Anne-Marie Descôtes also holds a senior teaching qualification in German, a postgraduate degree in German Studies and a degree in art history. After teaching German for two years, she was a cultural attaché at the French Embassy in Bonn from 1987 to 1990. On graduating from ENA, she was appointed to the European Cooperation Directorate at the French Ministry of foreign affairs, where she worked on issues such as extra-community relations and then intra-community affairs, particularly the creation of the JHA pillar (1994-1997), before becoming a technical advisor in the staff of Pierre Moscovici, France's Minister for European Affairs (1997-2001). From 2001 to 2005, she held the positions of special advisor for Central and South-Eastern European enlargement at France's Permanent Representation to the European Union in Brussels. She was then appointed special advisor for Europe and the ex-USSR in Washington from 2005 to 2008, Director of the Agency for French Education Abroad (AEFE) from 2008 to 2013 and Director-General for Global Affairs, Culture, Education and International Development from 2013 to 2017. After a period as Ambassador Extraordinary and Plenipotentiary of France to Germany from 2017 to 2022, she was appointed Secretary General of the French Ministry of Europe and Foreign Affairs on 30 August 2022. She was awarded the title of Ambassador of France on 25 November 2020. Anne-Marie Descôtes has been a director of Orano, Institut national du service public (INSP) and Institut Français, among others, since 2022, and a member of the European Council on Foreign Relations (ECFR) think tank and the German Marshall Fund.

Other current appointments

Principal position held outside the Company

- Secretary General of the French Ministry for Europe and Foreign Affairs

Office/Position	Title	Country
Director	Orano	France
Director	Agence nationale des titres sécurisés (French National Agency of Secure Shares)	France
Director	Institut national du service public (INSP)	France
Director	Institut Français	France
Director	Sorbonne Abou Dhabi	France
Director	Institut des hautes études de défense nationale (French Institute of High National Defence Studies)	France
Director	Institut du monde arabe	France
Director	France médias monde	France

Appointments outside the Company which expired during the last five years

- Chair of the Board of Directors of France Education International (France)

Bruno EVEN, 57 years old

Director appointed by the General Meeting

A former student of École Polytechnique, and holder of a Master of Science (aeronautics and space) from ISAE-SUPAERO, Bruno Even joined the French Ministry of Defence in 1992 to develop the space segment of the Helios satellite. In 1997, he was appointed Technical Advisor to the Director of Strategic Affairs, Security and Disarmament at the French Ministry of Foreign Affairs, then joined the Safran Group in 1999, where he held various management positions at Helicopter Engines (formerly Turbomeca) before being appointed CEO of Safran Electronics & Defense (formerly Sagem) in 2013 and then CEO of Safran Helicopter Engines in 2015. He has been Chief Executive Officer of Airbus Helicopters and a member of the Airbus Group Executive Committee since April 2018.

Other current appointments

Principal position held outside the Company

- Chief Executive Officer of Airbus Helicopters and member of the Airbus Group Executive Committee

Office/Position	Title	Country
Chief Executive Officer	Airbus Helicopters	France

Appointments outside the Company which expired during the last five years

None

Delphine GENY-STEPHANN, 56 years old

Director appointed by the General Meeting on the recommendation of the French State

Date of appointment to the Board: 12 May 2022
Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ended 31 December 2024
Other positions: Member of the Corporate Responsibility Committee
Nationality: French

Key skills:

- Industry
- Strategy
- CSR/Governance

An engineering graduate of the École Polytechnique and École nationale des ponts et chaussées with an MBA from the Collège des ingénieurs, Delphine Gény-Stephann started her career in 1994 at the Treasury Department of the French Ministry for the Economy and Finance. In 1999, she joined the French State Shareholdings Agency and the Boards of Directors of several public companies. In 2005 Delphine Gény-Stephann joined the High-Performance Materials Department of Saint-Gobain group, where she consecutively held the positions of Director of Development and Financial Director of the Ceramic Materials activity. In 2013, she was made Mergers & Acquisitions manager and was appointed External Venturing Director of the group. In 2014, she became Managing Director of Planning and Strategy for Compagnie de Saint-Gobain and a member of the group's General Management Committee, before becoming Chief Executive Officer of the Silicon Carbide and Quartz activity. In November 2017, she was appointed Secretary of State to the Minister for the Economy and Finance, a position she held until October 2018. Delphine Gény-Stephann has been a consultant since 2019 and has been advising the Advisory Council set up by Morgan Stanley in its Paris office since the end of 2022. She is also a Director of Thales and Eagle Genomics, a member of the Steering Committee and the Mission Committee of GENEO Partenaires SAS, and a member of the Supervisory Committee of Holding d'infrastructures des métiers de l'environnement SAS (parent company of the Saur Group).

Other current appointments

Principal position held outside the Company

- Consultant

Office/Position	Title	Country	
Director	Thales	France	L
Director	Eagle Genomics	United Kingdom	
Member of the Supervisory Board	Holding d'infrastructures des métiers de l'environnement SAS	France	
Member of the Steering Committee and Chairwoman of the Mission Committee	GENEO Partenaires SAS	France	

Appointments outside the Company which expired during the last five years

- None

G: EDF group company – L: listed company.

Marie-Christine LEPETIT, 63 years old

Director appointed by the General Meeting on the recommendation of the French State

Date of appointment to the Board: 7 May 2012

Last renewal: 6 May 2021

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ended 31 December 2024

Other positions: Chair of the Risk and Audit Committee, Member of the Nuclear Commitments Monitoring Committee and the Commitments Committee

Nationality: French

Key skills:

- Audit/Finance
- Strategy
- Climate/Environment

An alumna of the École Polytechnique and the National School of Administration (ENA), Marie-Christine Lepetit joined the General Inspectorate of Finance in 1987, where she held auditing and advisory positions. In 1991, she was recruited by Jean Lemierre to France's General Tax Directorate to introduce management control. In January 1995, she was responsible for summary work in the tax legislation department before joining the office of Prime Minister Alain Juppé as Technical Advisor in Taxation and Macroeconomic Studies, then Taxation and SMEs from 1995 to 1997. She continued her career at the General Tax Directorate, working to improve service quality (pre-filled tax returns, remote procedures, certification). Appointed Director of Tax Legislation at the Ministry for the Economy and Finance in 2004; she worked on implementation of tax reforms from 2004 to 2012. Meanwhile, she co-chaired the working group on social welfare financing reform in 2006 and co-signed the report of the expert conference on the climate and energy contribution chaired by Michel Rocard. She also sat on the Local Authorities Reform Committee chaired by Édouard Balladur as Executive Director and was a member of the Public Life Renewal and Ethics Commission chaired by Lionel Jospin. She headed the General Inspectorate of Finance from 2012 to 2022 and has since held the position of Inspector General of Finance (consulting work). She has been a member of the Risks and Internal Control Committee of the Fondation des apprentis d'Auteuil since April 2019, and of the Conseil des prélèvements obligatoires since December 2023.

Other current appointments

Principal position held outside the Company

- Inspector General of Finance

Office/Position	Title	Country
Member of the Risks and Internal Control Committee	Fondation des apprentis d'Auteuil	France
Member	Conseil des prélèvements obligatoires	France

Appointments outside the Company which expired during the last five years

- Director of the Paris Institute of Political Studies (IEP) (France)

Claire PEDINI, 59 years old

Director appointed by the General Meeting

Date of appointment to the Board: 12 May 2016

Last renewal: 28 June 2023

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026

Other positions: Chair of the Corporate Responsibility Committee, Member of the Appointments, Remuneration and Governance Committee

Nationality: French

Key skills:

- Human resources/Human issues
- Climate/Environment
- Communication/Investor relationships

A graduate of top business school HEC and holder of a master's degree in media management from École supérieure de commerce de Paris, Claire Pedini joined Total in 1988 as a Management Controller. She became Head of the Group's IPO and listing on the New York Stock Exchange in 1991, then Head of Financial Communications in 1992, Head of the Press Department in 1994 and Head of the New Information Technologies Department in 1997. In 1998, she joined Alcatel as Chief of Financial Information and Shareholder Relations, becoming successively Vice-President, Investor Relations and Public Affairs in 2001, Deputy Chief Financial Officer in 2004, Senior Vice-President, Human Resources and Corporate Communications and member of the Executive Committee in 2006, Senior Vice-President, Human Resources, Corporate Communications and Real Estate in 2007, and Executive Vice-President, Human Resources and Transformation at Alcatel-Lucent in 2009. Claire Pedini was a Director of Arkema from 2010 to 2016. Appointed Deputy Managing Director in charge of Human Resources for the Saint-Gobain Group in June 2010, she was then Senior Vice-President, Human Resources and Digital Transformation until January 2019. She is currently Senior Vice-President, Human Resources and Corporate Social Responsibility at Saint-Gobain.

Other current appointments

Principal position held outside the Company

- Senior Vice-President, Human Resources and Corporate Social Responsibility, Saint-Gobain Group – Member of the Executive Committee of Saint-Gobain

Office/Position	Title	Country	
Deputy Chief Executive Officer	Saint-Gobain	France	L

Appointments outside the Company which expired during the last five years

- None

G: EDF group company – L: listed company.

Philippe PETITCOLIN, 72 years old

Director appointed by the General Meeting

Date of appointment to the Board: 16 May 2019

Last renewal: 28 June 2023

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2026

Other positions: Chairman of the Commitments Committee, Member of the Strategy Committee and the Risk and Audit Committee

Nationality: French

Key skills:

- Executive management
- Industry
- International strategy

Philippe Petitcolin has a degree in Mathematics and is a graduate of the CPA Paris business school. He began his career as Export Manager for Europrim, and then became Export Zone Manager for the Alcatel-Alstom subsidiary Filotex. In 1982, he was appointed Aeronautical Sales Manager for Chester Cable in the United States. He returned to Filotex as Export Manager in 1984. In 1988, he joined Labinal as Deputy Sales Manager before being appointed Sales and Marketing Manager of the Aeronautical Systems Division, then becoming its General Manager in 1995. From 1999 to 2001, he was head of Labinal's Filtrauto division and Head of the Friction Materials business following Filtrauto's takeover by Valeo. In May 2001, he took on the position of Chief Executive Officer of Labinal (now Safran Electrical & Power) and became the company's Chairman and Chief Executive Officer in November 2004. In 2006, he was appointed Chairman and Chief Executive Officer of Snecma (now Safran Aircraft Engines). From 2011 to 2013, he was Chairman and Chief Executive Officer of Safran's defence and security activities, and Chairman & Chief Executive Officer of Safran Electronics & Defense. From July 2013 to July 2015, he was Chairman and Chief Executive Officer of Safran Identity & Security. He was appointed Director and Chief Executive Officer of Safran in April 2015, a position he held until 31 December 2020. On the same date, he became a member of the Board of the European association The Aerospace and Defence Industries (ASD). He is now Chairman of the Board of Directors of Alstom, Chairman of the Supervisory Board of Diot-Siaci and a Director of Pernod Ricard.

Other current appointments

Principal position held outside the Company

- Corporate director

Office/Position	Title	Country	
Chairman of the Board of Directors	Alstom	France	L
Chairman of the Supervisory Board	Diot Siaci	France	
Director	Pernod Ricard	France	L

Appointments outside the Company which expired during the last five years

- Director and Chief Executive Officer of Safran (France)
- Director of Suez (France)
- Director of KNDS (Netherlands)
- Director of Belcan Corporation (United States)

G: EDF group company – L: listed company.

Michèle ROUSSEAU, 67 years old

Director appointed by the General Meeting on the recommendation of the French State

Date of appointment to the Board: 30 September 2016

Last renewal: 6 May 2021

Expiry of current term of office: Ordinary General Meeting called to approve the financial statements for the financial year ended 31 December 2024

Other positions: Member of the Nuclear Commitments Monitoring Committee and the Corporate Responsibility Committee

Nationality: French

Key skills:

- Energy/Nuclear
- Executive management
- Climate/Environment

A graduate of the École Nationale Supérieure des Mines de Paris, Michèle Rousseau started her career at the Nord-Pas-de-Calais Regional Directory for Industry, Research and the Environment (DRIRE) as Head of the Environment Division. She joined the French Ministry for the Environment where she was responsible for waste issues, and later the French Ministry for Industry where she held the post of Deputy Director of the Nuclear Installation Safety Directorate with responsibility for oversight of EDF's nuclear fleet. She then moved to the French research and innovation agency ANVAR as Deputy Director General, where she conducted policies supporting innovative SME projects, and later to the French Ministry for the Economy, Finance and Industry as Director with responsibility for energy demand and markets. Her main missions at this ministry were developing a new legislative and regulatory framework for the more open European electricity and gas markets, and increasing energy conservation and renewable energy. After serving as Secretary General of the French Ministry for Ecology and Sustainable Development, in 2008 she became Director, Deputy Commissioner General for Sustainable Development, with particular responsibility for implementing the Grenelle Environment initiative. In 2011, she was appointed Director General of the Seine-Normandy Water Agency, before joining the General Council for the Environment and Sustainable Development in 2016 where she was Chair of the Hauts-de-France Regional Environmental Authority Mission (MRAe). Michèle Rousseau was Chair of the Geological and Mining Research Office until March 2023, and was a Director of the Agence nationale de la recherche (ANR) until 10 March 2024.

Other current appointments

Principal position held outside the Company

- Director

Office/Position	Title	Country
None		

Appointments outside the Company which expired during the last five years

- Chair of the Board of Directors of the Bureau de Recherches Géologiques et Minières (BRGM) (France)
- Director of the Agence nationale de la recherche (ANR) (France)

DIRECTOR REPRESENTING THE FRENCH STATE

Alexis ZAJDENWEBER, 48 years old

Director representing the French State

Date of appointment to the Board: 23 September 2022
Last renewal: 21 November 2022
Expiry of current term of office: 20 November 2026
Other positions: Member of the Strategy Committee and the Appointments, Remuneration and Governance Committee
Nationality: French

Key skills:

- Senior civil service
- Finance/Audit Accounting/M&A
- Governance

A graduate of the Paris Institute of Political Studies (IEP) and the National School of Administration (ENA), Alexis Zajdenweber began his career in 2003 as Deputy Chief of the savings and financial markets office of the Treasury department at the French Ministry for the Economy, Finance and Industry. In 2006, he became Deputy Chief of the corporate financing and development office of the Treasury and economic policy department. In 2007, he was seconded as advisor on competition and State aid, company law and corporate governance to the economic, financial and monetary affairs office at France's permanent representation to the European Union in Brussels. He returned to the General Treasury Department in 2009 as Head of the banking services and payment methods office, and in 2011 became Head of the investments, anti-financial crime and sanctions office. In July 2012, he was appointed Advisor in charge of the financial sector in the staff of the Minister for the Economy and Finance. In 2014, he joined the French State Shareholdings Agency (APE) as assistant director in charge of Energy shareholdings. In May 2017, he joined the Presidency of the French Republic as economic, finance and industry advisor. Alexis Zajdenweber was appointed Commissioner for the French State Shareholdings Agency has headed this agency since September 2022. He is a Director of Bpifrance, Renault, SNCF and Thales.

Other current appointments

Principal position held outside the Company

- Commissioner for the French State Shareholdings Agency

Office/Position	Title	Country	
Director	Renault	France	L
Director	SNCF	France	
Director	Thales	France	L
Director	Bpifrance	France	

Appointments outside the Company which expired during the last five years

- None

G: EDF group company – L: listed company.

DIRECTORS ELECTED BY THE EMPLOYEES

Christophe BEGUINET, 59 years old

Director elected by the employees

Date of appointment to the Board: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Strategy Committee, the Risk and Audit Committee and the Corporate Responsibility Committee
Nationality: French

Key skills:

- Energy/Nuclear/Strategy
- Climate/Environment

Christophe Béguinet is a graduate of the Institut national des sciences et techniques du nucléaire and the École nationale supérieure de physique in Grenoble, and began his career in Research and Development in the nuclear industry in 1991. He then contributed to implementation of the earliest European energy policies, involving separation of the producers' transmission networks. He joined the EDF GDF Services Department before contributing to the Company's adaptation to the rise of the internet in 1999, in the Strategy Department. In 2001, he joined the Customer Division and worked to prepare EDF for the opening up of markets for businesses and then for individuals. He was Sales Director (SME-business customers) for the Centre Val de Loire, Poitou-Charentes and Limousin regions in 2013 before joining Enedis, where he was a member of the Supervisory Board representing the employees from 2017 to 2022. Christophe Béguinet is also a lecturer in the energy economics master's degree programme at the University of Montpellier. He is sponsored by the CFDT trade union.

Other current appointments

Principal position held in the Group

- Project Manager in the Talent and Managerial Dynamics Department of Enedis

Office/Position	Title	Country
Director	Board of Directors of Institut Polytechnique de Grenoble	France
Director	Europe House of Paris	France

Appointments outside the Company which expired during the last five years

- Member representing employees on the Supervisory Board of Enedis (France)

Aurélie FRIONNET, 47 years old

Director elected by the employees

Date of appointment to the Board: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Strategy Committee, the Commitments Committee and the Nuclear Commitments Monitoring Committee
Nationality: French

Key skills:

- Energy/Nuclear
- Strategy
- Climate/Environment

An engineering graduate of the Institut national des sciences appliquées (INSA) in Lyon with a postgraduate qualification in civil engineering, Aurélie Frionnet began her career in 2000 as a works engineer at OTV, a Vivendi Group subsidiary that constructs drinking water and waste water treatment plants. In 2001, she joined EDF's National Electricity Generation Equipment Centre (CNEPE) as a project engineer for the safety review carried out on the entire nuclear fleet following the 1999 storm. In 2005, she joined the National Nuclear Equipment Centre (CNEN) where she held successive positions as a design and management engineer in the fields of civil engineering, then nuclear safety for EPR projects in France and in the United Kingdom. In 2015, she joined the Group's Strategy Department where she was in charge of strategic studies concerning nuclear, hydro and fossil-fired thermal power. Since 2021, she has been a project manager in the Nuclear and Thermal Fleet Division, working on the resilience and adaptation of the generation fleet to long-term climate hazards. Aurélie Frionnet is sponsored by the CFE-CGC trade union.

Other current appointments

Principal position held in the Group

- Project Manager in EDF's Nuclear and Thermal Fleet Division

Office/Position	Title	Country
Director	Groupe Immobilière 3F	France

Appointments outside the Company which expired during the last five years

- None

Fabrice GUYON, 51 years old

Director elected by the employees

Date of appointment to the Board: 16 February 2023
Last renewal: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Strategy Committee, the Risk and Audit Committee and the Nuclear Commitments Monitoring Committee

Nationality: French

Key skills:

- Energy/Nuclear
- CSR/Social component
- Stakeholder relations

Holder of an industrial control and automatic regulation HND (BTS CIRA), Fabrice Guyon started his career at EDF in 1992, as an apprentice in the control department of the Chinon nuclear power plant. From 1994 to 2012, he held various positions in the Chinon plant operations department (operator, nuclear reactor operator, lock-out/tag-out officer, technical manager and deputy operations manager). As a union representative since 2012, he has served as local Union representative, Vice Secretary of the European Works Council, coordinator for the French Group Works Council and coordinator at EDF's Nuclear and Thermal Fleet Division between 2012 and 2023. He is a member of the EU Electricity Sectoral social dialogue. Fabrice Guyon is currently in charge of regional action at the CNPE of Chinon. He is sponsored by the CGT trade union.

Other current appointments

Principal position held in the Group

- Local Action Officer at the CNPE of Chinon (EDF)

Office/Position	Title	Country
None		

Appointments outside the Company which expired during the last five years

- None

Gérald LACOSTE, 48 years old

Director elected by the employees

Date of appointment to the Board: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Risk and Audit Committee and the Corporate Responsibility Committee
Nationality: French

Key skills:

- Energy/Nuclear
- Finance/Audit Accounting
- CSR/Social component

Holder of a BTS in Commercial Action, Gérald Lacoste began his professional career at EDF-Gaz de France Services in the customer sector in 1998. In 2003, he graduated from École supérieure de gestion, having specialised in auditing and accounting, and joined EDF's Group Purchasing Division where he held various positions in finance and management. From 2016, he was elected as an employee representative and then continued his trade union career at EDF's head office in 2019 as Secretary of the Social and Economic Committee, CFE-CGC union Coordinator of the French Group Works Council, and a member of the European Works Council. Hewas part of the federal team of CFE-CGC Energies from 2019 to 2023. Gérald Lacoste has been in charge of Steering and Support at the EDF Group Communication Department since February 2024. Gérald Lacoste is sponsored by the CFE-CGC trade union.

Other current appointments

Principal position held in the Group

- Monitoring and Support Officer in EDF's Group Communication Department

Office/Position	Title	Country
None		

Appointments outside the Company which expired during the last five years

- None

Sandrine LHENRY, 50 years old

Director elected by the employees

Date of appointment to the Board: 28 July 2021
Last renewal: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Strategy Committee, the Risk and Audit Committee and the Corporate Responsibility Committee

Nationality: French

Key skills:

- Communication
- CSR/Social component
- CSR/Governance

A graduate of the Conservatoire national des arts et métiers (CNAM) with a master's degree in HR & CSR from the Sorbonne business school, Sandrine Lhenry began her career in the Electricity and Gas Industries (IEG sector) in 1999 at EDF Gaz de France Distribution, in customer services. Between 2014 and 2017 she was in charge of the social dialogue for the IEG sector, as part of the management team of the national FO union's national energies et mines federation. She then served as Deputy General Secretary of the FO federation from 2017 to 2020. Having been a project manager in the Communication & CSR Department of Enedis until 2022, she is currently a project manager in the Nuclear and Thermal Fleet Division. Sandrine Lhenry is sponsored by the FO union.

Other current appointments

Principal position held in the Group

- Project Manager in EDF's Nuclear and Thermal Fleet Division

Office/Position	Title	Country
Full member	Conseil Supérieur de l'Énergie (French High Energy Council)	France

Appointments outside the Company which expired during the last five years

- None

Cécile PICHOT, 50 years old

Director elected by the employees

Date of appointment to the Board: 23 November 2023
Expiry of current term of office: 22 November 2027
Other positions: Member of the Corporate Responsibility Committee and the Appointments, Remuneration and Governance Committee
Nationality: French

Key skills:

- CSR/Social component
- Human resources/Human issues
- Energy/Nuclear

Cécile Pichot began her career in 1997 as quality manager at Delattre Levivier SCTN, a company specialising in logistics in asbestos-containing or radioactive environments. In 1998, she joined EDF's Customer division as a customer advisor supporting branches in the Centre-West region. She then joined the CNPE in Chinon, where she performed several duties, including audit assignments within the Quality Assurance Department. In 2005, she became a radioactive transport project manager in the Site Resources Department, then quality coordinator in 2009, and helped set up the Integrated Management System (IMS). From 2013 to 2022, she was responsible for managing the transport of dangerous goods as part of her role as Environment Transport Radiation Protection Engineer in the Quality Safety Department for the Chinon nuclear power plant, the Industrial Division and the DP2D. In 2020, she obtained a master's degree in health, safety and the environment from the University of Nantes. In 2022, she joined the Nuclear Generation Division (DPN) and joined the Technical Operations Unit (UTO), responsible for the classification of a portfolio of suppliers for EDF's plants in operation and for new nuclear power plants. Today, Cécile Pichot is a project manager in the Programme and Strategy Division of the Nuclear and Thermal Power Plant Department (DPNT) and is sponsored by the CGT trade union.

Other current appointments

Principal position held in the Group

- Project Manager in the Programme and Strategy Division, Nuclear and Thermal Fleet Department (DiPS/DPNT)

Office/Position	Title	Country
None		

Appointments outside the Company which expired during the last five years

- None

4.2.2 Functioning of the Board of Directors

The internal rules of the Board of Directors set out the principles and procedures governing the operation and working methods of the Board and its Committees. These rules also define the role and powers of the Chairman and Chief Executive Officer. They are regularly updated, particularly to take into account changes in legislation and regulations, and changes to the AFEP-MEDEF Code (see section 4.1 "Corporate Governance Code").

4.2.2.1 Term of office of Directors – Staggered renewal of the Board

EDF's articles of association set the term of office of Directors at four years.

In accordance with the provisions of Article 2 of Decree 2014-949 of 20 August 2014 implementing the Order of 20 August 2014, the Director - Representative of the French State is appointed for a term equal to the term of office of the other members of the Board of Directors, *i.e.* four years.

Pursuant to Article 13 of EDF's articles of association, the Board of Directors, excluding Directors elected by the employees and the Representative of the French State appointed by decree, is renewed by rotation, such that half the members elected by the General Meeting (rounded to the nearest whole number) are renewed every two years and the relevant membership of the Board is completely renewed at the end of each four-year period (see section 4.2.1 "Members of the Board of Directors").

Directors are appointed and can be dismissed at any time by an Ordinary General Meeting. Pursuant to Articles 12 and 25 of the Law of 26 July 1983 on the democratisation of the public sector, Directors elected by the employees can be individually dismissed for gross negligence in the exercise of their office, by decision of the President of the Court delivered in expedited proceedings upon application from the majority of the Board members. However, should serious disagreements disrupt the management of the Company, a dismissal pronounced by the General Meeting can be extended to Directors representing the employees. The Director who is a Representative of the French State terminates his or her duties by resigning, or if he or she loses the capacity which led to their appointment; this Director can be replaced at any time for the remainder of the term of office.

4.2.2.2 Appointment and powers of the Chairman and Chief Executive Officer

In accordance with the option allowed by Article 18 of the Order of 20 August 2014, EDF's articles of association state that the Chairman of the Board of Directors is responsible for the Executive Management of the Company, and holds the title of Chairman and Chief Executive Officer.

The Chairman and Chief Executive Officer of EDF is appointed by decree of the French President, following a recommendation by the Board of Directors. He may be dismissed by decree in accordance with Article 20 of the Order of 20 August 2014. Pursuant to the provisions of Article 13 of the French Constitution, he is appointed after consulting the competent committees of the National Assembly and the Senate

If the position of Chairman and Chief Executive Officer is vacant, Article 21 of the Order of 20 August 2014 provides that the French State may appoint someone to the role temporarily until the new Chairman and CEO is chosen.

Subject to the specific legal provisions governing French public sector companies and the powers expressly reserved by law or by the articles of association for the Board of Directors or General Meetings, and within the limits on the powers of the Chairman and Chief Executive Officer defined in the Board of Directors' rules of internal procedure (see section 4.2.2.3 "Powers and duties of the Board of Directors" below), the Chairman and Chief Executive Officer is vested with the most extensive powers to act on behalf of the Company under all circumstances, within the scope of the corporate purpose. The Chairman and Chief Executive Officer organises and supervises the work of the Board of Directors and reports to the General Meeting. He oversees the proper running of the Company's governing bodies, ensuring in particular that the Directors are capable of fulfilling their duties.

4.2.2.3 Powers and duties of the Board of Directors

The Board of Directors meets as often as required by the interests of the Company, in accordance with the applicable laws and regulations. In accordance with the Board's rules of internal procedure, the Directors meet once a year to discuss the Company and Group strategy during a strategy seminar attended by EDF's Executive Committee. Finally, the Board of Directors' rules of internal procedure require one meeting to be held each year without the Chairman and Chief Executive Officer in attendance (the "executive session"). This meeting is chaired by the Chairman of the Appointments, Remuneration and Governance Committee (see section 4.2.2.6 "Assessment of the functioning of the Board of Directors and its Committees").

The Board of Directors determines the Company's business strategies and ensures their implementation, in accordance with its corporate interest, taking into consideration the social and environmental issues of its activity and EDF's *raison d'être* (see sections 1.3 "Group strategy and objectives" and 1.3.2 "Strategic priorities"), the roll-out of which it monitors throughout the Group. The Board defines the major strategic, economic, financial and technological policies for the Company and the Group. Subject to powers expressly attributed to the General Meetings and within the limit of the Company's corporate purpose, the Board may consider any question relating to the proper running of the Company and settles any relevant matter.

The Board of Directors discusses the annual budget, the medium-term plan, any significant transaction falling outside the Company's declared strategy, and the public service contract (see section 7.1.6.2 "Public service in France"), after these matters have been examined by the relevant Committee(s). In line with the strategy it has defined, the Board regularly reviews opportunities and risks such as financial, legal, operational, social and environmental risks, particularly risks and opportunities related to climate change, their impact on the Group's strategy, its activities and assets, and the measures taken in consequence. It ensures that the Company implements a system for preventing and detecting corruption and influence peddling, and a non-discrimination and diversity policy (see section 4.2.1 "Members of the Board of Directors").

Under the terms of its internal rules, updated on 28 June 2023, the Board of Directors is competent to approve or authorise the following transactions and matters, respecting where relevant the governance of the Group's listed subsidiaries:

Strategic business plan	The strategic business plan setting out the actions to be implemented to achieve the objectives of France's multi-year energy programme (see section 7.1.6.2 "Public service in France").
Financial transactions	Long-term borrowings, debt management, securitisation or hedging transactions > €5 billion (or the equivalent in foreign currencies).
Investments and divestments	External growth, divestment, organic growth and stock market transactions carried out by EDF or its subsidiaries > €350 million or > €150 million if outside the strategic policy orientations.
Industrial programmes	Industrial investment or industrial programmes on existing assets of EDF and its subsidiaries > €350 million.
Real estate transactions	Transactions carried out by the Company or its subsidiaries > €200 million.
Contracts (excluding fuel)	Contracts for supplies, works or services entered into by EDF > €350 million, or > €200 million in the event of a new strategic direction or new business line.
Fuel strategy	Group strategy for operations relating to the nuclear fuel cycle and the multi-year programme for supplying reactors with fuel and downstream services.
Purchases or sales of energy, emission credits and CO_2 quotas	Long-term purchases or sales of energy, emission credits and CO_2 quotas by EDF or its subsidiaries for annual volumes or amounts > 10TWh for electricity, 20TWh for gas and €250 million for coal, fuel oil, biomass, emission credits and CO_2 quotas.
Strategic agreements	Strategic agreements committing EDF to cooperation or partnership with foreign partners in the nuclear businesses, involving significant transfers of intellectual property or technologies.
Secure financing of nuclear expenses	Policy for securing the financial coverage of EDF's nuclear expenses (see section 4.2.3.4 "Nuclear Commitments Monitoring Committee") and approving plans to invest in unlisted assets for dedicated assets exceeding certain thresholds in the event of a negative opinion from the Nuclear Commitments Monitoring Committee.
Strategic policy orientations submitted to EDF's Central Social and Economic Committee	EDF's strategic guidelines and orientations submitted to EDF's Central Social and Economic Committee in accordance with Articles L. 2312-17 and L. 2312-19 of the French Labour Code.
Gender equality policy	The Company's gender equality policy defined in application of Article L. 225-37-1 of the French Commercial Code.

Under Article L. 311-5-7 of the French Energy Code, the Government Commissioner may oppose investment decisions which if executed would be incompatible with the objectives of the Company's strategic business plan or France's multi-year energy programme (see section 7.1.6.2 "Public service in France").

4.2.2.4 Balance of powers

After each annual assessment of the functioning of the Board of Directors and its Committees, the Board of Directors reports its appraisal of the organisation and balance of powers as set out in the Board's rules of internal procedure, particularly the restrictions they place on the powers of the Chairman and Chief Executive Officer (see section 4.2.2.3 "Powers and duties of the Board of Directors" above). The Board considers in particular that the current arrangement ensures a satisfactory balance between the executive corporate officer (Chief Executive Officer) and the Board of Directors, that serves the interests of the company while preserving the necessary flexibility, efficiency and responsiveness for the Company's administration and management.

The question of the balance of powers between the Chairman and Chief Executive Officer and the Board is also regularly discussed at executive sessions (see section 4.2.2.6. "Assessment of the functioning of the Board of Directors and its Committees").

Finally, the Appointments, Remuneration and Governance Committee is responsible for reviewing and issuing an opinion on any situations involving a conflict of interest of which it becomes aware of or is informed of, and reporting such situations to the Board of Directors (see section 4.2.3.6. "Appointments, Remuneration and Governance Committee").

4.2.2.5 Evaluation of the independence of directors

Total number of Directors	18
Number of Independent Directors	5
Percentage of board members who are independent*	41.7%

* *Excluding Directors representing the employees.*

The AFEP-MEDEF Corporate Governance Code recommends that companies with a controlling shareholder should have at least one third of Independent Directors on their Board of Directors, and specifies that Directors representing the employees are not taken into account to determine the proportion.

Evaluation of Director independence

The Board of Directors annually reviews the Directors' individual situations with regard to the independence criteria defined in the AFEP-MEDEF Code. The Board may also be asked for its opinion during the year in the event of a change in Board membership or the situation of a Director that requires a review of his or her independence.

On the advice of the Appointments, Remuneration and Governance Committee, which met on 6 February 2024, the Board of Directors, at its meeting of 15 February 2024, carried out the annual assessment of the independence of the Directors and confirmed the status of Nathalie Collin, Claire Pedini, Bruno Crémel and Philippe Petitcolin as Independent Directors, as well as that of Colette Lewiner, whose term of office expired on 11 June 2024.

After reviewing the opinion of the Appointments, Remuneration and Governance Committee of 10 June, the Board of Directors, at its meeting of 11 June 2024, examined the individual situation of Bruno Even and qualified him as an Independent Director with regard to the independence criteria provided for by the AFEP-MEDEF Code, subject to his appointment as a Director by the General Meeting of 11 June 2024.

At a meeting on 6 February 2025, the Appointments, Remuneration and Governance Committee again examined the Directors' individual situations with regard to the AFEP-MEDEF Code independence criteria. The following do not qualify as Independent Directors:

- Luc Rémont, in his capacity as Chairman and Chief Executive Officer, executive corporate officer, (criterion no. 1 provided for by Article 10 of the AFEP-MEDEF Code[(1)]);
- directors appointed on the proposal of the State, pursuant to Article 6 of Order no. 2014-948 of 20 August 2014, as they "represent", under this text, "the interests of the State in its capacity as shareholder" (criterion no. 8);
- the State Representative, appointed pursuant to the provisions of Article 2 of the Order of 20 August 2014, by virtue of their capacity as representative of EDF's shareholder (criterion no. 8).
- directors representing the employees are not subject to an independence assessment, in accordance with the recommendations of the AFEP-MEDEF Code.

With regard to business relationships, the Appointments, Remuneration and Governance Committee examined the situation of Nathalie Collin, Claire Pedini, Bruno Crémel, Bruno Even and Philippe Petitcolin (criterion no. 3 of the AFEP-MEDEF Code). The Committee examined any business connections that might exist between EDF and the companies in which these Directors hold offices or senior management positions, as well as the groups to which those companies belong, considering the quantitative aspects (the scale of any business relationships between the Company and these companies and their groups, and sales between them during the 2024 financial year) and qualitative aspects (the Director's position in the companies in question, the nature of the business relationships, any economic dependence, exclusivity, etc.). As a result, none of the companies or groups in which Mmes Collin and Pedini and Messrs Crémel, Even and Petitcolin hold directorships or executive positions can be qualified as significant customers, suppliers, investment bankers, commercial bankers or advisors of the EDF group and EDF cannot be considered as a significant customer or supplier of these companies or their groups. The Committee therefore concluded that there were no significant business ties involving these Directors.

After consulting the Committee, the Board of Directors assessed the individual situation of Nathalie Collin, Claire Pedini, Bruno Crémel, Bruno Even and Philippe Petitcolin at its meeting of 20 February 2025, and confirmed their independence in accordance with the independence criteria set out in the AFEP-MEDEF Code. The Board considered that none of these Directors had any relations with the Company, its Group or its management that might compromise the exercise of their freedom of judgement.

As at the date of filing of this Universal Registration Document, the Company's Board of Directors therefore includes 5 directors qualified as independent out of the twelve taken into account to establish the calculation, *i.e.* a proportion of 41.7%, higher than the one-third recommended by the AFEP-MEDEF Code.

The table below presents the situation of the Independent Directors with regard to the AFEP-MEDEF Code independence criteria:

	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	Criterion 6	Criterion 7	Criterion 8	Final classification
Nathalie Collin	✓	✓	✓	✓	✓	✓	✓	✓	Independent
Bruno Crémel	✓	✓	✓	✓	✓	✓	✓	✓	Independent
Bruno Even	✓	✓	✓	✓	✓	✓	✓	✓	Independent
Claire Pedini	✓	✓	✓	✓	✓	✓	✓	✓	Independent
Philippe Petitcolin	✓	✓	✓	✓	✓	✓	✓	✓	Independent

✓: criterion satisfied.

4.2.2.6 Assessment of the functioning of the Board of Directors and its Committees

In accordance with the provisions of the AFEP-MEDEF Corporate Governance Code, the Board's rules of internal procedure require the Appointments, Remuneration and Governance Committee to supervise an annual assessment of the functioning of the Board of Directors and propose areas for improvement. Once a year, therefore, the Board holds a discussion on its own functioning and the operation of its Committees in order to make both more efficient, and ensure in particular that important matters are appropriately prepared and discussed.

Every three years, this assessment is conducted by an independent external consultant under the supervision of the Appointments, Remuneration and Governance Committee.

2024 Annual assessment

The last external assessment was carried out in 2020 by an independent Board member, overseen by the Appointments, Remuneration and Governance Committee. In this context, an assessment of the individual contribution of each Director to the work of the Board was also carried out.

In view of the significant changes in the composition of the Board of Directors during the 2023 financial year, it was decided to postpone the external assessment of the Board and its Committees, which was therefore carried out in 2024. This assessment was entrusted to an independent Board member, selected following a call for tenders conducted under the guidance of the Appointments, Remuneration and Governance Committee. The assessment was carried out through in-depth interviews with each of the directors on the basis of a questionnaire and an interview guide prepared by the independent counsel together with the Chairwoman of the Committee.

The conclusions of this assessment were examined at a meeting of the Appointments, Remuneration and Governance Committee on 28 November 2024, before being discussed by the directors at an executive session on 3 December 2024 and then presented to the Board of Directors on 15 January 2025.

The results of this assessment show that the directors consider that the Board's culture of governance and the due balance (diversity of profiles and expertise) established within it enables the Board to carry out its duties successfully, even though the company has experienced sustained activity and major changes (see section 4.2.2.9 "Activity of the Board of Directors in 2024"). The Board is deemed professional and committed by its members. The programme and themes examined at the two seminars held in 2024 as well as the contribution of the new Commitments Committee were also praised. Lastly, the dynamics of exchanges, based notably on the transparency of the information transmitted, was once again underlined.

The areas identified for improvement notably include actions aimed at:

- prioritising the work of the Board, by continuing to reflect on the selection of topics to be addressed;
- proposing more benchmarks and competitive analyses; and
- reinforcing the visibility of the Board's work schedule.

As part of the 2024 external assessment, an assessment of the individual contribution of the directors to the work of the Board was carried out. As in 2020, it gave rise to individual and confidential reports made by the independent consultant to each of the directors.

4.2.2.7 Information and training of Directors

Information and training

The Chairman and Chief Executive Officer ensures that the Directors have the information they need to carry out their duties, and that they receive it in sufficient time to do so in the best possible conditions.

Under its internal rules, the Board of Directors regularly receives information on the financial position, cash management and off-balance sheet commitments of the Company and the Group. It is also informed of the performance of the Company's principal subsidiaries when the annual and half-yearly financial statements are presented, and the purchasing and human resources policy. The Board is regularly informed of developments in the markets, competitive environment and the main challenges facing the Company, including in the field of corporate social, societal and environmental responsibility.

A briefing document about the Group's major business sectors, market trends, and the economic, financial and institutional context is regularly sent to the Directors. The Company also provides them with a quarterly report on the Group's large industrial projects, and more generally any useful information between Board meetings when it is sufficiently important or urgent.

The Directors may supplement this information by meeting with the principal executives of the Company or Group, even without the Chairman, to discuss issues on the Board's agenda.

The Board of Directors uses a digital platform for smooth, rapid and secure access to Board and Committee files and other information that may be useful for the performance of its duties.

The Company also offers its directors additional training on the specific characteristics and challenges of the Company and the Group, as well as on the specific topics within the remit of the Committees on which they sit.

A training course on EDF's commercial policy and market design was thus organised for the directors elected by the employees on 4 April 2024. Furthermore, in addition to the training courses of Institut français des formations (IFA) already provided, the Board was given access to EDF's internal director training courses, led by the Université Groupe du Management (UGM) in collaboration with the ESCP Business School. These "Directors" training program focus on the management of financial information, the legal framework of governance and role-playing of strategic positions. Lastly, information meetings on complex or high-stakes issues are also organised, with directors notably being questioned during the annual assessment of operations.

Climate and corporate social responsibility (CSR) training for directors

Every year before the financial year begins, the Board of Directors' Climate Officer (see section 4.2.3.5 "Corporate Responsibility Committee") works with the Company's Management to establish a work programme on climate and CSR issues for the Board and the Corporate Responsibility Committee.

To this end, several specific workshops have been organised since 2021, enabling directors to create the Climate Fresk[1] and examine and/or debate the results of the Climate and Biodiversity COPs with invited experts.

In order to perpetuate this format of awareness-raising and discussion on the challenges of climate change, it was decided to organise a new workshop in 2025 on the theme of adaptation to climate change coupled with a visit to an EDF offshore wind power farm.

The directors were also able to examine the evolution of the Group's carbon trajectory during a Strategy Committee meeting.

Lastly, in addition to the in-depth review of the Group's CSR issues during dedicated committee/workshop sessions, the Group's internal digital training platform was made available to directors in 2024. It includes a training course dedicated to CSR issues, built around several modules relating to the Company's main environmental and societal issues, which allows directors to take ownership of the EDF group's CSR commitments and identify the operational implementation of these commitments.

All of these initiatives are part of EDF's governance on climate-related issues, which aims to raise climate issues to the highest level of the Company and to strengthen the Board's involvement and commitment across all of these topics, in line with EDF's *raison d'être*, and on issues of social and environmental responsibility (see section 3.1.2.2 "Skills and expertise of the administrative, management and supervisory bodies on sustainability issues").

4.2.2.8 Obligations and duties of Directors

The Board of Directors' rules of internal procedure state that its members are subject to obligations such as: acting in the corporate interests of the Company in all circumstances, informing the Board of situations involving conflict of interest (see section 4.4.1 "Conflicts of interest"), refraining from contributing to discussions or voting on any decision that might involve a conflict of interest, respecting the obligation of confidentiality and exercising their function diligently. The Directors are required to inform the Chairman and seek his or her approval prior to any communication or individual public statement concerning the Company or the Group.

The Directors and the Chairman and Chief Executive Officer are also required to inform the Board immediately of any agreement entered into by the Company (or through an intermediary) in which they have a direct or indirect interest.

In addition to the right to obtain the documents and information necessary to achieve their mission, the Directors also have a duty to request information they deem essential to exercise of their duties properly.

Under the rules of internal procedure, each Director undertakes to ensure that his or her situation complies with the French Commercial Code and the AFEP-MEDEF Code recommendations on plurality of offices, and to keep the Board informed of any appointments in other companies. The Chairman and Chief Executive Officer is required to inform the Board of Directors before accepting an appointment in a listed company.

4.2.2.9 Activity of the Board of Directors in 2024

	2024	2023
Number of meetings	13**	14*
Average attendance rate	96.6%	91.7%
Average duration of meetings	2 hours 44 minutes	3 hours 23 minutes

* *Plus a one-day strategy seminar, a dedicated climate workshop and an Executive Session.*

** *In addition to this number of meetings, there are two one-day strategy seminars and an executive session.*

(1) Based on data from the scientific reports of the IPCC (Intergovernmental Panel on Climate Change), the Climate Fresco is a participatory workshop enabling participants to integrate climate issues in their entirety.

The table below shows the attendance rates of individuals on the Board and on its Committees during the 2024 financial year:

Individual attendance rate of Directors in 2024	Board of Directors	Strategy Committee	Risk and Audit Committee	Commitments Committee	Nuclear Commitments Monitoring Committee	Corporate Responsibility Committee	Appointments, Remuneration and Governance Committee
Luc Rémont	100%	100%					
Christophe Béguinet	100%	100%	80%			100%	
Nathalie Collin[1]	92%		100%	70%			100%
Bruno Crémel	92%		100%				
Gilles Denoyel	100%				100%		
Anne-Marie Descôtes	85%	67%					
Bruno Even[2]	100%			100%			
Aurélie Frionnet	92%	100%		80%	75%		
Delphine Gény-Stephann	100%					100%	
Fabrice Guyon	100%	100%	100%		100%		
Gérald Lacoste	100%		100%			100%	
Marie-Christine Lepetit	92%		100%	100%	100%		
Colette Lewiner[3]	100%				100%		100%
Sandrine Lhenry	100%	100%	100%			100%	
Claire Pedini	100%					100%	100%
Philippe Petitcolin	92%	67%	100%	100%			
Cécile Pichot	100%					100%	100%
Michèle Rousseau	100%				100%	100%	
Alexis Zajdenweber	92%	67%					100%

(1) Director appointed as a member and Chairwoman of the CNRG on 28 June 2024.

(2) Director appointed as an independent director by the General Meeting on 11 June 2024 and appointed as a member of the Commitments Committee by the Board on 28 June 2024.

(3) Director whose term ended on 11 June 2024.

Activity in 2024

The Board held 13 meetings during the 2024 financial year. In addition to numerous matters related to the Company's day-to-day business, it examined or authorised subjects such as:

- latest news of the EPR2 construction programme in France and certain related contracts and decisions (see sections 1.3.2 "Strategic priorities", and 1.4.1.1.3 "'New Nuclear' projects");
- progress on the industrial stress corrosion repair programme (see section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation" and "Handling of the stress corrosion cracking [SCC] phenomenon detected on the auxiliary circuits of several nuclear reactors");
- monitoring the Group's major projects: Hinkley Point C (see section 1.4.5.1.2.4 "The New Nuclear Industry"), Flamanville EPR (see section 1.4.1.1.2.1 "EDF's nuclear fleet in France and its operation" - "Flamanville 3 EPR"), Sizewell C (see sect ion 1.4.5.1.2.4 "The New Nuclear Industry"), NUWARD (see section 1.4.1.1.3.2 "Small Modular Reactors (SMR)") and the Grand Carénage industrial refurbishment programme (see section 1.4.1.1.2.3 "The challenges of nuclear operations" – "Investment programme for the existing nuclear fleet in France: the Grand Carénage industrial refurbishment programme");
- regular updates on EDF's commercial policy and the EU electricity market design;
- the acquisition project of General Electric's nuclear steam power business by EDF (see section 1.4.1.1.5 "Arabelle Solutions");
- the Group's financial trajectory;
- approval of the offer submitted by EDF in response to the Elektrárna Dukovany II tender in the Czech Republic (see section 1.4.1.1.3.3 "International developments");
- the sale of Edison's regulated gas storage assets in Italy;
- the planned sale by Edison of Elpedison in Greece;
- the development, construction and sale of a solar power project in Indiana (US);
- an update on the Group's proposed response to the New Jersey offshore wind power tender (Atlantic Shores Offshore Wind);
- the construction project by EDF PEI of a power plant in the municipality of Ajaccio in southern Corsica;
- the 2023 reports of the General Inspector for Nuclear Safety and Radiation Protection and the Inspector for Hydropower Safety;
- the Group's preparations for the winter of 2024-2025;
- the internal control report included in the letter updating the three-yearly report on secure financing of nuclear expenses, and an update to the instruction memorandum on EDF's policy for setting up, managing and controlling the financial risks of dedicated assets (see section 4.2.3.4 "Nuclear Commitments Monitoring Committee");
- the risk policy on the energy markets;
- the 2025 budget and the 2025-2027 MTP;
- EDF SA's strategic policy orientations in view of the consultation of EDF's Central Social and Economic Committee in accordance with Articles L. 2312-17 and L. 2312-19 of the French Labour Code;
- EDF's professional and salary equality policy;

- various governance issues such as the remuneration policy for corporate officers, the appointment of a new director and the annual assessment of directors' independence.

During the past financial year, the Board also examined all the topics reviewed by the Board's Committees, on the basis of the Committee files communicated to the Board, and discussed them when reports were presented by the Committee Chairs at the subsequent Board meeting.

Board of Directors' strategy seminar

The Directors also meet at least once a year for a strategy seminar to discuss Company and Group strategy.

In 2024, a first strategic seminar was held on 6 September and focused on the prospects for the evolution of the electricity system in France in the service of decarbonisation by 2035 and 2050 through notably the development of flexibilities. A second seminar took place on 26 and 27 September at the Hinkley Point C site (United Kingdom). The objective of this second seminar was, on the one hand, to observe the progress of the HPC project through visits and, on the other, to examine the key challenges of the Group's nuclear activities and projects.

Executive session

The Board's rules of internal procedure state that a meeting should be held each year with all the directors - without the Chairman and Chief Executive Officer in attendance (an "Executive Session"). It is chaired by the Chair of the Appointments, Remuneration and Governance Committee. At the Executive Session, in 2024, the Directors discussed the results of the external assessment of the Board and its Committees, their appraisal of the Chairman and Chief Executive Officer's coordination of the Board, positive points regarding the functioning of the Board and Committees, and planned areas for improvement (see 4.2.2.6 "Assessment of the functioning of the Board of Directors and its Committees").

Working group of directors on the EDF group's corporate plan

As part of the preparatory work for the Group's "Ambition 2035" company project, on 23 May 2023 the Board of Directors decided to set up a specific process to prepare, examine and further explore its work and the decisions that it may have to take in connection with the plan.

To this end, it set up a working group of directors whose mission was to monitor the development of the company project, in conjunction with EDF management. It notably examined its characteristics with regard to EDF's corporate interest and its strategic, industrial, financial and social issues, and formulated useful opinions and recommendations to the Board, so that the latter could discuss and deliberate with full knowledge of the situation.

The working group was chaired by Bruno Crémel and also included Colette Lewiner, Claire Pedini, Aurélie Frionnet and Alexis Zajdenweber. It was assisted in its work by legal and financial advisors. The working group held 17 meetings between May 2023 and May 2024.

4.2.3 Board of Directors' Committees

To perform its duties, the Board of Directors has created six Committees to examine and prepare information on certain projects/topics before they are presented to the Board. These specialised Committees are the Strategy Committee, the Risk and Audit Committee, the Commitments Committee, the Nuclear Commitments Monitoring Committee, the Corporate Responsibility Committee, and the Appointments, Remuneration and Governance Committee.

In accordance with the internal rules, it was also decided to entrust the review of the Group's work relating to the implementation of the CSRD to the Responsibility Committee and the Risks and Audit Committee, meeting jointly.

The membership, operation and duties of the Committees are governed by the Board of Directors' rules of internal procedure.

Each Committee is composed of at least three Directors chosen by the Board, which also appoints the Chair of each Committee apart from the Strategy Committee, which is chaired by the Chairman and Chief Executive Officer in accordance with the rules of internal procedure. The Company's articles of association require each Committee to include at least one Director representing the employees.

As at 31 December 2024, the Chairs of the Board Committees are as follows:

- Luc Rémont for the Strategy Committee;
- Marie-Christine Lepetit for the Risk and Audit Committee;
- Philippe Petitcolin for the Commitments Committee;
- Gilles Denoyel for the Nuclear Commitments Monitoring Committee;
- Claire Pedini for the Corporate Responsibility Committee;
- Nathalie Collin for the Appointments, Remuneration and Governance Committee.

The Government Commissioner and the Team Leader from the General Economic and Financial Inspectorate may attend the meetings of these Committees. The Government Commissioner may be represented at these meetings.

The work of the Committees follows an annual programme prepared for the year. Meetings are recorded in the form of written minutes, and the Committee Chair gives an oral report at the following meeting of the Board of Directors.

The Board's rules of internal procedure state that the Committees must meet in sufficient time before a Board meeting for which matters falling within their remit are on the agenda.

The Committees may invite Company executives, including the Chairman and Chief Executive Officer, to attend their meetings. They may also invite other parties from inside or outside the Company, provided they inform the Chairman and Chief Executive Officer in advance and report such attendance to the Board. The Committees may also consult technical studies and external advisors on issues falling within their remit, at the Company's expense, provided they inform the Chairman and Chief Executive Officer in advance and report this consultation to the Board.

In 2024, the Committees held 31 meetings and 4 joint meetings (see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees"). The overall average attendance rate on the Committees was 94.9% (excluding joint meetings of the Board Committees) and 93.7% (including joint meetings of the Committees). The average attendance rates per Committee are presented in sections 4.2.3.1 to 4.2.3.7. Directors' individual attendance rates at Committee meetings are presented in section 4.2.2.9 "Activity of the Board of Directors in 2024".

4.2.3.1 Strategy Committee

Membership

The table below presents the membership of the Strategy Committee as at 31 December 2024. The Directors who are not members of the Strategy Committee attend all of its meetings.

8
members

3
meetings

87.5%
average attendance rate*

41.7%
independence rate**

2h41
average duration of the meetings

* *Calculated on the basis of Committee members only (all Directors attend Strategy Committee meetings).*

** *Excluding Directors representing the employees.*

Membership of the Strategy Committee

Luc Rémont	Chairman	Chairman and Chief Executive Officer
Christophe Béguinet	Member	Director elected by the employees
Anne-Marie Descôtes	Member	Director appointed by the General Meeting on the recommendation of the French State
Aurélie Frionnet	Member	Director elected by the employees
Fabrice Guyon	Member	Director elected by the employees
Sandrine Lhenry	Member	Director elected by the employees
Philippe Petitcolin	Member	Independent Director appointed by the General Meeting
Alexis Zajdenweber	Member	Director Representing the French State

* *As at 20 February 2025, all the Directors of the Board are also members of the Strategy Committee*

4.

Duties

The Strategy Committee reviews and/or advises the Board of Directors on the Company's major strategic policy orientations, particularly:

- the strategic business plan setting out the actions to be implemented to achieve the objectives of France's multi-year energy programme (see section 7.1.6.2 "Public service in France");
- the Company's strategic policy orientations for consultation with the EDF Central Social and Economic Committee;
- the public service contract (see section 7.1.6.2 "Public service in France");
- strategic agreements, alliances and significant partnerships;
- research and development policy;
- the way the Company and the Group translate EDF's *raison d'être* into their strategy and the operational management of their activities, and into the Group's internal organisation designed to guarantee its rollout and implementation.

In 2024, the Nuclear Commitments Monitoring Committee reviewed notably:

- the presentation of the "Ambitions 2035" company project;
- the NUWARD project;
- the main assumptions of the 2025-2027 MTP;
- EDF's strategic policy orientations for consultation with the EDF Central Social and Economic Committee;
- the EDF group's climate transition plan.

The Committee did not consult any technical studies or external advisors on issues falling within its remit during the 2024 financial year.

4.2.3.2 Risk and Audit Committee

Membership

In accordance with the provisions of Article L. 821-67 of the French Commercial Code and the recommendations of the AFEP-MEDEF Code, the Risk and Audit Committee does not include any executive corporate officer, and more than two thirds of its members are Independent Directors.

The table below presents the membership of the Risk and Audit Committee as at 31 December 2024:

* *Excluding Directors representing the employees.*

Membership of the Risk and Audit Committee

Marie-Christine Lepetit	Chair	Director appointed by the General Meeting on the recommendation of the French State
Christophe Béguinet	Member	Director elected by the employees
Nathalie Collin	Member	Independent Director appointed by the General Meeting
Bruno Crémel	Member	Independent Director appointed by the General Meeting
Fabrice Guyon	Member	Director elected by the employees
Gérald Lacoste	Member	Director elected by the employees
Sandrine Lhenry	Member	Director elected by the employees
Philippe Petitcolin	Member	Independent Director appointed by the General Meeting

Article L. 823-19 of the French Commercial Code requires that at least one member of the Committee must have specific financial or accounting skills, and must be independent in accordance with the criteria defined and made public by the Board of Directors. Furthermore, Article 17.1 of the AFEP-MEDEF Code recommends that all members of the Risk and Audit Committee should have financial or accounting skills, that reappointment of the Committee Chair should be specifically examined by the Board, and finally that the Committee should have at least two thirds of Independent Directors, excluding Directors representing the employees.

At its meeting of 16 May 2019, the Board of Directors noted that Ms Lepetit, whose reappointment as Chair of the Committee was proposed, and Mr Crémel, whose appointment to the Committee was proposed, have specific expertise in financial and accounting matters according to the criteria recommended by the French Financial Markets Authority (Autorité des marchés financiers – AMF).

After consulting the Appointments, Remuneration and Governance Committee, the Board of Directors, at its meeting of 17 February 2021, appointed Mr Petitcolin as member of the Risk and Audit Committee and noted that he had expertise in finance and accounting.

After receiving the opinion of the Appointments, Remuneration and Governance Committee, the Board of Directors appointed Ms Collin as a member of the Risk and Audit Committee at its meeting of 15 June 2021, and noted that she has expertise in financial and accounting matters.

Ms Collin, Mr Crémel and Mr Petitcolin meet the competence and independence criteria referred to in Article L. 821-67 of the French Commercial Code (see section 4.2.2.5 "Evaluation of the independence of directors").

Duties

Under the supervision of the Board of Directors, the Risk and Audit Committee carries out the duties assigned to it by Article L. 821-67 of the French Commercial Code. In accordance with the same article, the Risk and Audit Committee is mainly tasked with the following duties:

- monitoring the process of preparing financial information and making any recommendations to guarantee its integrity;
- monitoring the effectiveness of the internal control, risk management and internal audit systems, regarding procedures relating to the preparation and processing of accounting and financial information;
- monitoring the performance of the Statutory Auditors' engagement, verifying their independence, and approving the provision of non-audit services referred to Article L. 821-30 of the French Commercial Code.

In fulfilling its duties, the Committee examines the following and gives its opinion to the Board of Directors:

- the Company's financial position, the medium-term plan and the budget;
- the draft corporate and consolidated, annual and half-yearly financial statements and related financial reports;
- risk monitoring and internal control (Group risk mapping and methods for detecting, anticipating and controlling risks in all areas, including social, environmental and climate change risks, organisation and assessment of the internal control systems);
- internal audit (annual audit programme, main findings and corrective actions, action plans, monitoring of their implementation);
- oversight of the Statutory Auditors (coordination of the auditor selection procedure, monitoring the performance of their engagement, where relevant taking account of the findings and conclusions of the French Audit Regulator, the Haut conseil du commissariat aux comptes, verifying that the Statutory Auditors fulfil the conditions of independence set out in the applicable laws, issuing an opinion on the amount of audit fees, authorising the provision of non-audit services by the Statutory Auditors under a procedure approved by the Board of Directors on 3 November 2016);
- the financial aspects of particularly significant external growth or divestment operations (see section 4.2.2.3 "Powers and duties of the Board of Directors"), addressed jointly with the Commitments Committee;
- the policies for insurance, energy market risks and the risk of default by Group counterparties;

- the Committee, together with the Corporate Responsibility Committee (see section 4.2.3.5 "Corporate Responsibility Committee"), reviews the processes for preparing and processing non-financial information (see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees");
- the Risk and Audit Committee's review of the financial statements is accompanied by an Executive Management presentation of the Group's environmental, social and governance objectives and main achievements (monitoring of key indicators and ESG milestones), a presentation of significant off-balance sheet commitments, and a presentation by the Statutory Auditors highlighting the basis for preparation of the financial statements, the applicable accounting standards, the audit approach used and the conclusions of their work.

As well as attending the Risk and Audit Committee meetings devoted to examining the annual and half-yearly financial statements, the Statutory Auditors also come to all meetings on risk monitoring, internal control and auditing.

For the purposes of its work, the Risk and Audit Committee regularly meets with the Statutory Auditors, Executive Management, Finance Division, Group Risk Division and Internal Audit Division.

Activity in 2024

In 2024, among other matters the Risk and Audit Committee reviewed:

- the half-yearly and annual financial statements and related financial reports;
- the presentation by the Statutory Auditors of their 2024 audit plan and the conclusions of their work;
- for 2023 reporting on non-financial performance, see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees";
- the 2025 budget and the 2026-2027 medium term plan;
- a review of the value of the Group's assets and non-consolidated entities;
- the updating of the Group's risk mapping, risk monitoring and control methods, identified improvement actions and the "game changers" or emerging risks approach;
- the assessment of the internal control and business control;
- the implementation of the 2024 internal audit programme and the draft 2025 programme, the summary of internal audits, and the follow-up of action plans;
- energy market risks and the Group's counterparty risks;
- the annual financial management and financial risk management remit;
- the insurability of risks;
- cybersecurity risk.

In 2024, in accordance with the procedure approved by EDF's Board of Directors on 3 November 2016, the Committee authorised the Statutory Auditors and members of their network to provide non-audit services. In application of the pre-authorisation process that is part of this procedure, it was informed on a half-yearly basis of the services provided.

The Committee did not consult any technical studies or external advisors on issues falling within its remit during the 2024 financial year.

4.2.3.3 Commitments Committee

Membership

The table below presents the membership of the Commitments Committee as at 31 December 2024:

* *Excluding Directors representing the employees.*

Membership of the Commitments Committee

Philippe Petitcolin	Chairman	Independent Director appointed by the General Meeting
Nathalie Collin	Member	Independent Director appointed by the General Meeting
Bruno Even(1)	Member	Independent Director appointed by the General Meeting
Aurélie Frionnet	Member	Director elected by the employees
Marie-Christine Lepetit	Member	Director appointed by the General Meeting on the recommendation of the French State

(1) Director appointed to the Commitments Committee on 28 June 2024

Duties

The Commitments Committee was created in 2023 by the Board of Directors. It is tasked with issuing opinions to the Board on external growth, divestment, organic growth and stock market operations carried out by EDF or any of its subsidiaries that exceed the thresholds defined in the rules of internal procedure, prior to their submission to the Board for authorisation. Where relevant this work is done jointly with the Risk and Audit Committee.

At the request of the Chairman and Chief Executive Officer, the Commitments Committee may also examine transactions and commitments of this nature that do not exceed the thresholds defined in the rules of internal procedure, or any other transaction, particularly when they are of strategic importance.

Activity in 2024

In 2024, among other matters, the Commitments Committee reviewed:

- a progress report on the Hinkley Point C project and its financing and a review of the value of the assets;
- an update on the EPR2 construction programme in France;
- the development, construction and sale of a solar power project in Indiana (US);
- the conditional bid in response to the Elektrárna Dukovany II call for tenders in the Czech Republic;
- the sale of Edison's regulated gas storage assets in Italy;
- the proposed sale of Elpedison;
- the amendment to the treatment and recycling agreement for the 2024-2026 period of application;
- the construction project by EDF PEI of a power plant in the municipality of Ajaccio in southern Corsica;
- the Group's draft response to the New Jersey maritime wind power tender (Atlantic Shores Offshore Wind);
- the call for tenders for A06 floating wind turbines in the Mediterranean;
- the offer for the purchase of the Sizewell C conventional island;
- the Nuclear New Build France programme;
- commercial policy and long-term products.

The Committee did not consult any technical studies or external advisors on issues falling within its remit during the 2024 financial year.

4.2.3.4 Nuclear Commitments Monitoring Committee

Membership

The table below presents the membership of the Nuclear Commitments Monitoring Committee as at 31 December 2024:

5 members

4 meetings

95.0% average attendance rate

2h35 average duration of the meetings

Membership of the Nuclear Commitments Monitoring Committee

Gilles Denoyel	Chairman	Director appointed by the General Meeting on the recommendation of the French State
Aurélie Frionnet	Member	Director elected by the employees
Fabrice Guyon	Member	Director elected by the employees
Marie-Christine Lepetit	Member	Director appointed by the General Meeting on the recommendation of the French State
Michèle Rousseau	Member	Director appointed by the General Meeting on the recommendation of the French State

4.

Duties

The Nuclear Commitments Monitoring Committee, governed by Article D. 594-16 of the French Environment Code, is tasked with monitoring issues relating to the secure financing of nuclear expenses referred to in Article L. 594-1 of the French Environment Code, and in this context, monitoring implementation of the policy for secure financing of nuclear expenses approved by the Board of Directors, including the policy for estimating nuclear expenses and establishing provisions and the policy for setting up, managing and controlling the financial risks of the assets dedicated to covering those provisions.

The Committee takes note of the work and conclusions of EDF's Nuclear Expenses Estimate Control Function, which is required by Article D. 594-8, par. III, of the French Environment Code to control the estimation of nuclear expenses, and in particular to issue an opinion on the estimate of these expenses and their provisional schedule, and the consistency of the methods and data used to estimate nuclear expenses and the policy for secure financing of these expenses (see section 2.2.2 "Specific nuclear operation risks").

The Committee oversees the determination and periodical reviews of the strategic allocation of investments in dedicated assets. It examines the three-year report provided for in Article L. 594-4 of the French Environment Code and its annual update notes, before their transmission to the administrative authority.

It monitors the effectiveness of the Company's internal control system covering the estimation of nuclear expenses and the management of the dedicated assets, and gives an opinion on the annual internal control report before it is submitted to the Board for approval.

Finally, the Committee issues an opinion prior to any investment in unlisted dedicated assets for any project exceeding a unit amount of €400 million, and for any project (excluding real estate) exceeding a unit amount of €200 million which will lead to full consolidation of the target investment. In the event that the Committee issues a negative opinion on an investment project, the Board of Directors has sole authority to authorise the project concerned.

The Nuclear Commitments Monitoring Committee is supported by the work of the Nuclear Commitments Financial Expertise Committee, which comprises independent experts appointed by the Board of Directors[1]. The duty of this committee is to assist the Company and its governance bodies with matters relating to asset-liability matching and the management of dedicated assets.

Activity in 2024

In 2024, the Nuclear Commitments Monitoring Committee principally reviewed:

- the coverage and discount rate of nuclear provisions, the performance of the listed and unlisted dedicated asset portfolios, and the monitoring of associated risks;
- implementation of the strategic allocation contained in the instruction memorandum on the policy for setting up, managing and controlling the financial risks of dedicated assets and an update to that memorandum, before its submission to the Board of Directors for approval;
- the conclusions of the 2024 Asset and Liability Management (ALM) study concerning dedicated assets, and the study on the climate risk impact of dedicated assets and their risk-return profile;
- the 2024 assessment of a responsible investor of dedicated assets and the monitoring of the 2025 action plan;
- the 2024 update letter to the three-yearly report on securing the financing of nuclear expenses and the attached internal control report, before the report is submitted to the Board for approval;
- the opinion of the Nuclear Expenses Estimate Control Function;
- progress on the decommissioning programme for first-generation nuclear power plants, and the industrial geological storage facility (Cigéo) and activated waste conditioning and interim storage facility (ICEDA) projects (see section 1.4.1.1.2.3 "The challenges of nuclear operations" – "Back-end of the cycle");

(1) The current members of CEFEN were renewed or appointed by the Board of Directors on 16 December 2022 for three years, after consulting the CSEN, with the exception of one member appointed by the Board of Directors on 27 March 2024, after opinion of the CSEN, to replace one of the resigning members and for the remaining term of the latter's term of office.

- the contribution of digital technology to dismantling and waste management;
- follow-ups of internal and external recommendations, made notably by the supervisory authorities (French General Directorate for Energy and Climate), the French Court of Auditors and the French Nuclear Safety Authority;
- the draft revision of accounting standard IAS 37.

The Statutory Auditors attend all meetings of the Nuclear Commitments Monitoring Committee.

The Committee did not consult any technical studies or external advisors on issues falling within its remit during the 2024 financial year.

4.2.3.5 Corporate Responsibility Committee

Membership

The table below presents the membership of the Corporate Responsibility Committee as at 31 December 2024:

7 members

4 meetings

100.0% average attendance rate

33.3% independence rate*

1h31 average duration of the meetings

** Excluding Directors representing the employees.*

Members of the Corporate Responsibility Committee

Claire Pedini	Chair	Independent Director appointed by the General Meeting
Christophe Béguinet	Member	Director elected by the employees
Delphine Gény-Stephann	Member	Director appointed by the General Meeting on the recommendation of the French State
Gérald Lacoste	Member	Director elected by the employees
Sandrine Lhenry	Member	Director elected by the employees
Cécile Pichot	Member	Director elected by the employees
Michèle Rousseau	Member	Director appointed by the General Meeting on the recommendation of the French State

Duties

The Corporate Responsibility Committee examines the Group's commitments and policies in the light of the Group's strategy, and considers their implementation in terms of ethics, compliance, and Corporate Social Responsibility (CSR). It examines in particular the way the Company takes into account climate change-related issues.

It conducts, together with the Risk and Audit Committee, a review of the processes for preparing and processing non-financial information (see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees").

As part of its duties, the Corporate Responsibility Committee notably reviews and issues an opinion to the Board of Directors on the Company's vigilance plan, the Company's and Group's carbon trajectory and climate transition plan, and the Company's multi-year CSR strategic policy orientations, in line with EDF's *raison d'être*, the methods for implementing this strategy and the results achieved, the Company's non-financial ratings and choice of agencies, the annual reporting on ethics and compliance, the way the Company and the Group implement a non-discrimination and diversity policy, the gender equality policy and the annual report of EDF's mediator.

The Committee incorporates into its considerations the issues and points for attention raised during dialogue with stakeholders outside the Company.

Board of Directors' Climate Officer

The Company reinforced its climate governance in 2020 by appointing a Climate Officer in the EDF Board of Directors. The Board's rules of internal procedure state this function is attributed to the Chair of the Corporate Responsibility Committee, unless the Board decides otherwise. In line with EDF's *raison d'être*, the Climate Officer is responsible for:

- ensuring, in conjunction with the Chairman and Chief Executive Officer and the Executive Committee's Climate Officer (see section 3.1.2.1.1 "Board of Directors"), that the Board of Directors identifies all the impacts of climate change for the Group, and that the Board's work and the strategy it defines take such climate change issues into consideration;
- regularly informing the Board of the Company's climate strategy, after its examination by the Corporate Responsibility Committee;
- ensuring, in conjunction with the Chairman and Chief Executive Officer, that the Corporate Responsibility Committee and the Board regularly review the implementation of the Group's carbon neutrality trajectory adopted by the Executive Committee;
- in connection with the performance of the Corporate Responsibility Committee's duties, understanding how the Group applies the recommendations of the Task Force on Climate-Related Financial Disclosures[1] (TCFD) and/or international best practices for climate governance and the communication of climate-related issues and opportunities, and how it reports on climate-related risks.

The Corporate Responsibility Committee may submit any opinions, proposals and recommendations to the Board of Directors in fields falling within its remit.

(1) See sections 3.1.3.6 "Corporate social responsibility policy" and 3.1.2.1.2.6 "Governance of climate and nature issues".

Activity in 2024

In 2024, the Corporate Responsibility Committee principally reviewed:

- 2023 reporting on non-financial performance (see section 4.2.3.7 "Joint meetings of the Board of Directors' Committees");
- the Group's 2023 vigilance plan and its implementation (see section 3.6 "Vigilance Plan");
- the results of the "My EDF group" 2023 survey;
- the 2023 report of the EDF group's Mediator;
- the 2023 assessment and results of the gender equality and equal pay policy;
- the 2023 assessment and the results of the Group's health and safety policy;
- an update on EDF's responsible and sustainable purchasing;
- an update on responsible digital technology;
- the roll-out and implementation of EDF's *raison d'être*.

The Committee did not consult any technical studies or external advisors on issues falling within its remit during the 2024 financial year.

4.2.3.6 Appointments, Remuneration and Governance Committee

Membership

The table below presents the membership of the Appointments, Remuneration and Governance Committee as at 31 December 2024:

4 members

5 meetings

100.0% average attendance rate

66.7% independence rate*

1h04 average duration of the meetings

Members of the Appointments, Remuneration and Governance Committee

Nathalie Collin[1]	Chair	Independent Director appointed by the General Meeting
Claire Pedini	Member	Independent Director appointed by the General Meeting
Cécile Pichot	Member	Director elected by the employees
Alexis Zajdenweber	Member	Director representing the French State

(1) Member and Chairwoman of the Committee since 28 June 2024.

* *Excluding Directors representing the employees.*

Duties

With regard to appointments, the Appointments, Remuneration and Governance Committee submits its recommendations or proposals regarding the appointment of Directors by the General Meeting to the Board of Directors. It oversees the selection process for potential candidates, may conduct its own research into candidates and may engage specialist consultants to assist in identifying potential candidates. It gives its opinion to the Board on proposed appointments to the Board Committees. It proposes to the Board a diversity policy concerning Directors, and its updates. It monitors implementation of this policy and the results achieved. The Committee makes sure that succession plans exist in order to plan ahead for replacements of executive corporate officers and members of the Group's Executive Committee, whether unexpected or upon expiry of their term of office. The Chairman and Chief Executive Officer is involved in the Committee's work on this task, except work regarding their own succession.

The Committee submits an opinion to the Board on the Company's implementation of a non-discrimination and diversity policy, and ensures a good gender balance in the Company's management bodies[1] and among executive managers.

With regard to remuneration, the Appointments, Remuneration and Governance Committee examines and gives an opinion on the principles and criteria used to determine and allocate all the components comprising the Chairman and Chief Executive Officer's remuneration and benefits of all kinds. It sends this opinion to the Board for discussion. The Chair of the Committee also submits this opinion for approval to the French Minister for the Economy. The Committee prepares its proposals within the limits specified by Decree no. 2012-915 of 26 July 2012 on State control over the remuneration of executives of public companies, which amended the Decree of 9 August 1953, and stipulates that the Chairman and Chief Executive Officer's gross annual remuneration must not exceed the limit of €450,000. The Committee gives the Board of Directors its opinion on the remuneration policy for the Group's Executive Committee and the principal executives, as well as on the amount and terms of allocation of the sum to be paid to the Directors for their services, as set by the General Meeting.

(1) In the Company's case this means EDF's Executive Committee.

With regard to governance, the Appointments, Remuneration and Governance Committee oversees matters relating to corporate governance and ensures that governance principles and rules, particularly from the AFEP-MEDEF Code, are applied in the Company's governance bodies. It may make proposals concerning any changes in the operation or powers of the Board or its rules of internal procedure. Every year, the Committee conducts an assessment of the functioning of the Board and its Committees, and every three years it supervises the formal assessment conducted by an independent external consultant. The Committee examines the Directors' individual situations in the light of the AFEP-MEDEF Code independence criteria annually, and reports its findings to the Board. When new members are appointed to the Risk and Audit Committee, it examines these members' expertise in the field of finance, accounting and statutory audits. It reviews and issues an opinion on situations involving a conflict of interest of which it becomes aware or is informed, and reports such situations to the Board of Directors.

Activity in 2024

In 2024, among other matters the Appointments, Remuneration and Governance Committee reviewed:

- proposals concerning the amount of the remuneration for the Chairman and Chief Executive Officer and Directors, and the remuneration policy for corporate officers;
- the remuneration policy for EDF executives, its implementation and adjustments;
- the Directors' individual situations with regard to the independence criteria defined in the AFEP-MEDEF Code;
- the draft corporate governance report included in the 2023 Universal Registration Document;
- the review of a director's candidacy and the assessment of their independence;
- the determination and the methods for distributing the remuneration package for directors to be submitted to the General Meeting of 11 June 2024;
- the implementation within the Group of the "*Ambition mixité*" gender equality plan for executives (see section 3.3.2.7 "Equality, diversity and inclusion");
- an information update on the Company's compliance with Order no. 2024-934 of 15 October 2024 transposing the "Women on Board" directive of 23 November 2022;
- the review of the 2024 results of the external assessment by an independent consultant on the functioning of the Board of Directors and its Committees.

The Committee also examined the changes made to the resources made available to the Honorary Chairs. This honorary distinction, awarded by decision of the Board of Directors, allows the company to maintain links with its former Chairs and Chief Executive Officers in order to benefit from their experience and their ability to explain the specific challenges facing EDF, being both outside the company and excellent connoisseurs of its specificities[1]. It does not confer any rights in the governance of the Company, and the Honorary Chairs do not attend meetings of the Board of Directors and its Committees.

The Committee did not call on any technical studies on issues falling within its remit during the 2024 financial year.

4.2.3.7 Joint meetings of the Board of Directors' Committees

Joint meetings of the Corporate Responsibility Committee and the Risk and Audit Committee dedicated to the review of sustainability information

In accordance with the Board's rules of internal procedure, the Responsibility Committee and the Risk and Audit Committee jointly conduct a review of the processes for preparing and processing non-financial information, and notably the items constituting, until 2024, the non-financial performance statement included in the management report.

In this respect, the Committees make any recommendations to guarantee the integrity of this information and consult the independent third-party responsible for verifying the information relating to the Company's non-financial performance.

As part of the application of the provisions of the CSRD Directive, and in line with the previous work of the Committees, it was decided to entrust the monitoring of issues relating to the preparation and control of sustainability information to the Corporate Responsibility Committee and the Risk and Audit Committee, which met jointly in order to mobilise the expertise held by the directors respectively on financial and non-financial issues (see section 4.2.3.5 "Corporate Responsibility Committee" and section 4.2.3.2 "Risk and Audit Committee").

In accordance with Article L. 821-67 of the French Commercial Code, the joint meetings of these committees were thus able to examine:

- the monitoring of the process for preparing the sustainability information and the monitoring of the implementation process that made it possible to determine the information to be published;
- the monitoring of the effectiveness of the internal control and risk management systems, as well as, where applicable, internal audit, with regard to the procedures relating to the preparation and processing of sustainability information;
- the monitoring the certification of sustainability information.

The Committees were also able to ensure compliance with the conditions of independence required of those carrying out sustainability information certification assignments and report regularly to the Board on the performance of their assignments, the results of the sustainability information certification assignment and the way in which these assignments have contributed to the integrity of the sustainability information.

(1) As of the date of this Universal Registration Document, the Honorary Chairs are Pierre Gadonneix (decision of the Board of Directors of 23 November 2009), Henri Proglio (decision of the Board of Directors of 23 November 2014) and Jean-Bernard Levy, the only one to benefit from the material resources granted to the Honorary Chairs (decision of the Board of Directors of 18 November 2022 with an effective date of 23 November 2022).

Activity in 2024

Joint meeting of the Commitments Committee and of the Risk and Audit Committee

In accordance with Article L. 821-67 of the French Commercial Code, the joint meetings of these committees in 2024 focused on examining the implementation of the CSRD Sustainability Directive, and more specifically:

- 2023 reporting in application of the European Taxonomy;
- the determination of the dual materiality process and the process for setting the EDF group's CSR targets;
- the appointment of the Statutory Auditors in charge of the certification of the consolidated sustainability information;
- a progress report on the implementation of the CSRD at the Group and the verification plan implemented by the OTI;
- the monitoring of the effectiveness of the internal control and risk management systems, as well as, where applicable, internal audit, with regard to the procedures relating to the preparation and processing of sustainability information;
- the monitoring of the certification of sustainability information.

12
participants

3
meetings

97.2%
average attendance rate

1h45
average duration of the meetings

Activity in 2024

In accordance with the Board of Directors' rules of internal procedure, a joint meeting of the Risks and Audit Committee and the Commitments Committee was also organised in 2024. It enabled the directors to review a progress report on the Hinkley Point C project and its financing.

9
participants

1
meeting

88.9%
average attendance rate

2h
average duration of the meetings

4.3 Executive Management

The Chairman and Chief Executive Officer is assisted by an Executive Committee which includes representatives of all the Group's lines of business.

This Committee is a decision-making body, a forum for discussion and a consultative body on the Group's operational and strategic matters. It examines all the substantive and current matters of significance to the Group, tracks the operating objectives and results and contributes to management and forecasting of the major challenges for the EDF group. It reviews and authorises significant projects, particularly the Group's investment or divestment projects for amounts above certain thresholds, in accordance with the governance of the Group's listed subsidiaries where appropriate. The Executive Committee meets weekly.

In order to strengthen the appraisal and monitoring of projects, a Commitments Committee of the Executive Committee authorises the Group's largest investments and commitments[1]. No investment project may be submitted for review by the Board of Directors without having first been approved by this Committee.

As at the filing date of this Universal Registration Document, the Executive Committee comprises thirteen members and a Secretary. The list of members and their personal information is presented below.

4.3.1 Members of the Executive Committee

As at the filing date of this Universal Registration Document, the members of the Executive Committee were as follows:

Names	Duties
Luc Rémont	Chairman and Chief Executive Officer
Marc Benayoun	Group Senior Executive Vice-President in charge of Customers and Energy Services
Brice Bohuon	Group Senior Executive Vice-President in charge of the Group General Secretariat
Béatrice Buffon	Group Senior Executive Vice-President in charge of the International Department and Chairwoman and Chief Executive Officer of EDF Renewables
Caroline Chanavas	Group Senior Executive Vice-President in charge of Human Resources
Bernard Fontana	Group Senior Executive Vice-President in charge of the Industry and Services Unit
Xavier Girre	Group Senior Executive Vice-President in charge of the Performance Impact, Investment and Finance Directorate
Véronique Lacour	Group Senior Executive Vice-President in charge of Transformation and Operational Effectiveness
Thierry Le Mouroux	Group Senior Executive Vice-President with responsibility for the Projects and Construction Directorate
Cédric Lewandowski	Group Senior Executive Vice-President with responsibility for the Nuclear and Thermal Generation Directorate
Simone Rossi	Group Senior Executive Vice-President, Chief Executive Officer of EDF Energy
Alain Tranzer	Group Senior Executive Vice-President with responsibility for the Engineering and Supply chain Directorate
Xavier Ursat	Group Senior Executive Vice-President with responsibility for the Strategy, Technologies, Innovation and Development Directorate

Chloé Pfeiffer, Group Executive Coordination Director, has served as Secretary of the Executive Committee since 1 July 2023.

Luc Rémont's term of office as Chairman and Chief Executive Officer expires at the end of the General Meeting called to approve the financial statements for the financial year ended 31 December 2024 (see the press release of the Presidency of the French Republic of 21 March 2025).

4.3.2 Personal information on members of the Executive Committee

Marc Benayoun, a graduate of ESSEC Business School, started his career in the Paribas Group in 1989, before joining The Boston Consulting Group in 1993. He became Associate Director at the Paris office in 2001, then at the Moscow office in 2008. During this period, he took on various responsibilities, including development of the company's natural gas expertise and activities. He also spearheaded the expansion of the Paris office into government consulting (with clients including the Ministry of Finance, the Ministry of Energy and Transport, and the Ministry of Health). In 2009, he joined the EDF group as Tariffs & Prices Director, in the Customer Division. He was notably in charge of discussions related to changes in the French regulated electricity tariffs. In 2012, he became Director, Business Customers Market. In this role, he led the project to end regulated electricity tariffs for companies and local authorities, which resulted in EDF regaining its leadership position in a competitive environment. In 2016, Marc Benayoun was appointed Member of the Executive Committee of the EDF group, in charge of Gas and Italy. He served as Chief Executive Officer of Edison, the third-largest Italian energy company. He also oversaw gas procurement activities for the EDF Group, and managed its portfolio of long-term contracts for the transport of natural gas by pipeline and by sea (LNG), as well as the assets needed to transport the gas to the delivery points. In addition to his corporate responsibilities, Marc Benayoun also speaks regularly at colleges and universities (Mines ParisTech, Paris-Dauphine University, Bocconi University in Milan), where he discusses the structure of the electricity and gas industries, the regulations that govern them, and the topic of leadership in the energy transition. In 2018, he received the Economist of the Year award from the Italian Association of Energy Economists. In July 2019, Marc Benayoun was appointed Group Senior Executive Vice-President in charge of Customers & Energy Services. In this capacity, he is heading the Customer Division and supervises energy service-related entities, including Dalkia. Marc Benayoun is also a member of the EDF Trading Board of Directors, Chairman of the Edison Board of Directors, and supervises the EDF Group's gas procurement platform in Italy.

(1) This undertaking notably concerns new projects involving investments of more than €60 million, entailing a significant impact on regions and the environment.

Brice Bohuon is a graduate of the Ecole des Mines de Paris and the Paris Institute of Political Studies, and an Ecole Nationale d'Administration alumnus. He began his career in 2007, working at the French Council of State as judge and Government adviser, before being appointed its Deputy General Secretary in 2010. In 2013, he joined SNCF Transilien, serving successively as General Secretary and then Marketing and Services Director. In 2017, he was appointed General Director of the Energy Regulation Commission (CRE), before joining Transdev France in 2019 as Deputy General Director. In 2021, he was appointed Deputy General Director for the Île-de-France region. Brice Bohuon joined EDF in April 2023 as Group Senior Executive Vice-President, Group General Secretary.

Béatrice Buffon began her career as Head of Financing at Cogetherm, an EDF subsidiary specialising in the development of gas co-generation projects. In 2001, she joined SIIF Energies, which became EDF Renewables, and became project manager in 2003. Her activity is focused on the development of biomass and onshore wind projects, as well as offshore wind projects in France, Belgium and the United Kingdom. From 2007 to 2009, she was Deputy Director of Poweo Renewable Energies. She returned to EDF Renewables in 2010 as Director of Development for large ground-based photovoltaic projects, then in 2011 became Director of Offshore Wind Power Development France. In April 2012, her team won the offshore calls for tenders in France for three projects representing a total capacity of 1,500MW. The development phase of these projects, which is now completed, resulted in the launch of the construction of the first French offshore wind power farm in August 2019, with the construction of the next two scheduled to start this year. In June 2019, she and her teams also won the call for tenders for the construction and operation of the Dunkirk offshore wind power farm (North). Her team is also working on a pilot floating wind project in the Mediterranean. In 2014, she was appointed Deputy Managing Director of EDF Renewables in charge of marine renewable energies, and a member of the Executive Committee. She is a graduate of both the École Polytechnique and the École Nationale des Ponts et Chaussées. She is a Knight of the French Order of Merit. Since 5 April 2024, Béatrice Buffon has been Chairwoman and Chief Executive Officer of EDF Renewables.

Caroline Chanavas holds master's level degrees in multilingual engineering from the Institut national des Langues et Civilisations Orientales (Inalco) and the Ecole des Hautes Etudes en Sciences Sociales (EHESS), and a Master's degree in Chinese. She joined the EDF group in April 2023 as Deputy Director of Human Resources. She has also been a senior fellow of the Institut des Hautes Etudes de Défense Nationale (IHEDN). She began her career in China, in 1990, as Sales Manager at Imaje-Jingling. In 1995, she joined Sema Group (now SchlumbergerSema) and created the Chinese subsidiary of which she subsequently became General Manager. On her return to France, she became Alliances and Partnerships Director for SchlumbergerSema. In 2003, Caroline Chanavas was appointed Vice-President for Asia-Pacific Strategy at Bull, before joining the Air Operations Division of Thales in 2006, where she held the positions of Vice-President for Sales, then for Commercial Operations, and then for Strategy and Marketing. In 2013, Caroline Chanavas joined Naval Group as Director of Procurement in the Services Division, with responsibility for the maintenance and modernisation of warships and combat systems, then became Naval Group's Executive Vice-President, Human Resources in 2017. Since 1 July 2023, she has been the EDF Group's Senior Executive Vice-President in charge of Human Resources.

Bernard Fontana holds a degree in engineering from the Ecole Polytechnique and the Ecole Nationale Supérieure des Techniques Avancées in Paris. He has spent 30 years working in the chemicals, steel and construction materials sectors (SNPE, ArcelorMittal, APERAM and Holcim). In 2012, he was appointed CEO of Holcim. Since 1 September 2015, Bernard Fontana has been Deputy Chief Executive Officer of AREVA NP. He was appointed Chairman of the Executive Board and CEO of Framatome (formerly AREVA NP) on 1 July 2016. He is also a Board member at Thales, SSAB, and at GIFEN Services after serving as its Chairman and CEO for 4 years, and has been a member of the Council of the French Nuclear Energy Industry Group GIFEN since its creation in 2018. He is a member of the High Committee for Transparency and Information on Nuclear Safety in France. Since 1 April 2024, Bernard Fontana has been Group Executive Vice-President in charge of the Industry and Services Division. Bernard Fontana is Chairman of the Board of Directors (since 31 May 2024) and Chairman (since 28 October 2024) of Arabelle Solutions.

Xavier Girre joined EDF in 2015 as Chief Financial Officer for France. From 2011 to 2015, he was Deputy CEO, Chief Financial Officer of La Poste Group and Chairman of XAnge Private Equity. He spent 1999 to 2011 in the Veolia Environnement Group, as Group Risk and Audit Director as well as Deputy CEO, Chief Financial Officer of Veolia Transport and Veolia Propreté. Xavier Girre is also a Director and Chairman of the Audit Committee of La Française des Jeux. He is a graduate of HEC business school and an alumnus of the École nationale d'administration, and began his career at the French Court of Auditors (Cour des comptes). Since 1 April 2024, Xavier Girre has been the Group Senior Executive Vice-President in charge of the Performance, Impact, Investments and Finance Department.

Véronique Lacour began her career at Thales in 1987, where she built up solid experience in information systems before becoming Information Systems Director for a new division of the company in 2004. Between 2007 and 2009, she managed Thales' HR information systems shared services. She moved to Safran in 2009 where she was initially Chief Information Officer for Safran Aircraft Engines (formerly Snecma), and then in 2013 Vice-President for Improvement Initiatives, leading continuous improvement and transformation initiatives. She went on to become Vice-President for Programs at Safran Analytics, and was involved in the creation of this new Big Data-focused entity as part of the Group's digital transformation strategy. Véronique Lacour joined EDF on 1 December 2016 as Group Senior Executive Vice-President in charge of Transformation and Operational Effectiveness, and is a member of the Executive Committee. She has been the Chairman of the Supervisory Board of Enedis since July 2023. Véronique Lacour holds a postgraduate diploma in Information Systems from the University of Paris I Panthéon Sorbonne.

Thierry Le Mouroux is a Mechanical and Electrical Engineering graduate of the engineering school ESTP and holds an MBA in project management. He began his career in the United States in 1989, as development manager of a startup specialising in broadband technology. He joined the Eiffage Group in 1990, and then became the CEO of Forclum Littoral in 1995. Between 2000 and 2010 he occupied several management posts in Suez Eau France. In 2010, Thierry Le Mouroux was appointed CEO of Endel Engie, where he was closely involved in operations for the Flamanville 3 EPR and the Grand Carenage industrial refurbishment programme. In 2013, he became Chairman and Chief Executive Officer of Endel ENGIE. He participates in the development of the company in the sectors of civil nuclear industry, energy industries, as well as in the space industry and military shipbuilding. From 2016 to 2020, he held several strategic positions at Framatome. In 2020, Thierry Le Mouroux joined Areva as Deputy Chief Executive Officer in charge of the Olkiluoto 3 EPR project. Notably, he ensured the functional reorganisation of the project so that it was delivered within the budget and on schedule. Thierry Le Mouroux has proven experience in industrial and nuclear projects. He joined the EDF group on 1 January 2024, as Executive Director in charge of the foreshadowing of the future Nuclear Projects and Construction Division. Since 1 April 2024, he has been Group Senior Executive Vice-President in charge of the Projects and Construction Department.

Cédric Lewandowski is a graduate of the Paris Institute of Political Studies and has a postgraduate diploma in Geopolitics from Paris-VIII University. He began his career at EDF in 1998 as Chief of the Chairman's Staff from 1998 to 2004, then Director of Transport and Electric Vehicles from 2005 to 2008. He was the Manager of EDF Local Authorities at EDF's Customer Division from 2008 to 2012, Chairman of the Board of Directors of H4 from 2009 to 2012, a Director of Safidi from 2009 to 2012, and Chairman of Tiru's Board of Directors from 2009 to 2012. He was then appointed Chief of Civil and Military staff for France's Minister of Defence, a position he held from May 2012 to mid-2017. From July 2017 to mid-2019, he was the EDF group Senior Executive Vice-President in charge of the Innovation, Strategy and Programming Division, Chairman of the Executive Committee of EDF Pulse Croissance Holding, as well as member of the Board of Directors of Enedis and Vice-Chairman of the World Energy Council (2018-2019). He is Chairman of the Board of Directors of Électricité de Strasbourg (since February 2018) and Chairman of Association française de l'éclairage (since June 2018). He is a Knight of the French Legion of Honour, a Knight of the Order of Agricultural Merit, and an Officer of the National Order of Mali. Since 1 April 2024, he has been Group Senior Executive Vice-President in charge of the Nuclear and Thermal Generation Division.

Simone Rossi began her career in 1993 in the finance department of De Agostini in Novara (Italy). He then held a position in the management consulting department of KPMG Corporate Finance and continued his career in 1996 at McKinsey & Co. in Milan (Italy) where he addressed the needs of financial institutions and various customers in the energy and industrial sectors. In 2004, he joined Edison SpA in Milan, where he became Head of Strategy, then Director of Planning, Control and Information Technology. In November 2009, he joined the Constellation Energy Nuclear Group in Baltimore (United States) as Chief Financial Officer. Having become Chief Financial Officer of EDF Energy (2011-2015), he was then appointed Group Senior Executive Vice-President in charge of the International Department (2015-2017). He holds a degree in business management from Bocconi University in Milan and a clarinet degree from the Puccini Conservatory in Gallarate (Italy).

Alain Tranzer is an engineering graduate of Ecole Polytechnique and Ecole des Mines de Paris. He began his career in 1991 at the PSA Group. After a spell in suspension engineering, he successively held the positions of sub-system manager, plant quality manager, chief engineer for the Peugeot 407, then director of the Peugeot 208-2008 programme. He thus acquired strong skills in industrial project management, from initial design to industrial launch, and was named Eurostar 2013 Project Director of the Year by Automotive News Europe. In 2013, Alain Tranzer was appointed PSA Group's Senior Vice-President in charge of platforms, modules and advanced projects such as autonomous, connected, electric and hybrid cars. Since 2018, he has been Senior Vice President for the PSA group, in charge of the "CO_2 reduction programme and project management for engines, platforms and associated technological modules". Since 2020, he has been responsible for managing the "excell" plan, which aims to strengthen the industrial quality, skills and governance of the EDF group's major nuclear projects. Since 1 April 2024, he has been Group Senior Executive Vice-President in charge of the Engineering and Supply Chain Division.

Xavier Ursat has been Group Senior Executive Vice-President in charge of Engineering and Nuclear New Build since March 2015, and Group Senior Executive Vice-President in charge of Innovation, Corporate Responsibility and Strategy since December 2023. He joined EDF in 1991, where he held various positions in hydropower engineering until 2002. Among his responsibilities, he was in charge of implementing EDF hydropower command centres and took part in international projects, mainly in South America. From 2002 to 2005, he was an advisor to EDF's Executive Vice-President in charge of Generation and Engineering. He was Deputy Director of the Alps Generation unit in Grenoble from 2005 to 2007, then Director of the South-West Generation Unit in Toulouse from 2007 to 2010. Between 2010 and 2015, he was successively Deputy Manager and Manager of the Hydro Generation and Engineering Division. Xavier Ursat is the Chair of the Strategic Committee for the French Nuclear Sector (CSFN) and Chairman of the French Nuclear Energy Industry Group (GIFEN). He is also the Chairman of the Edvance Supervisory and Orientation Committee and a member of Framatome's Supervisory Board. He is the outgoing Chairman of the French Nuclear Energy Society (SFEN) and an Honorary Governor of the World Water Council. He is a graduate of the École Polytechnique and Telecom Paris. Since 1 April 2024, he has been Group Senior Executive Vice-President in charge of the Strategy, Technologies, Innovation and Development Division.

4.4 Conflicts of interest and interests of corporate officers and executives

4.4.1 Conflicts of interests

To the Company's knowledge, as at the filing date of this Universal Registration Document, there were no potential conflicts of interest concerning EDF between the duties of the members of the Company's Board of Directors and Executive Management and their private interests or other duties (for information on the conflict of interest rules applicable to Directors, see section 4.2.2.8 "Obligations and duties of Directors").

Subject to the specific laws and regulations applicable to the composition of the Company's Board of Directors (see section 4.2.1 "Members of the Board of Directors"), to the Company's knowledge, no arrangements or agreements have been entered into with shareholders, customers, suppliers or other parties under which a member of the Board of Directors or Executive Management has been appointed in that capacity.

Moreover, to EDF's knowledge, there are no family ties between members of its Boards and Executive Management.

4.4.2 Absence of convictions

To the best of EDF's knowledge, no member of the EDF Board of Directors or Executive Management has been subject to a criminal investigation or conviction for fraud or corruption, or been involved in any bankruptcy, insolvency, liquidation or receivership proceedings during the past five years.

With the exception of the following situations:

- Anne-Marie Descôtes was ordered by the Court of Budgetary and Financial Discipline on 19 November 2020 to pay a €1,000 fine for disregarding the Public Procurement Code in her capacity as Chief Executive Officer of the Agency for French Education Abroad (AEFE) from September 2008 to August 2013.

- the British company Eagle Genomics Ltd., of which Delphine Gény-Stephann is a non-executive director, was recently placed, at the request of its Board of Directors, under the regime of the UK Insolvency Act 1986 by the appointment of two administrators, officially appointed by decision of the High Court of Justice on 20 March 2024.

To the best of EDF's knowledge, no other Director has been subject to any official public incrimination or sanction issued by statutory or regulatory authorities during the last five years.

Moreover, to the best of EDF's knowledge, during the past five years no member of the EDF Board of Directors or Executive Management has been removed by a court from their functions as a member of a governance, management or supervisory body of a legal entity, or barred from participation in the management or direction of a legal entity's affairs.

4.4.3 Service contracts

EDF's corporate officers have not entered into any service contract with the Company or any of its subsidiaries entitling them to any kind of benefits.

4.5 Remuneration and benefits of the corporate officers

As stated in section 4.1 "Corporate Governance Code", the Company refers to the AFEP-MEDEF Code, subject to the specific legislative and regulatory requirements applicable to it.

This section presents details of the total remuneration and benefits of all kinds paid during the 2023 and 2024 financial years or allocated in respect of the same financial years to corporate officers by the Company and the companies included in its scope of consolidation as defined by Article L. 233-16 of the French Commercial Code.

4.5.1 Remuneration of corporate officers

4.5.1.1 Remuneration of the Chairman and Chief Executive Officer

Determination of the remuneration of the Chairman and Chief Executive Officer

The components of the remuneration of the Chairman and Chief Executive Officer are set by the Company's Board of Directors after the Appointments, Remuneration and Governance Committee has issued its opinion, and are submitted to the French Minister for the Economy for approval following consultation with the relevant Ministers (see section 4.2.3.6 "Appointments, Remuneration and Governance Committee"). The remuneration of the Chairman and Chief Executive Officer must be within the limits specified by Decree 2012-915 of 26 July 2012 on State control over the remuneration of executives of public companies, which amended Decree 53-707 of 9 August 1953 and sets a maximum gross annual remuneration of €450,000.

Remuneration for the 2024 financial year

The Appointments, Remuneration and Governance Committee decided at its meeting of 6 February 2024 to recommend that the Board of Directors should keep the same principles and criteria for determining the remuneration of the Chairman and Chief Executive Officer for the 2024 financial year, and consequently should set his annual fixed remuneration at the maximum allowed by the Decree of 9 August 1953. On the Committee's proposal, the Board decided at its meeting of 15 February 2024 to maintain the Chairman and Chief Executive Officer's gross annual fixed remuneration for the 2024 financial year at €450,000, while noting once again that the ceiling introduced in 2012 in the Decree of 9 August 1953 has not been raised since that date. As the Chairman has waived his right to a company car, he does not currently receive any benefits in kind.

Remuneration for the 2025 financial year

The Appointments, Remuneration and Governance Committee decided at its meeting of 6 February 2025 to recommend that the Board of Directors should keep the same principles and criteria for determining the remuneration of the Chairman and Chief Executive Officer for the 2025 financial year, and should set his annual fixed remuneration at the maximum allowed by the Decree of 9 August 1953. On the Committee's proposal, the Board, at its meeting of 20 February 2025, therefore decided to maintain the fixed annual remuneration of the Chairman and Chief Executive Officer at €450,000 for the 2025 financial year, noting that, as in 2022 and 2023, the ceiling introduced in 2012 has not been raised since then.

The tables below show the components of Luc Rémont's remuneration since his appointment as Chairman and Chief Executive Officer of EDF for the 2023 and 2024 financial years.

Table 1 - Summary of the remuneration, options and shares awarded to the Chairman and CEO

(in euros)	2024 financial year	2023 financial year
Luc Rémont, Chairman and Chief Executive Officer		
Remuneration awarded for the financial year (see details in table 2)	450,000	450,000
Value of multi-year variable remuneration awarded during the financial year	none	none
Value of options awarded during the financial year(2)	none	none
Value of the bonus shares awarded during the financial year(2)	none	none
TOTAL	**450,000**	**450,000**

n/a: not applicable.

(1) As stated in section 4.6.2, the Company has not implemented any stock option plans and the Chairman and Chief Executive Officer receives no allocation of bonus shares.

The table below details the remuneration of all kinds paid to the Chairman and Chief Executive Officer during the 2023 and 2024 financial years or due in respect of the 2023 and 2024 financial years.

Table 2 - Summary of the remuneration of the Chairman and CEO

	2024 financial year		2023 financial year	
(in euros)	Amounts due for the financial year	Amounts paid during the financial year	Amounts due for the financial year	Amounts paid during the financial year
Luc Rémont, Chairman and Chief Executive Officer				
Fixed remuneration	450,000	450,000	450,000	450,000
Variable remuneration	none	none	none	none
Multi-year variable remuneration	none	none	none	none
Exceptional remuneration	none	none	none	none
Remuneration for services as Director	none	none	none	none
Benefits in kind	0	0	0	0
TOTAL	**450,000**	**450,000**	**450,000**	**450,000**

n/a: not applicable.

Other components of remuneration

	2024 financial year		2023 financial year	
(in euros)	Amounts due for the financial year	Amounts paid during the financial year	Amounts due for the financial year	Amounts paid during the financial year
Luc Rémont, Chairman and Chief Executive Officer				
Remuneration for services as Director	none	none	none	none
Employment contract	n/a	n/a	n/a	n/a
Signing allowance	n/a	n/a	n/a	n/a
Severance pay or end-of-service allowance	n/a	n/a	n/a	n/a
Non-competition clause	n/a	n/a	n/a	n/a
Supplementary pension scheme	n/a	n/a	n/a	n/a
Remuneration paid or awarded by a company included in the scope of consolidation (Article L. 233-16 of the French Commercial Code)	none	none	none	none
TOTAL	**0**	**0**	**0**	**0**

n/a: not applicable.

Luc Rémont does not receive any indemnity or benefits due or likely to be due by the Company as a result of termination or a change in his duties, nor any indemnity relating to a non-competition clause. He has not entered into an employment contract with the Company and does not benefit from a supplementary pension scheme.

The Chairman and Chief Executive Officer is covered by the social protection schemes (health cover and provident cover) set up by EDF for the benefit of the Company's non-statutory executives and senior managers.

4.5.1.2 Remuneration of Directors

Determination of the remuneration paid to the Directors for their term of office

After consulting the Appointments, Remuneration and Governance Committee, the Board of Directors proposes a fixed annual sum to the General Meeting which is submitted to the Minister for the Economy for approval, to be distributed to the Directors under the allocation rules defined by the Board (see "Remuneration of Directors – 2024 and 2025 financial years" below).

Directors representing the employees receive no remuneration for their services, in accordance with Law 83-675 of 26 July 1983 on the democratisation of the public sector, and the Chairman and Chief Executive Officer receives no remuneration for his services as a Director.

Pursuant to Article 6 of Order no. 2014-948 of 20 August 2014, the remuneration allocated in respect of their office to the directors appointed by the General Meeting on the proposal of the State, and who are public servants of the State, is paid in full to the State budget.

For those who are not public officials, a decree from the Minister of the Economy and Finance[1] specifies that the Company pays 15% of the remuneration allocated to them in respect of their office into the French State budget, the remaining 85% being paid to the director.

Regarding the Representative of the French State appointed to the Board of Directors in accordance with Article 4 of the Order of 20 August 2014, any remuneration that he/she is entitled to receive for the performance of his/her duties is paid to the State budget.

Remuneration of Directors – 2024 financial year

Changes in the remuneration system for directors compared to the 2023 financial year

New remuneration methods

As of 1 January 2024, the remuneration system for directors has evolved into a system of fully variable remuneration "per meeting", taking into account the attendance of directors at the meetings of the Board of Directors and its Committees, and their functions as either Committee member or Chairman.

Simple and consistent with market practices, this system complies with the recommendations of the AFEP-MEDEF Code, which recommends a predominant variable portion and remuneration proportional to the number of meetings held, thus reflecting the investment and commitment of the directors.

The previous system (unchanged since the 2011 financial year) was based on a breakdown of the amount of the annual remuneration package between a fixed portion (shared equally among the directors concerned) and a variable portion (determined for each director concerned through the application of a variable coefficient depending on the type of meeting and the duties of the director), each representing half of the budget.

The General Meeting of 11 June 2024, set at €675,050 the amount of the annual fixed sum referred to in Article L.225-45 of the French Commercial Code to be allocated to the members of the Board of Directors as remuneration for 2024.

The breakdown of the amount of the budget is as follows:

- directors are paid up to a limit of €596,050 according to the variable remuneration "per meeting" system adopted by the Board of Directors on 10 June 2024;
- the directors who are members of the EDF group's Company Project Working Group are paid a fixed amount of €79,000 per meeting depending on their status as members or as Chair of the Working Group. This working group was composed of Bruno Crémel, Colette Lewiner, Claire Pedini, Christian Taxil and Alexis Zajdenweber. The Board of Directors meeting of 15 December 2023 appointed Aurélie Frionnet member of this working group to replace Christian Taxil.

Former remuneration arrangements

Until 31 December 2023, the methods for allocating the annual remuneration package for directors, excluding any additional remuneration, which are regularly reviewed by the Board of Directors, remained unchanged since 2011. The annual budget comprised a fixed portion and a variable portion, each representing half of the total, broken down as follows:

- the fixed portion was shared equally among the Directors concerned; 50% of the fixed annual portion was paid during the financial year in which it Z awarded and the remaining 50% at the beginning of the following financial year;
- the variable portion was shared among the Directors by applying a variable coefficient based on the type of meeting (Board or Committee) and the special functions held by each Director (member or Committee Chair): a coefficient of 2 was applied for the Director's attendance at a meeting of the Board of Directors, a coefficient of 1 for attendance at a Committee meeting as a member, and a coefficient of 2 for chairing a Committee meeting. The variable portion was divided by the total coefficients for the financial year in order to determine the unit value of the coefficient; the variable portion due for a financial year was paid in full at the start of the following financial year.

No exceptional remuneration or other remuneration was paid to the Directors during the 2024 financial year by the Company or by a company included in its scope of consolidation as defined by Article L. 233-16 of the French Commercial Code.

Remuneration of Directors – 2025 financial year

On the proposal of the Appointments, Remuneration and Governance Committee, whose opinion was delivered at the meeting of 6 February 2025, and after deliberation, the Board of Directors, at its meeting of 20 February 2025, decided to submit to the General Meeting to be convened to approve the financial statements for the 2024 financial year an annual budget of €675,000 for the 2025 financial year, in respect of the annual fixed sum to be distributed among the directors as remuneration for their terms of office pursuant to Article L. 225-45 of the French Commercial Code, and confirmed the rules, applicable since the 2024 financial year, for the distribution among the directors of this fixed annual sum.

There are no plans for any exceptional remuneration or other remuneration to be paid to Directors during the 2025 financial year by the Company or by a company included in its scope of consolidation as defined by Article L. 233-16 of the French Commercial Code.

(1) The Order of 5 January 2018, amending the Order of 18 December 2014 issued pursuant to Article 6-V of the Order of 20 August 2014.

Summary table of directors' remuneration – 2023 and 2024 financial years (gross amounts in euros)

The table below shows the gross amounts in euros of the remuneration awarded and paid to the directors for the 2023 and 2024 financial years, in accordance with the remuneration system applicable to each financial year, pursuant to Article L. 225-45 of the French Commercial Code.

	Amounts awarded in respect of the 2024 financial year and paid in July 2024 and February 2025	Amounts awarded in respect of the 2023 financial year and paid in August 2023 and February 2024
Total amount of remuneration allocated by the General Meeting of EDF SA	675,050[1]	550,000[2]
Including 100% of a variable portion based on attendance and positions held by directors (Committee member or Chairman)	*596,050* [3]	*n/a*
Including 50% of a fixed portion and 50% of a variable portion (application of a variable coefficient depending on the type of meeting and the positions held by the directors (member or Chairman of the Committee)	*n/a*	*460,000* [4]
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*79,000* [5]	*90,000* [6]
Total amount of remuneration actually awarded by EDF SA	615,550	550,000
Including 100% of a variable portion based on attendance and positions held by directors (Committee member or Chairman)	536,550	*n/a*
Including 50% of a fixed portion and 50% of a variable portion (application of a variable coefficient depending on the type of meeting and the positions held by the directors (member or Chairman of the Committee)	*n/a*	460,000
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*79,000* [5]	*90,000* [6]
Christophe Béguinet[7]	n/a	n/a
Nathalie Collin	54,850	42,579
Bruno Crémel	77,150	70,609
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*34,000*	*30,000*
Gilles Denoyel	43,650	41,102
Anne-Marie Descôtes	29,800	36,177
Bruno Even[8]	19,700	*n/a*
Aurélie Frionnet[7]	n/a	n/a
Delphine Gény-Stephann	44,000	39,624
Fabrice Guyon[7]	n/a	n/a
Gérald Lacoste[7]	n/a	n/a
Marie-Christine Lepetit	69,550	47,997
Colette Lewiner[9]	40,500	64,057
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*17,000*	*20,000*
Sandrine Lhenry[7]	n/a	n/a
Claire Pedini	72,200	43,564
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*16,000*	*n/a*
Philippe Petitcolin	65,000	84,057
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*n/a*	*40,000*
Cécile Pichot[7]	n/a	n/a
Luc Rémont[10]	n/a	n/a
Michèle Rousseau	49,000	42,087
Alexis Zajdenweber	50,150	38,147
Including additional remuneration in respect of participation in the Working Group and/or the Ad Hoc Committee	*12,000*	*n/a*

(1) The annual amount of remuneration to be allocated to the members of the Board of Directors was set at €675,050 by the General Meeting of 11 June 2024.

(2) The annual amount of remuneration to be allocated to the members of the Board of Directors was set at €550,000 by the General Meeting of 28 June 2023.

(3) Directors are remunerated up to a limit of €596,050, taking into account their attendance at Board and Committee meetings as well as the positions they hold therein (Committee member or Chair), in accordance with the rules adopted by the Board of Directors of 10 June 2024.

(4) The amount of €460,000 is distributed among the directors according to the allocation rules defined by the Board of Directors since 2011 and comprising a fixed portion and a variable portion, each corresponding to half of the amount of €460,000.

(5) The annual amount of directors' 2024 remuneration includes additional remuneration of a total amount of €79,000 paid to the directors who are members of the EDF group's Company Project Working Group (see the section entitled "Remuneration of Directors – 2024 financial year").

(6) The annual amount of directors' remuneration for 2023 includes additional remuneration for a total amount of €90,000 allocated, in accordance with the decision of the Board of Directors of 16 February 2023, to the Independent Directors who are members of the Working Group set up by the Board in the context of the proposed acquisition by EDF of the nuclear steam power activities of General Electric and to the Independent Directors who participated in the Ad Hoc Committee set up by the Board in the context of the simplified public tender offer initiated by the French State in 2022 and completed in 2023. €30,000 of this additional remuneration was shared among the Chairs of the Working Group and the Ad Hoc Committee, and €10,000 was shared among the Independent Directors who were members of the Working Group and the Ad Hoc Committee.

(7) The directors representing the employees exercise their mandate free of charge in accordance with the Law of 26 July 1983 on the democratisation of the public sector.

(8) Bruno Even was appointed as a Director, replacing Colette Lewiner, by the General Meeting of 11 June 2024.

(9) Colette Lewiner resigned from her duties as Director of EDF on 11 June 2024.

(10) The Chairman and Chief Executive Officer receives no remuneration for his or her services as Director.

4.5.2 Stock options - Bonus shares

The Company has not implemented any stock option plans and the corporate officers are not awarded bonus shares (performance shares).

4.5.3 Equity ratios[1] and evolution in remuneration 2020-2024

The table below shows the evolution over the past five years in the ratio between the level of the Chairman and Chief Executive Officer's remuneration and the average remuneration of all EDF employees on a full-time equivalent basis (excluding the Chairman and Chief Executive Officer's remuneration), and the ratio between the level of the Chairman and Chief Executive Officer's total remuneration and the median remuneration of EDF employees on a full-time equivalent basis (excluding the Chairman and Chief Executive Officer's remuneration). It also shows the organic changes in Group EBITDA over the same period.

	2024	2023	2022	2021	2020
Remuneration of the Chairman and Chief Executive Officer	450,000	450,000	455,059	453,660	453,660
Changes in the remuneration of the Chairman and Chief Executive Officer[1]	0.0%	0.0%[2]	0.0%	0.0%	0.0%
Equity ratio/Average remuneration[3]	5.7	5.8	6.3	6.6	6.6
Equity ratio/Median remuneration[3]	6.0	6.2	6.8	7.2	7.2
Changes in average salary[1] [4]	+2.2%	+7.3%	+5.8%	-0.2%	+2.87%
Changes in median salary[1] [4]	+2.7%	+9.0%	+6.2%	-0.1%	+3.54%
Organic changes in the Group EBITDA[1]	-8.4%	+903.4%	-128.2%	+11.3%	-2.70%

(1) Change observed in year N compared to year N-1.

(2) Change calculated on the basis of the annual fixed remuneration only, i.e. €450,000, as unlike his predecessor Luc Rémont does not receive any benefits in kind.

(3) The salaries of EDF's employees taken into account include the fixed salary, the variable portion and all bonuses, including those related to IEG status, as well as any benefits in kind.

(4) The significant change in the average salary and median salary observed between 2022 and 2023 is due to EDF's introduction of exceptional pay measures in 2023 in a context marked by the European energy crisis and record inflation.

The employees taken into account to calculate the above ratios are all EDF's employees in France (on a full-time basis) who were employed continuously over the year.

(1) Calculated in accordance with guidelines published by the AFEP.

5.

Financial performance and outlook

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5.1 Review of the financial situation and results 2024

5.1.1 Key figures

The financial information presented in this document is prepared from the EDF group's consolidated financial statements at 31 December 2024.

The Group's very good operational performance is reflected in substantially higher nuclear output in France and hydropower output in Europe. Regulated activities and renewable energies also registered growth. Nevertheless, EBITDA was down by €3.4 billion in a decreasing market price environment.

(in millions of euros)	2024	2023	Variation	Variation (%)	Organic variation (%)
Sales	118,690	139,715	(21,025)	-15.0	-15.7
EBITDA	36,523	39,927	(3,404)	-8.5	-8.4
Operating profit (EBIT)	18,327	13,174	5,153	39.1	43.0
Income before taxes of consolidated companies	17,395	9,825	7,570	77.0	82.2
EDF net income	11,406	10,016	1,390	13.9	17.1
Net income excluding non-recurring items[1]	15,233	18,481	(3,248)	-17.6	-15.8
Net income excluding non-recurring items, adjusted for the remuneration of hybrid notes	14,651	17,851	(3,200)	-17.9	n.a
Group cash flow[2]	3,868	9,581	(5,713)	-59.6	n.a
Net financial debt[3]	54,346	54,381	(35)	-0.1	n.a

n.a: not applicable

(1) Net income excluding non-recurring items is not defined by IFRS and is not directly visible in the Group's consolidated income statement. It corresponds to net income excluding non-recurring items, net changes in the fair value of energy and commodity derivatives (excluding trading activities), and net changes in the fair value of debt and equity instruments, net of tax (see the section on "Net income excluding non-recurring items").

(2) Income from cash and cash equivalents is now presented in the Group cash flow (in the amount of €351 million for 2024 and €293 million for 2023). In 2023, it was included in "Other financial investments". The comparative figures have been restated accordingly.

(3) Net financial debt is presented in detail in section 4.1.

5.1.2 Economic environment

5.1.2.1 Market prices for electricity, fossil fuels and CO_2 emission certificates

5.1.2.1.1 Spot electricity prices in Europe[1]

	France	United Kingdom	Italy	Belgium
Average baseload price for 2024 (€/MWh)	57.7	85.9	108.5	70.2
Variation in average baseload prices, 2024/2023	-39.1	-22.2	-18.7	-27.0
Average peakload price for 2024 (€/MWh)	64.2	96.4	115.9	77.6
Variation in average peakload prices, 2024/2023	-45.4	-23.8	-21.2	-31.7

Figures are rounded to one decimal place. 2024/2023 variations are calculated from the exact amounts

In France, spot electricity prices were significantly lower than in 2023 (an average difference of €(39.1)/MWh), ranging between €(87.3)/MWh and €284.2/MWh in 2024. The general easing of spot prices resulted from the following factors in the supply-demand balance[2]:

- An increase in power production: French electricity output rose by 9%, principally due to higher generation of nuclear power (+13% vs 2023) and very good hydraulicity conditions (+27% vs 2023).
- A decrease in commodity prices: -12% vs 2023 for the PEG spot index (the reference index for gas in France).
- Sluggish demand: Consumption in 2024 (unadjusted for weather effects and load-shedding) totalled 437.2TWh (+0.9TWh vs 2023): along with 2023, demand for electricity in France in 2024 was the lowest for 20 years.

Consequently,

- As a result of this electricity output and restrained consumption, France was a net exporter in every month of 2024. The country's net export balance rose substantially in 2024 due to a decrease in imports (-50% vs 2023) and an increase in exports (+35% vs 2023), principally in the Core region (consisting of 13 countries including Germany and Belgium, Italy and the United Kingdom). The net total 89TWh of exports in 2024 broke France's previous record of 77TWh, dating from 2002.

(1) **France**: average day-ahead EPEXSPOT price;
Belgium: average day-ahead Belpex price;
United Kingdom: average day-ahead Nordpool price;
Italy: average day-ahead GME price.

(2) Source: ENTSO-E Transparency Platform

- 2024 was marked by several hours of negative or zero spot prices in France when renewable energy output was high given the increase in installed renewable capacities and very good hydraulicity conditions combined with sluggish demand. Specifically, there were 361 hours of negative spot prices in 2024, compared to 147 in 2023. European countries were also affected by a downturn in commodity prices which drove spot electricity prices down all over Europe in 2024.

5.1.2.1.2 Forward electricity prices in Europe(1)

	France	United Kingdom	Italy	Belgium
Average 2024 forward baseload price under the 2025 annual contract (€/MWh)	**76.7**	**94.1**	**108.0**	**85.0**
Variation in average forward baseload price under the annual contracts, 2024/2023	(86.0)	(50.0)	(40.2)	(43.9)
Forward baseload price under the 2025 annual contract at 27 December 2024 (€/MWh)	77.6	108.5	128.7	91.8
Average 2024 forward peakload price under the 2025 annual contract (€/MWh)	**90.1**	**106.1**	**114.9**	**n.a.**
Variation in average forward peakload price under the annual contracts, 2024/2023	-147.6	-63.8	-52.1	n.a.
Forward peakload price under the 2025 annual contract at 27 December 2024 (€/MWh)	87.7	120.7	135.2	n.a.

n.a.: not applicable

Figures are rounded to one decimal place. 2024/2023 variations are calculated from the exact amounts

Average forward prices for baseload and peakload electricity for next-year delivery under annual contracts were down all over Europe compared to 2023.

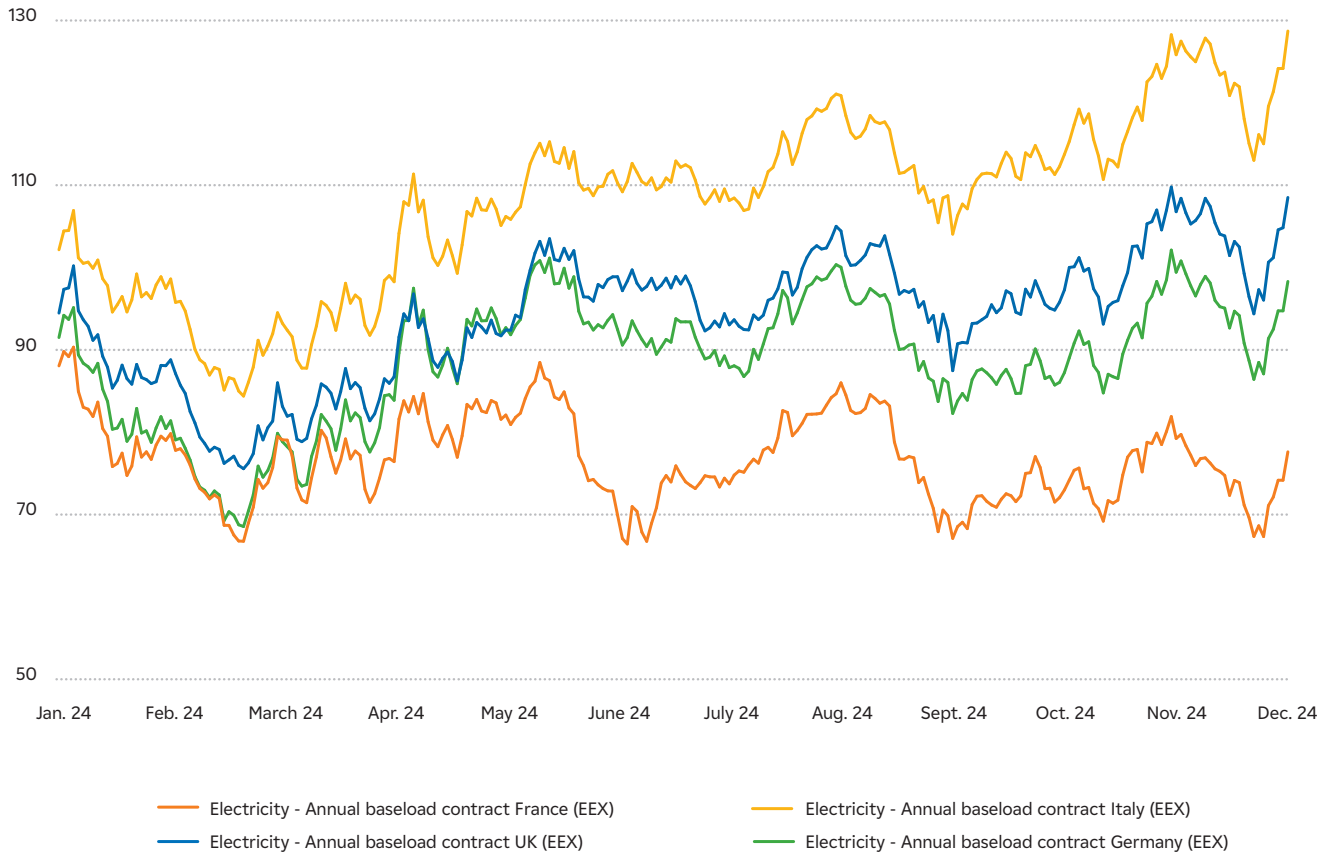
In **France**, the average annual contract baseload price for next-year delivery was €76.7/MWh for 2024, down by €86.0/MWh from 2023. This price fluctuated between €66.4/MWh and €90.3/MWh, ending the year at €77.6/MWh (for comparison, the 2024 calendar product peaked at €234.7/MWh on 3 January 2023 while the 2025 product peaked at €90.3/MWh on 5 January 2024).

The forward price for 2025 delivery mainly echoed the downturn in gas, coal and CO_2 prices, and the lower demand, since consumption has not yet returned to pre-Covid levels. The easing of forward electricity prices is also explained by the spot prices observed in 2024 as market actors progressively adapted to levels well below 2023 prices.

The differential with the annual year-ahead contract prices in Germany, Europe's most liquid market, fluctuated between €0.8/MWh and €(25.1)/MWh. The French price was almost always above the German price in 2023, but then spent practically all of 2024 below the German price, again in response to realised spot prices which were an average €21.2/MWh lower in France than Germany in 2024.

(1) France, Italy, Belgium, United Kingdom: year-ahead EEX price

PRINCIPAL FORWARD ELECTRICITY PRICES IN EUROPE (BASELOAD YEAR AHEAD), IN €/MWH



5.1.2.1.3 Fossil fuel and CO_2 emission certificates prices(1)

	Coal (US$/t)	Oil (US$/bbl)	Natural gas (€/MWh)	EU ETS Dec year Y (€/t)
Average price for 2024	114.7	79.9	36.2	66.4
Average price variation, 2024/2023	-11.6	-2.3	-14.4	-19.1
Highest price in 2024	130.8	91.2	46.2	77.4
Lowest price in 2024	89.2	69.2	26.6	52.2
Price at 31 December 2024	113.7	74.6	46.2 (at 27 Dec)	63.3 (at 16 Dec)
Price at 29 December 2023	97.6	77.0	35.0 (at 27 Dec)	69.1 (at 18 Dec)

The annual **gas** contract price for next-year delivery at the French PEG hub stood at an average €36.2/MWh in 2024, substantially lower than in last year (-28% or -€14.4/MWh vs 2023). Nevertheless, the general trend over the year 2024 was upward: the PEG 2025 price closed at €46.2/MWh, its highest level of the year. Although demand was down from 2023 (-6.1%) due to lasting energy-sufficient behaviour and relatively high European gas stocks throughout the year, prices were sustained by geopolitical tensions that stoked market actors' fears for European supplies, and tougher competition with Asia for LNG.

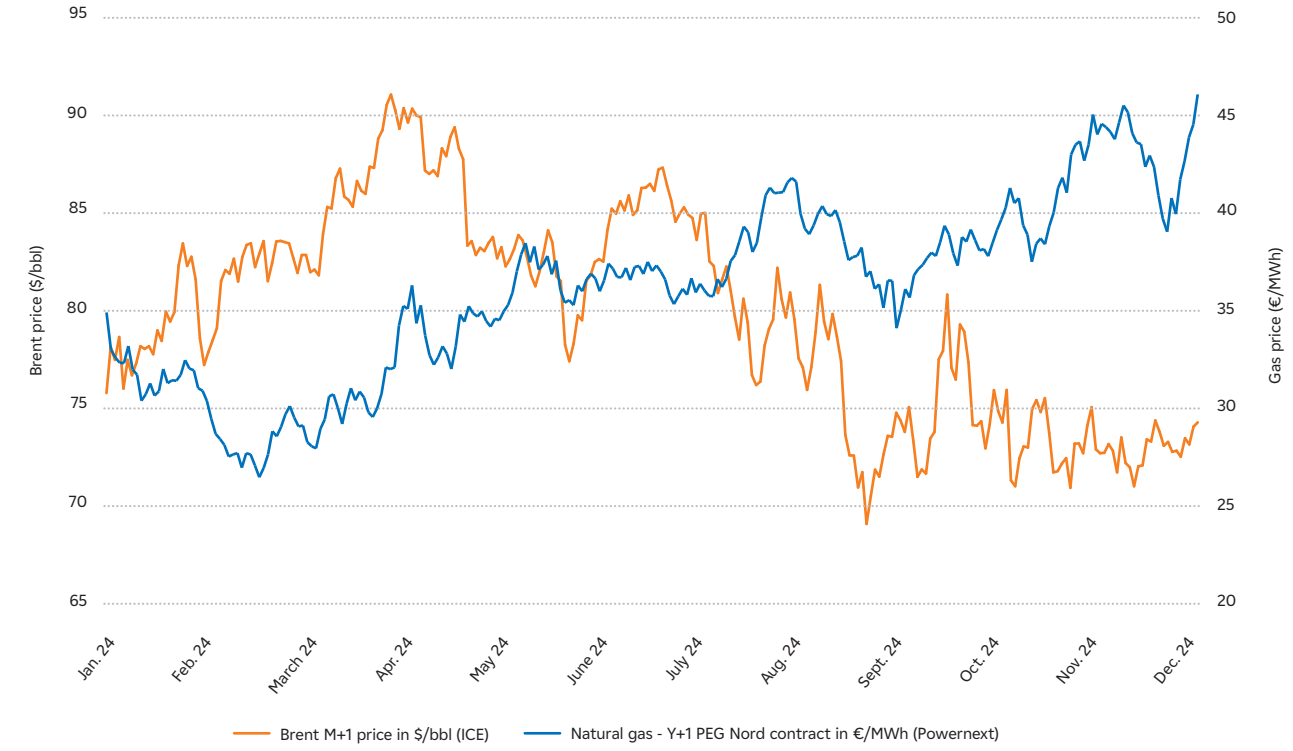
Coal prices for next-year delivery in Europe's principal ports, "ARA" (Amsterdam, Rotterdam and Antwerp), stood at an average $114.7/t in 2024, down by -9% or -$11.6/t from 2023, and ended the year at $113.7/t. At a time when European countries are declaring their aim to exit coal, demand remained low in Europe. It generally fluctuated in line with gas price movements, and coal prices were boosted by demand in Asia where imports reached close-to-record levels during the summer to cope with heatwaves. Forecast costs for gas and coal-fired electricity generation occasionally drew closer in the summer, as coal and CO_2 prices declined, while gas prices were rising.

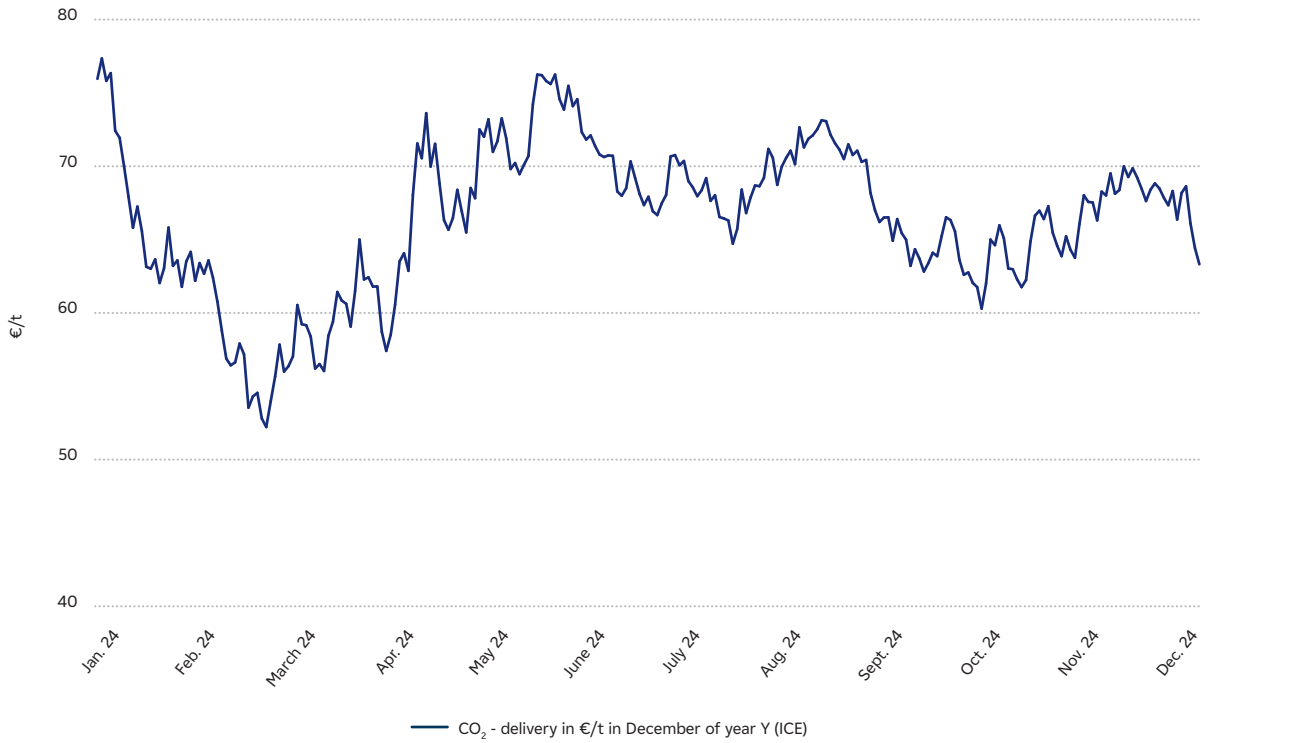
Oil prices stood at an average $79.9/bbl for 2024 (-3% or -$2.3/bbl vs. 2023). Brent prices were volatile in 2024, following no clear trend. Prices were held back by the lack of tangible signs of recovery in the world economy, particularly in China, but were also sustained by market anxiety about supplies in a tense geopolitical environment, especially in the Middle East, and by the OPEC+ countries' strategy of deliberately limiting production to encourage an upturn in oil prices.

(1) France, Italy, Belgium, United Kingdom: year-ahead EEX price

The price of **CO_2 emission certificates** for delivery in December Y stood at an average €66.4/t for 2024 (-22% or €(19.1)/t vs 2023), trading within a range of €52.2/t and €77.4/t. The high market volatility observed was decorrelated from commodity price trends, indicating the market's sometimes speculative nature. For example, the outcome of the European parliamentary elections in June, revealing the advance of political parties that have lower climate ambitions, triggered a downturn in CO_2 emission certificate prices. The decrease in these prices is also explained by the lower use of carbon-emitting thermal power plants this year compared to 2023.

NATURAL GAS, OIL AND CO_2 EMISSION CERTIFICATE PRICES





5.1.2.2 Consumption of electricity and natural gas

5.1.2.2.1 Consumption of electricity and gas in France

Electricity consumption in mainland France totalled 438.3TWh (unadjusted) in 2024, an increase of 3.2TWh. This rise is explained by the additional day in February (+1.4TWh), temperatures that were generally milder in the cold season (principally February) and cooler in the summer (-2.3TWh), less load-shedding (+0.2TWh) and a 3.9TWh increase which may indicate that energy-sufficient behaviours are falling off slightly or reflect the beginnings of electrification of uses.

Gas consumption in mainland France totalled 352.5TWh (unadjusted) in 2024, down by 23.1TWh (-6.1%) compared to 2023.

5.1.2.2.2 Consumption of electricity and gas in the United Kingdom

Electricity consumption in the United Kingdom was 1% higher than in 2023, while **gas consumption** was up by 3.9% (data unadjusted for weather effects). These changes were observed in a time of falling energy prices for consumers.

5.1.2.2.3 Consumption of electricity and gas in Italy

Electricity consumption in Italy in 2024 totalled 312.3TWh, up by +2.2% from 2023. This rise is explained by a recovery in consumer demand, particularly from industrial users, as market prices decreased due to a decline in gas prices.

Consumption of natural gas in Italy was down by 2.2% compared to 2023, due to lower demand from electricity generation plants since hydraulicity conditions had improved.

5.1.2.3 Sales tariffs for electricity and natural gas

In **France**, the French Energy Regulation Commission (*Commission de Régulation de l'Énergie* or CRE) issued a decision of 15 January 2025 proposing an average decrease (excluding taxes) of 22.61% in the "blue" tariffs for residential customers, and an average decrease of 22.67% in the "blue" tariffs for non-residential customers from 1 February 2025. This proposal was adopted by the tariff decision of 28 January 2025. Another decision of 20 December 2024 set out the excise duty rates on electricity applicable from 1 February 2025. These steps have the combined effect of reducing the "blue" tariffs (including taxes) by an average 15% for residential customers, and 15.06% for non-residential customers.

In a decision of 16 January 2025, the CRE proposed tariff scales for the "yellow" and "green" tariffs applicable for sites with subscribed power above 36kVA. Like the scales for sites with lower power levels, these scales are constructed by the "cost stacking" method described in articles L.337-6 and R.337-6 of the French Energy Code.

In the **United Kingdom**, , the Energy Price Cap on the Standard Variable Tariff (SVT) for residential electricity and gas customers was adjusted in line with market price movements: it was raised by 5% on 1 January 2024 (to £1,928 a year) then reduced twice, by 12% in the second quarter (to £1,690 a year) and 8% in the third quarter (to £1,568 a year), before being raised again by 12% in the final quarter of 2024 (to £1,717 a year).

All these price caps are well below the maximum levels applicable in the first quarter of 2023 (£4,729 a year).

In **Italy**, the average PUN TWA (Time Weighted Average Single National Price) electricity tariff for 2024 was €108.4/MWh, down by 14.9% from 2023 (€127.4/MWh). This decrease is explained by lower gas prices in 2024: spot gas prices were 14.3% below 2023 levels, standing at €38.4/smc[3(1)] as pressures eased on the international markets.

The Italian energy regulator ARERA has begun to discontinue regulated tariffs progressively for residential customers, switching them to market-price contracts.

5.1.2.4 Weather conditions: temperatures and hydraulicity conditions in France

5.1.2.4.1 Temperatures in France

The average temperature in France in 2024 was 13.3°C, which is 0.5°C below the 2023 average but 0.6°C above normal. The winter period in the early part of the year was milder than in 2023 (particularly in February: 9.1°C in 2024 vs 6.4°C in 2023), the summer was not as hot (20.3°C in 2024 vs 21.3°C in 2023), and the spring and the rest of the year were distinctly cooler.

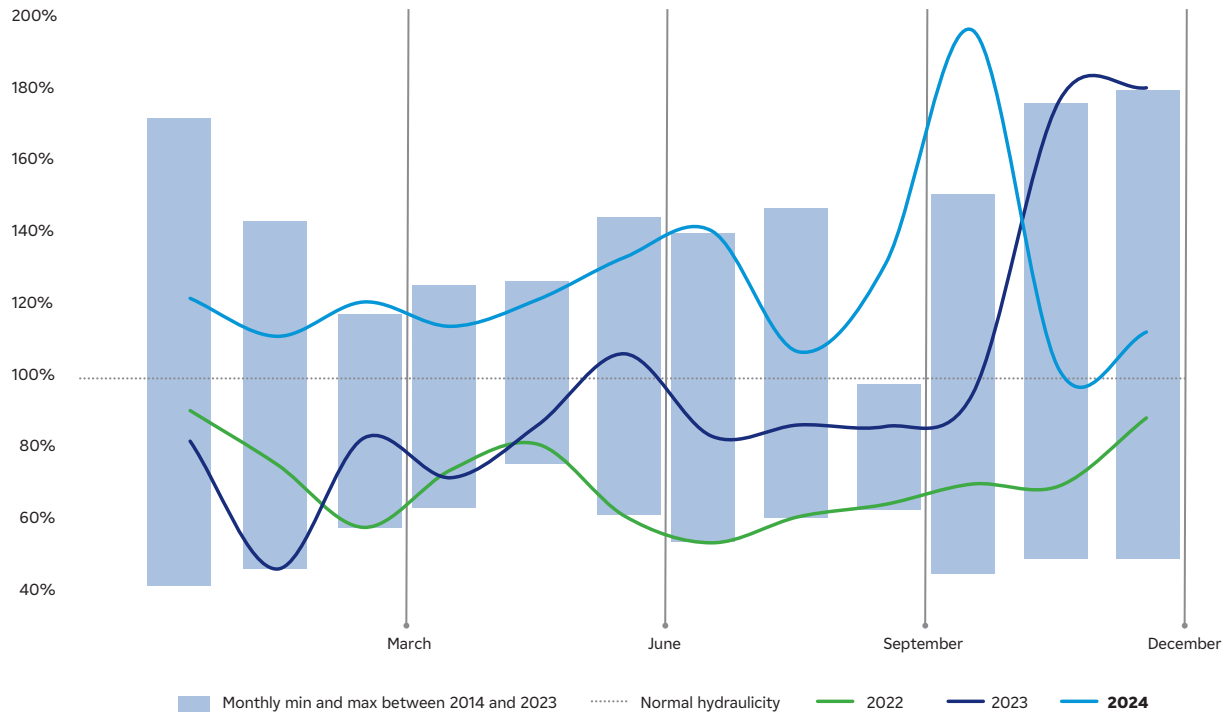
5.1.2.4.2 Rainfall, snow cover, and hydraulicity conditions in France

2024 saw heavy rainfall, in contrast to the droughts of 2023 and 2022. There was a significant shortfall of snow cover in the Pyrenees throughout the year, but snow cover in the Alps was constantly above normal, peaking at close to the 90th quantile around 2 April.

In view of the accumulated precipitation and high snow stocks in the Alps, water reserves in 2024 were above the historical average[(2)] throughout the year. The overall water flow coefficient in 2024 stood at 1.26 for hydro facilities operated by EDF, compared to 0.98 for 2023 and 0.71 in 2022. Hydropower stocks were thus at 68.8% of full capacity at 31 December 2024, 5.8 points above the historical average[(2)].

(1) €0.01/smc^3 = 1€/MWh.
(2) Period 1986 to 2023.

HYDRAULICITY CONDITIONS FOR EDF IN FRANCE
(for the period 1986 to 2023)



5.1.2.4.3 Weather events in France and action by the Group

France was hit by a large number of serious weather events (cyclones, floods, storms, etc) in 2024. The EDF group continued to demonstrate its engagement with climate hazards by mobilising extensive human and material resources.

For example, when Cyclone Chido struck the Mayotte archipelago in December 2024, EDF provided support for the local electricity company Electricité de Mayotte (EDM). The specialist crisis management team FARN (*Force d'Action Rapide du Nucléaire*) was mobilised to provide logistical resources, including the installation of two accommodation camps. Enedis' Rapid Response Electricity Task Force, FIRE (*Force d'intervention rapide de l'électricité*), was also deployed to reinforce local action.

Similarly, when Storm Caetano swept across mainland France, the electricity distribution network had to cope with harsh weather conditions causing trees and branches to fall on the cables. Enedis immediately sent employees and contractors to deal with these issues. Reinforcements from the FIRE task force were made available in the most seriously affected regions as soon as access was possible, in another illustration of the EDF group's commitment and rapid response to weather crises.

Substantial resources were also mobilised when Cyclone Belal brought violent winds to Reunion Island, seriously damaging its electricity network: 200 technicians, 50 vehicles, 6 helicopters, and the Rapid Response Electricity Task Forces from Enedis and the Island Energy Systems provided assistance, with reinforcements from Enedis and EDF Corsica.

5.1.3 Analysis of the business and the consolidated income statement for 2024

Sales and EBITDA are analysed by business segment (France – Generation and supply, France – Regulated activities, EDF Renewables, Dalkia, Industry and Services, United Kingdom, Italy, Other international and Other activities). EBIT and net income are analysed without any breakdown.

(in millions of euros)	2024	2023
Sales	**118,690**	**139,715**
Fuel and energy purchases	(54,217)	(80,989)
Other external purchases[1]	(10,798)	(10,493)
Personnel expenses	(16,916)	(15,470)
Taxes other than income taxes	(4,142)	(4,064)
Other operating income and expenses	3,906	11,228
EBITDA	**36,523**	**39,927**
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	443	363
Net depreciation and amortisation	(11,970)	(11,161)
(Impairment)/reversals	(1,835)	(13,011)
Other income and expenses	(4,834)	(2,944)
EBIT	**18,327**	**13,174**
Cost of gross financial indebtedness	(4,094)	(3,830)
Discount effect	(3,190)	(3,988)
Other financial income and expenses	6,352	4,469
Financial result	**(932)**	**(3,349)**
Income before taxes of consolidated companies	**17,395**	**9,825**
Income taxes	(4,887)	(2,470)
Share in net income of associates and joint ventures	(683)	257
Net income of discontinued operations	29	-
CONSOLIDATED NET INCOME	**11,854**	**7,612**
EDF net income	**11,406**	**10,016**
Net income attribuable to non-controlling interests	**448**	**(2,404)**

(1) Other external expenses are reported net of capitalised production.

5.1.3.1 Sales

Sales amounted to €118,690 million in 2024, down by €21,025 million (-15%) compared to 2023. Excluding the effect of movements in exchange rates (€545 million) and changes in the scope of consolidation (€318 million), sales registered an organic decrease (-15.7%).

5.1.3.1.1 Change in Group sales and breakdown by segment

The following table shows sales by segment, excluding inter-segment eliminations.

(in millions of euros)	2024	2023	Variation	Variation (%)	Organic variation (%)
France - Generation and supply[1]	50,966	64,244	(13,278)	-20.7	-20.7
France - Regulated activities[2]	20,071	19,413	658	3.4	3.4
EDF Renewables	2,154	2,031	123	6.1	6.3
Dalkia	6,018	6,395	(377)	-5.9	-5.4
Industry and services[3]	5,173	4,066	1,107	27.2	18.0
United Kingdom	17,498	21,132	(3,634)	-17.2	-19.8
Italy	15,223	17,787	(2,564)	-14.4	-14.4
Other international	4,596	5,583	(987)	-17.7	-17.2
Other activities	4,848	7,677	(2,829)	-36.9	-36.8
Inter-segment eliminations	(7,857)	(8,613)	756	-8.8	-8.8
GROUP SALES	**118,690**	**139,715**	**(21,025)**	**-15.0**	**-15.7**

(1) Generation, supply and optimisation in mainland France, and sales of engineering and consulting services.

(2) Regulated activities comprise distribution in mainland France, which is carried out by Enedis, EDF's island activities and the activities of Électricité de Strasbourg. In mainland France, distribution network activities are regulated via the network access tariff TURPE (Tarifs d'Utilisation des Réseaux Publics d'Électricité).

(3) The Industry and services segment now consists of Framatome and Arabelle Solutions, which has been consolidated since 31 May 2024.

France - Generation and supply

Sales by the **France - Generation and supply** segment amounted to €50,966 million in 2024, an organic decrease of €13,278 million (-20.7%).

In the supply activity, sales invoiced to final customers were down by €(7,409) million due to price movements. Sales to customers on market-price contracts decreased because of lower market prices, while sales to customers on regulated-tariff contracts increased since the regulated tariffs were higher in January 2024 than January 2023 (they were raised by 20% excluding taxes from 1 February 2023, then by 10% on 1 August 2023), and remained stable year-on-year (excluding taxes) over the period February to December (raised by 0.2% on 1 February 2024). The French State's "tariff shield" price cap introduced in late 2022 ended on 1 February 2024 for electricity and 1 July 2023 for gas, and only the electricity "shock absorber" compensation mechanisms remained in force. As a result, the compensation received under these mechanisms in 2024 totalled €1,563 million, €(12,337) million less than in 2023. This compensation income is included in Other operating income and expenses (with an impact on EBITDA). The total decrease in revenues from the customer portfolio was €(19,686) million.

Resales of electricity subject to purchase obligations were down by €(4,967) million due to a clear price downturn between 2023 and 2024. The effect on EBITDA was neutral because net expenses relating to purchase obligations are compensated by the CSPE mechanism (Compensation for public energy service charges).

Capacity auction sales had a negative impact of €404 million, resulting from the observed decrease in capacity guarantee prices for future delivery years. This reflected expectations of a more relaxed supply-demand balance in the next few years.

Gas sales had a negative impact of €180 million, driven by the downturn in prices which was partly offset by higher sales volumes.

Finally, sales by the aggregation subsidiaries were down by €463 million due to declining market prices (with a limited impact on EBITDA).

Electricity generation

In France, the 41.3TWh increase in nuclear power output to 361.7TWh, in line with the revised estimate published on 11 December 2024, reflects better fleet availability.

The **11.8TWh increase in gross hydropower output in France[1] to 50.6TWh** is attributable to better hydraulicity conditions (see section 2.4 "Weather conditions: temperatures and hydraulicity conditions in France").

Thermal power plants were used less in 2024 than 2023 (2.7TWh vs 6.7TWh).

Sales volumes to final customers decreased by -3.9TWh (excluding weather and leap year effects), with the decrease partly mitigated by unit consumption 1.0TWh above the 2023 level. The impact of weather effects is estimated at -1.3TWh, as 2024 was milder than 2023, especially in the first half of the year.

EDF was a net seller on the wholesale markets to the extent of 82.1TWh; it was also a net seller in 2023 to the extent of 29.3TWh.

France - Regulated activities

Sales by the **France - Regulated activities** segment amounted to €20,071 million, an organic increase of €658 million (+3.4%) compared to 2023.

This increase was driven by a €747 million rise in sales by Enedis[2], reflecting the indexed adjustment of the TURPE 6 tariff (+4.81% excluding taxes as of November 1, 2024, or +€698 million).

(1) Hydropower output excluding the island activities, before deduction of pumped-storage volumes. Total cumulative hydropower production after deduction of pumped-storage hydropower was 42.9TWh in 2024 (33.0TWh in 2023).

(2) Enedis is an independent EDF subsidiary as defined in the French Energy Code.

EDF Renewables

EDF Renewables' sales totalled €2,154 million, an organic increase of €127 million (+6.2%) compared to 2023 driven by the generation performance of plants currently in operation. Energy output totalled 25TWh in 2024, up by 9.8% from 2023. The positive impact of new facilities commissioned in 2023 and 2024 was mitigated by less favourable wind and sunshine conditions and the decrease in prices.

Dalkia

Sales by **Dalkia** amounted to €6,018 million for 2024, an organic decrease of €347 million (-5.4%). This principally reflects the 23% drop in average gas prices and ad hoc disposals of generation assets during 2023, which had no equivalent in 2024.

Industry and services

The **Industry and services** segment consists of the Framatome subgroup and Arabelle Solutions' nuclear activities, which became part of the Group in May 2024.

Sales by the **Framatome subgroup alone** amounted to €4,667 million in 2024, an organic increase of €480 million (+11.8%) compared to 2023 due to the intensification of Nuclear New Build projects in France and the United Kingdom, and a step-up in fuel deliveries in the United States and Europe.

Sales by **Arabelle Solutions** for the 7 months of its inclusion in the EDF group consolidation amounted to €506 million.

United Kingdom

The **United Kingdom** registered sales of €17,498 million, an organic decrease of €4,194 million (-19.8%) compared to 2023.

This change is mainly explained by the impact over the past year of decreasing energy prices on regulated tariffs for gas and electricity sales to customers.

Italy

Sales in **Italy** totalled €15,223 million in 2024, an organic decrease of €(2,554) million (-14.4%) from 2023, in a period of generally falling market prices.

Other international

The **Other international** segment principally covers operations in Belgium, Brazil and Asia (Vietnam and Laos). Sales by this segment amounted to €4,596 million in 2024, an organic decrease of €(962) million (-17.2%) compared to 2023.

In **Belgium**[1], sales showed an organic decline of €(967) million (-20.9%) compared to 2023, as a result of lower sales prices for electricity and gas.

Sales in **Brazil** registered an organic increase of €39 million (+5.8%), resulting from greater use of the Group's power plant due to low water resource availability in the country.

Other activities

Other activities essentially comprise EDF Trading and the gas activities.

Sales by this segment amounted to €4,848 million in 2024, an organic decrease of €(2,827) million (-36.8%) compared to 2023.

- Sales by the **gas activities** totalled €2,709 million, an organic decrease of €(1,074) million (-28.4%) driven by a decline in wholesale gas market prices and the volumes delivered to the Dunkirk terminal.
- **EDF Trading's** sales totalled €1,908 million, an organic decrease of €(1,757) million (-47.9%) from 2023 as market volatility and prices were lower in 2024. This is a better result than in 2021 and earlier years, demonstrating a good performance by EDF Trading.

5.1.3.2 EBITDA

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's EBITDA showed an organic decrease of €(3,354) million (-8.4%). This change is principally explained by a decrease in the **France - Generation and supply** segment (€(3,727) million), the Other activities segment (€(1,269) million), and the **United Kingdom** (€(595) million), whereas growth was registered in the **France – Regulated activities** segment (€1,869 million) and at **EDF Renewables** (€456 million).

(in millions of euros)	2024	2023	Variation	Variation (%)	Organic variation (%)
Sales	**118,690**	**139,715**	**(21,025)**	**-15.0**	**-15.7**
Fuel and energy purchases	(54,217)	(80,989)	26,772	-33.1	-33.5
Other external expenses	(10,798)	(10,493)	(305)	2.9	0.5
Personnel expenses	(16,916)	(15,470)	(1,446)	9.3	7.6
Taxes other than income taxes	(4,142)	(4,064)	(78)	1.9	1.7
Other operating income and expenses	3,906	11,228	(7,322)	-65.2	-64.9
EBITDA	**36,523**	**39,927**	**(3,404)**	**-8.5**	**-8.4**

5.1.3.2.1 Analysis of Group EBITDA

- The Group's **fuel and energy purchases** amounted to €54,217 million in 2024, an organic decrease of €(27,104) million (-33.5%) compared to 2023.

  In the **France - Generation and supply** segment, fuel and energy purchases showed an organic decrease of €(17,201) million due to falling market prices and lower energy purchase volumes given the increase in nuclear and hydropower output,

  In the **France – Regulated activities** segment, fuel and energy purchases showed an organic decrease of €(1,447) million due to the lower prices of energy purchases to cover network losses,

  In **Italy**, fuel and energy purchases showed an organic decline of €(2,441) million, largely due to lower prices and gas purchase volumes,

  In the **United Kingdom**, the organic decrease of €(3,628) million (-25.4%) in fuel and energy purchases principally reflects the impact of falling market prices.

(1) Luminus and EDF Belgium.

- The Group's **other external expenses** amounted to €10,798 million in 2024, an organic increase of €48 million (+0.5%) compared to 2023. This change is essentially attributable to the **France - Generation and supply** segment, which registered an increase of €41 million, up by +1.4% from 2023, notably reflecting purchases connected with the growth of service activities, and nuclear fleet maintenance.
- The Group's **personnel expenses** for 2024 totalled €16,916 million, an organic increase of €1,171 million (+7.6%) driven by pay rises in an inflationary economy, and workforce growth, mainly in the nuclear activities.
- **Taxes other than income taxes** amounted to €4,142 million, an organic increase of €68 million (+1.7%) compared to 2023;

  In the **France - Generation and supply** segment, the €141 million (+6.8%) organic increase is mainly attributable to higher rates for property taxes and the *Contribution Economique et Territoriale* business tax,

  In the **United Kingdom**, the organic increase of €90 million (+17.1%) in taxes mainly reflects the Electricity Generation Levy on revenues from nuclear generation, which rose because realised nuclear prices were higher in 2024 than 2023.
- **Other operating income and expenses** generated net income of €3,906 million in 2024, an organic decrease of €7,283 million (-64.9%) compared to 2023, essentially concerning the **France - Generation and supply** segment which registered an organic decrease of €7,804 million. The main factor in this decrease was the lower level of the CSPE compensation following discontinuation of the "tariff shield" price cap in February 2024. **EDF Renewables** registered an organic increase of €430 million (+140.1%) in other operating income and expenses, primarily driven by disposals in the United States and asset swap transactions in Brazil.

5.1.3.2.2 Change in consolidated EBITDA and analysis by segment

(in millions of euros)	2024	2023	Variation	Variation (%)	Organic Variation (%)
France - Generation and supply	20,950	24,677	(3,727)	-15.1	-15.1
France - Regulated activities	5,576	3,707	1,869	50.4	50.4
EDF Renewables	1,387	932	455	48.8	48.9
Dalkia	425	407	18	4.4	4.7
Industry and services[1]	118	255	(137)	-53.7	-1.6
United Kingdom	3,485	3,967	(482)	-12.2	-15.0
Italy	1,762	1,855	(93)	-5.0	-4.1
Other international	835	872	(37)	-4.2	-3.1
Other activities	1,985	3,255	(1,270)	-39.0	-39.0
GROUP EBITDA	**36,523**	**39,927**	**(3,404)**	**-8.5**	**-8.4**

(1) Industry and Services now comprises Framatome and Arabelle Solutions, which has been consolidated since 31 May 2024

France - Generation and supply

EBITDA for this segment declined by €3,727 million (-15.1%) between 2023 and 2024. The principal reasons were the decrease in sale prices to final customers, lower energy purchase volumes made at lower prices, and purchases/sale transactions on the markets. This "price" impact was counterbalanced by higher generation output, both of nuclear power (+41.3TWh) and hydropower (+9.9TWh[1]) with a favourable effect of €3,121 million and €863 million respectively.

France - Regulated activities[2]

The increase in EBITDA is principally explained by a positive change in the gross margin on delivery (+€1,823 million), associated with lower market prices for energy purchases to cover network losses and higher income following the change in the TURPE 6 network access tariff.

EDF Renewables

The growth in EDF Renewables' EBITDA mainly concerns Development and Sales of Structured Assets, with significant operations in the United States and Brazil. EBITDA for generation progressed, due to a 9.8% increase in volume output following the commissioning of new plants in 2023 and 2024, despite less favourable wind and sunshine conditions in France and falling market prices.

Dalkia

At Dalkia, the rise in EBITDA is attributable to the business performance of energy efficiency services and decarbonisation in France. However, sales of electricity produced by co-generation plants were lower than in 2023, as expected.

Industry and services

The Industry and services segment consists of the Framatome subgroup and Arabelle Solutions' nuclear activities.

EBITDA for the **Framatome subgroup alone** amounts to €629 million, showing organic growth of €35 million (+5.9%). This growth reflects progress on New Nuclear projects in France and the United Kingdom, combined with faster-paced fuel sales in the United States.

Framatome's contribution to Group EBITDA was €242 million: despite better fuel sales in the United States, this is practically stable compared to 2023, given the larger share of results relating to nuclear new build projects internal to the EDF group in France and the United Kingdom, and R&D costs;

Arabelle Solutions' EBITDA for the 7 months of its inclusion in the EDF group consolidation amounts to €(120) million.

(1) After deduction if pumped-storage consumption.
(2) Including Enedis, Électricité de Strasbourg and the French island activities.

United Kingdom

The decrease in EBITDA is explained in particular by lower margins in the domestic and small business customer segments, and by the impact of falling market prices, given that the first half of 2023 benefited from an exceptional recovery of some of the costs incurred during the energy crisis.

Operational performance was strong, with nuclear power output stable at 37.3TWh despite longer unplanned outages than in 2023. The impact of these outages was offset by optimisation of scheduled outages and higher realised nuclear prices.

Italy

In the gas business, the downturn in EBITDA is particularly attributable to lower margins on the portfolio of procurement contracts.

In the electricity generation business, despite falling prices, the exceptionally good hydraulicity conditions led to higher output, with a resulting positive contribution to EBITDA. The contribution by thermal power plants, however, was negatively affected by the downturn in prices.

In the sales activities, margins on gas and electricity sales improved.

Other international

In Brazil, EBITDA was down slightly due to an unfavourable foreign exchange effect and downward revision of the price of the Power Purchase Agreement (PPA) attached to EDF's Norte Fluminense plant in November 2023. The PPA ended in November 2024, and a merchant period began involving new tenders.

Other activities

The increase in EBITDA for the **gas activities** (€275 million in 2024, or +€341 million vs 2023) is explained by better margins in the Group's gas storage activities and, to a lesser degree, in its LNG facility management activity, despite the lower level of business at the Dunkirk terminal.

EDF Trading's EBITDA reflects its good performance, although its contribution was down due to lower prices and lower volatility on the wholesale markets.

5.1.3.3 EBIT

The Group's consolidated **EBIT** for 2024 amounted to €18,327 million, up by €5,153 million from 2023, with an organic increase of €5,664 million.

(in millions of euros)	2024	2023	Variation	Variation (%)
EBITDA	**36,523**	**39,927**	**(3,404)**	**-8.5**
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	443	363	80	22.0
Net depreciation and amortisation*	(11,970)	(11,161)	(809)	7.2
(Impairment)/reversals	(1,835)	(13,011)	11,176	-85.9
Other income and expenses	(4,834)	(2,944)	(1,890)	64.2
EBIT	**18,327**	**13,174**	**5,153**	**39.1**

* *Including net increases to provisions for replacement of concession assets*

5.1.3.3.1 Net changes in fair value on Energy and Commodity derivatives, excluding trading activities

The net changes in fair value on Energy and Commodity derivatives, excluding trading activities, increased by €80 million in 2024 in a context of price normalisation and volatility on the commodity markets.

5.1.3.3.2 (Impairment)/reversals

Impairment recognised in 2024 amounted to €1,835 million and principally concerned:

- assets under construction for the Hinkley Point C (HPC) project (€1,116 million) following revision of the discount rate, inflation and exchange rate assumptions. This impairment is reversible if there is evidence of a significant recovery in the value of the asset, other than the effect of the passage of time on discounted cash flows,
- assets related to Nuward, the EDF Group's Small Modular Reactor (SMR) development project (€230 million) following the project's switch to a new design using proven technological building blocks, which is more appropriate to market conditions,
- EDF Renewables projects in the United States, China, the United Kingdom (€157 million).

The principles and result of impairment tests are presented in note 10.7 "Impairment/ Reversals" to the 2024 financial statements.

5.1.3.3.3 Other income and expenses

Other income and expenses generated a net expense of €4,834 million in 2024. The increase of €1,890 million compared to 2023 is principally due to higher nuclear provisions in the **France - Generation and supply** segment. Following the change of industrial strategy for interim storage of spent fuel, and re-estimation of costs for the Cigéo storage facility, an additional provision of €3,978 million was booked in 2024, while in 2023, a provision of €1,073 million was recorded after renegotiation of the ATR 24-26 agreement with Orano that has no equivalent in 2024.

5.1.3.4 Financial result

(in millions of euros)	2024	2023	Variation	Variation (%)
Cost of gross financial indebtedness	(4,094)	(3,830)	(264)	6.9
Discount effect	(3,190)	(3,988)	798	-20.0
Other financial income and expenses	6,352	4,469	1,883	42.1
FINANCIAL RESULT	**(932)**	**(3,349)**	**2,417**	**-72.2**

The financial result for 2024 was an expense of €(932) million, an improvement of €2,417 million compared to 2023 resulting from:

- the good performance by the dedicated asset portfolio, which achieved a return of 10.8% (vs 10.2% in 2023) thanks to favourable developments on the financial markets, particularly the equity markets in 2024, leading to a €1,883 million improvement in other financial income and expenses (with a limited cash impact);
- a €798 million decrease in the cost of unwinding the discount, principally attributable to the 0.10% rise in the real discount rate for nuclear provisions in France in 2024 whereas the discount rate had remained stable in 2023 (no cash impact);
- active debt management in a high interest rate environment, resulting in a stabilised cost of gross financial debt at €264 million.

The financial result excluding non-recurring items (particularly the change in fair value of the dedicated asset portfolio) was up by €1,865 million to €(3,709) million.

5.1.3.5 Income taxes

The income tax expense amounts to €(4,887) million at 31 December 2024, corresponding to an effective tax rate of 28.09% (compared to an income tax expense of €(2,470) million in 2023, corresponding to an effective tax rate of 25.13%).

The €(2,417) million change between 2023 and 2024 essentially reflects the €7,570 million increase in the Group's pre-tax income, generating a theoretical additional tax expense of €(1,955) million.

The change in the income tax expense was also affected by write-downs of €183 million on deferred tax assets in the United States, whereas in 2023 the Group recognised the entire deferred tax asset of €1,060 million on the loss reported in 2022 by the French tax group (EDF SA, Enedis, PEI and other French subsidiaries owned more than 95%).

The year 2023 was also marked by the unfavourable effect of impairment in the United Kingdom, as a significant share of this impairment was non-deductible for tax purposes, and this factor had no equivalent in 2024.

After elimination of non-recurring items (principally impairment, nuclear provisions, and changes in unrealised gains and losses on the financial asset portfolio and commodities), the effective tax rate at 31 December 2024 is 26.48%, compared to 20.6% in 2023.

5.1.3.6 Net income

Net income excluding non-recurring items amounts to €15,233 million. The €3,248 million decrease from 2023 mainly reflects the lower EBITDA and a higher income tax expense, limited by the improved financial result.

The **Group's share of net income** is €11,406 million, up by €1,390 million. This improvement, despite the lower net income excluding non-recurring items caused by the decrease in EBITDA, is explained by the following items after tax:

- €782 million of impairment on the Hinkley Point C project in 2024 following revision of the discount rate and inflation assumptions. At 31 December 2023, impairment of €7,927 million was booked against the value of the project and EDF Energy's goodwill after a new schedule and additional costs were announced in January 2024;
- impairment in connection with the Atlantic Shores offshore wind project in the United States (€934 million[1]), included in the share in net income of associates and joint ventures;
- the new estimate of forecast spent fuel storage costs in France (€2,376 million) and re-estimation of costs for the Cigéo storage facility (€575 million);
- the change in the fair value of financial instruments, and write-downs of shareholder loans (€306 million),particularly for the Neart na Gaoithe (NNG) project.

(1) Including a provision.

5.1.4 Net financial debt, cash flows and investments

(in millions of euros)	2024	2023	Variation	Variation (%)
EBITDA	**36,523**	**39,927**	**(3,404)**	**-8.5**
Cancellation of non-monetary items included in EBITDA	(1,522)	3,939	(5,461)	-138.6
Cash EBITDA	**35,001**	**43,866**	**(8,865)**	**-20.2**
Change in working capital	(1,452)	(7,785)	6,333	-81.3
Net investments[1]	(22,402)	(19,100)	(3,302)	17.3
Other items including dividends received from associates and joint ventures	53	(53)	106	-200.0
Operating cash flow[2]	**11,200**	**16,928**	**(5,728)**	**-33.8**
Asset disposals	9	80	(71)	-88.8
Income taxes paid	(3,384)	(3,695)	311	-8.4
Net financial expenses disbursed	(2,362)	(2,241)	(121)	5.4
Dedicated assets	(344)	(378)	34	-9.0
Dividends paid in cash	(1,252)	(1,113)	(139)	12.5
Group cash flow[2]	**3,868**	**9,581**	**(5,713)**	**-59.6**
Issues of hybrid notes	1,728	1,377	351	25.5
Redemption of hybrid notes	(3,742)	(1,369)	(2,373)	173.3
Other monetary changes	(523)	(365)	(158)	43.3
(Increase)/decrease in net indebtedness, excluding the impact of changes in exchange rate	**1,332**	**9,224**	**(7,892)**	**-85.6**
Effect of change in exchange rates	(240)	(162)	(78)	48.1
Effect of other non-monetary changes	(1,057)	1,057	(2,114)	-200.0
(Increase)/decrease in net indebtedness of continuing operations	**35**	**10,119**	**(10,084)**	**-99.7**
(Increase)/decrease in net indebtedness of discontinued operations				
Net financial debt at beginning of year	**54,381**	**64,500**	**(10,119)**	**-15.7**
NET FINANCIAL DEBT AT END OF YEAR	**54,346**	**54,381**	**(35)**	**-0.1**

(1) Net investments are operating investments and financial investments for growth, net of disposals. They also include net debts acquired or transferred in acquisitions or disposals of securities, investment subsidies, and non-Group partner investments. They do not include the Group's assets disposals.

(2) Income from cash and cash equivalents is now presented in the Group cash flow (in the amount of €351 million for 2024 and €293 million for 2023). In 2023, it was included in "Other financial investments". The comparative figures have been restated accordingly.

5.1.4.1 Net financial debt

Net financial debt comprises total loans and financial liabilities, less cash and cash equivalents and liquid assets. Liquid assets are financial assets consisting of funds or fixed-income securities with initial maturity of over three months that are readily convertible into cash and are managed according to a liquidity-oriented policy.

Net financial debt for 2024 was stable compared to 2023 at €54.3 billion. The favourable impact of the Group's positive cash flow was counterbalanced by hybrid note issues and redemptions, and the announcement that EDF was to redeem the hybrid notes with nominal value of €1.25 billion issued in January 2013 and replace its equity content with the capital resulting from conversion of the Oceane bonds in 2023[1].

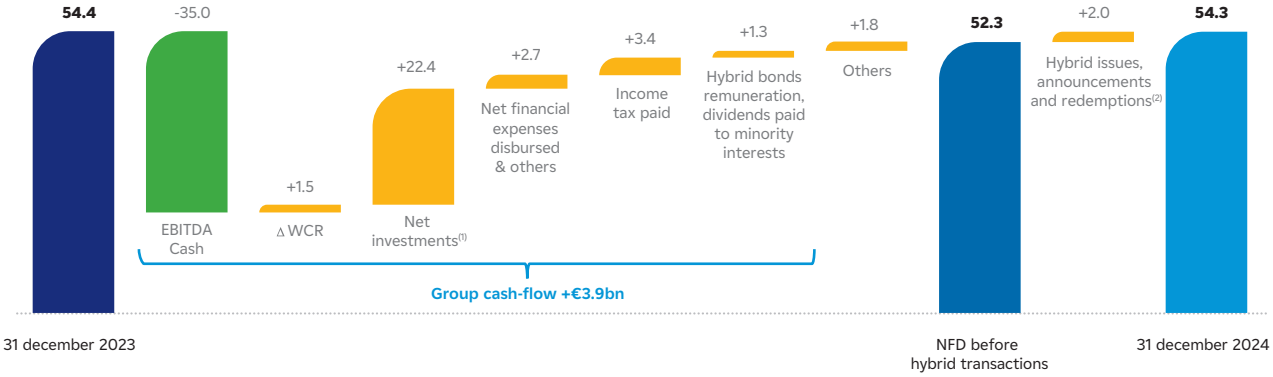
The bond issues of 2024, totalling €6,672 million, the reduction in short-term debt, and early repayments of bank loans have extended the maturity of the financial debt to 13 years in 2024 (vs 11 years in 2023) and controlled the cost of financing in a high interest rate environment.

(in millions of euros)	31/12/2024	31/12/2023	Variation	Variation (%)
Loans and other financial liabilities	81,801	86,647	(4,846)	-5.6
Derivatives used to hedge liabilities	(1,872)	(1,379)	(493)	35.8
Cash and cash equivalents	(7,597)	(10,775)	3,178	-29.5
Debt and equity securities - liquid assets	(17,997)	(20,077)	2,080	-10.4
Derivatives for macro-hedging of liquid debt securities	11	(35)	46	-131.4
NET FINANCIAL DEBT	**54,346**	**54,381**	**(35)**	**-0.1**

(1) See the Group press release of 18 December 2024. As a result of this announcement, the instruments concerned were reclassified from equity to other financial liabilities in the financial statements at 31 December 2024.

CHANGE IN NET FINANCIAL DEBT BETWEEN 31 DECEMBER 2023 AND 31 DECEMBER 2024

In billions of euros



(1) Net investments excluding Group disposals.
(2) The announcement of the redemption on 18.12.2024 of the hybrid bond issued in January 2013 for a total amount of €1.25 billion led to its reclassification as other financial liabilities.

5.1.4.2 Group cash flow

Group cash flow for 2024 amounted to €3.9 billion, versus €9.6 billion in 2023. This change is explained by cash EBITDA of €35.0 billion resulting from a good operating performance despite the drop in market prices.

Working capital increased by €1.5 billion, comprising:

- €(2.8) billion due to the shortfall in CSPE compensation at the 2024 year-end: the net expenses of €(6.9) billion were partly covered by payments of €4 billion received from the State;
- +2.3 billion reflecting the effect of the price downturn on receivables, particularly in the business market;
- a €(0.8) billion decrease in the amount of receivables factored in 2024;
- €(0.4) billion due to the increase in delivery receivables, correlated with the tariff indexation of 1 November 2024, and €(0.2) billion due to the lower liabilities for purchases to cover network losses since electricity prices have decreased.

This Group cash flow funded net investments of €22.4 billion, €3.3 billion more than in 2023, due notably to new nuclear projects including Hinkley Point C, network development and reinforcement, nuclear fleet maintenance, and external growth operations including the acquisition of Arabelle Solutions on 31 May 2024.

5.1.4.2.1 Net investments

Net investments (excluding asset disposals) amounted to €22,402 million in 2024, up by €3,302 million from 2023.

(in millions of euros)	2024	2023	Variation	Variation (%)
France - Generation and supply	8,471	6,566	1,905	29
France - Regulated activities	5,582	5,025	557	11
EDF Renewables	1,797	1,759	38	2
Dalkia	391	297	94	32
Industry and services	511	386	125	32
United Kingdom	5,013	4,088	925	23
Italy	612	632	(20)	-3
Other international	429	292	137	47
Other activities	(404)	55	(459)	n.a.
NET INVESTMENTS	**22,402**	**19,100**	**3,302**	**17**

Net investments by the **France - Generation and supply** segment increased by €1,905 million, principally due to the acquisition of the nuclear activities of Arabelle Solutions, the purchase of Assystem's investment in Framatome, progress on the EPR2 project, and an increase in investment expenditure for the existing fleet (the *Grand Carénage* industrial refurbishment programme, major repairs and periodic inspections).

Net investments by the **France - Regulated activities** segment were up by €557 million, largely due to the higher volume of connection work and network reinforcement.

In the **United Kingdom**, the €925 million rise in net investments reflects the significant progress on the Hinkley Point C (HPC) project.

The €125 million increase in net investments by the **Industry and services** segment essentially relates to necessary investments for the EPR2.

The €137 million increase in net investments by the **Other International** segment principally relates to new developments in the Asia Pacific zone.

Net investments were stable for **EDF Renewables** and **Italy**. In Italy, the rise in renewable energy activities was offset by a downturn in energy services and thermal energy operations following commissioning of the Marghera and Presenzano plants.

The capital increase of €500 million for EDF Investissements Groupe subscribed by minority shareholders to provide funding for HPC, generated resources that reduced the level of investments by the **Other activities** segment.

5.1.4.2.2 Dedicated assets

In compliance with French Law no. 2006-739 of 28 June 2006 on the sustainable management of radioactive materials and waste, EDF has built up a portfolio of dedicated assets for secure financing of its long-term nuclear obligations (see section 7.1 of the 2023 Universal Registration Document "General information about the Company").

The changes concerning dedicated assets amount to €344 million in 2024 and comprise:

- reinvestments of the financial income (dividends and interest) generated by these assets;
- withdrawals of assets corresponding to the costs incurred over the period to meet long-term nuclear obligations falling within the scope of the Law of 28 June 2006.

At 31 December 2024, by the regulatory calculations provisions are 104.7% covered by dedicated assets. As the coverage rate was above 100%, EDF had no obligation to add to the dedicated asset portfolio in 2024 and no allocation was made during the year.

5.1.4.2.3 Dividends paid in cash

EDF paid out €1,250 million in 2023, comprising:

- €582 million to holders of perpetual subordinated bonds;
- €668 million of dividends paid by Group subsidiaries to their minority shareholders.

5.1.4.3 Other non-monetary changes

The **foreign exchange effect** had an unfavourable impact of €(240) million on the Group's net financial debt, caused mainly by the rise of the US dollar and pound sterling against the euro[1].

Other non-monetary changes had an effect of €(1,057) million in 2024, compared to €1,057 million in 2023, and mainly comprised new leases (IFRS 16). In 2023 they included the conversion of OCEANE bonds into shares by the French State.

(1) The pound sterling rose by 4.81% against the Euro, from €1.1507/£1 at 31 December 2023 to €1.2060/£1 at 31 December 2024. The US dollar rose by 6.36% against the Euro, from €0.9050/$1 at 31 December 2023 to €0.9626/$1 at 31 December 2024.

5.1.5 *Non-financial performance*

The EDF group's CSR objectives are part of the "*Ambitions 2035*" corporate plan and the Group's *raison d'être*: EDF is committed to building the electricity system of the future, respecting the planet's limits and acting for a fair transition.

5.1.5.1 Environmental criteria

With 94% of its 2024 electricity output decarbonised, the EDF group is now the world's leading producer of low-carbon electricity[1] and is pursuing its ambition to contribute to Net Zero by 2050.

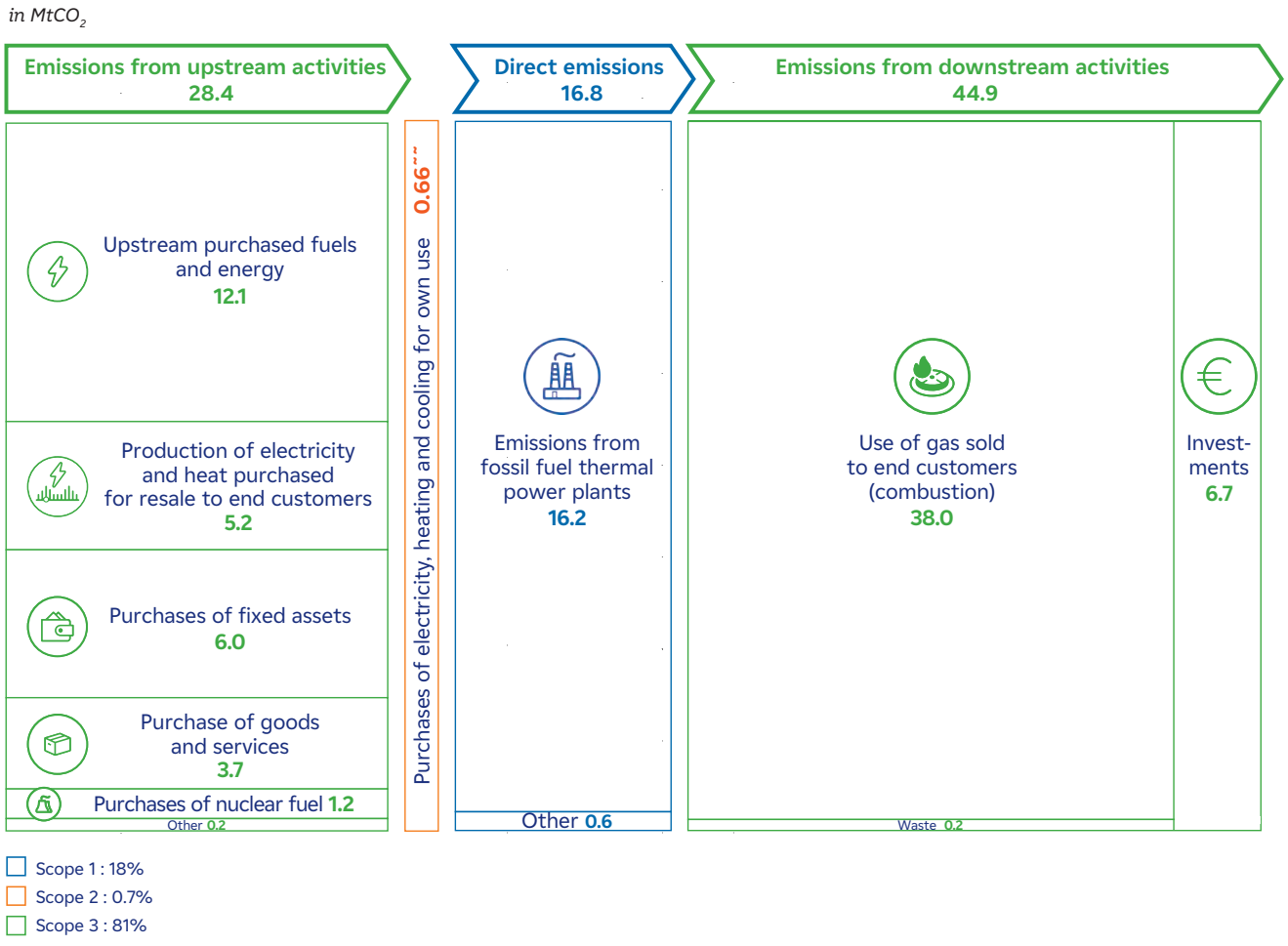
The Group's carbon emissions

Direct (Scope 1) emissions continued to decline, decreasing by -11% or -2.1 $MtCO_2e$ from 2023 to 16.8 $MtCO_2e$ in 2024. This reduction is mainly due to lower use of fossil-fired thermal power plants which produced 10TWh (-23%) less electricity in France in a context of stable electricity consumption and the very good availability of low-carbon generation facilities, particularly EDF's own power plants (for nuclear and renewable energy). Conversion of island generation to run on liquid biomass (the Port Est plant on Reunion Island) and continued decarbonisation of heat production also helped to bring emissions down. This latest year-on-year reduction in direct emissions continues the downward trend observed since 2017 (-15%)[2].

The Scope 2 emissions recorded, which account for 0.7% of the Group's carbon footprint, increased by 0.4 $MtCO_2e$ between 2023 and 2024, mainly due to higher consumption of electricity and heat in some of the Group's geographical areas.

Scope 3 emissions increased by 1% in 2024 (+0.9 $MtCO_2e$), principally because of a rise in emissions related to gas sales to final customers (+2.6 $MtCO_2e$ or +7%) and higher purchases of goods (+0.8 $MtCO_2e$ or +8%). Emissions related to minority investments were down by -0.3 $MtCO_2e$ (-5%), largely due to lower fossil energy output in Chile. Emissions related to purchases of gas and electricity for resale to final customers, together with emissions by minority investments, make up 81% of the Group's Scope 3 emissions.

All these factors contributed to a 0.9 $MtCO_2e$ decrease in the Group's carbon emissions in 2024, to a total 90.7 $MtCO_2e$.



(1) Source: Enerdata, *World ranking of zero direct CO_2 emissions producers*.
(2) CAGR (compound annual growth rate).

Carbon intensity

The EDF group's carbon intensity[1] was 30 gCO_2/kWh in 2024, one of the lowest in the world and around seven times lower than the average for European utilities (210 gCO2/kWh[2]). As well as the effect of the lower direct emissions, the decrease in carbon intensity (-19% vs 2023) reflects the higher levels of low-carbon electricity produced by the Group in 2024, from all its generation technologies: +11% for nuclear power, +30% for hydropower and +7% for wind and solar power.

EDF group indicator	Outturn for 2024	Outturn for 2023
Carbon intensity (gCO_2/kWh)	30	37

Avoided emissions

EDF proposes carbon-reducing solutions and levers for its customers, contributing to the move towards a net-zero economy. EDF has set itself the target of avoiding 30 million tonnes of CO_2 emissions by 2030, and 45 million tonnes by 2035 through sales of innovative products and services.

	2024	2023	2022
Avoided emissions (Mt CO_2)	13.4	12.4	11.4

The avoided emissions indicator covers the following activities exercised by EDF SA, Dalkia, Luminus, EDF Energy, and Edison: increasing renewable energies in heat networks; energy efficiency; solar power (installations sold to customers and self-consumption, excluding EDF installations that inject their output into the network); electric mobility; residential heat pumps, sale of biomethane for light vehicles, hydrogen. This indicator corresponds to the differential between emissions by the sold product/service and estimated emissions in a baseline scenario defined for each product/service. Annual direct and indirect emissions as determined in the life cycle analysis are included in its calculation.

5.1.5.2 Social criteria

Health and safety

Health and safety are integral aspects of the EDF group's activities every day. The fact that EDF continues to register fatal work-related accidents confirms the absolute priority of eradicating such events, particularly through application of the Group's 10 lifesaving rules[3] which cover the principal occupational risks (electrical work, lifting, work at height, risks on the road, and more).

Apart from the very atypical year 2020, the total LTIR[4] (Lost Time Incident Rate) has followed a steady downward trend since 2019, illustrating the improvements achieved by accident prevention campaigns for employees and contractors.

Indicator	Scope	2024	2023	Progression
LTIR	Employees + Contractors	1.6	1.7	5.4%

Gender diversity

With full awareness of its responsibility to promote equality, respect for diversity and inclusive values, while respecting the managerial independence of regulated infrastructure operators, the EDF group is committed to developing concrete action to promote equality in the workplace and occupational and social integration for people with disabilities, combating sexism, violence and all forms of discrimination, and supporting parents.

Diversity - especially gender diversity - in its executives and future executives are essential levers for transforming the Group. Going further than the requirements of France's "Rixain" law, the EDF group has set itself the target of having 40% of women among the Group's executives, including all its foreign subsidiaries. This is particularly ambitious as regards the timescale, especially for an industrial group without a sufficient pool of female employees to reach 40% women executives rapidly. Nevertheless, the percentage of women in the company is gradually rising, thanks to the many actions taken to promote gender diversity.

At 31 December 2024, EDF had 26.7% female executives (compared to 24% one year earlier), showing that the executive gender balance is advancing in the Group.

(1) Carbon intensity is a ratio of the Group's Scope 1 emissions (Direct CO_2 emissions related to generation, excluding the life-cycle assessment (LCA) of generation facilities and fuel) by power plants and heat generating plants, and associated outputs.

(2) Source: 2023 figure for the EU-27, European Environment Agency, Greenhouse gas emission intensity of electricity generation in Europe, October 2024.

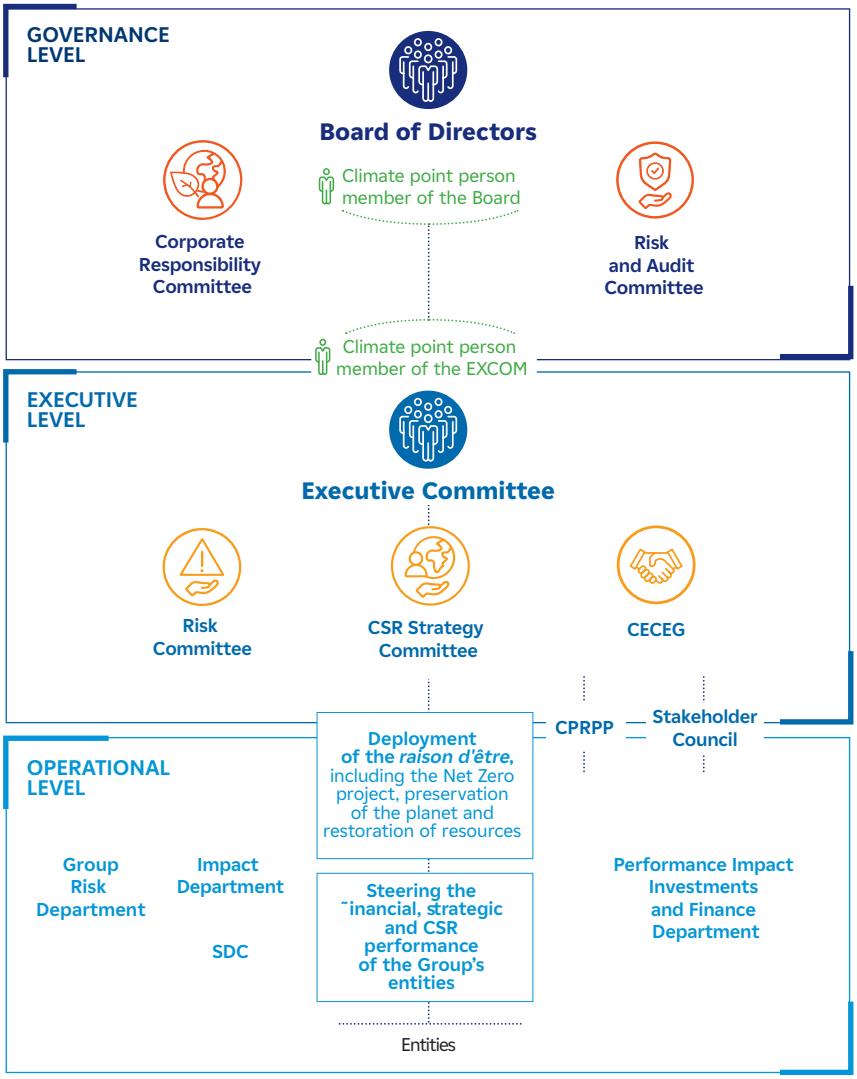
(3) https://www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/corporate-social-responsibility/well-being-and-solidarity/health-and-safety/10-life-saving-rules

(4) Lost Time Incident Rate (LTIR): the Group's overall LTIR represents the number of accidents occurring in the course of work (for employees and contractors, regardless of the level of subcontracting, including co-contracting and temporary workers) that resulted in one or more days off work and happened over a period of 12 months, per million hours worked. It is calculated by multiplying the number of work-related accidents involving lost time by one million, then dividing by the number of hours worked by employees.

5.1.5.3 Governance criteria

Governance of climate- and nature-related issues

To properly address climate- and nature-related issues, specific governance arrangements have been set up for these matters, involving various committees and bodies as presented in the following diagram.



Speci¿ic to climate governance.

The Board of Directors
defines strategic, financial and economic guidelines by taking into account the Group's climate and nature issues.
Appointment of a climate point person within the Board.

The Executive Committee (EXCOM)
implements the Group's climate and nature strategy.
Appointment of a climate point person within the EXCOM.

The CSR Strategy Committee
chaired by EDF's Chairman and Chief Executive Officer, it oversees climate and nature strategies and any other subject related to the Group's 12 CSR commitments.

The Group Executive Committee's Commitments Committee (CECEG)
authorises the Group's most important investments and commitments in line with its *raison d'être* and CSR commitments, including climate and nature.

The Risk Committee
identifies the Group's priority risks, including climate and nature-related risks, and shares its strategy for addressing them.

The Stakeholder Council
provides feedback on the expectations of civil society, notably those relating to the preservation of natural resources.

The Public Authorities Relations Management Committee (CPRPP)
coordinates actions to convey the Group's positions to the French and European authorities.

The Sustainable Development Committee (SDC)
represents all the Group's businesses and prepares the issues presented to the CSR Strategy Committee.

Deployment of the *raison d'être* and strategic workstreams
to integrate CSR commitments, including climate and nature, into all Group policies.°°°°°°°

Management of the financial, strategic and CSR performance of the entities
integration of climate and nature criteria in the new CSR policy and in the entities' framework letters.

°°

The Corporate Responsibility Committee examines the Group's commitments and policies in the light of the Group's strategy, and considers their implementation in terms of ethics, compliance, and Corporate Social Responsibility (CSR). One important focus is the way the Company takes account of climate change-related issues into consideration.

The Corporate Responsibility Committee met four times in 2024. It discussed the EDF group's 2023 Vigilance Plan, Gender diversity and equality in the workplace, Preventive health and safety action, the situation with regard to the *Raison d'être,* and Responsible and sustainable purchases. The Committee also had three joint meetings during the year with the Risk and Audit Committee to consider sustainability matters. The subjects covered included sustainability training for directors, appointment of the auditors to certify consolidated sustainability reporting, double materiality assessment, and the ESG target-setting process.

5.1.5.4 Non-financial ratings

The EDF group is rated by ESG ratings agencies and sustainable fund managers, which assess companies based on their sustainable development results using their own sector-specific methodologies.

MAIN INTERNATIONAL COALITIONS OF EDF

EV 100 by THE CLIMATE GROUP · act4nature international · WE MEAN BUSINESS · United Nations Global Compact

* *Sectoral average.*
** *The ESG rating from Moody's obtained in 2024 is valid for 2 years.*

The Group's carbon trajectory was validated by Moody's as compatible with a + 1.5°C global warming scenario in February 2024.

5.1.6 Financial outlook

Outlook for 2025

EBITDA is expected to retreat against a backdrop of falling market prices.

Nuclear output in France including Flamanville 3 is estimated at **350-370TWh** in 2025, 2026 and 2027

2027 targets[1]

Net financial debt / EBITDA: **≤ 2.5x**

Adjusted economic debt / adjusted EBITDA[2] **≤ 4x**

(1) Based on scope and exchange rates as at 1 January 2025 and assuming French nuclear output including Flamanville 3 of 350-370TWh in 2025, 2026 and 2027.
(2) Applying constant S&P ratio methodology

5.1.7 *Management and control of market risks*

5.1.7.1 Management and control of financial risks

This section presents the policies and principles for management of the Group's financial risks defined in the strategic financial management framework (liquidity, interest rate, foreign exchange rate and equity risks), and the Group counterparty risk management policy set up by EDF. These principles apply only to EDF and operationally controlled subsidiaries or subsidiaries that do not benefit by law from specific guarantees of independent management such as Enedis. In compliance with IFRS 7, the following paragraphs describe the nature of risks resulting from financial instruments, based on analyses of sensitivities and credit (counterparty) risks.

The Financial Risks Control Department (*Département Contrôle des Risques Financiers et Investissements* – CRFI), which is part of the Group's Risk Division, is in charge of financial risk control at Group level, mainly by ensuring correct application of the principles of the strategic financial management framework. This department carries out a first-level check of financing activities by EDF SA's trading room, producing daily and weekly monitoring reports and risk indicators. It also carries out a second-level check of the risk of counterparty default for EDF entities and operationally controlled Group subsidiaries (excluding Enedis, which has its own system), and management activities concerning the dedicated asset portfolio.

Regular internal audits are carried out to ensure controls are actually applied and are effective.

5.1.7.1.1 Management of liquidity risk

The EDF group was able to meet its financing needs by conservative liquidity management, and has obtained financing on satisfactory terms. In 2024, the Group undertook several bond issues in six currencies with a total euro-equivalent value of some €6.7 billion, and one hybrid bond issue (perpetual super-subordinated notes) with a euro-equivalent value of €1.7 billion.

Over the year, the EDF group redeemed part of its two perpetual subordinated notes with a first call option for EDF on 22 January 2026 and 29 January 2026 for the total euro-equivalent value of €1.2 billion, and a euro-equivalent value of €2.9 billion of senior debt matured.

In 2024, the Group also concluded 3-year and 5-year bilateral credit lines for the euro-equivalent value of €6.5 billion, and a 10-year €500 million credit line from the European Investment Bank. These credit lines are fully drawn.

EDF made early repayments of some of its bank loans in 2024, for the total euro-equivalent value of €12.4 billion.

At 31 December 2024, the residual maturities of financial liabilities (including interest) are as follows[1]:

(in millions of euros)	Liabilities	Interest rate swaps[1]	Currency swaps[1]	Garantees given for borrowings
< 1 year	15,909	(13)	(415)	73
1 - 5 years	33,364	(281)	(1,479)	617
> 5 years	88,638	(14)	(3,906)	505
TOTAL	**137,911**	**(308)**	**(5,800)**	**1,195**
- repayment of the nominal value	*81,802*			
- interest expenses	*56,109*			

(1) Data on hedging instruments includes asset and liability positions.

A range of specific levers are used to manage the Group's liquidity risk:

- the cash pooling system, which centralises cash management for controlled subsidiaries. The subsidiaries' cash balances are made available to EDF SA so as to optimise the Group's cash management and provide subsidiaries with a system that guarantees them market-equivalent financial terms;
- centralisation of financing for controlled subsidiaries: changes in subsidiaries' working capital are financed by the Group's cash management department through stand-by credit lines provided for subsidiaries, which can thus have revolving credit from the Group;
- active management and diversification of financing sources: the Group has access to short-term resources on various markets through programmes for French commercial paper *(billets de trésorerie)*, Negotiable European Commercial Paper (NEU CP), and US commercial paper (US CP). For EDF, the ceilings are €12 billion for the NEU CP programme and US$10 billion for US CP. The Group also has access to medium-term resources through a Negotiable European Commercial Medium Term Notes (NEU MTN) programme with a ceiling of €2 billion (including €500 million for "green" NEU MTN);
- transfer of bond liabilities to banking counterparties under cash repurchase agreements.

At 31 December 2024, the amount of the Group's commercial paper outstanding was €2,981 million for NEU CP, and US$10 million for the US CP programme.

- EDF has access to the world's main bond markets:
- the Euromarkets through its EMTN (Euro Medium Term Notes) programme, which currently has a ceiling of €50 billion, particularly for euro and sterling issues;
- and domestic markets used for stand-alone issues in US dollars (144A bonds), yen (Samurai bonds) and Swiss francs.

The average maturity of the Group's gross debt was 13.0 years at 31 December 2024, compared to 11.0 years at 31 December 2023.

(1) Valued by reference to exchange rates and interest rates at 31 December 2024.

At 31 December 2024, EDF SA had a total amount of €13,688 million in available credit facilities (syndicated credit and bilateral lines):

- a €6 billion syndicated credit facility indexed on ESG criteria, maturing in November 2029. No drawdowns had been made on this credit facility at 31 December 2024;
- bilateral credit lines representing an available amount of €7,688 million, with expiry dates extending to August 2029.

The level of this available financing is very frequently reviewed to ensure the Group has sufficient financial security.

The credit lines with the European Investment Bank were all fully drawn by EDF SA at 31 December 2024, for a total amount of €3,175 million.

Edison also has a credit line with the European Investment Bank with an available amount of €70 million at 31 December 2024.

Several levels of liquidity in the portfolio (1 month to 6 months) are monitored weekly by the CRFI department, in order to have both a short-term outlook and an appropriate approach to potential liquidity needs (notably associated with margin calls) that takes all types of available funding into consideration.

5.1.7.1.2 Credit rating

At 31 December 2024, the three financial ratings agencies Standard & Poor's, Moody's and Fitch Ratings attributed the following long-term and short-term ratings to EDF group entities. On 6 June 2024 Standard & Poor's revised the outlooks from "stable" to "positive".

The factors most likely to affect the Group's credit rating are "Changes in public policies and the regulatory framework in France and Europe" and "Risk of access to liquidity".

Company	Agency	Long-term rating	Short-term rating
	Standard & Poor's	BBB positive outlook	A-2
	Moody's	Baa1 / stable outlook	P-2
EDF	Fitch Ratings	BBB+ / negative outlook	F2
EDF Trading	Moody's	Baa3 / stable outlook	n.a.
	Standard & Poor's	BB- / positive outlook	B
	Moody's	Baa3 / stable outlook	n.a.
EDF Energy	Fitch Ratings	BBB- / stable outlook	n.a.
	Standard & Poor's	BBB / positive outlook	A-2
Edison	Moody's	Baa3 / stable outlook	n.a.

n.a. = not applicable.

5.1.7.1.3 Management of foreign exchange risk

Due to the diversification of its activities and geographical locations, the Group is exposed to the risk of exchange rate fluctuations, which may have an impact on the translation differences affecting balance sheet items, Group financial expenses, equity, net income and the internal rate of return (IRR) of projects.

To limit exposure to foreign exchange risks, the Group has introduced the following management principles:

- local currency financing: to the extent possible given the local financial markets' capacities, each entity finances its activities in its own functional currency. When financing is contracted in other currencies, derivatives may be used to limit foreign exchange risk;
- matching of assets and liabilities: the net assets of subsidiaries located outside the Euro zone expose the Group to a foreign exchange risk. The foreign exchange risk in the consolidated balance sheet is managed by market hedging through debt issued or contracted in foreign currencies, or use of financial derivatives.
- Hedging of net assets in foreign currencies complies with risk/return targets, and the hedging ratio varies depending on the currency. If no hedging instruments are available, or if hedging costs are prohibitive, the foreign exchange positions remain open and the risk on such positions is monitored by sensitivity calculations;
- hedging of operating cash flows in foreign currencies: in general, the operating cash flows of EDF and its subsidiaries are in their local currencies, with the exception of flows related to fuel purchases which are primarily in US dollars, and certain flows related to purchases of equipment, which concern lower amounts. Under the principles laid down in the strategic financial management framework, EDF and the main subsidiaries concerned by foreign exchange risks (EDF Energy, EDF Trading, Edison, EDF Renewables) are required to hedge firm or highly probable commitments related to these future operating cash flows.

GROSS DEBT STRUCTURE AT 31 DECEMBER 2024, BY CURRENCY BEFORE AND AFTER HEDGING

As a result of the financing and foreign exchange risk hedging policy, the Group's gross debt at 31 December 2024 breaks down as follows by currency after hedging:

(in millions of euros)	Initial debt structure	Impact of hedging instruments[1]	Debt structure after hedges	% of debt
Borrowings in euros (EUR)	43,014	22,327	65,341	80%
Borrowings in US dollars (USD)	22,841	(21,543)	1,298	2%
Borrowings in pounds sterling (GBP)	10,580	1,843	12,423	15%
Borrowings in other currencies	5,367	(2,627)	2,740	3%
TOTAL DEBT	**81,802**		**81,802**	**100%**

(1) Hedges of liabilities and net foreign investments.

FOREIGN EXCHANGE RISK SENSITIVITY OF THE GROUP'S GROSS DEBT

The table below presents the impact on equity of a variation in exchange rates on the Group's gross debt at 31 December 2024.

(in millions of euros)	Debt after hedging instruments converted into Euros	Impact of a 10% unfavourable variation in exchange rates	Debt after a 10% unfavourable variation in exchange rates
Borrowings in euros (EUR)	65,341		65,341
Borrowings in US dollars (USD)	1,298	130	1,428
Borrowings in pounds sterling (GBP)	12,423	1,242	13,665
Borrowings in other currencies	2,740	274	3,014
TOTAL DEBT	**81,802**	**1,646**	**83,448**

Due to the Group's hedging policy for foreign exchange risk on the Group's gross debt, the income statement of companies controlled by the Group is marginally exposed to foreign exchange risk.

STRUCTURE AND FOREIGN EXCHANGE RISK SENSITIVITY OF NET ASSETS

The table below presents the foreign exchange position relating to net assets in foreign currencies of the Group's subsidiaries, and the risk of a foreign exchange loss based on equity at 31 December 2024.

(in millions of currency units)	Net assets	Bonds	Derivatives	Net assets after hedging	Net assets after hedging converted into euros	Impact on equity of a 10% variation in exchange rates
USD	3,958	1,750	191	2,017	1,941	194
CHF (Switzerland)	17	-	8	9	10	1
PLN (Poland)	308	-	153	155	36	4
GBP (United Kingdom)	21,393	6,584	3,701	11,108	13,396	1,340
BRL (Brazil)	2,203	-	-	2,203	343	34
CNY (China)	7,666	-	4,267	3,399	448	45

This table shows the net assets of the Group's foreign subsidiaries in foreign currencies, adjusted for changes in the fair value of cash flow hedges and debt and equity instruments recorded in equity, and changes in the fair value of financial instruments recorded in income.

The foreign exchange risk is based on the assumption of an unfavourable, uniform 10% variation in exchange rates against the Euro. Net assets are converted at the closing rate and impacts are reported in absolute value.

The foreign exchange risk on debt and equity securities is mostly concentrated in EDF's dedicated asset portfolio, which is detailed in section 7.1.6 entitled "Management of financial risk on EDF SA's dedicated assets".

The foreign exchange risk associated with short-term investments and operating liabilities in foreign currencies remains under control for the Group at 31 December 2024.

5.1.7.1.4 Management of interest rate risk

The exposure of the Group's net financial debt to interest rate fluctuations covers two types of risk: a risk of change in the net financial expenses on floating-rate financial assets and liabilities, and a risk of change in the value of financial assets invested at fixed rates. These risks are managed by monitoring the floating-rate portion of net financial debt, defined by reference to the risk/return for net financial expenses, taking into consideration expected movements in interest rates.

Under this policy, some of the debt is variabilised and the Group may use interest rate derivatives for hedging purposes.

The Group's debt after hedging instruments at 31 December 2024 comprised 52% at fixed rates and 48% at floating rates.

A 100bp uniform annual rise in interest rates would generate an approximate €390 million increase in financial expenses at 31 December 2024 based on gross floating-rate debt after hedging.

The average cost of Group debt (weighted interest rate on outstanding amounts) was 3.85% at 31 December 2024.

STRUCTURE AND INTEREST RATE SENSITIVITY OF GROUP DEBT

(In millions of euros)	Initial debt structure	Impact of hedging instruments	Debt structure after hedging	Impact on income of a 1% increase in interest rates
Fixed rate	68,608	(25,766)	42,842	-
Floating rate	13,194	25,766	38,960	390
TOTAL	**81,802**		**81,802**	**390**

Concerning financial assets, the table below presents the interest rate risk on the floating-rate notes (FRN), negotiable debt instruments and short-term floating-rate deposits held by EDF, and their sensitivity to interest rate risks (impact on net income).

INTEREST RATE RISK SENSITIVITY OF FLOATING-RATE INSTRUMENTS

(in millions of euros)	Value	Impact on income of a 1% variation in interest rates	Value after a 1% variation in interest rates
FLOATING RATE INSTRUMENTS	**2,101**	**(210)**	**1,891**

The Group's interest rate risk notably relates to the value of the Group's long-term nuclear obligations and its pension and other specific employee benefit obligations, which are adjusted to present value using discount rates that depend on interest rates for various time horizons, and debt securities held for management of the dedicated assets set aside to cover these obligations.

5.1.7.1.5 Management of equity risk

Coverage of employee benefit obligations for EDF SA and EDF Energy

Assets covering EDF's employee benefit liabilities are partly invested on the international and European equities markets. Market trends therefore affect the value of these assets, and a downturn in equity prices would lead to a rise in balance sheet provisions.

33% of the assets covering EDF SA's employee benefit obligations were invested in equities at 31 December 2024, representing an amount of €3.4 billion of equities.

At 31 December 2024, EDF Energy's defined-benefit pension fund, named EDF Group (EDFG), raised its allocation to equities and equity funds (excluding diversified growth funds) such that it now represents an exposure of 8.9% (4.9% in 2023), or an amount of £483 million.

Coverage of EDF's nuclear obligations

Analysis of the equity risk associated with coverage of EDF's nuclear obligations is presented in the following section discussing the dedicated asset portfolio.

5.1.7.1.6 Management of financial risk on EDF SA's dedicated asset portfolio

Dedicated assets have been built up progressively by EDF since 1999 to ensure secure financing of its long-term nuclear obligations. The Law of 28 June 2006, codified in France's Environment code (Articles L.594-1 to 14) and its implementing regulations, defined the provisions that are unrelated to the operating cycle, and must therefore be covered by dedicated assets. They are listed in note 15.1.3 to the 2024 financial statements, "Coverage of EDF's long-term nuclear obligations".

The dedicated asset portfolio is managed under the supervision of the Board of Directors and its advisory committees (Nuclear Commitments Monitoring Committee (CSEN), Audit Committee).

A Nuclear Commitments Financial Expertise Committee (CEFEN) exists to assist the company and its governance bodies on questions of matching assets and liabilities and asset management. The members of this Committee are independent of EDF.

Governance and management PRINCIPLES

The governance principles setting forth the structure of dedicated assets, and the relevant decision-making and control processes for their management, are validated by EDF's Board of Directors under a policy for ensuring secure financing of nuclear expenses, in compliance with the regulations. These principles also lay down rules for the asset portfolio's structure, selection of financial managers, and the legal, accounting and tax structure of the funds.

Strategic asset allocation is based on asset/liability reviews carried out to define the most appropriate target portfolio for financing long-term nuclear obligations. Strategic allocation is validated by EDF's Board of Directors and reviewed every three years unless circumstances require otherwise. A new strategic allocation was validated in June 2024, slightly reducing the share of real estate investments and increasing investments in infrastructures and private equity. This target allocation consists of a yield portfolio, a growth portfolio and a fixed-income portfolio, respectively accounting for 29%, 41% and 30% of the total portfolio. The yield portfolio consists of real estate assets and infrastructure assets; the growth portfolio consists of equities and equity funds (both listed and unlisted); the fixed-income portfolio consists of bonds, debt funds (both listed and unlisted), and cash. These portfolios are managed by EDF Gestion and EDF Invest.

The allocation policy between growth assets and fixed-income assets was developed by the Operational Management Committee[1] on the basis of the economic and financial outlook for each market and geographical area, a review of value appreciation in different markets and market segments, and risk analyses produced by the Financial Risks Control (CRFI) department.

At 31 December 2024, the total value of the dedicated assets portfolio was €40,320 million compared to €36,885 million in 2023. Changes in dedicated assets in 2024, and details of their realisable value and book value, are presented in note 15.1.2. to the 2024 consolidated financial statements.

CONTENT AND PERFORMANCE OF EDF'S DEDICATED ASSET PORTFOLIO

	31/12/2024			31/12/2023		
(in millions of euros)	Share of portfolio	Realisable value	Performance for 2024	Share of portfolio	Realisable value	Performance for 2023
Yield assets	23.5%	9,485	4.6%	23.4%	8,657	2.9%
Growth assets	41.3%	16,633	21.0%	38.1%	14,036	17.5%
Fixed-income assets	35.2%	14,202	4.5%	38.5%	14,192	7.9%
TOTAL DEDICATED ASSETS	**100.0%**	**40,320**	**10.8%**	**100.0%**	**36,885**	**10.2%**

DEDICATED ASSETs' EXPOSURE TO RISKS

EDF is exposed to equity risks, interest rate risks and foreign exchange risks through its dedicated asset portfolio.

The market value of the listed equities in EDF's dedicated asset portfolio was €15,934 million at 31 December 2024. The volatility of the listed equities at the same date was 12.37% based on 52 weekly performances, compared to 11.36% at 31 December 2023. Applying this volatility to the value of listed equity assets at 31 December 2024, the Group estimates the annual volatility of the equities portion of dedicated assets at €1,971 million.

At 31 December 2024, the sensitivity of the listed bonds (€13,182 million) is 5.16, i.e. a uniform 100 base point rise in interest rates would result in a €680 million decline in market value. This sensitivity was 5.34 at 31 December 2023.

ASSESSMENT OF THE EXPECTED RATE OF RETURN ON DEDICATED ASSETS

In compliance with the applicable regulations, based on the target allocation for dedicated assets stated above, studies to simulate the expected rate of return for the next few years, particularly the next twenty years (a horizon close to the duration of nuclear provisions), show with high probability that the average projected rate of return is higher than the discount rate used to calculate nuclear provisions, estimated at 4.5% at 31 December 2024 (see note 15.1.1 to the 2024 consolidated financial statements).

The average annualised performance of dedicated assets since 2004, the year when their value first exceeded €1 billion, was 6.1% at 31 December 2024.

5.1.7.1.7 Management of counterparty/credit risk

The EDF group is exposed to counterparty risk in its operating and financial activities, and this risk is actively managed. It is monitored through governance arrangements that are described in one of the Group's corporate policies and involve consolidation of the Group's exposures by the Financial Risks Control (CRFI) department. The quarterly consolidation shows the scale of the exposure concerning "Investment Grade counterparties" (89% of exposures at 30 September 2024), in line with the share of exposures generated by financial activities (69% of exposures at 30 September 2024).

These exposures primarily concern cash management and asset management. For counterparties dealing with EDF's trading room, the Group's Risk Division has drawn up a framework specifying counterparty authorisation procedures and the methodology for calculating the assigned limits. The degree of exposure is updated in real time and verified daily, and in the event of an alert or unfavourable development relating to a counterparty, the suitability of limits is reviewed promptly.

The exposures generated by fuel procurement and trading on the energy markets (11% of exposures at 30 September 2024) are mainly managed by EDF Trading, which monitors its own exposure levels on a daily basis and assigns limits based on each counterparty's financial health. EDF Trading also takes steps to reduce the counterparty risk, for example using position netting agreements, cash-collateral agreements and guarantees.

(1) An internal committee and permanent body for evaluation, consultation and operational decision-making for dedicated asset management.

5.1.7.2 Management and control of energy market risks

Through its generation, supply and trading activities, the EDF group has operations on deregulated energy markets, principally in Europe, which expose it to price variations on the energy market that can significantly affect its financial statements.

Consequently, the Group has an energy market risk policy for all energy commodities, applicable to EDF and entities over which it has operational control.

The purpose of this policy is to:

- define the general framework for management of risks on the energy markets where the Group entities carry out their asset portfolio management activities (energy generation, optimisation and sale), and trading activities in the case of EDF Trading;
- define the responsibilities of asset managers and traders, and the various levels of control of activities;
- implement a coordinated Group-wide hedging policy that is coherent with the Group's financial commitments;
- consolidate the exposure of the various entities operationally controlled by EDF on the structured energy-related markets.

The Group Risk Division presents an annual report on the implementation of this policy to the Board of Directors' Audit Committee.

At entities not operationally controlled by EDF, the risk management framework is reviewed by the governance bodies.

Principles for operational management and control of energy market risks

The principles for operational management and control of energy market risks for the Group's operationally controlled entities are based on strict segregation of responsibilities for managing those risks, distinguishing between management of assets (generation and supply) and trading.

The operators of generation and supply assets are responsible for implementing a risk management strategy that smooths the impact of energy market risks on the variability of their financial statements. However, they are still exposed to structural price trends to the extent of volumes that are not yet hedged, and uncertainties over volumes (relating to generation plant availability and customers' consumption). The energy market risk control process involves Group management and is based on a risk indicator and measurement system incorporating escalation procedures in the event risk limits are exceeded.

For operationally controlled entities in the Group, positions on the energy markets are taken predominantly by EDF Trading, which as the Group's trading entity executes most of the Group's purchase/sale orders on the wholesale markets. Consequently, EDF Trading is subject to a strict governance and control framework, particularly the European regulations on trading companies.

EDF Trading's exposure on the energy markets is strictly controlled through daily limit monitoring overseen by the subsidiary's management and by the division in charge of energy market risk control at Group level. Automatic escalation procedures also exist to inform members of EDF Trading's Board of Directors of any breach of limits for risks (value at risk limit) or losses (stop-loss limit). Value at Risk (VaR) is a statistical measure of the potential maximum loss in market value on a portfolio in the event of unfavourable market movements, over a given time horizon and with a given confidence interval.

In 2024, EDF Trading's commitment on the markets was subject to a VaR limit initially of €57 million, then revised downwards to €50 million in July 2024, and a stop-loss limit of €180 million.

5.2 Subsequent events until closing of accounts

Subsequent events are described in note 24 to the consolidated financial statements for the financial year ended 31 December 2024.

5.3 Subsequent events to closing of accounts

- **Sale of Edison Stocaggio**

As part of Edison's strategic plan to 2030 and focus on Renewables and Customers and Services segments, Edison completed the sale of Edison Stoccaggio to the Snam group on 3 March 2025[1] (see section 6.1, note 3.2 "Assets and liabilities held for sale" in the notes to the consolidated financial statements for the year ended 31 December 2024).

The sale price has been set at €565 million, which will be allocated to the energy transition and the downstream segment. The agreement also provides for an earn-out to be paid by Snam to Edison in the case of a positive outcome of an ongoing administrative dispute.

- **Governance**

The President of the French Republic announced, in a press release dated 21 March 2025, that he "intends, on the proposal of the Prime Minister, to appoint Mr Bernard Fontana as Chairman and Chief Executive Officer of Électricité de France [...]".

5.4 Change in market prices to 28 February 2025

The spot price of electricity averaged €111.9/MWh base and €126.5/MWh peak over the period January-February 2025, fluctuating between €0.40/MWh and €473.3/MWh. The base price per MWh was on average €44.2/MWh higher than for the same period of 2024, and €54.2/MWh above the average spot price for the whole year 2024. This general increase in spot prices was the result of an increase in average demand, combined with a decrease in unavoidable renewable energy generation[2], which entailed an increase in residual demand[3].

The French calendar product for delivery the following year lost nearly €10.0/MWh compared to its level at the end of February 2024, closing the month at €63.2/MWh. This decrease continued the trend observed in 2024, despite a substantial temporary increase in January echoing movements in gas and CO_2 prices at that time. The price of the French calendar futures product is now enduringly below the prices of its Italian, Swiss, Belgian and German counterparts, while remaining slightly above the Spanish price. It should be noted that the France-Germany spread on the 2026 product reached -€28.3/MWh on 31 January 2025, its lowest level ever. This divergence is structural: it stems from differences in the electricity generation mix and persistent gaps between spot prices in the two countries, which is gradually being taken into account by market players.

In January and February 2025, the spot gas prices for the PEG index averaged €49.0/MWh, up by €22.3/MWh compared to the same period in 2024. These relatively high prices compared to 2024 are explained by supply tensions: the market was particularly nervous following the end on 31 December 2024 of the gas pipeline transit deal allowing Russia to send gas through the Brotherhood pipeline across Ukraine. In addition, gas inventories are required to be 90% filled by 1 November every year, putting pressure on summer supplies (with prices in excess of the prices for winter gas deliveries). Furthermore, European gas stocks remained below the historical average for 2019-2024, fuelling concern among market players. In February, however, the spot and futures PEG gas prices trended downwards, driven by the prospect of the end of winter, lower demand on gas stocks and a potential relaxing of the requirement to fill stocks. Developments in the US-Russian relations relative to the conflict in Ukraine also suggest a possible easing of the sanctions against Russia, which would help to reduce tensions on the gas market.

On 28 February 2025, the price of a barrel of Brent for the next month closed at $73.2, which is $10.4 lower than at the end of February 2024. Prices generally trended downwards from the beginning of 2025. After initially rising when new US sanctions against the Russian oil sector stoked fears of disruptions in global supply, prices then fell back under the influence of the policy led by the new US President, Donald Trump. The fact that Donald Trump's United States sided with Russia in a vote at the United Nations in late February suggests that US sanctions against Moscow might be lifted, further fuelling the downward pressure on prices.

At the end of February, the price of coal for delivery in the major European ports the following year closed at $101.8/t, unchanged compared to the end of February 2024. This price moved broadly downwards in the beginning of 2025, reaching its lowest level in a year on 28 February. This decrease reflects the context of strong European supply, subdued demand, and bearish signals from Asia. Although coal stocks in the ARA ports (Amsterdam, Rotterdam, Antwerp) are at their lowest level in three years, this has not supported prices because European demand is weak. Also, China, the world's largest coal importer, announced at the end of February that it was scaling back imports due to high stocks, and this has reinforced bearish pressure on prices.

At the end of February, the price of CO_2 emission certificates for delivery in December 2025 closed at €71.0/t, up by €12.9/t compared to the end of February 2024. After a strong increase at the end of 2024 and in January 2025, the price retreated in February. The increase in January had been sustained by rising gas prices and the prospect of greater use of coal, reinforced by large-scale purchases by investment funds anticipating a future increase in demand for quotas. At the time, the long positions of financial players had reached a three-year high. In February, however, the downturn in gas prices, the prospect of the end of winter, and the generally high temperatures for the time of year reduced demand for quotas. This momentum was intensified by the withdrawal of investors as they reduced their long positions on the market.

(1) See Edison press release of 3 March 2025 "Edison completes the sale of Edison Stoccagio to Snam and accelerates on energy transition"
(2) Wind, solar, run-of-river hydro, cogeneration and biomass generation.
(3) Consumption remaining after deduction of unavoidable renewable energy generation.

6.

Financial statements

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6.1 Consolidated financial statements at 31 December 2024

The Group's consolidated financial statements for the financial year ended on 31 December 2024, prepared under IAS-IFRS, are presented below. They will be submitted for approval at the General Shareholders' Meeting.

Consolidated income statement

(in millions of euros)	Notes	2024	2023
Sales	5.1	118,690	139,715
Fuel and energy purchases	5.2	(54,217)	(80,989)
Other external expenses[1]		(10,798)	(10,493)
Personnel expenses	5.3	(16,916)	(15,470)
Taxes other than income taxes	5.4	(4,142)	(4,064)
Other operating income and expenses	5.5	3,906	11,228
Operating profit before depreciation and amortisation	**5**	**36,523**	**39,927**
Net changes in fair value on energy and commodity derivatives, excluding trading activities	6	443	363
Net depreciation and amortisation		(11,970)	(11,161)
(Impairment)/reversals	10.7	(1,835)	(13,011)
Other income and expenses	7	(4,834)	(2,944)
Operating profit		**18,327**	**13,174**
Cost of gross financial indebtedness	8.1	(4,094)	(3,830)
Discount effect	8.2	(3,190)	(3,988)
Other financial income and expenses	8.3	6,352	4,469
Financial result	**8**	**(932)**	**(3,349)**
Income before taxes of consolidated companies		**17,395**	**9,825**
Income taxes	9	(4,887)	(2,470)
Share in net income of associates and joint ventures	12	(683)	257
Net income of discontinued operations		29	-
CONSOLIDATED NET INCOME		**11,854**	**7,612**
EDF net income		**11,406**	**10,016**
EDF net income - continuing operations		11,378	10,016
EDF net income - discontinued operations		28	-
Net income attributable to non-controlling interests		**448**	**(2,404)**
Net income attributable to non-controlling interests - continuing operations		447	(2,404)
Net income attributable to non-controlling interests - discontinued operations		1	-

(1) Other external expenses are reported net of capitalised production costs.

Consolidated statement of comprehensive income

(in millions of euros)	Notes	2024			2023		
		EDF's share	Non-controlling interests	Total	EDF's share	Non-controlling interests	Total
Consolidated net income		**11,406**	**448**	**11,854**	**10,016**	**(2,404)**	**7,612**
Fair value of cash flow hedges							
Fair value of cash flow hedges - gross change	18.7.5	2,146	(7)	2,139	7,089	77	7,166
Fair value of cash flow hedges - tax effects		(534)	1	(533)	(1,844)	(18)	(1,862)
Fair value of net investment hedges							
Fair value of net investment hedges - gross change	18.7.5	(666)	-	(666)	(107)	-	(107)
Fair value of net investment hedges - tax effects		10	-	10	23	-	23
Change in fair value of debt instruments							
Gross change in fair value of debt instruments	18.1.2	539	-	539	970	-	970
Related tax effect		(139)	-	(139)	(247)	-	(247)
Fair value of hedging costs (foreign currency basis spread)							
Fair value of hedging costs (foreign currency basis spread) - gross change	18.7.5	133	-	133	(126)	-	(126)
Fair value of hedging costs (foreign currency basis spread) - tax effects		(34)	-	(34)	32	-	32
Translation adjustments - controlled entities		**1,356**	**385**	**1,741**	**326**	**204**	**530**
Share in net income of associates and joint ventures - items that can be recycled to profit and loss		**166**	**(7)**	**159**	**(244)**	**(12)**	**(256)**
Gains and losses recorded in equity with recycling		***2,977***	***372***	***3,349***	***5,872***	***251***	***6,123***
Change in fair value of equity instruments							
Gross change in fair value of equity instruments	18.1.2	8	-	8	46	1	47
Related tax effect		-	-	-	-	-	-
Change in actuarial gains and losses on post-employment benefits							
Gross change in actuarial gains and losses on post-employment benefits	16.1.3	(791)	67	(724)	564	(151)	413
Related tax effect		7	(19)	(12)	164	35	199
Share in net income of associates and joint ventures - items that cannot be recycled to profit and loss		**149**	**-**	**149**	**(19)**	**-**	**(19)**
Gains and losses recorded in equity with no recycling		***(627)***	***48***	***(579)***	***755***	***(115)***	***640***
Total gains and losses recorded in equity		**2,350**	**420**	**2,770**	**6,627**	**136**	**6,763**
CONSOLIDATED COMPREHENSIVE INCOME		**13,756**	**868**	**14,624**	**16,643**	**(2,268)**	**14,375**
Comprehensive income of continuing operations		*13,727*	*868*	*14,595*	*16,643*	*(2,268)*	*14,375*
Comprehensive income of discontinued operations		*29*	*-*	*29*	*-*	*-*	*-*

Consolidated balance sheet

ASSETS	Notes	31/12/2024	31/12/2023
(in millions of euros)			
Goodwill	10.1	7,108	7,895
Other intangible assets	10.2	12,567	11,300
Property, plant and equipment used in generation and other tangible assets, including right-of-use assets	10.3	108,100	100,587
Property, plant and equipment operated under French public electricity distribution concessions	11.1	68,663	66,128
Property, plant and equipment operated under concessions other than French public electricity distribution concessions	10.5	6,616	6,544
Investments in associates and joint ventures	12	10,167	9,037
Non-current financial assets	18.1	55,951	48,327
Other non-current receivables	13.4	1,979	2,110
Deferred tax assets	9.3	4,553	7,403
Non-current assets		**275,704**	**259,331**
Inventories	13.2	19,248	18,092
Trade receivables	13.3	24,139	26,833
Current financial assets	18.1	26,739	39,442
Current tax assets		834	669
Other current receivables	13.4	10,355	9,074
Cash and cash equivalents	18.2	7,597	10,775
Current assets		**88,912**	**104,885**
Assets classified as held for sale	3.2	589	596
TOTAL ASSETS		**365,205**	**364,812**

EQUITY AND LIABILITIES	Notes	31/12/2024	31/12/2023
(in millions of euros)			
Capital	14	2,084	2,084
EDF net income and consolidated reserves		60,771	50,084
Equity (EDF share)		***62,855***	***52,168***
Equity (non-controlling interests)	14.4	11,029	11,951
Total equity	**14**	**73,884**	**64,119**
Provisions related to nuclear generation - back-end of the nuclear cycle, plant decommissioning and last cores	15	68,829	60,206
Provisions for employee benefits	16	17,284	15,895
Other provisions	17	6,022	4,878
Non-current provisions		**92,135**	**80,979**
Special French public electricity distribution concession liabilities	11.2	50,603	50,010
Non-current financial liabilities	18.3	71,096	69,724
Other non-current liabilities	13.6	6,039	5,685
Deferred tax liabilities	9.3	1,070	978
Non-current liabilities		**220,943**	**207,376**
Current provisions	15, 16.1 and 17	6,920	7,294
Trade payables	13.5	19,466	19,687
Current financial liabilities	18.3	18,888	38,103
Current tax liabilities		351	1,111
Other current liabilities	13.6	24,631	26,975
Current liabilities		**70,256**	**93,170**
Liabilities classified as held for sale	3.2	122	147
TOTAL EQUITY AND LIABILITIES		**365,205**	**364,812**

Consolidated cash flow statement

(in millions of euros)	Notes	2024	2023
Operating activities:			
Consolidated net income		**11,854**	**7,612**
Net income of discontinued operations		**29**	**-**
Net income of continuing operations		**11,825**	**7,612**
Impairment/(reversals)	10.7.1	1,835	13,011
Accumulated depreciation and amortisation, provisions and changes in fair value		14,027	18,116
Financial income and expenses		1,076	1,934
Dividends received from associates and joint ventures		582	702
Capital gains/losses		141	234
Income taxes	9	4,887	2,470
Share in net income of associates and joint ventures	12	683	(257)
Change in working capital	13.1	(1,452)	(7,785)
Net cash flow from operations		***33,604***	***36,037***
Net financial expenses disbursed[1]		(2,362)	(2,241)
Income taxes paid		(3,384)	(3,695)
Net cash flow from continuing operating activities		**27,858**	**30,101**
Net cash flow from operating activities relating to discontinuedoperations		**29**	**-**
Net cash flow from operating activities		**27,887**	**30,101**
Investing activities:			
Acquisitions of equity investments, net of cash acquired		(557)	(181)
Disposals of equity investments, net of cash transferred		88	227
Investments in intangible assets and property, plant and equipment	10.6	(24,779)	(21,021)
Net proceeds from sale of intangible assets and property, plant and equipment		148	126
Changes in financial assets		1,140	(2,196)
Net cash flow from continuing investing activities		**(23,960)**	**(23,045)**
Net cash flow from investing activities relating to discontinued operations		**(29)**	**-**
Net cash flow from investing activities		**(23,989)**	**(23,045)**
Financing activities:			
EDF capital increase		-	-
Transactions with non-controlling interests[2]		2,840	1,746
Dividends paid by parent company		-	-
Dividends paid to non-controlling interests		(670)	(482)
Cash flows with shareholders		***2,170***	***1,264***
Issuance of borrowings	18.3.2.1	15,385	11,947
Repayment of borrowings[3]	18.3.2.1	(26,564)	(21,712)
Issuance of perpetual subordinated bonds	14.3	1,728	1,377
Remunerations paid to bearers of perpetual subordinated bonds	14.3	(582)	(630)
Funding contributions received for assets operated under concessions and investment subsidies		676	496
Other cash flows from financing activities		***(9,357)***	***(8,522)***
Net cash flow from continuing financing activities		**(7,187)**	**(7,258)**
Net cash flow from financing activities relating to discontinued operations		**-**	**-**
Net cash flow from financing activities		**(7,187)**	**(7,258)**
Net cash flow from continuing operations		(3,289)	(202)
Net cash flow from discontinued operations		-	-
Net increase/(decrease) in cash and cash equivalents		**(3,289)**	**(202)**
CASH AND CASH EQUIVALENTS - OPENING BALANCE		**10,775**	**10,948**
Net increase/(decrease) in cash and cash equivalents		(3,289)	(202)
Currency fluctuations		174	(53)
Other non-monetary changes		(63)	82
CASH AND CASH EQUIVALENTS - CLOSING BALANCE	**18.2**	**7,597**	**10,775**

(1) At 31 December 2024, "financial income on cash and cash equivalents", which was previously presented on a separate line detailing cash and cash equivalents, is reclassified and included in "Net financial expenses disbursed" in the amount of €351 million (€293 million in 2023). The 2023 comparative figures have been restated accordingly.

(2) In 2024, these transactions notably include a capital injection of €2,359 million by the UK government into the Sizewell C project (€485 million in 2023), a capital injection of €500 million by Natixis Belgique Investissements into EDF Investissements Groupe, and the purchase of Assystem's minority interests in Framatome for €(205) million.

(3) Including €(3,031) for redemption of perpetual subordinated bonds in 2024 (€(2,789) million in 2023).

Change in consolidated equity

Details of the change in equity between 1 January and 31 December 2024 are as follows:

(in millions of euros)	Capital	Treasury shares	Translation adjustments	Fair value adjustment of financial instruments (OCI with recycling)[1]	Other consolidated reserves and net income[2]	Equity (EDF share)	Equity (non-controlling interests)	Total equity
EQUITY AS PUBLISHED AT 31/12/2022	**1,944**	**(7)**	**(175)**	**(7,451)**	**40,029**	**34,340**	**12,272**	**46,612**
Gains and losses recorded in equity	-	-	156	5,716	755	6,627	136	6,763
Net income	-	-	-	-	10,016	10,016	(2,404)	7,612
Consolidated comprehensive income	**-**	**-**	**156**	**5,716**	**10,771**	**16,643**	**(2,268)**	**14,375**
Remuneration on perpetual subordinated bonds	-	-	-	-	(630)	(630)	-	(630)
ssuance/Redemption of perpetual subordinated bonds and OCEANEs	140	-	-	-	2,523	2,663	-	2,663
Dividends paid	-	-	-	-	-	-	(482)	(482)
Purchases/sales of treasury shares	-	7	-	-	-	7	-	7
Other changes[3]	-	-	-	3	(858)	(855)	2,429	1,574
EQUITY AT 31/12/2023	**2,084**	**-**	**(19)**	**(1,732)**	**51,835**	**52,168**	**11,951**	**64,119**
Gains and losses recorded in equity	-	-	1,598	1,379	(627)	2,350	420	2,770
Net income	-	-	-	-	11,406	11,406	448	11,854
Consolidated comprehensive income	**-**	**-**	**1,598**	**1,379**	**10,779**	**13,756**	**868**	**14,624**
Remuneration on perpetual subordinated bonds	-	-	-	-	(582)	(582)	-	(582)
Issuance/Redemption of perpetual subordinated bonds (see note 14.3)	-	-	-	-	(1,962)	(1,962)	-	(1,962)
Dividends paid	-	-	-	-	-	-	(672)	(672)
Other changes[3]	-	-	-	(4)	(521)	**(525)**	(1,118)	(1,642)
EQUITY AT 31/12/2024	**2,084**	**-**	**1,579**	**(357)**	**59,549**	**62,855**	**11,029**	**73,884**

(1) Changes in reserves recorded in OCI (Other Comprehensive Income) with recycling are shown in the Statement of Comprehensive Income. They correspond to the effects of fair value adjustments of debt securities and financial instruments hedging cash flows and net foreign investments, including amounts recycled to profit and loss in respect of unwound hedging contracts and debt instruments sold. They also include changes in the value of hedging costs resulting from the foreign currency basis spread on cross-currency swaps.

(2) Fair value changes recorded in OCI with no recycling are presented in this column.

(3) In 2024, "Other changes" in equity (non-controlling interests) notably include the increase in the UK government's percentage interest in the Sizewell C project in the United Kingdom for the amount of€2,971 million (€485 million in 2023) including €2,359 million through capital increases, a capital injection of €500 million by Natixis Belgique Investissements into EDF Investissements Groupe, and the loss of control over Sizewell C (Holding) Ltd (€(4,486) million) (see note 3.1.3).

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Notes to the consolidated financial statements

Electricité de France (EDF or the "Company") is a French *société anonyme* governed by French law, and registered in France (22-30, Avenue de Wagram, 75008 Paris).

The consolidated financial statements reflect the accounting position of the Company and its subsidiaries (which together form the "Group") and the Group's interests in associates, joint arrangements classified as joint operations, and joint ventures, for the year ended 31 December 2024.

The Group is an integrated energy operator engaged in all aspects of the energy business: power generation (nuclear power, hydropower, wind and solar power, thermal energy, etc.), transmission, distribution, supply, trading, energy services, production and supply of equipment and fuel assemblies, and reactor services.

The Group's consolidated financial statements at 31 December 2024 were prepared under the responsibility of the Board of Directors and approved by the Directors at the Board meeting held on 20 February 2025.

Note 1 Group accounting policies

1.1 Declaration of conformity and Group accounting policies

Pursuant to European regulation 1606/2002 of 19 July 2002 on the adoption of international accounting standards, the EDF group's consolidated financial statements at 31 December 2024 are prepared under the presentation, recognition and measurement rules set out in the international accounting standards published by the IASB and approved by the European Union for application at 31 December 2024. These international standards are IAS (International Accounting Standards), IFRS (International Financial Reporting Standards), and SIC and IFRIC interpretations.

1.2 Changes in accounting standards

The parent company's functional currency is the Euro. The Group's financial statements are presented in millions of euros. As the totals in the tables are aggregates of figures that are not rounded up or down, there may be variances between these totals and the sum of their rounded up/down component figures.

The accounting and valuation methods applied by the Group in the consolidated financial statements at 31 December 2024 are identical to those used in the consolidated financial statements at 31 December 2023, with the exception of the changes presented below in notes 1.2.1 to 1.2.3. Information is also given on the standards, amendments and interpretations published by the IASB that are applicable for the Group from 1 January 2025 and have not been applied early in the 2024 consolidated financial statements, and others that will be applicable at a later date, in some cases subject to adoption by the European Union (note 1.2.3).

The accounting principles and methods used are described in individual notes to the financial statements.

1.2.1 Amendments to IAS 7 "Statement of cash flows" and IFRS 7 "Financial Instruments: Disclosures" - Supplier finance arrangements

In 2023 the IASB published an amendment to IAS 7 and IFRS 7 defining required quantitative and qualitative disclosures about supplier finance arrangements, to assess how such arrangements affect the entity's liabilities and cash flows, and also its exposure to liquidity risk.

The Group provides the required disclosures in note 13.5 Application of these amendments has no material impact on the Group's financial statements.

1.2.2 Amendments to IAS 1 "Presentation of financial statements" - Classification of liabilities as current or non-current and Non-current liabilities with covenants

The following amendments, applicable since 1 January 2024, have no impact on the Group's financial statements:

- Classification of liabilities as current or non-current, which clarifies the principles for classifying a balance sheet liability as current or non-current;
- Non-current liabilities with covenants, which states that covenants with which an entity is required to comply after the closing date do not affect the classification of a liability as current or non-current at that date. This amendment aims to improve disclosures on long-term liabilities containing covenants.

1.2.3 Standards published by the IASB and applicable for financial years beginning on or after 1 January 2025

IFRS 18 "Presentation and Disclosure in Financial Statements"

Application of IFRS 18, which was issued on 9 April 2024, is mandatory for financial years beginning on or after 1 January 2027. This standard sets out requirements concerning the presentation and disclosure of information in financial statements and will replace IAS 1 "Presentation of financial statements".

Work is currently being done to identify the principal issues and impacts for the Group.

Other standards

The Group does not anticipate any material impact to result from the first application of the following amendments:

Applicable from 1 January 2025:

- Amendments to IAS 21 "The Effects of Changes in Foreign Exchange Rates" - Lack of Exchangeability: These amendments introduce information to help entities determine whether a currency is exchangeable for another currency, and when it is not exchangeable, the exchange rate to apply and the additional disclosures required.

Applicable from 1 January 2026:

- Annual improvements – Volume 11: Amendments to certain IFRS standards are issued every year under the IASB's annual improvements process, to clarify wording and correct relatively minor unintended consequences, conflicts or oversights.
- Amendments to IFRS 9 and IFRS 7 - Amendments to the Classification and Measurement of Financial Instruments: On 30 May 2024 the IASB published amendments concerning the IFRS 9 classification and measurement requirements, to address diversity in accounting practices and make the requirements clearer and more coherent.

1.3 Basis for preparation of the financial statements

1.3.1 Valuation

The consolidated financial statements are prepared on a historical cost basis, with the exception of assets acquired and liabilities assumed through business combinations, and of certain financial instruments, which are stated at fair value.

1.3.2 Translation methods

1.3.2.1 Functional currency

An entity's functional currency is the currency of the economic environment in which it primarily operates. In most cases, the local currency is the functional currency.

1.3.2.2 Translation of the financial statements of foreign companies whose functional currency is not the Euro

The financial statements of foreign companies whose functional currency is not the Euro are translated as follows:

- balance sheets are translated into Euros at the closing rate;
- income statements and cash flows are translated at the average rate for the period;
- resulting differences are recognised in equity under the heading "Translation adjustments".

Translation adjustments affecting a monetary item that is an integral part of the Group's net investment in a consolidated foreign company are included in consolidated equity until the disposal or liquidation of the net investment, at which date they are recognised as income or expenses in the income statement, in the same way as other exchange differences concerning the Company.

1.3.2.3 Translation of transactions in foreign currencies

In application of IAS 21, transactions expressed in foreign currencies are initially translated and recorded in the functional currency of the entity concerned, using the rate in force at the transaction date.

At each reporting date, monetary assets and liabilities expressed in foreign currencies are translated at the closing rate. The resulting foreign exchange differences are taken to the income statement.

However, any payment or receipt of a non-monetary advance in a foreign currency is translated at the exchange rate of the transaction date, with no subsequent adjustment.

1.3.3 Financial statement presentation rules

Assets and liabilities contributing to working capital used in the entity's normal operating cycle are classified as current in the consolidated balance sheet. Other assets and liabilities are classified as current if they mature within one year of the closing date, and non-current if they mature more than one year after the closing date.

The income statement presents items by nature. The heading "Other income and expenses" presented below the operating profit before depreciation and amortisation comprises items of an unusual nature or amount.

1.3.4 Management judgements and estimates

The preparation of the financial statements requires the use of judgments, best estimates and assumptions in determining the value of assets and liabilities, income and expenses recorded for the period, and in considering positive and negative contingencies existing at the year-end. The figures in the Group's future financial statements could differ significantly from current estimates due to changes in these assumptions or economic conditions.

In a context characterised by volatility on the financial and energy markets, the parameters used to prepare estimates are based on macro-economic assumptions appropriate to the very long-term cycle of Group assets.

The principal items for which the Group uses estimates and judgments are the following:

1.3.4.1 Depreciation periods of nuclear power plants in France

In the specific case of the depreciation period of its French nuclear power plants, the EDF group's industrial strategy is to continue operation beyond 40 years, in optimum conditions as regards safety and efficiency.

The Group has therefore been making preparations for several years to extend the operating lifetime, and making the necessary investments under its *Grand Carénage* industrial refurbishment programme which was approved in principle by the Board of Directors in January 2015.

The depreciation period of 900MW-series power plants was extended from 40 years to 50 years in 2016 (except for Fessenheim where both reactors were permanently shut down in the first half of 2020) since all the technical, economic and governance conditions were fulfilled.

On 23 February 2021, the Nuclear Safety Authority (*Autorité de Sûreté Nucléaire* - ASN) issued a resolution on the conditions for continued operation of EDF's 900MW reactors beyond their fourth 10-year inspection. The ASN considered that "the measures planned by EDF combined with those prescribed by the ASN open the prospect of continued operation of these reactors for a further ten years following their fourth 10-year inspection". This resolution ended the "generic" phase of the review, which concerned the studies and modifications of facilities common to all the 900MW reactors, which all have a similar design.

The fourth 10-year inspections have been completed at 21 of the 32 reactors in the 900MW series, including Bugey 3, Gravelines 2, Dampierre 3, Blayais 2, Chinon B1, Tricastin 4, Gravelines 4, Dampierre 4 and Blayais 3 in 2024, and one more is currently in process (Cruas 3).

In 2021, the technical, economic and governance conditions for extending the depreciation period of 1,300MW-series plants were fulfilled, and it was also extended from 40 to 50 years.

The depreciation period of the 1,450MW-series units (the four reactors at Chooz and Civaux), which are much more recent, currently remains at 40 years as the conditions for extension are not yet fulfilled.

These depreciation periods take into account the date of recoupling with the network after the most recent 10-year inspection.

Two preparatory analysis processes are currently under way concerning the extension of power plants' operating lifetimes beyond 50 years:

- for the fifth 10-year inspections of the 900MW series, EDF sent its proposed 10-year Inspection Guidelines to the ASN in June 2023 and the ASN issued its position on those guidelines in November 2024. EDF's written response concerning the objectives of these inspections will be submitted in late 2026. At the end of the process, in mid-2028 the ASN will issue its position regarding a further 10-year extension for operation of the 900MW reactors, based on the conclusions of the generic phase of the fifth 10-year inspections.
- operating lifetime analysis: a "long-term" reflection on plant operation beyond 60 years was initiated in 2023 for all series. It is included in the timetable set by the ASN, which will state its position in late 2026 after expert assessment and examination phases in 2025 and 2026 respectively.

1.3.4.2 Nuclear provisions

The measurement of provisions for the back-end of the nuclear cycle, decommissioning and last cores is sensitive to assumptions concerning technical processes, costs, inflation rates, long-term discount rates, the depreciation period of plants currently in operation and disbursement schedules.

These parameters are therefore re-estimated at each closing date to ensure that the amounts accrued correspond to the best estimate of the costs eventually to be borne by the Group.

The Group considers that the assumptions used at 31 December 2024 are appropriate and justified. However, any future change in assumptions could have a significant impact on the Group's financial statements (see note 15).

For France, the main assumptions and sensitivity analyses relating to EDF's nuclear provisions are presented in note 15.1.1.5.

The calculation of provisions incorporates a level of risks and unknowns as appropriate to the operations concerned, together with uncertainty factors such as:

- changes in the regulations, particularly on safety, security and environmental protection, and financing of long-term nuclear expenses;
- changes in the regulatory decommissioning process and the time necessary for issuance of administrative authorisation;
- future methods for storing long-lived radioactive waste and provision of storage facilities by the French agency for radioactive waste management ANDRA (*Agence nationale pour la gestion des déchets radioactifs*);
- changes in the contractual terms for spent fuel management and more generally the outlook for Orano's long-term industrial strategy in line with French energy policy, the operating performance of its installations, and the level of associated costs and investments;
- changes in certain financial parameters such as discount rates and/or inflation rates;
- the useful life of nuclear facilities (calculation of decommissioning provisions for nuclear plants in operation is based on the depreciation period of the assets concerned, *i.e.* 50 years for 900MW-series and 1,300MW-series power plants and 40 years for 1,450MW-series power plants).

1.3.4.3 Pensions and other long-term and post-employment benefit obligations

The value of pensions and other long-term and post-employment benefit obligations is based on actuarial valuations that are sensitive to all the actuarial assumptions used, particularly concerning discount rates, inflation rates and wage increase rates.

The principal actuarial assumptions used to calculate these post-employment and long-term benefits at 31 December 2024 are presented in note 16. These assumptions are updated annually. The Group considers the actuarial assumptions used at 31 December 2024 appropriate and well-founded, but future changes in these assumptions could have a significant effect on the amount of the obligations and the Group's equity and net income. Sensitivity analyses are therefore presented in note 16.

1.3.4.4 Impairment of goodwill and long-term assets

Impairment tests on goodwill and long-term assets are sensitive to the macro-economic and segment assumptions used, particularly concerning changes in energy prices, and to medium-term financial forecasts (discount and inflation rates) and completion costs for assets under construction. The Group therefore revises the underlying estimates and assumptions based on regularly updated information.

These assumptions, which are specific to Group companies, are presented in note 10.7.

1.3.4.5 Financial instruments

In measuring the fair value of unlisted financial instruments (principally the debt and equity securities included in dedicated assets, and energy contracts), the Group uses valuation models based on a certain number of assumptions subject to unforeseeable developments.

1.3.4.6 Energy supplied but not yet measured and billed

As explained in note 5.1, the quantities of energy supplied but not yet measured and billed are calculated at the reporting date based on statistic consumption models and selling price estimates. Determination of the unbilled portion of sales revenues at the year-end is sensitive to the assumptions used to prepare these statistics and estimates.

1.3.4.7 Obligations concerning French public distribution concession assets to be replaced

In view of the specific nature of French public electricity distribution concessions, the Group has opted to present its obligations to replace concession assets in the balance sheet at a value based on the amount of contractual commitments as calculated and disclosed to the concession-granting authorities in the annual business reports (see note 11). Measurement of the concession liabilities concerning assets to be replaced is notably subject to unforeseeable developments in terms of costs, the useful life of assets and disbursement dates.

1.3.4.8 Deferred tax assets

The use of estimates and assumptions over recovery horizons is particularly important in the recognition of deferred tax assets.

1.3.4.9 Sustainability issues

The Group is concerned by the effects of climate, biodiversity, resource management and waste management issues. These effects of these environmental issues are an implicit factor in application of the methods and models used to estimate the values of certain accounting items (see note 20), particularly impairment of non-financial assets.

1.3.4.10 Other judgements and estimates

When there is no standard or interpretation applicable to a specific transaction, the Group exercises judgment to define and apply accounting methods that supply relevant and reliable information for preparation of its financial statements.

For the application of IFRS 10 and IFRS 11, the Group uses judgment to assess control or classify the type of partnership arrangement represented by a jointly-controlled entity. For example, EDF has set up "reserved" investment funds (FCPRs) for some of its funds set aside for secure financing of nuclear plant decommissioning expenses and long-term storage expenses for radioactive waste (see note 15.1.2.2). In view of the funds' characteristics, the prerogatives exercised by their managers and the procedures for defining the management strategies applicable to them, the Group does not consolidate these investment funds. They are consequently treated as debt securities, in application of IFRS 9.

Through its subsidiary Luminus, the Group has a 49% stake in Luminus Seraing 2.0 SA. The governance and contractual agreements give Luminus exclusive control over this entity, which is fully consolidated in application of IFRS 10.

Through its subsidiary EDF Energy, the Group has a 16.23% stake in Sizewell C (Holding) Ltd, the holding company for the Sizewell C project (49.44% at 31 December 2023). The Group exercises significant influence over this company, mainly through having representation on its Board, and supplying it with technical information and equipment that are essential for project development. Sizewell C (Holding) Ltd was previously fully consolidated and is now accounted for by the equity method from 31 December 2024 (see note 3.1.3).

1.3.5 Restrictions on the Group's ability to access and use assets or settle liabilities

The main restrictions that may limit the Group's ability to access or use its assets or settle its liabilities concern the following items:

- assets held to fund employee benefits (principally in France and the United Kingdom – see note 16) and expenses related to nuclear liabilities (principally in France – see note 15.1.2 – and the United Kingdom – see note 15.2);
- tangible and intangible assets and the related liabilities associated with concession agreements, whether or not they are subject to regulatory mechanisms (obligations to supply energy or energy-related services, rules governing investments, an obligation to return concession facilities at the end of the contract, amounts payable at the end of the contract, tariff constraints, etc.). These restrictions mainly apply to assets of this type in France (EDF, Enedis, Électricité de Strasbourg and Dalkia), and to a lesser extent in Italy (see note 10.5);
- the disposal of Group investments in certain subsidiaries may require authorisations from State bodies, particularly when they exercise a regulated activity or operate nuclear power plants (this is the case for EDF Nuclear Generation Ltd. in the United Kingdom and Taishan (TNPJVC) in China);
- prudential reserves established and measures taken as regards distribution capacity, so that the insurance subsidiaries will meet their prudential ratio requirements;
- the cash of certain entities that use financing arrangements stipulating that dividend distribution is subject to conditions concerning repayment of bank debt (or qualification for loans) and shareholders, or are subject to regulatory limitations in certain countries.

Certain shareholder agreements concerning companies controlled by the Group include clauses to protect minority shareholders, requiring approval from minority shareholders for certain particularly important decisions.

Finally, certain financing loans granted to Group entities contain early repayment clauses (see note 18.3.4), and certain items of cash and cash equivalents are subject to restrictions (see note 18.2).

Note 2 Summary of significant events

The main significant events and transactions for the Group **in 2024** are the following (references indicate the relevant notes in the 2024 consolidated financial statements):

- **Nuclear developments:**
  - Flamanville 3 EPR: Following issuance on 8 May 2024 of the French Nuclear Safety Authority's (ASN's) authorisation for commissioning of the Flamanville EPR, EDF's teams loaded 241 nuclear fuel assemblies into the reactor vessel between 8 and 15 May. On 2 September 2024, the ASN issued approval to proceed with the first nuclear reaction for the Flamanville 3 reactor. EDF carried out a large number of technical tests and brought the facilities into the required conditions allowing the start of nuclear fission. Its teams then conducted a programme of tests and controls for a gradual reactor ramp-up, and the Flamanville 3 reactor was coupled to France's national network on 21 December 2024. Following this initial coupling, testing and grid connection/disconnection phases will continue for several months, under the supervision of the ASN, until the reactor reaches 100% power (see the Group press releases of 8 May, 2 September, and 21 December 2024 and note 10.3);
  - Nuclear power generation in France totalled 361.7TWh confirming the revised estimate announced by the Group on 11 December 2024 (upward adjustment from 340-360TWh to 358-364TWh) (see the Group press release of 11 December 2024);
  - EDF completed the acquisition of GE Steam Power's nuclear activities (now renamed Arabelle Solutions) on 31 May 2024 (see the Group press release of 31 May 2024 and note 3.1.2).
- **Renewable energies:**
  - EDF Renewables and its partners inaugurated the Fécamp offshore wind farm, with capacity of around 500MW (see the EDF Renewables press release of 15 May 2024);
  - EDF Renewables announced the construction of 1.2GW of renewable electricity production capacity in South Africa, consisting of 763MW of wind power, 355MW of solar power and 75MW of storage, for €1.65 billion. The various installations will be commissioned progressively between 2024 and 2026 (see the EDF Renewables press release of 21 May 2024);
  - CEME 1, Chile's largest solar power plant, was inaugurated on 8 July 2024. This 480MW solar plant will be operated by Generadora Metropolitana, a joint venture between EDF and the Chilean company AME (see the Group press release of 9 July 2024);
  - EDF Renewables announced the commissioning of its largest wind farm in South America, the Serra do Seridó farm located in north-east Brazil which comprises 85 wind turbines with installed capacity of 480MW (see the EDF Renewables press release of 18 July 2024);
  - EDF Renewables acquired its first offshore wind power project in South Korea, in the province of Yeonggwang. It will now continue to develop the project, which has maximum capacity of 1.5GW (see the EDF Renewables press release of 3 September 2024);
  - EDF started construction work for the Ricanto bioenergy plant in Corsica, consisting of 8 new-generation engines with total output of 130MW. This plant will run on liquid biomass and is to replace the Vazzio oil-fired power station (see the Group press release of 22 November 2024);
  - EDF Renewables announced that the 177MW Morris Ridge solar power plant in the United States had been commissioned (see the EDF Renewables press release of 20 December 2024).

- **Financing operations:**

The Group undertook several bond issues during 2024 totalling €6,672 million, including €3,329 million of green bonds (see note 18.3.2). On 5 July 2024 EDF redeemed the hybrid notes issued on 4 October 2018 with nominal value of €1,250 million. On 10 September 2024 EDF announced that it intended to exercise its redemption option on 29 January 2025 for the notes issued on 29 January 2013 with nominal value of €1,250 million, and this redemption was carried out on 29 January 2025 (see note 14.3).

- **Corporate plan:**

The Group has presented its corporate plan, "*Ambitions 2035*", to the Board of Directors: the objective is to build the electricity system of the future to serve its customers. Electricity is set to double its share of the worldwide energy mix by 2050 to meet decarbonisation targets, and flexibility solutions are being developed to cope with the intermittence of renewable energies and meet consumers' needs. This plan will advance decarbonisation in France and the other countries where the Group has operations. EDF is consolidating its position as a leader in the European energy sector for the 2035 horizon, wishing to lead the new electric revolution and build the electricity system of the future to provide its customers with low-carbon, available and competitively-priced electricity.

Note 3 Scope of consolidation

ACCOUNTING PRINCIPLES AND METHODS

CONTROLLED ENTITIES

Subsidiaries are companies in which the Group exercises exclusive control and are fully consolidated. The Group controls an entity when the three following conditions are fulfilled:

- it holds power over the entity;
- it is exposed, or has rights, to variable returns from its involvement with the entity;
- it has the ability to use its power to affect the amount of the investor's returns.

The Group considers all facts and circumstances when assessing control. All substantive potential voting rights exercisable, including by another party, are also taken into consideration.

INVESTMENTS IN ASSOCIATES AND JOINT VENTURES

An associate is an entity in which the Group exercises significant influence on financial and operational policies without having exclusive or joint control. Significant influence is presumed to exist when the Group's investment is at least 20%.

A joint venture is a partnership in which the parties (joint venturers) that exercise joint control over the entity have rights to the entity's net assets. Joint control is the contractually agreed sharing of control of an entity operated jointly by a limited number of partners or shareholders, such that the financial and operational policies result from unanimous consent of the parties.

Investments in associates and joint ventures are accounted for by the equity method. They are carried in the balance sheet at historical cost, adjusted for the share in net assets generated after the acquisition, less any impairment. The share in the net income for the period is reported in "Share in net income of associates and joint ventures" in the income statement (see note 12).

INVESTMENTS IN JOINT OPERATIONS

A joint operation is a joint arrangement in which the parties (joint operators) that exercise joint control over the entity have direct rights to its assets, and obligations for its liabilities. The Group, as an operator in a joint operation, reports the assets and liabilities and income and expenses related to its investment line by line.

The Group's principal joint operations are the LNG optimisation activities of JERA Global Markets, co-owned by EDF Trading, and the gas storage operator activity carried out by Friedeburger Speicherbetriebsgesellschaft mbH (FSG).

BUSINESS COMBINATIONS

In application of IFRS 3 business combinations are measured and recognised under the following principles:

- at the date of acquisition, the identifiable assets acquired and liabilities assumed, measured at fair value, and any non-controlling interests in the company acquired (minority interests) are recorded separately from goodwill;
- non-controlling interests may be valued either at fair value (full goodwill method) or their share in the fair value of the net assets of the acquired company (partial goodwill method). The decision is made individually for each transaction;
- any acquisition or disposal of an investment in a subsidiary that does not affect control is considered as a transaction between shareholders and must be recorded directly in equity;
- if additional interests are acquired in a joint venture, joint operation or associate without resulting in acquisition of control, the value of the previously-acquired assets and liabilities remains unchanged in the consolidated financial statements;
- if control is acquired in stages, the cost of the business combination includes the fair value, at the date control is acquired, of the purchaser's previously-held interest in the acquired company;
- related costs directly attributable to an acquisition leading to control are treated as expenses for the periods in which they were incurred, except for issuance costs for debt securities or equity instruments, which must be recorded in compliance with IAS 32 and IFRS 9;
- IFRS 3 does not apply to common control business combinations, which are examined on a case-by-case basis to determine the appropriate accounting treatment;
- commitments given by the Group to purchase minority interests in Group-controlled companies are included in liabilities. The differential between the value of the non-controlling interests and the liability corresponding to the commitment is recorded in equity.

3.1 Changes in the scope of consolidation

3.1.1 Changes in the scope of consolidation

The following changes took place in the Group's scope of consolidation during 2024:

- acquisition on 25 January 2024 of the 5% of Framatome held by the minority shareholder Assystem, raising EDF's investment in the Framatome Group to 80.5% and in Edvance to 96.1%;
- acquisition on 31 January 2024 of a 50% share in Nordic Logistics (portfolio of warehouses in Sweden) for the purposes of the Group's dedicated asset management. This investment is accounted for by the equity method in the consolidated financial statements;
- acquisition on 8 February 2024, as part of a consortium, of a 40.05% stake in the Norwegian electric ferry operator Fjord1, for the purposes of the Group's dedicated asset management. This investment is accounted for by the equity method in the consolidated financial statements;
- acquisition on 31 May 2024 of GE Steam Power's nuclear activities. This subgroup is fully consolidated under the name Arabelle Solutions, and belongs to the Group's "Industry and Services" segment (see note 3.1.2);
- acquisition on 23 September 2024 of 50% of the shares of the real estate investment fund (OPPCI) Parcolog Invest (a portfolio of logistics warehouses in France) for the purposes of the Group's dedicated asset management. This investment is accounted for by the equity method in the consolidated financial statements;
- acquisition on 6 December 2024 of 49% of the shares of the real estate partnership (SCI) Encore+ Bergère which owns an office building in Paris, for the purposes of the Group's dedicated asset management. This investment is accounted for by the equity method in the consolidated financial statements;
- acquisition on 19 December 2024, as part of a consortium, of a 40.1% stake in the Austrian telecoms tower operator OnTower, now renamed Optimus Tower, for the purposes of the Group's dedicated asset management. This investment is accounted for by the equity method in the consolidated financial statements.

At 31 December 2023 Sizewell C (Holding) Ltd, which the Group owned 49.4%, was controlled by the Group and fully consolidated. Certain events of the second half of 2024 have led the Group to change the consolidation method for this company, which is accounted for by the equity method from 31 December 2024 (see note 3.1.3).

In 2023, there were no changes with a significant impact in the scope of consolidation. The following disposals took place:

- sale of the 50% investment in the Sloe CCGT plant in the Netherlands on 25 January 2023;
- sale of 100% of Suir Engineering by Imtech, a Dalkia subsidiary in the United Kingdom on 1 February 2023;
- sale of Edison's 11.25% stake in the North Reggane gas field licence in Algeria on 12 October 2023.

Changes in the scope of consolidation expected after 31 December 2024

On 25 July 2024, Edison signed an agreement for the sale of its gas storage assets (Stoccaggio) to Snam SpA. The assets and liabilities concerned have been classified as assets held for sale and related liabilities since 31 December 2023 (see note 3.2).

On 9 December 2024, Edison, which owns 50% of Elpedison BV, a company that is accounted for by the equity method in the consolidated financial statements, accepted a purchase offer from HELLENiQ Energy Holdings S.A.. Elpedison operates two natural gas-powered plants in Thisvi and Thessaloniki with combined capacity of 820MW. The sale will be completed when the purchase contract is signed by both parties (see the Edison press release of 9 December 2024). The investment in Elpedison BV remains accounted for by the equity method in the consolidated financial statements.

3.1.2 Acquisition of the Arabelle Solutions subgroup

Following the binding agreement signed on 4 November 2022 with General Electric and fulfilment of all the required conditions, including issuance of the necessary regulatory authorisations, acquisition of the activities of GE Vernova relating to the conventional islands of nuclear plants (formerly GE Steam Power and now renamed Arabelle Solutions) was finalised on 31 May 2024.

These activities include the supply of conventional island equipment for new nuclear power plants, including Arabelle steam turbines, as well as maintenance and upgrading of existing nuclear power plants in all regions other than the Americas. These steam turbines can be installed in European pressurised reactors (EPR and EPR 2) and small modular reactors (SMR). This acquisition strengthens the EDF group's conventional island technologies and skills, which are essential for the durability of the existing nuclear fleet and future projects, and brings the Group additional key technologies and skills for the nuclear industry and European energy security. These nuclear activities employ a total 3,300 people mostly located in France, the United Kingdom and India. This investment is fully consolidated in the Group's consolidated financial statements as of 31 May 2024, in the "Industry and Services" segment.

Arabelle Solutions' contribution to the consolidated financial statements at 31 December 2024 amount to €255 million in sales, €(120) million in Operating profit before depreciation and amortisation, €(117) million in the net income and €(266) million in the net indebtedness.

The Group has established the provisional purchase price allocation y estimating the fair value of the assets acquired and liabilities transferred at the date of the acquisition of control, based on the work of an independent assessor. However, this work and the final accounts are not expected to be finalised until the first half of 2025, and so the accounting recognition of the operation at 31 December 2024 is still provisional. In accordance with IFRS 3, the Group has 12 months to finalise the valuations.

The provisional purchase price is €904 million, including €309 million for cash acquired. This price will be adjusted on the basis of audited post-acquisition accounts and contractual price adjustment clauses.

The provisional acquisition balance sheet at the transaction date is presented below, before elimination of positions with Group entities, which mainly concern trade receivables, deferred income and advances received.

ASSETS (in millions of euros)	Provisional Acquisition Balance sheet
Property, plant and equipment and intangible assets	722
Investments in associates	43
Financial assets and other non-current assets	38
Deferred tax assets	151
Non-current assets	**954**
Inventories	176
Trade receivables	340
Financial assets and other current assets	254
Current tax assets	23
Cash and cash equivalents	309
Current assets	**1,102**
TOTAL ASSETS	**2,056**

EQUITY AND LIABILITIES (in millions of euros)	Provisional Acquisition Balance sheet
Equity (EDF share)	391
Equity (non-controlling interests)	1
Total equity	**392**
Non-current provisions	112
Financial liabilities and other non-current liabilities[1]	172
Deferred tax liabilities	182
Non-current liabilities	**466**
Current provisions	27
Trade payables	209
Financial liabilities and other non-current liabilities[1]	956
Current tax liabilities	6
Current liabilities	**1,198**
TOTAL EQUITY AND LIABILITIES	**2,056**

(1) Including €827 million of contract liabilities (current portion: €684 million).

The principal statements resulting from fair value adjustments of the assets acquired and liabilities transferred concern the following items:

- Intangible assets: €390 million, comprising:
  - €38 million for the Arabelle Solutions brand, valued by the royalty relief method. This brand is considered to have an indefinite useful life,
  - €255 million for customer relations, valued by the excess earnings method. The useful life of these customer relations was determined for each business unit, and the average is approximately 10 years,
  - €97 million for technology, valued by the royalty relief method. The useful life of this technology was determined for each business unit, and the average is approximately 15 years.
- Property, plant and equipment: €176 million, principally at the Belfort site in France and the Sanand site in India:
  - €94 million for land and buildings, valued by reference to market price,
  - €82 million for other installations, equipment and other assets valued by the replacement cost method.
- Net deferred taxes: €160 million: the deferred taxes recognised mainly correspond to tax effects associated with fair value adjustments applied for the purposes of the opening balance sheet (€566 million before tax).

The provisional goodwill amounts to €513 million, corresponding to the estimated future economic benefits expected from this acquisition, particularly:

- Arabelle Solutions' pre-existing and future customer relations with the EDF group;
- future external customer relations;
- the future technological potential of the businesses acquired;
- Arabelle Solutions' human capital.

Details of the provisional goodwill are as follows:

(in millions of euros)	
Net assets acquired	391
Provisional purchase price	904
PROVISIONAL GOODWILL	**513**

3.1.3 Loss of control over Sizewell C (Holding) Limited

Sizewell C is a project to build a 3.3GW two-EPR nuclear power plant at Sizewell in Suffolk, England. This project is founded on a strategy of replication of Hinkley Point C.

The Sizewell C project was designated in November 2022 as eligible to benefit from the Regulated Asset Base (RAB) funding model, but the decision to build the plant still depends on the Final Investment Decision (FID).

The UK government has been a shareholder in the project since 29 November 2022. EDF's project funding commitment up to the FID date is subject to a limit that was reached in late 2023, and consequently the UK government has been the sole funder of the project since then.

At 31 December 2024, the UK Government's share of the project is 83.77%, (50.56% at 31 December 2023), with EDF owning the remaining 16.23% (49.44% at 31 December 2023).

At 31 December 2024, EDF no longer controls Sizewell C at that date, due to the following developments:

- with the gradual decrease in its ownership percentage, EDF has lost rights in the governance of Sizewell C. Its current stake is close to the Group's target investment at the FID date;
- the UK government has made funding available for the project up to mid-2026, demonstrating its support for the project;
- a Leadership team (independent of EDF) has been established for Sizewell C, with the necessary skills to make decisions and head the plant's construction.

From 31 December 2024, Sizewell C (Holding) Ltd is therefore accounted for by the equity method, since the Group now exercises significant influence over the company (see note 1.3.4.10).

The impacts on the balance sheet of the loss of control over Sizewell C (Holding) Ltd are as follows:

(in millions of euros)	Notes	31/12/2024
Goodwill	10.1	1,417
Property, plant and equipment and other assets	10.3	3,686
TOTAL ASSETS		**5,103**
Equity	14	4,487
Non-controlling interests	*14*	*4,486*
Other liabilities		616
TOTAL LIABILITIES		**5,103**

The Group's investment in Sizewell C (Holding) Ltd is accounted for by the equity method at 31 December 2024 at the value of €652 million (see note 12).

The impact of the change of consolidation method for Sizewell C (Holding) Ltd on the Group's income statement amounts to €(63) million and is presented in "Other income and expenses" (see note 7). It has also led to an increase in off-balance sheet operating sale commitments received, due to €1,591 million of contracts signed in relation to the project taking effect (see note 22.2.1.1).

3.2 Assets held for sale and related liabilities

ACCOUNTING PRINCIPLES AND METHODS

Assets that qualify as held for sale and related liabilities are disclosed separately from other assets and liabilities in the balance sheet.

When assets or groups of assets are classified as discontinued operations, income and expenses relating to these discontinued operations are disclosed in a single net amount after taxes in the income statement and net changes in cash and cash equivalents of discontinued operations are also reported separately in the cash flow statement.

Impairment is booked when the realisable value is lower than the net book value.

In accordance with IFRS 5:

- for assets or groups of assets that are identified and classified as held for sale during the year, there is no change of presentation or retrospective restatement in prior year balance sheets;
- assets or groups of assets that qualify as discontinued operations are restated in the income statement and the cash flow statement for the prior periods presented in the financial statements.

At 31 December 2024, assets and liabilities held for sale mainly comprise Edison's gas storage assets in Italy (Stoccaggio). On 25 July 2024 Edison signed an agreement to sell these assets to Snam SpA (see the Edison press release of 25 July 2024).

The disposal of the EDF Energy gas storage assets in the United Kingdom, which were classified as assets and liabilities held for sale at 31 December 2023, was completed in March 2024, with no significant impact on the Group's profit and loss or indebtedness.

In application of IFRS 5, details of assets and liabilities held for sale are shown below:

(in millions of euros)	31/12/2024	31/12/2023
ASSETS HELD FOR SALE	**589**	**596**
Property, plant and equipment and intangible assets	417	440
Other current assets[1]	172	156
LIABILITIES RELATED TO ASSETS HELD FOR SALE	**122**	**147**
Provisions and other non-current liabilities	100	137
Other current liabilities[1]	22	10

(1) Other current assets and liabilities comprise components of working capital.

3.3 Scope of consolidation at 31 December 2024

The Group's business sectors are defined as follows:

- **"Generation/Supply" (G)**: generation of nuclear energy, thermal energy, and renewable energies (wind, solar, hydro,...) and energy sales to industry, local authorities, small businesses and private customers;
- **"Distribution" (D)**: management of the low and medium-voltage public electricity distribution networks. This sector includes Enedis and Électricité de Strasbourg's distribution activities, and EDF's island activities;
- **"Services" (S)**: services and production of equipment and fuel for nuclear reactors and energy services (district heating, thermal energy services, etc.) for industry and local authorities. This sector includes Framatome, Arabelle Solutions and Dalkia;
- **"Other activities" (A)**: this activity includes the other energy services, EDF Invest's holding companies and entities that are classified as dedicated assets. This sector also includes trading activities.

The companies and subgroups included in the EDF group consolidation are listed below.

3.3.1 Fully consolidated companies

		Percentage ownership at 31/12/24	Percentage ownership at 31/12/2023	Business sector
France - Generation and Supply				
Electricité de France – Parent Company		100.00	100.00	G, D, A
Group Support Services (G2S)		100.00	100.00	A
Edvance		96.10	95.10	A
NUWARD		100.00	100.00	A
Cyclife		100.00	100.00	A
IZI Confort		100.00	100.00	A
Sowee[1]		-	100.00	A
IZI Solutions Durables (formerly IZI Solutions)		100.00	100.00	A
IZI Solutions Renov[2]		-	100.00	A
IZIVIA		100.00	100.00	A
EDF Pulse Holding		100.00	100.00	A
Hynamics		100.00	100.00	G
Agregio solutions		100.00	100.00	A
Energy2Market (E2M)		100.00	100.00	A
EDF Solutions Solaires (formerly EDF ENR)		100.00	100.00	A
Immo C47		51.00	51.00	A
Other holding companies (EDF Invest)		100.00	100.00	A
France - Regulated activities				
Enedis		100.00	100.00	D
Électricité de Strasbourg		88.64	88.64	G, D
EDF Production Electrique Insulaire (EDF PEI)		100.00	100.00	G
Industry and Services				
Framatome	France	80.50	75.50	S
Arabelle Solutions[3]	France	100.00	n.a.	S
Arabelle Solutions SAS (formerly Société C109)	France	100.00	n.a.	S
Arabelle Solutions Holding UK	United Kingdom	100.00	n.a.	S
United Kingdom				
EDF Energy Holdings Limited (EDF Energy)		100.00	100.00	G, A
EDF Energy UK Ltd.		100.00	100.00	A
Italy				
Edison SpA (Edison)		97.17	97.17	G, A
Transalpina di Energia SpA (TdE SpA)		100.00	100.00	A
Other international				
EDF International SAS	France	100.00	100.00	A
EDF Belgium SA	Belgium	100.00	100.00	G
Luminus SA	Belgium	68.63	68.63	G, A
EDF Brasil Holding[4]	Brazil	100.00	n.a.	G, A
EDF Norte Fluminense SA	Brazil	100.00	100.00	G
EDF (China) Holding Ltd.	China	100.00	100.00	A
EDF Inc.	USA	100.00	100.00	A
Mekong Energy Company Ltd. (MECO)	Vietnam	56.25	56.25	G
Lingbao	Chine	65.00	65.00	G
EDF Andes Spa	Chili	100.00	100.00	G

(1) *Sowee was merged into EDF SA on October 31, 2024.*

(2) *IZI Solutions Rénov was merged into the company IZI Solutions Durables on May 31, 2024.*

(3) *Arabelle Solutions corresponds to the nuclear activities of GE Steam Power acquired on May 31, 2024.*

(4) *Some subsidiaries previously owned by EDF Norte Fluminense (including Compagnie Énergétique de Sinop, a 51%-owned company accounted for by the equity method) are now owned by EDF Brasil Holding.*

		Percentage ownership at 31/12/2024	Percentage ownership at 31/12/2023	Business sector
EDF Renewables				
EDF Renewables	France	100.00	100.00	G, A
Dalkia				
Dalkia	France	99.94	99.94	S
Other activities				
EDF Développement Environnement SA	France	100.00	100.00	A
EDF IMMO and real estate subsidiaries	France	100.00	100.00	A
Société C3	France	100.00	100.00	A
EDF Holding SAS	France	100.00	100.00	A
Citégestion	France	100.00	100.00	A
EDF Trading Ltd.	United Kingdom	100.00	100.00	A
Wagram Insurance Company DAC	Ireland	100.00	100.00	A
EDF Investissements Groupe SA	Belgium	86.22	92.46	A
Océane Re	Luxembourg	99.98	99.98	A
EDF Gas Deutschland GmbH	Germany	100.00	100.00	A

3.3.2 Joint operations

Other activities		Percentage ownership at 31/12/2024	Percentage ownership at 31/12/2023	Business sector
Friedeburger Speicherbetriebsgesellschaft GmbH (Crystal)	Germany	50.00	50.00	A

3.3.3 Companies accounted for by the equity method

France - Generation and Supply		Percentage ownership at 31/12/2024	Percentage ownership at 31/12/2023	Business sector
Domofinance	France	45.00	45.00	A
CTE (EDF Invest)[1]	France	50.10	50.10	A
Elisandra IV (Madrileña Red de Gas Holding) (EDF Invest)	Spain	20.00	20.00	A
Central Sicaf (EDF Invest)	Italy	24.50	24.50	A
Thyssengas (EDF Invest)	Germany	-	50.00	A
Aéroports Côte d'Azur (EDF Invest)	France	19.40	19.40	A
Ecowest (EDF Invest)	France	50.00	50.00	A
Fallago Rig (EDF Invest)	United Kingdom	20.00	20.00	G
Fenland Wind Farm (EDF Invest)	United Kingdom	20.00	20.00	G
Catalinar Solar (EDF Invest)	USA	50.00	50.00	G
Switch (EDF Invest)	USA	50.00	50.00	G
Red Pine (EDF Invest)	USA	50.00	50.00	G
Energy Assets Group (EDF Invest)	United Kingdom	40.00	40.00	A
Valentine Solar (EDF Invest)	USA	50.00	50.00	G
Glacier's Edge (EDF Invest)	USA	50.00	50.00	G
Nicolas Riou (EDF Invest)	Canada	50.00	50.00	G
Clariane & Partenaires Immobilier 1 & 2 (EDF Invest)	France	24.50	24.50	A
Issy Shift (EDF Invest)	France	33.33	33.33	A
Holding d'Infrastructures Numériques	France	33.33	n.a.	A
Orange Concessions (EDF Invest)	France	16.67	16.67	A
92 France (EDF Invest)	France	50.00	50.00	A
Memphis (EDF Invest)	France	50.00	50.00	A
Nordic Logistic (EDF Invest)	Sweden	50.00	n.a.	A
Fjord1 (EDF Invest)	Norway	40.05	n.a.	A
Parcolog Invest (EDF Invest)	France	50.00	n.a.	A
Encore + Bergère (EDF Invest)	France	49.00	n.a.	A
Optimus Tower Holding (EDF Invest)	Austria	40.10	n.a.	A
Other international				
Shandong Zhonghua Power Company, Ltd.	China	19.60	19.60	G
Datang Sanmenxia Power Generation Co., Ltd.	China	35.00	35.00	G
Taishan Nuclear Power Joint Venture Company Ltd. (TNPJVC)	China	30.00	30.00	G
Jiangxi Datang International Fuzhou Power Generation Company Ltd.	China	49.00	49.00	G
Nam Theun 2 Power Company (NTPC) (EDF Invest)	Laos	40.00	40.00	G
Generadora Metropolitan (GM)	Chile	50.00	50.00	G
Nachtigal Hydro Power Company	Cameroon	40.00	40.00	G

(1) Coentreprise de Transport d'Electricité or CTE, the company holding 100% of RTE.

3.3.4 Companies in which the EDF group's voting rights differ from its percentage ownership

The percentage of voting rights, which is decisive for assessing control, differs from the Group's percentage ownership for the following entities:

	Percentage ownership at 31/12/2024	Percentage of voting rights held at 31/12/2024
Edison SpA	97.17	100.00
EDF Investissements Groupe SA	86.22	50.00

Note 4 Segment reporting

4.1 Reporting by operating segment

ACCOUNTING PRINCIPLES AND METHODS

Segment reporting presentation complies with IFRS 8, "Operating segments".

Segment reporting is presented before inter-segment eliminations. Inter-segment transactions take place at market prices.

In accordance with IFRS 8, the breakdown used by the EDF group corresponds to the operating segments as regularly reviewed by the Management Committee (the Group's chief operating decision-maker).

The Group's segments are:

- **"France - Generation and Supply"**: EDF SA's energy production and sales activities. This segment also includes entities operating on the downstream sectors (B2B and B2C, aggregation) and all EDF Invest's shareholdings;
- **"France - Regulated activities"**: Enedis and Électricité de Strasbourg's distribution activities, and EDF's island activities;
- **"Industry and Services"**: the entities of the Framatome and Arabelle Solutions subgroups;
- **"United Kingdom"**: the entities of the EDF Energy subgroup;
- **"Italy"**: the entities of the Edison subgroup and TdE SpA;
- **"Other international"**: EDF International and the entities located in continental Europe, the US, Latin America and Asia;
- **"EDF Renewables"**: the entities of the EDF Renewables subgroup;
- **"Dalkia"**: the entities of the Dalkia subgroup;
- **"Other activities"**: comprising in particular EDF Trading and EDF Investissements Groupe.

The "Framatome" segment was renamed "Industry and Services" following the Group's acquisition of Arabelle Solutions on 31 May 2024 (see note 3.1.2). This segment comprises industrial activities relating to equipment manufacturing and provision of services for the nuclear activities of Framatome and Arabelle Solutions.

No segments have been merged.

4.1.1 At 31 December 2024

(in millions of euros)	France - Generation and Supply	France - Regulated activities	Industry and Services[1]	United Kingdom	Italy	Other inter-national	EDF Renewables	Dalkia	Other activities[2]	Inter-segment eliminations	Total
Income statement:											
External sales	*47,991*	*20,037*	*2,525*	*17,477*	*15,197*	*4,280*	*1,534*	*5,323*	*4,326*	-	*118,690*
Inter-segment sales	*2,975*	*34*	*2,648*	*21*	*26*	*316*	*620*	*695*	*522*	*(7,857)*	-
Total sales	50,966	20,071	5,173	17,498	15,223	4,596	2,154	6,018	4,848	(7,857)	118,690
Other external expenses and personnel expenses	(10,250)	(5,413)	(4,131)	(1,943)	(1,433)	(1,005)	(1,392)	(3,603)	(239)	1,695	(27,714)
Operating profit before depreciation and amortisation	20,950	5,576	499	3,485	1,762	835	1,387	425	1,985	(381)	36,523
Operating profit	11,698	1,823	92	1,283	531	557	506	45	2,149	(357)	18,327
Balance sheet:											
Goodwill	127	223	2,023	3,596	142	56	195	634	112	-	7,108
Intangible assets and property, plant and equipment	67,128	74,265	3,917	25,829	5,699	2,542	13,368	2,644	554	-	195,946
Investments in intangible assets and property, plant and equipment	7,709	5,803	522	7,152	596	413	2,068	478	38	-	24,779
Total assets	214,091	76,443	7,296	18,781	4,577	20,345	14,852	5,429	3,391	-	365,205
Loans and other financial liabilities	91,049	7,280	928	8,115	1,417	23,031	13,515	2,157	1,150	(66,840)	81,802

(1) The "Industry and Services" segment comprises the activities of the Framatome and Arabelle Solutions subgroups. In the case of Arabelle Solutions, the contribution to the Group's income statement corresponds to 7 months of business since its first consolidation at 31 May 2024 (see note 3.1.2).

(2) Sales by the "Other activities" segment include the €1,908 million trading margin realised by EDF Trading.

4.1.2 At 31 December 2023

(in millions of euros)	France - Generation and Supply	France - Regulated activities	Framatome	United Kingdom	Italy	Other inter-national	EDF Renewables	Dalkia	Other activities[1]	Inter-segment eliminations	Total
Income statement:											
External sales	*60,313*	*19,370*	*2,010*	*21,094*	*17,745*	*5,168*	*1,338*	*5,733*	*6,944*	-	*139,715*
Inter-segment sales	*3,931*	*43*	*2,056*	*38*	*42*	*415*	*693*	*662*	*733*	*(8,613)*	-
Total sales	64,244	19,413	4,066	21,132	17,787	5,583	2,031	6,395	7,677	(8,613)	139,715
Other external expenses and personnel expenses	(9,589)	(5,181)	(3,259)	(1,767)	(1,416)	(967)	(1,292)	(3,595)	(365)	1,468	(25,963)
Operating profit before depreciation and amortisation	24,677	3,707	597	3,967	1,855	872	932	407	3,255	(342)	39,927
Operating profit	18,651	13	238	(9,823)	789	245	206	35	3,162	(342)	13,174
Balance sheet:											
Goodwill	130	223	1,475	4,901	150	51	197	626	142	-	7,895
Intangible assets and property, plant and equipment	64,499	71,353	2,953	21,593	5,721	2,495	13,060	2,429	456	-	184,559
Investments in intangible assets and property, plant and equipment	6,584	5,217	341	5,529	520	315	2,124	366	125	-	21,021
Total assets	164,285	76,381	7,280	46,240	10,067	6,917	18,942	6,197	28,503	-	364,812
Loans and other financial liabilities	96,129	6,152	296	7,984	1,780	18,754	11,603	2,086	2,795	(60,932)	86,647

(1) Sales by the "Other activities" segment include the €3,666 million trading margin realised by EDF Trading

4.2 Sales to external customers by geographic area

(in millions of euros)	2024	2023
France	70,346	81,153
United Kingdom	22,261	28,987
Italy	13,129	15,463
Belgium	3,659	4,589
Other	9,295	9,523
Europe	*5,462*	*6,042*
Americas	*2,626*	*2,438*
Asia	*911*	*833*
Africa	*282*	*204*
CHIFFRE D'AFFAIRES	**118,690**	**139,715**

Note 5 Operating profit before depreciation and amortisation

(in millions of euros)	Notes	2024	2023
Sales	**5.1**	**118,690**	**139,715**
Fuel and energy purchases	**5.2**	**(54,217)**	**(80,989)**
External services		(19,754)	(17,281)
Other purchases (excluding external services, fuel and energy)		(4,958)	(4,550)
Change in inventories and capitalised production		13,579	11,041
(Increase)/decrease in provisions on other external expenses		335	297
Other external expenses[1]		**(10,798)**	**(10,493)**
Personnel expenses	**5.3**	**(16,916)**	**(15,470)**
Taxes other than income taxes	**5.4**	**(4,142)**	**(4,064)**
Other operating income and expenses	**5.5**	**3,906**	**11,228**
OPERATING PROFIT BEFORE DEPRECIATION AND AMORTISATION		**36,523**	**39,927**

(1) After elimination of foreign exchange effects and changes in the scope of consolidation, other external expenses increased by 0.5% compared to 2023.

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's operating profit before depreciation and amortisation showed an organic variation of €(3,354) million (-8.4%). This decrease is principally explained by the lower contributions of the **France - Generation and Supply** segment (€(3,727) million), **Other activities** segment (€(1,269) million) and the **United Kingdom** segment (€(595) million), whereas there was a growth in the contributions of the **France - Regulated activities** segment (€1,869 million) and the **EDF Renewables** segment (€456 million).

In the **France - Generation and Supply** segment, there was an organic decrease of €(3,727) million in the operating profit before depreciation and amortisation despite the higher output of nuclear power (+41.3TWh) and hydropower (+11.8TWh) in 2024, as market prices declined.

The lower EBITDA in the **Other activities** segment (down by €(1,269) million) is mainly explained by the Trading activity (€(1,621) million) which was affected by falling volatility and market prices. EBITDA for the gas activities was up by +€341 million, primarily as a result of higher realised margins on the storage activity.

The €(595) million organic decrease in the **United Kingdom** segment's operating profit before depreciation and amortisation principally results from a downturn in margins in the residential and small business customer segments, and the impact of falling market prices.

In the **France - Regulated activities** segment, the organic increase of €1,869 million in operating profit before depreciation and amortisation is principally explained by a positive price effect, due to lower market prices for purchases to cover network losses compared to 2023, and the favourable effect of the increase in the TURPE network access tariff at 1 November 2024.

Arabelle Solutions, which has been consolidated since 31 May 2024, generated operating profit before depreciation and amortisation of €(120) million in the **Industry and Services** segment.

5.1 Sales

ACCOUNTING PRINCIPLES AND METHODS

Sales essentially comprise income from energy sales (to final customers and as part of trading activities), delivery services related to use of the transmission and distribution network, and connection services. They also comprise income from other services and deliveries of goods, mainly engineering, operating and maintenance services, services related to energy sales, design, delivery and commissioning services for power plants or their major components.

Income on energy sales is recognised as deliveries are made to customers.

The quantities of energy supplied but not yet measured and billed are calculated using consumption statistics and selling price estimates, and are recognised in sales on that basis.

Some Group entities conduct optimisation operations on the wholesale gas and electricity markets, to balance supply and demand in compliance with the Group's risk management policy. The sales concerned are recorded net of purchases. When an entity has a net short position in euros, it is included in "energy sales". A net long position in euros is included in "fuel and energy purchases".

In accordance with IFRS 15 on the principal/agent distinction, energy delivery services are recognised in sales upon delivery to the customer in the following two cases:

- when these services are not distinct from the energy supply service;
- when they are distinct from the energy supply service and the entity concerned is acting as a principal, notably because it bears the risk of execution of the service or is able to set the tariff for delivery to the final customer.

Income from connections to the French electricity network is recognised in sales at the date when the connection becomes operational.

The sales revenue from other services or deliveries of goods is recognised over time in the three following cases, based on a contractual analysis:

- when the customer simultaneously receives and consumes all the benefits generated as the service is performed by the Group (this is notably the case of operations and maintenance services);
- when the good or service to be supplied cannot be reallocated to another customer, and the Group is entitled to payment for the work done so far (this is notably the case of certain design, delivery and commissioning activities for power plants or major components designed specifically for a customer);
- when the service creates or enhances an asset (good or service) for which the customer acquires control as performance of the service progresses.

This notably applies to certain design, delivery and commissioning activities for power plants or major components designed specifically for a customer (particularly by Framatome and Arabelle Solutions).

TRADING ACTIVITIES

Sales revenues include the margin realised, essentially by EDF Trading, on energy market trading operations that fall within the scope of IFRS 9 and are recognised at fair value.

EDF Trading is the Group's trading entity. It operates on the markets on behalf of other Group entities and through trading activity for its own purposes or for non-Group entities, backed by the Group's industrial assets and within its assigned risk mandate.

It operates on organised or OTC markets in derivatives such as futures, forwards, swaps and options.

EDF Trading undertakes purchase and sale operations on the wholesale markets in Europe and North America for:

- electricity and fuel (principally gas);
- CO_2 emission permits, weather derivatives and other environmental instruments;
- capacity guarantees for electricity production.

For LNG, optimisation activities (recognised as a joint operation) and trading activities (recognised as a joint venture) are carried out through JERA Global Markets, which is jointly owned with JERA.

CAPACITY MECHANISM

The operations related to the capacity mechanisms are recorded as follows:

- Sales of certificates are recognised in income when the auctions or OTC sales take place;
- The cost of the capacity mechanism passed on to final customers through regulated sales tariffs and market-price offers is recognised in sales revenues as and when the electricity is delivered. In addition, the ARENH price is considered to include a capacity value;
- Stocks of certificates are stated either at their certification value (*i.e.* cost of certification by RTE) or at their purchase value on the markets;
- Decreases in the stock of certificates are valued at the weighted average unit cost. The timing of recognition depends on the actor:
  - operators of installations: when the auction sales take place;
  - obligated actors: over the 5-month peak period;
- For operators of installations, if the effective capacity is lower than the certified capacity, a liability (accrued expense or provision) is recorded equivalent to the best estimate of the expense necessary to extinguish the obligation (rebalancing or settlement mechanism);
- For obligated actors, if there is a shortfall in the stock of capacity certificates, a provision is recorded equivalent to the best estimate of the expense necessary to extinguish the obligation;
- At the closing date, if the realisable value of the stock of capacity certificates is lower than its net book value, impairment is recognised.

5.1.1 Regulatory changes

Regulated electricity sales tariffs in France

In accordance with article L. 337-4 of the French Energy Code, regulated electricity sales tariffs are set by the Ministers for Energy and the Economy following proposals by the French Energy Regulation Commission (*Commission de Régulation de l'Énergie* or CRE).

France's Council of State ruled in decisions of 18 May and 3 October 2018 that the principle of regulated electricity sales tariffs is compatible with European Union law when such tariffs serve the general economic interest objective of guaranteeing consumers an electricity price that is more stable than market prices.

The French Energy and Climate law of 8 November 2019 authorised continuation of regulated sales tariffs for sites with a subscribed power level of up to 36kVA, but they are reserved for residential or business consumers on condition, as required by European Directive 2019/944 on common rules for the internal market for electricity, that they have fewer than 10 employees and their annual sales income or balance sheet total is below €2 million ("blue" tariffs). In application of Law 2024-330 of 11 April 2024 and decree 2025-49 of 15 January 2025, the restriction on beneficiaries' subscribed power is abolished from 1 February 2025, such that the same consumers will also be eligible for regulated sales tariffs for their sites with power above 36kVA ("yellow" tariffs).

Tariff changes

In accordance with article L. 337-4 of the French Energy Code, the CRE is responsible for sending the Ministers for the Economy and Energy its reasoned proposals for regulated sales tariffs for electricity. If no objections are made within three months, the proposals are deemed to have been approved.

The comparability of sales between periods is affected by the tariff changes presented in the table below:

Date of the CRE proposal	Change in "blue" residential customer tariffs (incl. taxes / excl. taxes)	Change in "blue" non-residential customer tariffs (incl. taxes/excl. taxes)	Date of the tariff decision	Date of application
19/01/2023	+15% / +20.0%	+15% / +19.9%	31/01/2023	01/02/2023
22/06/2023	+10% / +10.0%	+10% / +10.0%	28/07/2023	01/08/2023
18/01/2024	+9.5% / +0.18%	+5.7% / -3.55%	29/01/2024	01/02/2024
15/01/2025	-15% / (-22.61%)	-15.06% / (-22.67%)	28/01/2025	01/02/2025

In a decision of 15 January 2025, the CRE proposed an average decrease (excluding taxes) of 22.61% in the "blue" tariffs for residential customers, and an average decrease of 22.67% in the "blue" tariffs for non-residential customers from 1 February 2025. This proposal was adopted by the tariff decision of 28 January 2025. Another order of 20 December 2024 set out the excise duty rates on electricity applicable from 1 February 2025. These steps have the combined effect of reducing the "blue" tariffs (including taxes) by an average 15% for residential customers, and 15.06% for non-residential customers.

In a decision of 16 January 2025, the CRE proposed tariff scales for the "yellow" and "green" tariffs applicable for sites with subscribed power above 36kVA. Like the scales for sites with lower power levels, these scales are constructed by the "cost stacking" method described in articles L.337-6 and R.337-19 of the French Energy Code.

"Financial shock absorber" mechanism for electricity

Article 225 of the Finance Law for 2024 (Law 2023-1322 of 29 December 2023) extended the "financial shock absorber" mechanism for electricity (or "electricity buffer"), with amendments for 2024. This mechanism was first introduced by article 181 of the Finance Law for 2023 (the law of 30 December 2022), in order to support businesses and local authorities that were not eligible for the "tariff shield" price cap.

Decrees 2023-1421 and 2023-1422 of 30 December 2023 then defined the application rules for the "financial shock absorber" mechanism for electricity in 2024: eligible customers benefited from a price reduction of 75% (100% for very small businesses) on the volumes consumed during the month concerned (up to a maximum of 90% of their past consumption), calculated as the difference between the average price of the variable component of their contract (excluding taxes and TURPE fees) over 2024, and the reference price which was set at €250/MWh for 2024 (€230/MWh for very small businesses).

"TURPE" Network access tariffs

The costs borne by the network operators Enedis and RTE for management of the public electricity distribution and transmission networks, provided they are in line with the costs of an efficient network operator, are covered by the "TURPE" tariffs for using the networks, as stipulated in Articles L. 341 - 2 and following of the French Energy Code.

These tariffs apply to users connected to the distribution and transmission networks.

TURPE 6 Distribution and Transmission tariffs

The CRE issued two decisions of 21 January 2021 (published in France's *Journal Officiel* 0096 of 23 April 2021) on the TURPE 6 Transmission (high voltage) and TURPE 6 Distribution (medium voltage – low voltage) tariffs, after the Higher Energy Council (*Conseil supérieur de l'énergie*) gave its approval. These tariffs were introduced from 1 August 2021 for a period of approximately 4 years.

In its decision 2024-122 of 26 June 2024, the CRE proposed a rise in the average TURPE Distribution tariff of +4.81% from 1 August 2024. Previous increases had been +6.51% from 1 August 2023 and +2.26% from 1 August 2022, after the CRE set the margin on assets at 2.5% and the additional return on regulated equity at 2.3% in its decision 2021-13 of 21 January 2021.

In its decision 2024-121 of 26 June 2024, the CRE proposed a rise in the average TURPE Transmission tariff of +4.99% from 1 August 2024. Previous tariff changes had been +6.69% from 1 August 2023 and -0.01% from 1 August 2022, after the CRE set a nominal pre-tax weighted average cost of capital (WACC) of 4.6% in its decision 2021-12 of 21 January 2021.

In a letter dated 29 August 2024 published in France's *Journal Officiel* on 31 August 2024, the delegate minister in charge of industry and energy for the Minister for the Economy, Finance and Industrial and Digital Sovereignty asked the CRE to issue a new decision on adjustment of the TURPE tariffs that would better reflect the French government's energy policy orientations for tariff stability, given the expected reduction in regulated sales tariffs from 1 February 2025. The CRE published its decision 2024-158 on 10 September 2024, stating that it did not consider its previous decisions had ignored the energy policy orientations. It requested that those decisions should be published in the *Journal Officiel* by the administrative authority, stipulating that the effective date of its new decisions would be 1 November 2024. This was duly done.

In its decision 2025-08 of 15 January 2025, the CRE proposed an exceptional increase of 7.7% in the average TURPE distribution tariff from 1 February 2025. This change is intended to achieve early clearance of Enedis' income and expense adjustment account established during the first years of the TURPE 6 period, in order to avoid any change in the TURPE 7 distribution tariff when it takes effect on 1 August 2025.

Similarly, for the TURPE transmission tariff, the CRE proposed an exceptional increase of 9.61% from 1 February 2025 in its decision 2025-09 of 15 January 2025.

Users of the public electricity transmission network, including Enedis, received an exceptional advance payment from RTE in February 2023 (corresponding to a share of the balance of RTE's income and expense adjustment account). The Group therefore recognised a sales credit receivable from RTE at 31 December 2022, amounting to €1,723 million.

TURPE 7 Distribution and Transmission

On 4 February 2025 the CRE published its decision 2025-40 containing its proposals for the TURPE 7 Distribution tariff, setting the margin on assets at 2.5% the additional return on equity at 2.9%, and interest on financial borrowings at 2.1% for the TURPE 7 period. In view of the charges to be covered, based on current information the CRE stated that the exceptional increase of 7.7% from 1 February 2025 is intended to cover the forecast charges for the tariff period with no tariff change at 1 August 2025, and that subsequent changes from 1 August 2026, 2027 and 2028 should be close to inflation. In the event that the fund for electrification charges FACÉ (*Fonds d'Amortissements des Charges d'Électrification*) is transferred from charges covered by the TURPE tariff to the French State budget at 1 August 2025, the TURPE Distribution tariff will be reduced by 1.92%.

Also on 4 February 2025, the CRE published its decision 2025-39 containing its proposals for the TURPE 7 Transmission tariff, setting the return on the regulated asset base at the pre-tax rate of 5%. The proposals also add a specific additional return of 0.5% for component assets of offshore wind farm grid connections, which entail greater complexity and higher risks than the rest of RTE's activity. In view of the charges to be covered, based on current information, the CRE stated that the exceptional increase of 9.6% from 1 February 2025 is intended to cover the forecast charges for the tariff period with no tariff change at 1 August 2025, and that subsequent changes from 1 August 2026, 2027 and 2028 should be close to inflation based on the current available information.

Electricity Equalisation Fund

The TURPE tariff for the medium and low-voltage network is identical for every electricity network operator. It is determined on the basis of forecast expenses to be borne by Enedis, provided they correspond to an efficient network operator, and forecasts of the number of consumers connected to Enedis' networks, their consumption, and the power level subscribed.

To equalise electricity distribution charges between the different network operators, as the TURPE tariff cannot always cover the specific needs of certain service zones, the Electricity Equalisation Fund (*Fonds de Péréquation de l'Electricité* - FPE) exists to compensate for some or all of the charges resulting from disparities in network operating conditions that are not taken into consideration in the tariff. There are two equalisation mechanisms: one based on fixed rates, the other established by the CRE at the request of the network operator based on analysis of its accounts. The calculation method for the fixed-rate allocation mechanism is defined by ministerial decree and order. The EDF entities concerned by the Electricity Equalisation Fund are Enedis, Électricité de Strasbourg and SEI.

In its decision 2024-97 of 13 June 2024, following analysis of the network operators' accounts, the CRE set the final amount of the allocation from the Electricity Equalisation Fund to SEI at €252 million for 2024.

For the fixed-rate mechanism, the order of 22 November 2023 set the 2023 contributions payable and allocations receivable from the Electricity Equalisation Fund for distribution network operators. The fixed contributions due by Strasbourg Électricité Réseaux and Enedis amount to around €1.1 million and €30.1 million respectively. Enedis is also the CRE's designated operator for collection and payment of Electricity Equalisation Fund contributions from all the Local Distribution Companies.

ARENH scheme

General description of the scheme

The ARENH (*Accès Régulé à l'Energie Nucléaire Historique*) scheme for regulated access to historic nuclear power, set up in 2011 and due to end on 31 December 2025, allows alternative suppliers to purchase electricity from EDF to supply their final customers, after signing a framework agreement, at a regulated price for set quantities determined under the provisions of the French Energy Code. This scheme is also open to network operators to cover their energy losses.

The ARENH price, determined by the Ministers for Energy and the Economy following a proposal by the CRE, has been fixed at €42/MWh since January 2012. This includes delivery of the electricity and has incorporated the associated capacity guarantees since 2017.

The maximum total ARENH volume that can be sold by law to suppliers who apply to the scheme to cover the needs of their final customers is set by ministerial order and cannot exceed a legal ceiling. Until 31 December 2019, the ceiling was 100TWh per year. It was then raised to 150TWh by the Energy and Climate law of 8 November 2019.

The "MUPPA" law of 16 August 2022 introducing urgent measures to protect purchasing power reduced this legal ceiling to 120TWh. The MUPPA law also set a minimum ARENH price of €49.50/MWh, although its application is conditional on prior approval by the European Commission, which has not yet been given.

Dispute over the additional 20TWh of electricity for the period April-December 2022

Under measures imposed on EDF by the French government in early 2022, eligible alternative electricity suppliers could benefit from an additional volume of up to 20TWh at the price of €46.20/MWh during the period 1 April to 31 December 2022, provided they first sold EDF an equivalent volume at the price of €256.98/MWh. The alternative suppliers only made applications for 19.5TWh of the additional ARENH volume offered.

This caused very significant prejudice for the company, and on 9 August 2022 EDF filed an appeal against the measures before the Council of State, on the grounds that the State had exceeded its power.

EDF also lodged a claim before the Paris Administrative Court on 27 October 2022 to obtain full compensation from the French government for the prejudice caused by these measures.

On 3 February 2023, the Council of State rejected EDF's appeal against these measures, in a decision that cannot be challenged. The proceedings brought by EDF in 2023 before the Paris Administrative Court claiming full reparation from the State for the prejudice borne by EDF as a result of the measures are ongoing. The prejudice suffered was estimated by EDF at €7.96 billion at 13 October 2023, the date when the company filed its reply submissions.

The ARENH scheme in 2024

For the ARENH allocations for 2024 determined by the CRE's decision 2023-330 of 26 October 2023, as required by the Energy Code (article R.336-14 of the Energy Code modified by decree 2022-1380 of 29 October 2022), the CRE defined the method for allocating ARENH volumes if applications exceeded the maximum total volume allowed for 2024. It also laid down criteria for assessing ARENH applications (verification methods, and where relevant correction procedures for ARENH applications from alternative suppliers).

The decision stated that any application by EDF-controlled subsidiaries (this excludes network operators, as stipulated in the decision of 28 April 2011) taking the total volume above the limit would be fully curtailed, but they could enter into contracts directly with their parent company for supplies on terms identical to the ARENH framework agreement, including the curtailment conditions applied to other alternative suppliers.

On 15 November 2023, in its decision 2023-333, the CRE decided on a change to the calculation rules for the CP2 ARENH price supplement paid by alternative suppliers whose ARENH applications are excessive in view of their actual sales volumes. These changes made the penalty for such disproportionate applications more dissuasive.

ARENH applications during the November 2023 session for delivery in 2024 totalled 130.45TWh (excluding applications from EDF subsidiaries and network operators). The CRE scaled down certain applications (- 0.04TWh in total), bringing the total application volumes validated by the CRE to 130.41TWh. The CRE also curtailed each supplier's application, to respect the ARENH ceiling of 100TWh. The final attribution rate after curtailment was 76.68%. Further volumes were also sold by EDF to its subsidiaries through contracts that replicate the ARENH scheme, and to compensate for network electricity losses (25.54TWh).

The CRE notified EDF of three suspensions to ARENH deliveries during 2024. In two cases this was due to decisions by the CRE's Dispute Resolution and Enforcement Committee (CoRDIS), and the third case related to the transfer of all the assets of the subsidiary Sowee to EDF SA. These suspensions concerned a total 7.3MW of baseload electricity, of which 1.1MW resulted from CoRDIS decisions.

Decree 2024-556 published on 18 June 2024 modified the regulatory part of the French Energy Code to align it with changes in legislation introduced by the Finance Law for 2024 concerning the ARENH price supplement. The CP1 price supplement collected for ARENH deliveries made since 2023 is no longer allocated between alternative suppliers but paid to EDF via a deduction from its public service charges. This has no impact on the Group's net income.

On 26 June 2024 the CRE published its decision 2024-125 concerning ARENH price supplements, which are set at €555.1 million for the CP1 and €0.5 million for the CP2.

Finally, ARENH applications during the November 2024 session for delivery in 2025 totalled 135.04TWh (excluding applications from EDF subsidiaries and network operators). The CRE scaled down four suppliers' applications (- 0.11TWh in total), bringing the total application volumes validated by the CRE to 134.93TWh. The CRE also curtailed each supplier's application, to respect the ARENH ceiling of 100TWh. The final attribution rate after curtailment was 74.12%. Further volumes were also sold by EDF to its subsidiaries through contracts that replicate the ARENH scheme, and subscriptions to compensate for network electricity losses (22.7TWh).

An order of 29 November 2024, published in the *Journal Officiel* of 5 December, introduced changes to the ARENH framework agreement, notably re-introducing parts of the appendices of the previous decision concerning the scheme.

Post-ARENH market framework

To provide customers with additional protection in high-price periods, the new framework, which is now defined in article 17 of France's Finance Law for 2025, also requires payment by EDF of a portion of its historical nuclear power plants' net annual energy revenues derived from use of nuclear fuel when they exceed a certain level. Two thresholds are set for this contribution: a taxation threshold and a capping threshold, above which the contribution rate will be 50% and 90% respectively. These thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain watchful regarding retention of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros).

Capacity mechanisms

Capacity mechanisms have been set up in France, the UK, Belgium and Italy to ensure secure power supplies during peak periods.

French system: French Law 2010-1488 of 7 December 2010 on the new organisation of the electricity market introduced an obligation in France to contribute to guaranteeing a secure power supply from 1 January 2017.

Operators of electricity generation plants and load-shedding operators must have their capacities certified by RTE, and commit to a forecast level of availability for a given year of delivery. In return, they are awarded capacity certificates.

Meanwhile, electricity suppliers and purchasers of power to compensate for network losses (obligated actors) must have capacity certificates equivalent to consumption by their customers in peak periods. Suppliers pass on the cost of the capacity mechanism to final customers through their sale prices.

Capacity auctions are held several times a year.

The Group is concerned by both aspects of this system, as an operator of electricity plants (EDF SA, Dalkia, EDF Renewables), as an electricity supplier (EDF SA, Électricité de Strasbourg) and as a purchaser of power to compensate for network losses (Enedis and Électricité de Strasbourg).

The revised capacity mechanism rules that took effect in October 2023 set frameworks for early termination of purchase obligation contracts, and restriction of the inclusion of capacities using fossil fuels from 2025.

The duration of the current mechanism's final delivery year, 2026, has been modified so that the future capacity mechanism can be introduced from November 2026; delivery year 2026 of the current capacity mechanism is thus "shortened" and will run from 1 January to 31 March 2026.

A consultation process is being held for the future capacity mechanism, whose principal feature would be the centralisation of purchases to ensure a secure power supply, with a single actor (RTE) collecting availability commitments. This centralisation, combined with a lower number of capacity auctions, should make the market fundamentals more transparent for all actors. The change to the mechanism must be approved by the French Parliament and the European Commission (regarding State aid rules).

For the delivery years shown below, the average market prices resulting from capacity auctions ahead of the delivery year were:

Delivery year	2023	2024	2025
Price (€/kW)	45.6	27.1	14.7

For the delivery year 2026, four auctions have been held, with the following results: €15.5/kW in April, €6.1/kW in September, €3.5/kW in October and €2.5/kW in December.

British system:

The British capacity mechanism was introduced in 2014. It is based on a system of auctions for operators, organised by the electricity system operator National Grid ESO to procure capacity 4 years ahead of delivery. Capacity providers which have been successful at the auctions are remunerated in the delivery year (which runs from 1 October to 30 September) out of a fund consisting of contributions from electricity suppliers, but may be liable for penalties if they fail to meet their obligations.

The electricity suppliers' contribution to this mechanism is proportional to their sales to customers in the peak demand period and the cost of capacity is passed on to final customers through their sale price.

EDF Energy is concerned by both aspects of this system, as an operator of electricity plants and a supplier.

For accounting purposes, the remuneration received as an operator is recognised in sales revenues in the year of delivery, and the contribution paid to the mechanism as an electricity supplier is recognised in energy purchases over the peak period. The cost of the capacity mechanism passed on to final customers is recognised in sales revenues as and when the electricity is delivered.

The UK government is currently exploring options for reform of the Capacity Market to improve delivery assurance and to support alignment with Net Zero electricity system and its commitment to deliver a decarbonised electricity system by 2035. Any changes to the rules should apply to all new capacity agreements awarded, but would not materially change the rights and obligations of capacity providers under existing capacity agreements.

Italian system: The Italian capacity mechanism was set up in 2019 and is based on an auction process for each delivery year organised by TERNA, the Italian transmission grid operator. Operators of existing and future generation or storage installations can participate in the auctions. The operators of the power plants selected must offer their capacity on the markets and are paid through a fixed premium during one year for existing capacities and 15 years for future capacities. The fixed premium is paid during the delivery year.

If the sale price on these markets exceeds the strike price defined by the Italian Regulatory Authority for Energy, Networks and Environment (ARERA), the operator must repay the surplus to TERNA.

In 2024, the capacity offered by Edison (from existing 2.3GW power plants) was entirely assigned to the mechanism, at the annual price of 33k€/MW for existing plants.

The fixed premium is recorded in income during the corresponding delivery year, and reduced if appropriate by any repayments made to TERNA, or if the power plant is unavailable.

5.1.2 Sales

Sales are comprised of:

(in millions of euros)	2024	2023
Generation/Supply	87,086	108,015
Distribution	18,978	18,046
Services	8,289	7,743
Other activities	4,337	5,911
including Trading	*1,908*	*3,666*
SALES	**118,690**	**139,715**

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's sales for 2024 were down by -15.7% or €(21.9) billion. The decrease principally concerns the France – Generation and supply segment (€(12.3) billion or -20.4%), the United Kingdom (€(4.2) billion or -19.8%), Other activities (€(2.6) billion or -37.7%) and Italy (€(2.5) billion or -14.3%).

Sales revenues from optimisation operations on the wholesale gas and electricity markets amount to €3,855 million in 2024 (€5,330 million in 2023). These operations are carried out by certain Group entities to balance supply and demand, in compliance with the group's risk management policy. In 2024 as 2023, the principal operating segments with a net short position in euros on the markets are **Other activities** (gas), **Italy** (electricity) and **Dalkia** (electricity).

Generation/Supply

Sales by the **France - Generation and supply** segment showed an organic decrease of €(12.3) billion, mostly explained by the lower prices for customers on market-price contracts, offset by the higher output of nuclear power (+41.3TWh) and hydropower (+11.8TWh).

Sales in the **United Kingdom** segment registered an organic decrease of €(4.2) billion, principally attributable to the impact of energy prices decrease on customer sales tariffs, although nuclear power output was stable compared to 2023.

The organic downturn in sales by the **Italy** segment reached €(2.5) billion, essentially due to a decline in gas prices.

Distribution

The rise in distribution sales was driven by a €746 million increase in sales by Enedis (part of the **France - Regulated activities** segment), essentially due to the indexed adjustment of the TURPE 6 tariff (+4.81% excluding taxes from November 1, 2024).

Delivery services included in the line "Distribution" concern the distribution network operators Enedis, Électricité de Strasbourg and EDF SA for non-interconnected zones. However, delivery services concerning EDF Energy and Edison are included in "Generation and Supply", because those entities are classified as the principal under IFRS 15 for both supply and delivery. The delivery services by EDF Energy and Edison have no impact on net income because they are also included in "Transmission and delivery expenses" in note 5.2.

Services

Sales by **Dalkia** amounted to €5,323 million for 2024, an organic decrease of €(379) million (-6.6%). This principally reflects the drop in average gas prices and ad hoc disposals of generation assets during 2023, which had no equivalent in 2024.

Sales by **Framatome** amounted to €2,270 million in 2024, an organic increase of €140 million (+7%) compared to 2023, due to a step-up in fuel deliveries in the United States and Europe.

Sales by **Arabelle Solutions** for the 7 months of its inclusion in the EDF group consolidation since 31 May 2024 amounted to €255 million.

Other activities

The organic decrease in sales by the **Other activities** segment €(2,618) million was caused by a lower trading margin (€(1,758) million) as volatility and energy market prices decreased, and a lower contribution by the gas businesses (€(851) million) due to declining wholesale gas market prices.

5.2 Fuel and energy purchases

Fuel and energy purchases comprise:

(in millions of euros)	2024	2023
Fuel purchases used – power generation[1]	(17,598)	(21,497)
Energy purchases[1]	(27,823)	(51,600)
Transmission and delivery expenses	(9,602)	(8,509)
Gain/loss on hedge accounting	218	(257)
(Increase)/decrease in provisions related to nuclear fuels and energy purchases	588	874
FUEL AND ENERGY PURCHASES	**(54,217)**	**(80,989)**

(1) In 2024, these include optimisation operations on the wholesale gas and electricity markets amounting to €126 million and €6,636 million respectively (€1,867 million and €26,792 million in 2023). In 2024 the principal operating segments with net long positions in euros on the markets are France - Generation and supply (gas and electricity), the United Kingdom (gas and electricity), Other international (Luminus - gas and electricity) and Dalkia (gas). The same segments were concerned in 2023.

Fuel purchases used include costs relating to raw materials for energy generation (nuclear fuels, gas, fossil materials and a non-significant proportion of coal and oil), purchases of services related to the nuclear fuel cycle, and costs associated with environmental schemes (mainly greenhouse gas emission certificates and renewable energy certificates).

"Energy purchases" include purchases made under the purchase obligation mechanism in France.

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's fuel and energy purchases were €27.1 billion lower than in 2023, principally in the **France-Generation and Supply** segment (€17.2 billion, essentially for electricity purchases), the **United Kingdom** (€3.6 billion, essentially for gas and electricity purchases) and **Italy** (€2.4 billion, mainly for gas purchases). In France, this decrease is mainly explained by the decrease in market prices, and to a lesser extent a volume effect associated with better generation plant availability.

5.3 Personnel expenses

Personnel expenses comprise:

(in millions of euros)	2024	2023
Wages and salaries	(11,140)	(10,428)
Social contributions	(2,606)	(2,247)
Employee profit sharing	(500)	(386)
Other contributions related to personnel	(389)	(365)
Other expenses linked to short-term benefits	(263)	(222)
Short-term benefits	**(14,898)**	**(13,648)**
Expenses under defined-contribution plans	(1,335)	(1,258)
Expenses under defined-benefit plans	(506)	(423)
Post-employment benefits	**(1,841)**	**(1,681)**
Other long-term benefits	(154)	(120)
Termination payments	(23)	(21)
Other personnel expenses	**(177)**	**(141)**
PERSONNEL EXPENSES	**(16,916)**	**(15,470)**

After elimination of foreign exchange effects and changes in the scope of consolidation, personnel expenses increased by +7.6% compared to 2023. The increase in wages and salaries reflects the effect of pay rises introduced in the various Group entities, in line with inflation and the rise in the average workforce in 2024 (+5.8% compared to 2023).

Details of the average workforce are as follows:

(in full time equivalent)	2024	2023
Employees covered by the IEG statutes	98,549	96,093
Other employees	83,301	75,769
AVERAGE WORKFORCE	**181,850**	**171,862**

5.4 Taxes other than income taxes

(in millions of euros)	2024	2023
Payroll taxes	(375)	(347)
Energy taxes	(1,589)	(1,556)
Other non-income taxes	(2,178)	(2,161)
TAXES OTHER THAN INCOME TAXES	**(4,142)**	**(4,064)**

After elimination of foreign exchange effects and changes in the scope of consolidation, taxes other than income taxes showed an organic increase of €(68) million or +1.7%, principally concerning the **France - Generation and supply** segment (€(141) million, due to higher local taxes) and the **United Kingdom** segment (€(91) million, caused by the Electricity Generator Levy which reached €(491) million in 2024 after €(400) million in 2023). These increases were offset by a €172 million decrease in taxes in the **Other international** segment following discontinuation of the inframarginal revenue cap mechanism in 2024 in **Belgium** (€(146) million in 2023, recorded in "Other non-income taxes").

The EU Inframarginal revenue cap on electricity production

On 6 October 2022 the **European Union** adopted a regulation for harmonised action to address the energy price crisis. Among other measures, this regulation set targets for reducing energy consumption during the winter of 2023, and introduced state aid for businesses and households, funded by a windfall tax on the fossil fuel sectors, and an inframarginal revenue cap on electricity production.

This inframarginal revenue cap is a compulsory tax measure requiring electricity producers to pay to the State all revenues above a threshold expressed in €/MWh. Under the EU regulation, this cap was applicable from 1 December 2022 to 30 June 2023 with a threshold of €180/MWh, but some EU member states decided to lengthen the application period and set different thresholds, well below the EU level, for different generation technologies.

In the **EDF group**, this regulation mainly concerns activities in France and the United Kingdom, as the inframarginal revenue cap was not renewed in Belgium for 2024.

In **France**, the inframarginal revenue cap was renewed for the period from 1 January 2024 to 31 December 2024 by article 80 of France's Finance Law for 2024 with minor amendments to the thresholds and calculation methods. The tax on inframarginal rents was set at 50% (as opposed to 90% during the previous periods). Any deficit in one period could still be partially carried over to the next.

Consequently, in the EDF group in **France** in 2024**,** the inframarginal revenue cap concerned EDF SA (no tax was payable under this regulation at 31 December 2024 due to tax loss carryforwards), the French entities of Dalkia (€0.1 million in 2024 and €9 million in 2023), and EDF Renewables (€9 million in 2024 and €12 million in 2023), for their cogeneration and renewable energy output.

On 1 January 2023 the **United Kingdom** introduced a 45% tax on revenues from electricity generation in excess of £75/MWh, revised to £77.95/MWh on 1 April 2024 (the Electricity Generator Levy). It is payable by entities producing electricity from coal, renewable and nuclear sources but does not apply to gas-fired power plants. This levy is expected to apply until 30 March 2028 and generated an expense of €491 million for EDF Energy in 2024 (€400 million in 2023).

5.5 Other operating income and expenses

Other operating income and expenses comprise:

(in millions of euros)	Notes	2024	2023
Operating subsidies (including CSPE)	5.5.1	7,127	14,493
Net income on deconsolidation	5.5.2	470	55
Gains on disposal of fixed assets	5.5.2	(201)	(228)
Net increase/decrease in provisions on current assets	5.5.3	(164)	(702)
Net increase in provisions for operating contingencies and losses[1]		(492)	(77)
Other items	5.5.4	(2,834)	(2,313)
OTHER OPERATING INCOME AND EXPENSES		**3,906**	**11,228**

(1) See notes 15.1.1.1, 17.1 and 17.2.

5.5.1 Operating subsidies

This item mainly comprises the subsidy received or receivable by EDF in respect of the compensation for public energy service charges, reflected in the financial statements through recognition of income of €6,861 million for 2024 (€14,126 million in 2023). This sum consists of:

- income of €3,018 million of compensation for purchase obligations (compared to an expense of €2,193 million at 31 December 2023). In 2023, the public service charges to be covered for purchase obligations were negative because market prices were very high and above the State-guaranteed support prices;
- income of €1,562 million to cover the loss of income caused by national measures to support final customers (compared to €13,992 million in 2023). This comprises €1,730 million under the "tariff shield" price cap for electricity, which ended on 31 January 2024, reduced by an accrued liability of €(168) million payable under the "financial shock absorber" mechanism for electricity. As the "tariff shield" price cap for gas was discontinued in July 2023, no subsidy under that mechanism is recognised at 31 December 2024;
- income of €2,281 million for non-interconnected and solidarity zones.

This CSPE income gave rise to a corresponding entry in "Other operating receivables" at 31 December 2024 (see note 13.4).

Compensation for public energy service charges (CSPE) (France)

Mechanism

The compensation mechanism for public energy service charges (*compensation des Charges de Service Public de l'Energie*) resulted from a reform introduced by France's amended Finance Law for 2015. Since 1 January 2021 public energy service charges have been compensated partly out of the State's general budget and, following France's initial Finance Law for 2024, partly out of ARENH price supplements.

For the compensation of 2024 charges, the initial Finance Law for 2024 introduced a €4.9 billion "public energy service" budget (P345) to cover additional costs (purchase obligations and additional remuneration) incurred on support contracts for renewable energies and biogas, expenses associated with protection of consumers' electricity purchasing power (see note 5.1.1), solidarity charges borne by gas and electricity suppliers, costs associated with support for non-renewable energy production (essentially cogeneration), and the cost of applying the standard national tariffs to zones that are not connected to France's mainland network. The allocated budget was reduced by €0.2 billion in February 2024 to €4.7 billion.

Income generated by the excise duty on electricity (previously named the domestic tax on the final consumption of electricity (TICFE), and shown on customer invoices as the "Contribution to the public energy service" (CSPE)) goes directly into the general budget. This excise duty is collected by electricity suppliers directly from final consumers through an additional levy on the electricity sale price, or paid directly by electricity producers that produce electricity for their own uses.

The level of this excise duty is set at a full rate of €32/MWh for residential users. The law also defines a special rate, reduced rates and exemptions for businesses depending on their activity and consumption levels. However, due to the continuation of measures to protect electricity purchasing power, a rate of €21/MWh was applied from 1 February 2024 for residential customers eligible for the full rate.

In accordance with decree 2016-158 of 18 February 2016 concerning compensation for public service energy charges, and the Finance Law for 2024, the CRE published two decisions in 2024. The first, decision 2024-139 of 11 July 2024, set out a forecast of EDF's public service charges for 2025, a revised forecast of charges for 2024, and the actual charges recorded for 2023. The second, decision 2024-216 of 5 December 2024, stated the revised amount of public service energy charges to be compensated in 2024 and 2025 under the "tariff shield" and "financial shock absorber" mechanisms.

5.5.2 Net income on deconsolidation and gains on disposal of fixed assets

In 2024, net income on deconsolidation and gains on disposal of fixed assets includes gains on sales of EDF Renewables' generation assets as part of the Development and Sale of Structured Assets activities, amounting to €505 million (€48 million in 2023).

The impact of the loss of control over Sizewell C (Holding) Ltd is presented in "Other income and expenses" and amounts to €(63) million (see notes 3.1.3 and 7).

5.5.3 Net increase/decrease in provisions on current assets

In 2024, the net increase/decrease in provisions on current assets principally concerns trade receivables in the United Kingdom and France. In 2023, €230 million of provisions on the coal stock at the Cordemais power plant were booked.

5.5.4 Other items

Other items mainly include costs incurred to obtain energy savings certificates, losses on non-recoverable operating receivables, French hydropower concession fees and additional remuneration paid to producers of electricity from renewable sources in France.

The additional remuneration paid to producers of electricity from renewable sources was introduced by France's law on the Energy Transition for Green Growth. This mechanism complements the purchase obligation system in France. It is intended to guarantee reasonable remuneration for producers who sell their energy directly on the markets, by compensating for the differential between the revenues from those sales and a reference amount. Conversely, when their sales revenues are higher than the reference amount, the producer must repay the differential received. The amount repayable was previously capped in certain cases, but article 2030 of France's Finance Law for 2023 removed the cap with retroactive effect from 1 January 2022.

In its decision 2024-1119/1125 QPC of 24 January 2025, the Constitutional Council cancelled the removal of the cap on the amounts payable by producers of electricity from renewable sources under additional remuneration contracts, but deferred the effect of this step to 31 December 2025 at the latest.

The potential reimbursement would be offset through the CSPE compensation mechanism.

Other items also include expenses and income related to closure of the Fessenheim plant mainly comprising the following at 31 December 2024:

- expenses of €72 million (salaries and social security charges for labour at the site amounting to €21 million, purchases of goods and services amounting to €45 million, taxes other than income taxes, mainly payroll taxes, energy taxes and local taxes amounting to €6 million);
- the compensation defined in the protocol for expenses that will be incurred after the closure, amounting to €36 million, recognised as an operating subsidy in the income statement as explained below.

Closure of Fessenheim nuclear power plant

In accordance with the application for termination of operations and the declaration of the permanent shutdown of both reactors at Fessenheim nuclear power plant sent by EDF to the Minister for the Ecological and Inclusive Transition and to the ASN on 30 September 2019, EDF shut down reactor 1 on 22 February 2020 and reactor 2 on 30 June 2020.

On 27 September 2019, due to the cap on nuclear power output set by the "Energy Transition for Green Growth" law of 17 August 2015, the French State and EDF signed a protocol agreement whereby the State will compensate EDF for the early closure of Fessenheim.

The compensation paid under the terms of this protocol comprises:

- Initial payments to compensate for expenses incurred after the closure of the plant (end-of-operations expenditure, INB taxes on basic nuclear installations, dismantling costs and staff redeployment costs): apart from dismantling costs, these will essentially be paid over a 4-year period following the closure. An amount of €370 million was received on 14 December 2020 (see note 13.6);

  This compensation is recognised as income in profit and loss as and when the associated costs are incurred;
- Subsequent payments corresponding to the lost income that would have been generated by future power generation up until 2041, based on Fessenheim's previous output figures and calculated "ex post" on the basis of nuclear power sale prices, particularly observed market prices. There is no reason to recognise such income in the financial statements at this stage.

Once decoupled from the network, the Fessenheim plant entered a post-operating phase of approximately five years. Units 1 and 2 continue to be operated and maintained as "defueled core" and then "evacuated fuel" reactors until the effective date of the dismantling decree to be issued in 2026.

ENERGY SAVINGS CERTIFICATES

ACCOUNTING PRINCIPLES AND METHODS

In France, the Law of 13 July 2005 introduced a system of Energy Savings Certificates. Suppliers of energy (electricity, gas, heat, cold, domestic fuel oil and fuel for vehicles) with sales above a certain level became subject to energy savings obligations, initially for a three-year period then, since 2018, for a four-year period.

To meet this obligation, three sources are available to the EDF group: supporting consumers in their energy efficiency operations, funding State-approved energy savings certificate schemes, and purchasing certificates on the secondary market.

Expenses incurred for this purpose are recorded in expenses of the year concerned, in "Other operating income and expenses". Expenses in excess of the accumulated obligation at year-end are included in inventories and may be used to cover the obligation in later years.

A provision is recognised if the volume of energy savings certificates obtained is lower than the cumulative energy savings obligation at the year-end. The amount of the provision is equal to the cost of actions still to be taken to extinguish the obligations related to the energy sales made.

ENERGY SAVING REGULATIONS IN FRANCE

The fifth period of France's energy savings certificates scheme (2022-2025) began on 1 January 2022. Decree 2021-712 tightened up the scheme (for example by significantly reducing special measures and bringing calculations closer to the real savings), and directs more funding to very vulnerable households (raising the "energy poverty" obligations, restricting the scope to very vulnerable households, and increasing the penalties in this category from €15/MWhc initially to €20/MWhc).

However, to reinforce the dynamic, the French General Directorate for Energy and Climate (*Direction Générale de l'Énergie et du Climat* or DGEC) issued a decree just ten months after the fifth period began (decree 2022-1368 of 27 October 2022) that raised the scheme obligations for the period from 1 January 2023 as follows:

- "Standard" obligation: 1,970TWhc vs 1,770TWhc initially, and +200TWhc for the period 2023-2025;
- "Energy poverty" obligation: 1,130TWhc vs 730TWhc initially, and +400TWhc for the period 2023-2025.

These regulatory changes introduced during the period are obliging the actors concerned to make adaptations.

Note 6 Net changes in fair value on energy and commodity derivatives, excluding trading activities

ACCOUNTING PRINCIPLES AND METHODS

This item essentially consists of changes over the period in the fair value of derivatives used for economic hedging of commodity purchases or sales that are not eligible for hedge accounting as defined in IFRS 9, and are therefore included directly in profit and loss. The Group reports these changes in a specific line of the income statement, "Net changes in fair value on Energy and Commodity derivatives, excluding trading activities" below the operating profit before depreciation and amortisation.

(in millions of euros)	2024	2023
NET CHANGES IN FAIR VALUE ON ENERGY AND COMMODITY DERIVATIVES, EXCLUDING TRADING ACTIVITIES	**443**	**363**

Net changes in fair value on Energy and Commodity derivatives, excluding trading activities, stood at €443 million at 31 December 2024 (€363 million at 31 December 2023).

Note 7 Other income and expenses

Other income and expenses amount to €(4,834) million for 2024. They principally comprise:

- increases in provisions for spent fuel management in France totalling €(3,301) million (see note 15.1);
- an increase of €(775) million in the provision related to the Cigéo project in France (see note 15.1);
- an increase of €(587) million in provisions following the environmental agreement with ENI (see note 21.3);
- exceptional additional costs relating to repairs of the main secondary circuit welds at the Flamanville 3 EPR, totalling €(143) million (these are defined by IAS 16 paragraph 22 as abnormal costs and cannot be included in the cost of assets in progress);
- the impact of the loss of control over Sizewell C (Holding) Ltd amounting to €(63) million (see note 3.1.3).

Other income and expenses amounted to €(2,944) million for 2023. They principally comprised:

- an exceptional additional increase of €(1,073) million in provisions for spent fuel management, in view of the agreement signed in September 2023 with Orano Recyclage fixing the principles of future amendments for the period 2024-2026 (see note 15.1.1.1);
- an increase of €(525) million in Edison's provisions for environmental litigation;
- exceptional additional costs totalling €(499) million, relating to repair work on the main secondary circuit welds at the Flamanville 3 EPR;
- an increase of €(345) million in provisions following the final agreement signed on 13 December 2023 between ENGIE and the Belgian government concerning all nuclear waste-related obligations;
- a past service cost of €(338) million resulting from the pension plan amendment introduced by France's pension reform;
- a provision of €(162) million for surplus costs related to the design of the Hinkley Point C project, to be reimbursed to CGN under a specific agreement;
- income of €92 million resulting from the United Kingdom's pension cap.

Note 8 Financial result

8.1 Cost of gross financial indebtedness

Details of the components of the cost of gross financial indebtedness are as follows:

(in millions of euros)	2024	2023
Interest expenses on financing operations[1]	(3,984)	(3,924)
Change in the fair value of derivatives and hedges of liabilities	(23)	17
Transfer to income of changes in the fair value of cash flow hedges	(14)	(34)
Net foreign exchange gain on indebtedness	(73)	111
COST OF GROSS FINANCIAL INDEBTEDNESS	**(4,094)**	**(3,830)**

(1) Including interest on the lease liability amounting to €(131) million in 2024 and €(100) million in 2023.

Interest expenses on financing operations are stable, as the effect of a reduction in gross indebtedness is offset by a slight increase in average interest rates during the year.

8.2 Discount effect

The discount effect primarily concerns provisions for the back-end of the nuclear cycle, decommissioning and last cores, and long-term and post-employment benefits.

Details of the final discount effect are as follows:

(in millions of euros)	2024	2023
Provisions for long-term and post-employment benefits[1]	(1,227)	(1,337)
Provisions for the back-end of the nuclear cycle, decommissioning and last cores[2]	(1,848)	(2,603)
Other provisions and advances	(115)	(48)
DISCOUNT EFFECT	**(3,190)**	**(3,988)**

(1) See note 16.1.2.

(2) Including the effect of discounting the receivable corresponding to amounts reimbursable by the NLF (see note 18.1.3).

The decrease in the discount expense on provisions for long-term and post-employment benefits in 2024 is explained by the lower discount rate applicable at 1 January 2024 (in France: 3.4%, against 3.9% at 1 January 2023).

The decrease in the discount expenses on nuclear provisions in 2024 results mainly from a rate effect of €487 million attributable to the 0.1% increase in the real discount rate in France over the period (2.6% in 2024 and 2.5% in 2023, see note 15.1), and the €396 million impact of the adjustment to economic conditions in December 2023 to take account of substantially higher inflation, which had no equivalent in 2024.

8.3 Other financial income and expenses

Other financial income and expenses comprise:

(in millions of euros)	2024	2023
Financial income on cash and cash equivalents	351	293
Gains/(losses) on other financial assets (including loans and financial receivables)	148	374
Gains/(losses) on debt and equity securities	978	760
Changes in financial instruments carried at fair value through profit and loss	3,280	2,058
Other financial expenses	(327)	(403)
Foreign exchange gain/loss on financial items other than debts	(61)	(143)
Return on fund assets	668	708
Capitalised borrowing costs	1,315	822
OTHER FINANCIAL INCOME AND EXPENSES	**6,352**	**4,469**

"Gains/(losses) on debt and equity securities" in 2024 principally include:

- €1,216 million of dividends and interest income on debt securities (€877 million in 2023);
- €(237) million of net gains and losses on sales of debt securities carried at fair value through OCI with recycling (including €(156) million on dedicated assets), compared to €(118) million in 2023 (including €(101) million on dedicated assets).

In 2024, other financial income and expenses include changes in the fair value of financial instruments amounting to €3,280 million (€(2,058) million in 2023) in a market environment that remained volatile. €2,998 million of this change related to the fair value of dedicated assets (€2,220 million in 2023).

Note 9 Income taxes

ACCOUNTING PRINCIPLES AND METHODS

Income taxes include the current tax expense (income) and the deferred tax expense (income), calculated under the tax legislation in force in the countries where earnings are taxable.

In compliance with IAS 12, current and deferred taxes are generally recorded in the income statement or in equity symmetrically to the underlying operation.

In application of IFRS 9, the Group considers that payments made to holders of perpetual subordinated bonds qualify as "dividends" under the definition given in the standard. Consequently, in compliance with IAS 12, the tax effects of such distributions are included in profit and loss of the relevant period, in the same way as the effects of dividend payments.

In application of IFRIC 23, a tax asset or liability is recognised when there is uncertainty over income tax treatments. If the Group considers it likely that the tax authorities will not accept its chosen treatment, it recognises a tax liability, and if it considers it likely that the tax authorities will reimburse a tax that has already been paid, it recognises a tax asset. The tax assets and liabilities relating to these uncertainties are estimated on a case-by-case basis and stated at the most likely amount, or the weighted average of the various outcomes considered. These tax assets and liabilities are included in deferred taxes.

The current tax expense (income) is the estimated amount of tax due on the taxable income for the period, calculated using the tax rates adopted at the year-end.

Deferred taxes result from temporary differences between the book value of assets and liabilities and their tax basis, except in specific cases defined in IAS 12, for which no deferred taxes are recognised.

Deferred tax assets and liabilities are valued at the expected tax rate for the period in which the asset will be realised or the liability extinguished, based on tax rates adopted at the year-end. If the tax rate changes, deferred taxes are adjusted to the new rate and the adjustment is recorded in the income statement, unless it relates to an underlying for which changes in value are recorded in equity, for example in accounting for actuarial gains and losses or fair value on hedging instruments and debt or equity securities.

Deferred taxes are reviewed at each closing date, to take into account changes in tax legislation and the prospects for recovery of deductible temporary differences. Deferred tax assets are only recognised when it is probable that the Group will have sufficient taxable profit to utilise the benefit of the asset in the foreseeable future, or beyond that horizon, if there are deferred tax liabilities with the same maturity.

Deferred tax assets and liabilities are reported on a net basis, determined at the level of a tax entity or tax group.

Pillar Two rules

To address concerns about declining corporate income tax bases and the shifting of taxable profits between States by large multinational companies, a worldwide agreement to introduce a minimum corporate tax rate of 15% was reached in 2021 by more than 135 countries (the "Pillar Two rules").

Following the European Union's adoption of the "Pillar Two" directive on 15 December 2022, on 20 December the OECD published simplified procedures which will only apply for financial years beginning on or before 31 December 2026 (which in practice for the Group means financial years 2024 to 2026). During that transition period, provided certain requirements are met in the country of operation, groups will be exempt from calculating top-up tax under the Pillar Two rules. France's Finance Law for 2024 transposed these new rules into French legislation. The first application is in 2024 and the first declaration will be filed in June 2026.

In 2024, the Group finalised its "Pillar Two" evaluation work, and concluded that these rules will not have any significant impact on the consolidated financial statements (below €5 million).

9.1 Breakdown of tax expense

The tax income / (expense) breaks down as follows:

(in millions of euros)	2024	2023
Current tax expense	(2,918)	(3,887)
Deferred taxes	(1,969)	1,417
TOTAL	**(4,887)**	**(2,470)**

In 2024, €(1,851) million of the current tax expense relates to French companies, and €(1,067) million relates to foreign subsidiaries (€(2,167) million and €(1,720) million respectively in 2023).

9.2 Reconciliation of the theoretical and effective tax expense (tax proof)

(in millions of euros)	2024	2023
Income of consolidated companies before tax	**17,395**	**9,825**
Income tax rate applicable to the parent company	25.82%	25.82%
Theoretical tax expense	**(4,491)**	**(2,537)**
Differences in tax rate[1]	(1)	(61)
Permanent differences[2]	(374)	(1,188)
Taxes without basis[3]	157	253
Unrecognised deferred tax assets[4]	(178)	1,062
Other	-	1
ACTUAL TAX EXPENSE	**(4,887)**	**(2,470)**
EFFECTIVE TAX RATE	**28.09%**	**25.13%**

The income tax expense amounts to €(4,887) million at 31 December 2024, corresponding to an effective tax rate of 28.09% (€(2,470) million in 2023, corresponding to an effective tax rate of 25.13%).

The €(2,417) million change essentially reflects the €7,570 million increase in the Group's pre-tax income, generating additional tax of €(1,955) million.

The change in the income tax expense in 2024 is also affected by write-downs of deferred tax assets in the United States, whereas in 2023 the Group recognised the entire deferred tax asset on the loss reported in 2022 by the French tax group (EDF SA, Enedis, PEI and other French subsidiaries owned more than 95%). The change in the income tax expense in 2023 was also unfavourably affected by impairment in the United Kingdom which included a significant non-tax-deductible portion, and that situation had no equivalent in 2024.

After elimination of these non-recurring items (principally impairment, certain nuclear provisions, and changes in unrealised gains and losses on the financial asset portfolio and commodities), the effective current tax rate for 2024 is 26.48%, compared to 20.6% in 2023.

The main factors explaining the difference between the theoretical tax rate and this effective rate are:

- In 2024:
  - [2] the unfavourable impacts in the United Kingdom of non-tax-deductible impairment (€(122) million), loss of control over Sizewell C (Holding) Limited (€(63) million), and the Electricity Generator Levy, a 45% tax on electricity producers' windfall revenues (€(123) million);
  - [3] the favourable impact of deduction of the payments made to bearers of perpetual subordinated bonds, amounting to €150 million;
  - [4] the unfavourable impacts of write-downs of deferred tax assets in the United States (€183 million) due to political and economic situations that are adversely affecting offshore wind farms and other projects.
- In 2023:
  - [1] the unfavourable €(62) million impact of tax rate differences in Italy, where the normative tax rate applicable in 2023 is 27.9%;
  - [2] the unfavourable impacts in the United Kingdom of impairment (€(1,020) million) and the Electricity Generator Levy (€(100) million);
  - [3] the favourable impact of deduction of the payments made to bearers of perpetual subordinated bonds, amounting to €164 million;
  - [4] the favourable impacts of recognition and reversals of write-downs of deferred tax assets of the tax group in France (€938 million) (including €1,060 million relating to the loss reported in 2022), and in the United States (€182 million).

9.3 Change in deferred tax assets and liabilities

(in millions of euros)	2024	2023
Deferred tax assets	7,403	8,696
Deferred tax liabilities	(978)	(1,533)
Net deferred taxes at 1 January	**6,425**	**7,163**
Change in net income	(1,969)	1,417
Change in equity	(978)	(2,040)
Translation adjustments	30	(28)
Changes in scope of consolidation	(26)	(78)
Other movements	1	(9)
NET DEFERRED TAXES AT 31 DECEMBER	**3,483**	**6,425**
Deferred tax assets	*4,553*	*7,403*
Deferred tax liabilities	*(1,070)*	*(978)*

In 2024, the change in deferred taxes in equity includes €(12) million of actuarial gains and losses on post-employment benefits (+€199 million in 2023), €(641) million of changes in the fair value of hedges (+€2,216 million in 2023), €(150) million of foreign exchange effects on derivatives (€(66) million in 2023), and €(139) million of changes in the fair value of bonds (+€247 million in 2023).

9.4 Breakdown of deferred tax assets and liabilities by nature

(in millions of euros)	31/12/2024	31/12/2023
Deferred taxes:		
Fixed assets and right-of-use assets	(5,721)	(5,114)
Provisions for employee benefits	4,190	3,938
Other provisions and impairment	269	216
Financial instruments	(367)	509
Tax loss carryforwards and unused tax credits	6,765	7,915
Lease liability	774	838
Other	453	544
Total deferred tax assets and liabilities	**6,363**	**8,846**
Unrecognised deferred tax assets	(2,880)	(2,421)
NET DEFERRED TAXES	**3,483**	**6,425**

At 31 December 2024, unrecognised deferred tax assets represent a potential tax saving of €2,880 million (€2,421 million at 31 December 2023), mainly relating to France, Italy and the United States.

The unrecognised potential tax saving in France, amounting to €1,956 million (€1,709 million in 2023), essentially relates to the stock of deferred tax assets on employee benefits. Some of the corresponding deferred taxes are unrecognised, in application of the Group's policy for recognition of deferred taxes beyond a 10-year horizon.

The potential tax saving in Italy, amounting to €311 million (€308 million in 2023), relates to the tax value of goodwill, which was revised in 2021 and is amortisable over 50 years for tax purposes. Some of the corresponding deferred tax assets are unrecognised due to the Group's policy for recognition of deferred taxes beyond a 10-year horizon (deferred tax assets that will reverse within 10 years are recognised in full, while other deferred tax assets are recognised to the extent of concurrent deferred tax liabilities).

The unrecognised deferred tax assets in the United States, amounting to €491 million (€287 million in 2023) mainly relate to tax losses that can be carried forward until dates between 2029 and 2037 (this concerns losses generated before 31 December 2017, and long-term capital losses), or for an unlimited period (for losses generated after 2017), and tax credits expiring between 2025 and 2042.

Recognised deferred tax assets on tax loss carryforwards and tax credits utilised amount to €6,151 million (€7,538 million in 2023) and principally concern France (€4,824 million in 2024, €6,190 million in 2023), the United States (€231 million in 2024, €561 million in 2023), and the United Kingdom (€721 million in 2024, €475 million in 2023).

In France, they include a deferred tax asset of €4,733 million generated by the loss reported in 2022 by the French tax group (EDF SA, Enedis, PEI and other French subsidiaries owned more than 95%), which has not yet been totally utilised.

Based on the projected future tax results of the French tax group, the gross deferred tax asset of €4,733 million is expected to be recovered within 10 years. These projections take account of the Group's 2025 budget as approved by the Board of Directors and the Group's internal financial trajectory.

In the United Kingdom, deferred tax assets on tax loss carryforwards and tax credits were recognised due to the existence of deferred tax liabilities in the same entities that will reverse over the same time horizons, or because taxable profits are expected.

In the United States, a portion of tax losses and credits were similarly recognised due to expectations of taxable profits.

Note 10 Property, plant and equipment and intangible assets (excluding French public electricity distribution concession assets)

Details of property, plant and equipment and intangible assets (excluding French electricity distribution concession assets) are as follows:

(in millions of euros)	Notes	31/12/2024	31/12/2023
Goodwill	10.1	7,108	7,895
Other intangible assets	10.2	12,567	11,300
Property, plant and equipment used in generation and other tangible assets, including right-of-use assets	10.3	108,100	100,587
Right-of-use assets	*10.4*	*4,302*	*4,173*
Property, plant and equipment operated under concessions other than French electricity distribution concessions	10.5	6,616	6,544
TOTAL PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS (EXCLUDING FRENCH ELECTRICITY DISTRIBUTION CONCESSION ASSETS)		**134,391**	**126,326**

n.a.: not applicable.

10.1 Goodwill

ACCOUNTING PRINCIPLES AND METHODS

DETERMINATION OF GOODWILL

In application of IFRS 3, "Business combinations" (see note 3), goodwill is the difference between:

- the sum of the following items:
  - the acquisition-date fair value of the price paid to acquire control;
  - the value of non-controlling interests in the entity acquired; and
  - for acquisitions achieved in stages, the acquisition-date fair value of the Group's share in the acquired entity before it acquired control; and
- the net value of the assets acquired and liabilities assumed, measured at fair value at the acquisition date.

When this difference is negative it is immediately included in net income.

The fair values of assets and liabilities and the resulting goodwill are finalised within twelve months of the acquisition.

MEASUREMENT AND PRESENTATION OF GOODWILL

Goodwill on acquisition of subsidiaries is disclosed separately in the balance sheet. Impairment on this goodwill is reported under the heading "Impairment" in the income statement. After initial recognition, goodwill is carried at cost less any impairment recognised.

Goodwill on acquisition of associates and joint ventures is included in the investment's net book value. Impairment on this goodwill is included under the heading "Share in income of associates and joint ventures".

Goodwill is not amortised, but impairment tests are carried out as soon as there is an indication of possible loss of value, and at least annually, as described in note 10.7.

Changes in goodwill were as follows:

(in millions of euros)	Note	31/12/2024	31/12/2023
Net book value at opening date		7,895	9,513
Acquisitions		594	43
Disposals		(1,417)	(24)
Impairment	10.7	(151)	(1,779)
Translation adjustments		212	134
Other changes		(25)	8
NET BOOK VALUE AT CLOSING DATE		**7,108**	**7,895**
Gross value at closing date		11,359	11,832
Accumulated impairment at closing date		(4,251)	(3,937)

At 31 December 2024, goodwill primarily relates to EDF Energy (€3,596 million) and Framatome (€1,511 million).

The net change in goodwill essentially results from:

- acquisition of the Arabelle Solutions subgroup, which led to recognition of provisional goodwill of €513 million (see note 3.1.2);
- loss of control over Sizewell C (Holding) Ltd leading to a decrease of €(1,417) million (see note 3.1.3).

Impairment of goodwill in the United Kingdom amounting to €(108) million was recognised during the year (see note 10.7).

The €212 million increase in translation adjustments reflects the rise of the pound sterling against the Euro.

10.2 Other intangible assets

ACCOUNTING PRINCIPLES AND METHODS

GENERAL PRINCIPLES

Other intangible assets mainly comprise:

- software, which is amortised on a straight-line basis over its useful life, including SaaS (Software as a Service) contracts which are not treated as service contracts and included in expenses. To qualify for treatment as fixed assets, SaaS contracts must confer a right of control to the user in addition to access to the software for a fixed period;
- development costs that qualify for capitalisation under IAS 38 amortised on a straight-line basis over their foreseeable useful life;
- purchased brands with an indefinite useful life, or amortised on a straight-line basis over their useful life;
- operating or usage rights for power plants, which are amortised on a straight-line basis over the useful life of the underlying asset;
- the positive value of energy purchase/sale contracts stated at fair value as part of a business combination governed by IFRS 3: this value is amortised as the contractual deliveries take place;
- assets related to concession contracts governed by IFRIC 12, under the "intangible model" (see note 10.5);
- purchased technology related to activities of Framatome and Arabelle Solutions;
- purchased customer contracts and relations, amortised over their useful life;
- incremental costs of winning or renewing customer contracts, which are amortised over the average duration of customer contracts;
- intangible assets related to environmental regulations.

INTANGIBLE ASSETS RELATING TO ENVIRONMENTAL REGULATIONS

These include greenhouse gas emission certificates and renewable energy certificates purchased (see notes 20.1.1 and 20.1.2).

Greenhouse gas emission certificates

EU Directive 2003/87/EC set up a greenhouse gas emission quota system for the European Union. The UK has its own emissions trading scheme (UK ETS) which has been in operation since 1 January 2021.

This quota system was incorporated into national laws. Among other things it requires obligated actors, which is the case of EDF, to surrender to the State a number of greenhouse gas emission credits each year, corresponding to their emissions for the year.

In the EDF group, the entities subject to these regulations are EDF, EDF Energy, Edison, Dalkia, and Luminus.

The accounting treatment of emission certificates depends on the holding intention. Two economic models coexist in the Group:

- Certificates held under the "Trading" model are included in "Other inventories" at fair value. The change in fair value observed over the year is recorded in the income statement;
- Certificates held to comply with regulatory requirements on greenhouse gas emissions (the "Generation" model) are recorded in other intangible assets:
  - at acquisition cost when purchased on the market,
  - at nil value when allocated free of charge (in countries that still have a free allocation system).

A provision corresponding to emissions for the year is established at the year-end (see note 17.2).

This provision is equal to the acquisition cost up to the amount of certificates acquired on forward markets, and by reference to market prices for the balance. It is cancelled when the certificates are surrendered to the State.

At the closing date, the certificates held and the obligation to surrender certificates for the emissions of the year are presented gross, without netting.

If the number of emission certificates at the end of the year not subject to forward sale is higher than the number of certificates to be surrendered to the State for the year's emissions, an impairment test is applied to the excess and impairment is recognised if the net book value exceeds the market value.

Renewable energy certificates (green certificates)

In application of EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources, every EU member state has set national targets for consumption of electricity from renewable sources. The UK has its own equivalent system.

States can use two possible mechanisms to meet these targets:

- introducing a specific sales tariff for energy from renewable sources (this system is used in France and Italy);
- introducing a system of renewable energy certificates to be surrendered by energy suppliers (this system is used in the United Kingdom (Renewable Obligation Certificates) and Belgium (*Certificats verts*)).

For renewable energy certificate systems, the Group applies the following accounting treatment:

- certificates earned through energy generation are not recognised, since their cost is nil;
- certificates purchased are recognised as intangible assets in the line "Greenhouse gas emission rights - green certificates";
- a provision is established to reflect the obligation to surrender certificates. It is based on the cost of certificates earned (with nil value) and purchased (on the spot or forward market), the market price of the certificates still be purchased, and where relevant the market penalty price for the balance. The provision is cancelled when the certificates are surrendered to the State (see note 17.2).

The net value of other intangible assets breaks down as follows:

(in millions of euros)	31/12/2023	Acquisitions	Disposals	Translation adjustments	Changes in scope[1]	Other movements	31/12/2024
Software	7,964	916	(192)	52	-	17	8,757
Positive fair value of commodity contracts acquired in a business combination	504	-	-	-	-	-	504
Greenhouse gas emission certificates – green certificates	1,008	2,172	(2,196)	16	-	2	1,002
Other intangible assets	8,829	753	(37)	30	412	(212)	9,775
Intangible assets in development[2]	2,600	1,072	(41)	2	7	(37)	3,603
Gross value	**20,905**	**4,913**	**(2,466)**	**100**	**419**	**(230)**	**23,641**
Software	(5,249)	(851)	187	(47)	-	19	(5,941)
Positive fair value of commodity contracts acquired in a business combination	(291)	(25)	-	-	-	-	(316)
Other intangible assets	(4,065)	(946)	33	(24)	-	185	(4,817)
Accumulated amortisation and impairment	**(9,605)**	**(1,822)**	**220**	**(71)**	**-**	**204**	**(11,074)**
NET VALUE	**11,300**	**3,091**	**(2,246)**	**29**	**419**	**(26)**	**12,567**

(1) The changes in scope essentially concern Arabelle Solutions (see note 3.1.2).

(2) Increases in intangible assets in development are stated net of the effects of newly-commissioned assets.

Intangible assets in development at 31 December 2024 essentially comprise €2,481 million for studies concerning the EPR 2 including capitalised interim interest of €204 million (€1,651 million at 31 December 2023, including capitalised interim interest of €161 million).

The net value of other intangible assets (except intangible assets in development) at 31 December 2024 includes:

- Enedis' network map, amounting to €547 million (€500 million in 2023);
- the Edison brand and intangible assets related to Edison's hydropower concessions amounting to €1,047 million;
- the Dalkia brand and intangible assets related to Dalkia's concession agreements in France amounting to €1,691million;
- the Framatome brand, Framatome's nuclear technology-related intangible assets and Framatome's customer contracts amounting to €873 million.

The change during 2024 is explained by the impairment of €(228) million recognised in connection with NUWARD (Small modular reactors) (see note 10.7.2).

New nuclear reactors in France: the EPR2 project

The EPR2 project concerns a new pressurised water nuclear reactor that meets the objectives for third-generation reactor safety, using a technology that incorporates design, construction and commissioning experience acquired from EPR reactors and the nuclear reactors currently in operation.

EDF is in charge of design development for this reactor, and the principal safety options were validated by the ASN in 2019.

The EPR2 will offer superior operating performance in terms of power (1,650MW compared to 1,450MW for the N4, the most powerful reactor currently in operation except Flamanville 3), efficiency, availability and manoeuvrability. It will confirm the advance begun with the Flamanville 3 EPR, which was coupled to the network for the first time on 21 December 2024 and is due to start operation in 2025.

On 10 February 2022, the French President announced the launch of a programme to construct 6 EPR2 reactors by 2035, and begin studies for an additional 8 EPR2 reactors by 2050. He also observed that it was necessary to aim to have the first new reactor commissioned by 2035-2040, and said that these new EPR2 units would be built and operated by EDF.

On 29 June 2023, EDF announced that it was making the necessary applications for authorisation to launch construction of the first pair of EPR 2 reactors at Penly, and starting other administrative procedures required for their completion and connection to the electricity transmission network. EDF is proposing to build three pairs of EPR 2 reactors, at Penly (Normandy), Gravelines (Hauts-de-France) and Bugey (Auvergne-Rhône-Alpes), in that order (see the press release by the French President's Office of 19 July 2023).

While awaiting a final investment decision (FID) for the EPR 2 programme, EDF was authorised by its Board of Directors on 15 February 2024 to continue development work on this project until the end of 2024, with a budget extension of approximately €1.2 billion, bringing the total development budget for the EPR 2 programme to €3,042 million.

Major milestones were reached during 2024 for the EPR 2 project: a technical maturity review in July confirmed the move to the detailed design phase for the nuclear buildings, the launch of primary component production was greenlit (as technical maturity had been reached and the ASN had officially lifted its hold points), and the decree authorising the convention for use of the maritime zone at Penly was published in the *Journal officiel* on 6 July, allowing preparatory work at the site to begin in July 2024. Active preparation of the Gravelines and Bugey projects also progressed. The public debate concerning Gravelines was held from 17 September 2024 to 17 January 2025. The Bugey project was submitted to France's National Public Debate Commission (CNDP), which also decided to hold a debate in the first half of 2025. Work on the competitiveness plan, the technical maturity review, asset regulation, and programme consolidation continued through regular contacts with the French State, including the Interministerial Nuclear New Build Delegation (*Délégation Interministérielle du Nouveau Nucléaire* or DINN), on the pathway towards the final investment decision. A financial audit by the State is expected to take place in 2025.

At 31 December 2024, the EPR 2 project consists of €2,481 million of intangible assets and €381 million of tangible assets.

The Group's 2025 budget, approved on 18 December 2024, includes expenditure of €1.1 billion in 2025 on the French nuclear new build programme. The Board of Directors' meeting of 5 February 2025 took note of the opinion of its Commitments Committee which met on 27 January 2025: the Committee considered this level of expenditure appropriate, as it is focused on the work required for a final investment decision to be made in late 2026, and the programme's priorities (design maturity and progress on the licence and permit procedures, funding arrangements, etc).

NUWARD, France's Small Modular Reactor (SMR) project

The Basic Design phase of this project continued throughout the first half of 2024, with deeper consideration of the project's design and market positioning. In view of what was learned, a new strategic orientation was adopted, consisting of developing a new design based on proven technological building blocks.

This orientation will build on the technical, industrial and commercial knowledge accumulated by NUWARD and the Group's own experience in nuclear power and PWR technology.

In view of these factors, the Group recognised impairment at 31 December 2024 on the amounts capitalised to date for this project which now amount to €(228) million net of subsidies (see note 10.7). Expenditure on the project in 2024 amounted to €90 million.

The EDF group is continuing its strategy of developing a third-generation SMR jointly with its subsidiary NUWARD, to support the energy transition and meet industrial operators' needs in Europe and internationally.

On 26 April 2024, the European Commission approved French State aid to support NUWARD's research and development for SMRs. €75 million of this aid was received in the first half of 2024. These subsidies are included in Other liabilities (see note 13.6.5).

10.3 Property, plant and equipment used in generation and other tangible assets by the Group

ACCOUNTING PRINCIPLES AND METHODS

Property, plant and equipment is recorded at acquisition or production cost:

- the cost of facilities developed in-house includes all labour and materials costs, and all other production costs that can be included in the construction of the asset;
- borrowing costs attributable to the financing of an asset incurred during the construction period are included in the value of the asset provided it is a qualifying asset as defined by IAS 23 "Borrowing costs";
- the cost of property, plant and equipment also includes the initial estimate of decommissioning costs. These costs are recognised in assets against the provision recognised to cover these obligations. On initial recognition these assets are measured and recorded in the same way as the corresponding provision (see note 15);
- decommissioning costs for nuclear generation installations also include last core costs (see note 15).

When some of the decommissioning costs for a plant are to be borne by a partner, the expected reimbursement is recognised as accrued income in the assets.

The Group capitalises safety expenses incurred as a result of legal and regulatory obligations sanctioning non-compliance by an administrative ban from operation.

Strategic safety spare parts for generation facilities are treated as property, plant and equipment, and depreciated over the residual useful life of the installations.

The costs of operations that are necessary for generation assets to remain in service, and are undertaken at the time of scheduled shutdowns, particularly during major inspections, are capitalised and amortised over a period corresponding to the time elapsing between two inspections.

DEPRECIATION

Items of property, plant and equipment are depreciated on a straight-line basis over their useful life, defined as the period during which the Group expects to draw future economic benefits from their use.

When a part of an asset has a different useful life from the overall asset's useful life, it is identified as an asset component and depreciated over a specific period.

Depending on each country's specific regulations and contractual arrangements, the expected useful lives for the main facilities are as follows:

• nuclear generation facilities	40 to 50 years
• wind farm and photovoltaic facilities	20 to 25 years
• fossil-fired power plants (mainly CCGT-Combined Cycle Gas Turbine plants)	25 to 45 years
• transmission and distribution installations (lines, substations)	20 to 60 years
• other general plant and machinery	10 to 20 years

Depreciation periods of nuclear plants in France

As stated in note 1.3.4.1, the depreciation period of nuclear power plants currently in operation in France, *i.e.* thirty-two 900MW reactors, twenty 1,300MW reactors and four 1,450MW reactors, is 50 years for 900MW-series plants (since 1 January 2016) and 1,300MW-series plants (since 1 January 2021), and 40 years for N4-series plants, which do not yet fulfil the conditions for a longer depreciation period.

Under France's multi-year energy programme (PPE, standing for *Programmation Pluriannuelle de l'Énergie*) for the period 2019-2028, adopted in April 2020, twelve French nuclear reactors are to be shut down by 2035. As this includes the shutdowns of two 900MW reactors in 2027 and 2028 ahead of their fifth 10-year inspection, an early shutdown scenario for two 900MW reactors was adopted. Its effects on nuclear provisions and depreciation in the Group's financial statements are not significant. Application of this scenario continued at 31 December 2024 while awaiting the next multi-year energy programme, which could be adopted in 2025 as part of the current revision of France's Energy and Climate Strategy.

Depreciation period of the Cordemais coal-fired plant in France

In view of France's Energy and Climate law of 8 November 2019, the end of the depreciation period for the Cordemais coal-fired plant was brought forward to 2026 at the 2021 year-end.

In September 2024, since the technical and economic conditions necessary for the repowering project to run the Cordemais plant on biomass were not fulfilled, EDF announced that it was considering stopping electricity generation by the Cordemais coal-fired plant in 2027. The repowering project is subject to consultation with employee representative bodies.

The net values of property, plant and equipment used in generation and other tangible assets are as follows:

(in millions of euros)	31/12/2023	Increases	Assets commissioned	Decreases	Translation adjustments	Changes in the scope of consolidation	Other movements	31/12/2024
Land and buildings	14,561	84	405	(99)	44	139	20	15,154
Nuclear power plants	82,796	15	5,163	(2,042)	477	-	(34)	86,375
Fossil-fired & hydropower plants	17,878	65	617	(1,972)	50	10	13	16,661
Other installations, plant, machinery, equipment & other	25,955	251	2,986	(564)	142	(966)	297	28,101
Right-of-use assets [1]	7,157	846	-	-	54	(58)	(15)	7,984
Assets in progress	58,041	17,959	(9,171)	(247)	1,521	(3,707)	304	64,700
Gross value	**206,388**	**19,220**	**-**	**(4,924)**	**2,288**	**(4,582)**	**585**	**218,975**
Land and buildings	(8,768)	(406)	-	80	(25)	(1)	(5)	(9,125)
Nuclear power plants	(56,818)	(3,900)	-	1,945	(328)	-	(158)	(59,259)
Fossil-fired & hydropower plants	(13,007)	(495)	-	1,956	(43)	-	(290)	(11,879)
Other installations, plant, machinery, equipment & other	(12,918)	(1,677)	-	550	(121)	70	731	(13,365)
Right-of-use assets [1]	(2,984)	(804)	-	-	(14)	6	114	(3,682)
Assets in progress	(11,306)	(1,173)	-	14	(570)	(11)	(519)	(13,565)
Depreciation and impairment	**(105,801)**	**(8,455)**	**-**	**4,545**	**(1,101)**	**64**	**(127)**	**(110,875)**
NET VALUE	**100,587**	**10,765**	**-**	**(379)**	**1,187**	**(4,518)**	**458**	**108,100**
Including assets in operation	*53,852*	*(6,021)*	*9,171*	*(146)*	*236*	*(800)*	*673*	*56,965*
Including assets in progress	*46,735*	*16,786*	*(9,171)*	*(233)*	*951*	*(3,718)*	*(215)*	*51,135*

(1) See note 10.4.

The change in the net value of property, plant and equipment in 2024 amounts to €7,513 million, of which €4,400 million relates to assets in progress and €3,113 million to assets commissioned and in operation.

Assets in progress

At 31 December 2024, the net value of assets in progress (property, plant and equipment used in generation and other tangible assets) is €51,135 million, mainly comprising:

- Assets for Hinkley Point C amounting to €21,190 million, including capitalised interim interest of €2,704 million (€15,723 million and €1,682 million respectively at 31 December 2023). The value of these assets includes accumulated impairment booked on the project which amounts to €(13,405) million at 31 December 2024 (€(11,172) million at 31 December 2023);
- Assets for the Flamanville 3 EPR amounting to €15,878 million, including capitalised interim interest of €3,471 million (€15,485 million and €3,471 million respectively at 31 December 2023);

The €6,659 million increase in the gross value of these assets during 2024 comprises:

- €4,496 million concerning the major projects in the United Kingdom: €6,131 million for Hinkley Point C and €(1,635) million for Sizewell C (the €2,112 million of investments made during the year are included in "increases" and the €(3,747) million effects of loss of control are included in "changes in the scope of consolidation", see note 3.1.3);
- €6,038 million concerning France, including €2,931 million for the *Grand Carénage* industrial refurbishment programme and €393 million for Flamanville 3;
- €1,877 million concerning various solar and wind energy projects at EDF Renewables;
- €1,521 million of translation adjustments mainly due to the pound sterling's rise against the euro;
- €(9,171) million concerning new installations commissioned during the period: €(5,651) million in France, essentially relating to nuclear power plants, €(2,122) million for solar and offshore wind energy projects at EDF Renewables, and €(621) million in Italy, relating to thermal and hydropower generation facilities.

Assets in operation

The gross value at 31 December 2024 of property, plant and equipment in operation is €154,275 million. The increase of €5,928 million is explained by:

- €9,171 million reflecting the commissioning of new facilities during the period;
- a decrease of €(4,677) million, including €(2,278) million in France, mainly relating to major refurbishments under the *Grand Carénage* programme and 10-year inspections, and €(2,134) million in the United Kingdom;
- €(875) million resulting from changes in the scope of consolidation, essentially at EDF Renewables (principally relating to the sales of the Fox Squirrel and Desert Quarritz solar plants in the United States (€(1,333) million);
- €767 million of translation adjustments mainly due to the pound sterling's rise against the euro.

Principal projects in progress and investments during the year

Investment programme for the existing nuclear fleet in France: *Grand Carénage*

Since 2014 EDF has been implementing its *Grand Carénage* industrial refurbishment programme for the French nuclear fleet, designed to enhance reactor safety and extend their operating lifetimes significantly beyond 40 years. On 31 March 2022, EDF's Board of Directors validated a new roadmap for the period 2022–2028. This incorporates information gained from current ASN inspections, particularly the fourth 10-year inspections of 900MW and 1,300MW plants, and includes the start of the research phase for the fifth 10-year inspections of 900MW plants, for a re-estimated total investment of €36.1 billion in current euros, i.e. €32.0 billion in 2021 euros. Investments made under the programme in 2024 totalled €5.2 billion. These amounts include the cost of work to address the stress corrosion issue, estimated at €1.3 billion in current euros (€1.2 billion in 2021 euros) for the period 2022-2025.

Stress corrosion

During scheduled controls included in the 10-year inspection of the Civaux 1 reactor in late 2021, stress corrosion was identified on parts of the auxiliary circuit pipework in the reactor's main primary circuit. EDF immediately carried out inspections and expert appraisals of the four series of reactors making up the French nuclear fleet (900MW, 1,300MW-P4, 1,300MW-P'4 and N4).

The examinations performed in 2022 led to an initial characterisation of the stress corrosion sensitivity of the fleet's 56 reactors, and the industrial programme for preventive replacement of pipe sections in reactors sensitive to stress corrosion was completed in the first quarter of 2024.

The planned checks were carried out in full and confirmed the reactors' sensitivity classification and the specific risk associated with repaired welds. The checks carried out on these units identified a few cases of suspected stress corrosion, which led to around 10 additional replacement projects in 2024. Inspections are carried out during scheduled maintenance shutdowns, and no additional or dedicated shutdown took place in 2024.

EDF sent the ASN its monitoring and maintenance strategy in late 2024 and the ASN is expected to state its position during 2025.

Flamanville 3 EPR project

The Flamanville 3 project saw the following developments during 2024:

The Compliance Declaration for the nuclear steam supply systems, which was required before fuel components could be loaded in the reactor vessel, was issued on 7 May 2024. This also marked the completion and compliance of the repairs to the welds on the main secondary circuit.

Following issuance on 8 May 2024 of the ASN's authorisation for commissioning of the Flamanville 3 EPR, EDF's teams loaded 241 nuclear fuel assemblies into the reactor vessel between 8 and 15 May.

After this operation was completed, the vessel head was closed on 26 May, so that the temperature and pressure in the circuits could be gradually increased in preparation for nuclear testing.

EDF's teams thus put the facilities into the required conditions to initiate nuclear fission.

The first nuclear reaction took place on 3 September 2024. The generation unit was connected to the electricity network on 21 December 2024 when it reached 17% of its nominal power (the "coupling" milestone), and the reactor ramp-up will continue gradually in 2025 until 100% of nominal power is reached. On 31 January 2025, the ASN authorised EDF to exceed 25% of its nominal power. Authorisation from the ASN will also be required before reaching the 80% threshold.

The ASN issued a decision on 16 May 2023 authorising use of Flamanville's current reactor vessel head until "the reactor shutdown during which the first complete requalification of the primary circuit takes place". As a result, the reference scenario for EDF now assumes that the reactor vessel head will be replaced during the first scheduled shutdown for a full inspection, which should begin at the end of the reactor's first operating cycle (see note 15.1).

The construction cost (excluding interim interest) is stated in the consolidated financial statements at 31 December 2024 at €12,8 billion.

This amount includes the following items:

- pre-operating expenses and other property, plant and equipment related to the project, totalling €1,222 million;
- an inventory of spare parts and capitalised amounts totalling €863 million for related projects (notably the initial comprehensive inspection and North Area development).

The completion cost is unchanged at €13.2 billion in 2015 euros.

Hinkley Point C

Following the final investment decision (FID) made by EDF's Board of Directors on 28 July 2016, EDF and China General Nuclear Power Corporation (CGN) signed contracts with the UK government for the construction and operation of two EPR reactors at the Hinkley Point site in Somerset (the "Hinkley Point C" or "HPC" project).

The Contract for Difference signed on 29 September 2016 aims to provide security in the revenues generated from electricity produced and sold by HPC over a period of 35 years from commissioning of Unit 2. From the plant's start date, if the reference price at which HPC sells electricity on the market is lower than the strike price defined in the contract, i.e. £92.50/MWh (in 2012 sterling), index-linked to UK inflation through the Consumer Price Index, HPC will receive an additional payment. If the reference price is higher than the strike price, HPC must pay the difference.

On 23 January 2024, the Group announced that the schedule and construction cost for the two nuclear reactors at Hinkley Point C had been revised. Reactor 1 is now expected to be commissioned around the end of the decade. The cost of civil engineering and the longer duration of the electromechanical phase (and its impact on other work) were the two main reasons for this cost and schedule revision. The completion cost for the project is estimated at £31-34 billion (in 2015 sterling) depending on the situation. In the scenario assuming a further 1-year duration, the estimated additional cost would be around £1 billion in 2015 values (see note 10.7).

The consequences of the revised schedule and costs were taken into consideration in the valuation of assets at 31 December 2023, leading to recognition of impairment of €(11,151) million (see note 10.8 to the consolidated financial statements at 31 December 2023).

Construction of HPC continued during 2024, particularly with the following advances:

- installation of heat exchangers for Unit 1's diesel systems;
- the transfer pool and the cavity pool were installed for the Unit 2 reactor building;
- Unit 2's third liner ring was lifted into place;
- the reactor pressure vessel for Unit 1 was installed;
- the generator stator was installed in Unit 1's turbine hall.

The shareholders' funding commitments have been fully honoured, and in accordance with the agreements, from the fourth quarter of 2023 construction of the project is funded by the shareholders on a voluntary basis. The Group has financed the project alone since then.

At 31 December 2024, EDF's share in HPC is 72.6%, with CGN owning the remaining 27.4%.

Sizewell C

The Sizewell C project saw the following developments during 2024:

- In May 2024 the Office for Nuclear Regulation granted the Nuclear Site Licence required to start building the plant;
- the Sizewell C project company purchased the principal site land from EDF Energy during the first half of 2024, and on-site construction work officially started;
- Framatome signed several contracts with the Sizewell C project company in April 2024. Framatome will supply the two nuclear heat production systems and the plant's safety instrumentation and control systems. The agreements signed also cover a long-term fuel supply contract and a long-term maintenance and service contract to support the plant's operation. Production of all the forged components for Unit 1 has begun;
- a consortium formed by EDF SA and Edvance signed several contracts in July 2024 for design rights and engineering services.

Continuing the equity raise process launched in September 2023 to seek additional funding for the construction of Sizewell C, the final phase of investor selection is now in process, with the UK government's final investment decision to be taken in 2025.

At 31 December 2024, EDF owns only a 16.23% share of the project company (49.44% at 31 December 2023), and the UK government holds 83.77% (50.56% at 31 December 2023).

10.4 Right-of-use assets

ACCOUNTING PRINCIPLES AND METHODS

Under IFRS 16, a contract is, or contains, a lease if it confers the right to control the use of an identified asset for a period of time in exchange for a consideration.

Identified arrangements that do not have the legal form of a lease contract but nonetheless convey the right to control the use of an asset or group of specific assets to the purchaser are classified as leases by reference to IFRS 16.

RECOGNITION OF A LEASE CONTRACT AS LESSEE UNDER IFRS 16

The Group's lease contracts as lessee essentially concern real estate assets (office and residential properties), industrial installations (land, wind farms) and to a lesser extent vehicles, IT and industrial equipment.

IFRS 16 requires leases to be recognised in the lessee's balance sheet when the leased asset is made available, in the form of a "right-of-use" asset, presented in "Property, plant and equipment used in generation and other tangible assets, including right-of-use assets" with a corresponding financial liability associated with the lease commitment, presented in "Current and non-current financial liabilities".

Upon initial recognition of a lease, the right of use and the lease liability are valued by discounting the future lease payments over the term of the lease, taking into consideration assumptions regarding the renewal or termination of leases if the relevant options are reasonably certain to be exercised.

As a rule, since the implicit interest rate in a lease is difficult to determine, the lessee's incremental borrowing rate is used to discount the lease liability. This rate is based on zero-coupon EDF bond rates, adjusted for the currency risk, a country risk premium, the term of the lease contracts and the subsidiary's credit risk at the date of initial recognition of the contract. In certain cases, it is based on a subsidiary's specific incremental borrowing rate.

Subsequently, the right of use is amortised over the expected term of the lease, while the lease liability is stated at amortised cost, *i.e.* adding the interest recognised in the financial result, and deducting the amount of the lease payments made.

The Group applies the two exemptions allowed by IFRS 16, and as a result leases with a term of 12 months or less and leases of assets with individual value when new of less than USD 5,000 are not recognised in the balance sheet. Consequently, the payments on these leases are recognised on a straight-line basis over the lease term in the income statement.

Off-balance sheet commitments presented in note 22.1.1 concern:

- short-term leases (12 months or less);
- leases of assets with low value (less than USD 5,000 when new);
- leases signed for which the leased assets have not yet been made available (for example, assets under construction).

RECOGNITION OF A LEASE CONTRACT AS LESSOR

The accounting treatment of a lease contract in which the Group is lessor depends on the classification of the contract. For a finance lease which transfers substantially all risks and rewards inherent to ownership of the underlying asset to the lessee, the Group recognises a financial asset in its balance sheet instead of the initial fixed asset; in this case, the receivable is equal to the discounted value of future lease payments.

10.4.1 Change in right-of-use assets

(in millions of euros)	31/12/2023	Increases	Decreases	Changes in the scope of consolidation	Other movements	31/12/2024
Land and buildings	5,936	598	-	(72)	160	6,622
Other installations, plant, machinery, equipment & other	1,221	248	-	14	(121)	1,362
Gross value	**7,157**	**846**	**-**	**(58)**	**39**	**7,984**
Land and buildings	(2,300)	(616)	-	6	5	(2,905)
Other installations, plant, machinery, equipment & other	(684)	(188)	-	-	95	(777)
Depreciation and impairment	**(2,984)**	**(804)**	**-**	**6**	**100**	**(3,682)**
NET VALUE	**4,173**	**42**	**-**	**(52)**	**139**	**4,302**

The change in right-of-use assets at 31 December 2024 essentially concerns EDF SA (€1,504 million), Enedis (€780 million) and EDF Renewables (€677 million).

Increases (except in depreciation) relate to right-of-use assets arising from new lease contracts, including €355 million concerning EDF SA's office building leases.

"Other movements" are principally explained by the impact of the obligation to restore leased HPC land (€90 million) and the foreign exchange effect at EDF Renewables and EDF Energy (€41 million).

10.4.2 Impacts in the income statement

The main impacts in the income statement of the Group's lease contracts as lessee are as follows:

(in millions of euros)	2024	2023
Income from subleases	7	7
Variable lease expenses	(67)	(74)
Expenses on short-term leases or leases of low-value assets	(176)	(140)
Income from sale and leaseback operations	-	-
Operating profit before depreciation and amortisation	**(236)**	**(207)**
Depreciation on right-of-use assets	(804)	(772)
Operating profit	**(1,040)**	**(979)**
Interest expense on the lease liability	(131)	(100)
INCOME BEFORE TAXES OF CONSOLIDATED COMPANIES	**(1,171)**	**(1,079)**

10.4.3 Payments relating to leases

(in millions of euros)	2024	2023
TOTAL PAYMENTS RELATING TO THE LEASE LIABILITY	**(867)**	**(845)**

Payments relating to the lease liability mainly concern principal repayments, and amount to €770 million in 2024 (€752 million in 2023).

10.5 Property, plant and equipment operated under concessions other than French public electricity distribution concessions

ACCOUNTING PRINCIPLES AND METHODS

The accounting treatment of concession agreements depends on the nature of the agreements and their specific contractual features.

CONCESSIONS IN FRANCE

In France, the Group is the operator for three types of concessions:

- public electricity distribution concessions granted by local authorities (municipalities or syndicated municipalities) (see note 11);
- hydropower concessions granted by the State;
- heat generation and distribution concessions from public authorities.

HYDROPOWER CONCESSIONS

Hydropower concessions follow standard rules approved by decree. For concessions granted before 1999, hydropower concession assets consist solely of hydropower generation equipment (dams, pipes, turbines, etc.), while for more recent concessions, they also include hydropower generation equipment and switching facilities (alternators, etc.).

Most concessions that expired before 2012 were initially for 75 years and were renewed for terms of 30 to 50 years. However, the French government has not yet renewed 36 concessions that have expired. Since their expiry these concessions have thus been in the "rolling extension" situation defined by the law, which stipulates that at the expiry date of a concession, if no new concession has been established "the concession is extended on the existing terms until such time as a new concession is granted", so as to ensure continuity of operations in the meantime (Article L. 521 - 16 par. 3 of the French Energy Code).

As these concession agreements are not concerned by IFRIC 12 "Service concession agreements", the assets used, whether directly owned or part of the concession, are recorded under "Property, plant and equipment operated under concessions other than French public electricity distribution concessions" at acquisition cost.

The main useful lives are the following; for concession assets, the depreciation periods also take account of the duration of the concession agreement:

• Hydroelectric dams	75 years
• Electromechanical equipment used in hydropower plants	50 years

HEAT GENERATION AND DISTRIBUTION CONCESSIONS FROM PUBLIC AUTHORITIES

Heat generation and distribution concession agreements signed by Dalkia with public authorities confer the right to operate facilities remitted by or constructed at the request of those authorities for a limited period, under the concession-granting authority's supervision.

These agreements set the terms for remuneration and transfer of the facilities to the concession-granting authority or another operator taking over at the end of the agreement.

The assets are recorded as "Other intangible assets", in accordance with IFRIC 12 "Service concession agreements". Intangible assets are depreciated on a straight-line basis over the term of the concession, which is generally between 15 and 25 years.

Almost all of these assets are located in France.

FOREIGN CONCESSIONS

Foreign concessions are governed by a range of contracts and national laws. Most assets operated under foreign concessions are recorded under "Property, plant and equipment operated under concessions other than French public electricity distribution concessions". Foreign concessions essentially concern Edison in Italy, which operates local gas distribution networks, hydropower generating plants and energy services under concessions. Edison owns all the assets except for some items of property, plant and equipment on the hydropower generation sites, which will be returned to the concession-granting authority for nil consideration or with an indemnity when the concession ends. In compliance with IFRIC 12, certain concession agreements are recorded as intangible assets.

Hydropower generation assets which will be returned for nil consideration at the end of the concession are depreciated over the duration of the concession.

The net values of property, plant and equipment operated under concessions other than French public electricity distribution concessions are as follows:

(in millions of euros)	31/12/2023	Increases	Commissioning	Decreases	Changes in the scope of consolidation	Other movements	31/12/2024
Land and buildings	1,674	4	26	(5)	-	(4)	1,695
Fossil-fired & hydropower plants	11,890	20	238	(25)	2	33	12,158
Other	699	11	28	(31)	-	11	718
Assets in progress	792	443	(292)	(8)	(13)	8	930
Gross value	**15,055**	**478**	**-**	**(69)**	**(11)**	**48**	**15,501**
Land and buildings	(1,054)	(37)	-	5	-	2	(1,084)
Fossil-fired & hydropower plants	(6,931)	(323)	-	21	-	(40)	(7,273)
Other	(509)	(33)	-	31	-	-	(511)
Assets in progress	(17)	(2)	-	-	-	2	(17)
Depreciation and impairment	**(8,511)**	**(395)**	**-**	**57**	**-**	**(36)**	**(8,885)**
NET VALUE	**6,544**	**83**	**-**	**(12)**	**(11)**	**12**	**6,616**

At 31 December 2024, property, plant and equipment operated under concessions other than French public electricity distribution concessions comprise concession facilities mainly located in France and in Italy (hydropower, excluding public electricity distribution).

10.6 Investments in intangible assets and property, plant and equipment

The table below provides a breakdown of the investments in intangible assets and property, plant and equipment presented in the cash flow statement:

(in millions of euros)	2024	2023
Acquisitions of intangible assets	(2,733)	(2,183)
Acquisitions of property, plant and equipment	(22,739)	(19,667)
Change in payables to suppliers of fixed assets	693	829
INVESTMENTS IN INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT	**(24,779)**	**(21,021)**

Investments in intangible assets and property, plant and equipment during 2024 mainly concern:

- the **France - Generation and Supply** segment: €7,709 million, primarily investments in the nuclear fleet currently in operation, essentially made under the *Grand Carénage* programme, investments in hydropower generation, and investments in new nuclear projects, essentially the EPR 2 programme (see note 10.2);
- the **United Kingdom** segment: €7,152 million, mainly concerning investments made for the Hinkley Point C and Sizewell C;
- the **France - Regulated activities** segment: €5,803 million, essentially investments related to connections for customers and producers, but also investments for network renewal and modernisation, and quality;
- the **EDF Renewables** segment: €2,068 million, mainly investments in wind and solar capacities under construction in North America, Brazil and the United Kingdom.

10.7 Impairment / reversals

ACCOUNTING PRINCIPLES AND METHODS

At the year-end and at each interim reporting date, in application of IAS 36, the Group assesses whether there is an indication that an asset could have been significantly impaired. An impairment test is also carried out at least once a year on cash-generating units (CGUs) or groups of CGUs including an intangible asset with an indefinite useful life, or to which goodwill has been partly or totally allocated.

Impairment tests are carried out as follows:

- the Group measures any long-term asset impairment by comparing the carrying value of these assets and goodwill, grouped into CGUs where necessary, and their recoverable amount;
- CGUs are groups of homogeneous assets that generate identifiable independent cash flows. They reflect the way activities are managed in the Group: they may be subgroups when the activity is optimised across the whole subgroup, or CGUs formed by parts of subgroups corresponding to different types of activity that are managed separately (thermal generation, renewable energy production, services), or single assets;
- the recoverable value of these CGUs is the higher of fair value net of disposal costs, and value in use. When this recoverable value is lower than the carrying amount in the balance sheet, an amount equal to the difference is booked under the heading "Impairment". The loss is allocated first to goodwill, and any surplus to the other assets of the CGU concerned; impairment booked on goodwill is irreversible;
- fair value is the asset's potential sale price in a normal transaction between economic actors;
- value in use is calculated based on projected future cash flows:
  - over a horizon that is coherent with the asset's useful life and/or operating life,
  - for certain intangible assets with an indefinite useful life (such as brands), beyond the horizon that can be observed or modelled, a terminal value is determined by discounting to infinity a normative cash flow,
  - excluding development projects other than those that have been decided at the valuation date, and
  - discounted at a rate that reflects the risk profile of the asset or CGU;
- the discount rates used are based on the weighted average cost of capital (WACC) for each asset or group of assets concerned, determined by geographical area and by business segment under the CAPM. WACC is calculated after taxes;
- future cash flows are calculated on the basis of the best available information at the closing date:
  - for the first few years, the cash flows correspond to the budget, then the Medium-Term Plan (MTP). Over this horizon, energy and commodity prices are determined based on available forward prices, taking hedges into consideration,
  - beyond the MTP horizon, cash flows to 2050 are estimated based on long-term assumptions prepared for each country where the Group controls industrial assets, using a financial trajectory and scenario-building process that is updated annually. Long-term electricity prices are constructed analytically based on a set of assumptions concerning factors such as economic growth, commodity (oil, gas, coal) and CO_2 prices, demand for electricity, interconnections, changes in the energy mix (rise of renewable energies, installed nuclear capacity, etc.) and fundamental models of supply-demand balance. The Group compares each principal component of assumptions with analyses by external bodies (for example, for commodities and CO_2, which are primary influences on electricity prices). The scenarios used are also based on the objectives of public energy and climate policies such as Fit For 55 and RepowerEU at European Union level, and the National Low Carbon Strategy (*Stratégie Nationale Bas Carbone*) in France, and the Group compares its own scenarios with scenarios developed by organisations such as the IEA, IHS, Wood Mackenzie or Aurora, bearing in mind that each of these analysts itself proposes a cone of scenarios. Additionally, in constructing these long-term prices, the impact of climate contingencies is incorporated into assumptions concerning demand (particularly energy requirements for heating, and summer comfort), generation of renewable energies (onshore and offshore wind power, solar power) for all European countries, the contribution of hydropower, and environmental cuts for nuclear power generation in France. Climate time series analyses are based on the European EUROCORDEX model and include the impact of climate change. A deliberately prudent approach is adopted to avoid any bias towards underestimation of the practical effects of climate change on the relevant physical quantities as such as temperatures, cloud coverage or wind speeds and ultimately on the European electricity system between 2030 and 2050;
- income from capacity market mechanisms is also taken into consideration in valuing generation assets, provided the countries concerned have introduced or announced the future introduction of a capacity revenue mechanism.

These calculations may be significantly influenced by several variables:

- changes in discount rates;
- changes in market prices for energy and commodities and tariff regulations;
- changes in demand and the Group's market shares, and the attrition rate on customer portfolios;
- the useful life of facilities, or the duration of concession agreements where relevant;
- the growth rates used beyond the medium-term plans and where relevant the terminal values taken into consideration.

10.7.1 Impairment by category of asset

Details of impairment recognised and reversed are as follows:

(in millions of euros)	Notes	2024	2023
Impairment of goodwill	10.1	(151)	(1,779)
Impairment of other intangible assets	10.2	(372)	(44)
Impairment of tangible assets	10.3-10.5	(1,312)	(11,188)
IMPAIRMENT NET OF REVERSALS		**(1,835)**	**(13,011)**

Impairment recognised in 2024 amounts to €(1,835) million. Details are given below.

As a reminder, impairment recognised in 2023 amounted to €(13,011) million and concerned:

- the goodwill of EDF Energy (€(1,738) million);
- nuclear power plants in operation and under construction Hinkley Point C (HPC) in the United Kingdom (€(11,151) million);
- wind farms and various CGUs of EDF Renewables, principally in the United States, France and China (€(84) million);
- and other assets (total impairment €(38) million).

10.7.2 Impairment tests on goodwill, intangible assets and property, plant and equipment

The following tables present the results of impairment tests carried out on the principal goodwill, intangible assets with indefinite useful lives and other Group assets at 31 December 2024, the key assumptions used and the sensitivity to certain changes in assumptions.

Impairment of goodwill and intangible assets with indefinite useful lives

€(151) million of new impairment was recorded on the Group's goodwill at 31 December 2024.

Operating segment	Cash-Generating Unit or asset	Net book value (in millions of euros)	WACC after tax	Growth rate to infinity	Impairment recognised in 2024 (in millions of euros)
United Kingdom (EDF Energy)[1]	Goodwill	3,596	6.85%	-	(108)
	Including Pod Point	-			*(38)*
Italy (Edison)	Goodwill (energy services)	142	< 7.5% - 8.4% >	1.5%	-
	Edison brand	945			-
Framatome	Goodwill	1,511	7.6%	1.5%	-
	Framatome brand	151	7.6%	1.5%	-
Dalkia	Goodwill	634	5.8%	2.0%	-
	Dalkia brand	130	5.8%	2.0%	-
Other impairment					(43)
IMPAIRMENT OF GOODWILL AND INTANGIBLE ASSETS WITH INDEFINITE USEFUL LIVES					**(151)**

(1) The impairment test of EDF Energy goodwill covers the useful life of industrial assets, currently in operation or under construction, with no projection to infinity. The WACC determined for goodwill takes account of the WACC applicable to each of EDF Energy's CGUs, including the WACC applicable to the HPC CGU, which benefits from a regulated model.

Impairment of other intangible assets and property, plant and equipment

Impairment of €(1,685) million was recorded in respect of other intangible assets and property, plant and equipment at 31 December 2024.

Operating segment	Cash-Generating Unit or concerned asset	Impairment indicators	WACC after tax	Impairment recognised in 2024 (in millions of euros)
United Kingdom (EDF Energy)	Nuclear assets currently under construction	The Hinkley Point C (HPC) project: Change in the long-term inflation assumption curve (faster convergence towards long-term inflation)	6.8%	(1,116)
EDF Renewables	Wind and solar assets in the United Kingdom	Increased construction cost and commissioning delay	From 5.5% to 6.6%	(62)
	Wind and solar assets in China	Unfavourable change in tariffs set by law		(60)
	Solar asset in the United States	Loss of profitability by a project in development		(35)
France (Generation and supply)	NUWARD	Change in project design	-	(228)
Other impairment			-	(184)
IMPAIRMENT OF OTHER INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT				**(1,685)**

€(1,454) million of impairment net of reversals was also recognised in respect of associates at 31 December 2024, mainly concerning assets owned by EDF Renewables (see note 12.3) but also including impairment of loans to associates amounting to €(315) million. Impairment of associates totalling €(240) million was recognised at 31 December 2023.

General assumptions

At 31 December 2024, the Group applied its usual method for impairment testing, updating the annual tests for goodwill and intangible assets with an indefinite useful life.

As in 2023, particular attention was paid to the determination of WACC in an environment of rising and volatile interest rates (see the section on the Discount rates), given the sensitivity of certain tests to variations in this parameter. For both impairment and sensitivity tests, the effects of scenarios concerning prices and measures announced or introduced by the authorities in countries where the Group does business were subjected to specific monitoring.

Electricity prices

Over the market horizon (generally three years), the forward prices used in the impairment tests concerning all geographical areas are the market prices observed at 31 December 2024, including hedged positions. The assumptions used thus take account of the current market environment, in which forward electricity prices have decreased compared to the 2023 year-end, in France partly due to better nuclear fleet availability and higher renewable energy output.

Over the long-term horizon, these tests use analytically constructed price curves (to 2050) founded on assumptions and fundamental models of the supply-demand balance, in an annually updated scenario-building process that is subject to specific internal governance.

The scenarios used include high CO_2 prices supporting the move to carbon-free electricity generation in Europe and demand for energy more generally as more uses shift to electricity.

The long-term price curves in the 2024 scenario are lower than in the 2023 scenario in the early part of the horizon, due to a decrease in the average value of baseload electricity by around -€5 to -€9/MWh (in 2023 euros) in the three core countries (France, Italy and Belgium).

Beyond 2035, over a long-term horizon (to 2050), electricity prices remain close to the levels set in the 2023 scenario. The change in the short term is explained by several factors:

- pressures on gas supplies following the Russian invasion of Ukraine have been partly relieved through diversified sourcing (notably for LNG), and group procurement contracts by EU member states, making it possible to purchase larger volumes. An easing of gas prices is thus confirmed in the 2024 scenario, which applies a lower short-term price than in the 2023 scenario, and similar prices over the long term;
- a more relaxed supply-demand balance in the short term, particularly in Germany (where demand has been revised downwards slightly, and solar power is developing a little faster than anticipated).

Demand for electricity rises over the scenario horizon across all timescales in Europe due to the electrification of uses, particularly in transport and industry, reinforced by a greater need for electrolytic hydrogen. These developments, in addition to the RePowerEU plan to accelerate energy independence in Europe, have led to application of a higher assumption concerning electricity requirements.

As these assumptions are key for the determination of the recoverable value of the Group's assets, sensitivity analyses are carried out on long-term price curves as part of the impairment tests.

In the assumptions concerning European countries' capacity mechanisms in general, the necessary additional capacity remuneration varies greatly depending on the energy mix and time horizon. Early in the horizon covered by the 2024 scenario, because of the current energy crisis, the lower assumptions for prices in energy-only markets has reduced the profitability of peakload generation facilities on the supply-demand balance market, generating a need for additional revenue for those facilities. In the long term, this capacity market revenue is in line with the level in the 2023 scenario.

Discount rates

The estimated discount rate has been reduced for the 2024 closing, for all Euro-zone countries and the United Kingdom.

This change is generally due to the downward trend in risk-free rates. EDF's spread was also revised downwards.

The decrease since 2023 in the principal WACCs used in impairment tests was thus 10-30 base points for France and Belgium, and 70 base points for Italy. The WACC for the United Kingdom is stable.

The impairment test results are analysed for sensitivity to the discount rate (+/-30bp and +/-50bp). With the exception of the United Kingdom, which is sensitive to any new increase, these tests did not indicate any risk of impairment on the Group's geographic areas.

United Kingdom – EDF Energy (Goodwill and tangible and intangible assets: €29,425 million)

Sales and Supply segment

After the end of the energy crisis and a return to a more favourable situation in 2023 in the United Kingdom, the sales and supply segment consolidated its margins and market shares in 2024 with a good sales performance in the medium and large BtoB customer segments.

The recoverable value of the Sales and Supply segment is higher than in 2023, principally due to improved long-term margin forecasts for BtoB customers, and the volumes delivered to business customers in the medium term. The Sales and Supply segment remains relatively insensitive to price scenarios, as wholesale energy costs are generally passed on to consumers over time.

Sensitivity analysis:

Sensitivity tests were conducted, based on major reductions in long-term margin rates and losses of market share. These tests did not identify any risk of impairment for this operating segment, which has few fixed assets (mainly information systems).

Nuclear assets (plants in operation)

The recoverable value of EDF Energy's nuclear plants in operation is determined by discounting future cash flows over the assets' useful life. At 31 December 2024, this operating segment is comprised of Sizewell B PWR plant, assuming that it will remain in operation until 2055, Torness and Heysham 2 AGR plants, where the end of operations has been deferred by two years to March 2030, and Hartlepool and Heysham 1 AGR plants, where the end of operations has been deferred by one year to March 2027 (see the EDF Energy press release of 4 December 2024).

The lower projections for forward market prices compared to the prices included in impairment tests at 31 December 2023 are partly offset by the favourable impact of the extended plant operating lifetimes. As a result, the recoverable value remains higher than the book value.

Sensitivity analysis:

Sensitivity tests were conducted on the assumptions to which this operating segment is particularly sensitive, i.e. a -5% downturn in electricity prices or nuclear power output across the whole horizon or a 50bp increase in the discount rate. These sensitivities are not likely to generate any risk of impairment, individually or in combination, all other things being equal.

Goodwill and the HPC Project

EDF Energy's gross goodwill amounted to €6.8 billion (or £5.6 billion) including Pod Point at 31 December 2024. It mainly results from the takeover of British Energy in 2009, and has been reduced by the £1.2 billion portion concerning Sizewell C following loss of control over the project in 2024. At 31 December 2022 and 31 December 2023, the updated impairment test led to recognition of partial impairment amounting to €(1.2) billion and €(1.7) billion respectively.

On 23 January 2024, the Group announced that the schedule and cost for construction of the two nuclear reactors at Hinkley Point C had been revised, to update assumptions regarding the cost of civil engineering work and extension of the electromechanical work (MEH) phase, and the resulting consequences for the other work. Three scenarios have been analysed. In the first two, the completion cost for the project was estimated at £31-34 billion[1] (in 2015 sterling) depending on the situation, as opposed to the previous estimate of £25-26 billion (in 2015 sterling).

A third scenario mentioned in the announcement, based on a further 12-month delay in commissioning, involved an estimated additional cost of around £1 billion in 2015 values.

The three scenarios were weighted for the test, such that they converge towards the baseline scenario which assumes that electricity generation by HPC Unit 1 will now start in 2030 instead of June 2027 as previously (and 2031 in the case of Unit 2 instead of June 2028 previously). This scenario incorporated the risk of an additional one-year deferral compared to the 120-month timetable scenario used for organisation and management of the project.

Based on the revised schedule and cost assumptions, impairment of €(11,151) million was recognised on the project at 31 December 2023.

(1) £41.6-46.5 billion in current currency based on inflation rates available at 30 June 2023.

The recoverable value of EDF Energy is determined by discounting future cash flows over the assets' useful life, taking into consideration the two reactors with a 60-year operating lifetime currently under construction at the Hinkley Point site. Future cash flows from these plants are determined by reference to the Contract for Difference (CfD) between the Group and the UK government. The CfD sets stable, predictable prices for EDF Energy for an initial period of 35 years from the date the two EPRs are first commissioned (this duration has been shortened by around 18 months due to the revised schedule): if market prices fall below the CfD strike price, EDF Energy will receive an additional payment. The CfD strike price for HPC is set at £92.50/MWh (in 2012 sterling) and is indexed on UK inflation *via* the consumer price index (CPI) (£128/MWh in current sterling based on inflation rates available at 31 March 2024). Thus, for the operation period under the CfD, future cash flows include a long-term inflation assumption of 2.0% from 2030 (compared to 2.2% between 2030 and 2050 then 2.1% from 2050 at 31 December 2023). For the 25 years of operation after the CfD period, future cash flows include a price assumption based on the CfD strike price of £92.50/MWh (in 2012 sterling) in the absence of corresponding price scenarios. This assumption is based on an internal study of electricity market prices in the United Kingdom, which, given the small number of plants (including Hinkley Point C) so far known to be able to supply baseload electricity after the CfD for Hinkley Point C expires (ie after 2064), concluded that market prices for electricity would converge towards the costs of that type of power plant. This assumption could be adjusted if new long-term electricity price scenarios are drawn up (internally or externally).

The WACC determined for HPC is a hybrid rate that reflects the specificity of the cash flows being first regulated by the CfD, then exposed to market prices in subsequent years. The rate applicable to the project is 6.8% at 31 December 2024, unchanged from 2023. The WACC used to test EDF Energy goodwill takes account of the WACC applicable to each of the company's CGUs (HPC, Nuclear assets (plants in operation), Sales and Supply). Given the respective importance of cash flows from each CGU, the overall WACC for EDF Energy's goodwill is 6.85% at 31 December 2024, compared to 6.9% at 31 December 2023.

Given the negative impact of the decrease in long-term inflation curve assumptions and the absence of any change to the other key assumptions such as the WACC, the impairment test of the HPC project at 31 December 2024 identified impairment of €(1,116) million at that date. This impairment is reversible if there is evidence of a significant recovery in the value of the asset, other than the effect of the passage of time on discounted cash flows.

Regarding the value of EDF Energy's goodwill, although EDF Energy's other CGUs (Nuclear assets (plants in operation), Sales and Supply) still show substantial headroom, their values are generally lower (nuclear plants in operation were affected by the downturn in forward prices). These effects therefore led to recognition of partial additional impairment of €(70) million on EDF Energy's goodwill at 31 December 2024. This impairment is irreversible by nature.

Sensitivity analysis:

The recoverable value of the HPC project, like the book value of EDF Energy's goodwill, remains sensitive to any unfavourable variation in assumptions.

A 30bp increase in discount rates would have a negative impact of £(2.2) billion on the recoverable value.

A 20bp decrease in inflation rates after 2030 would have a negative impact of £(1.2) billion on the recoverable value.

A linear decrease of £10/MWh (in 2024 values) in electricity prices over the post-CfD period (beyond 2064) would have an impact of £(0.5 billion) on the recoverable value.

Italy – Edison (Goodwill and tangible and intangible assets: €5,841 million)

As an intangible asset with an indefinite useful life, the impairment test of the Edison brand, first recognised at the value of €945 million when Edison was taken over in 2012, is updated annually using the royalty relief method and a 100bp risk premium in determining the discount rate. The test was updated at 31 December 2024, and showed that there had been a increase in the brand's recoverable value, principally as a result of a further decrease in the WACC.

Sensitivity analysis:

Sensitivity tests based on a 50bp increase in the WACC, and a -5% decrease in royalties, did not indicate any risk of impairment.

For Edison's other generation CGUs (Thermal assets, Wind power, Solar power, Gas), the test found that the headroom has decreased, reflecting the lower price assumptions.

For the Thermal assets CGU, the headroom indicated by the impairment test remains clearly positive despite the unfavourable impact of a narrowing of clean spark spreads in the short and medium term. This headroom essentially relates to the two new-generation CCGT plants at Marghera and Presenzano commissioned in 2023 (carbon emissions 40% below the national average, NOx emissions reduced by 70%), which will benefit from capacity revenues.

For the Hydropower CGU, the recoverable value was lower due to the lower price assumptions and the assumption that concessions will not be renewed upon expiry, although these effects were partly offset by the lower WACC. Despite the decrease in recoverable value, no risk of impairment was observed for this CGU.

Sensitivity analysis:

Sensitivity tests based on a 50bp increase in the WACC, and a 10% decrease in clean spark spreads, did not affect the test conclusions.

Framatome (Goodwill and tangible and intangible assets: €4,714 million)

The recoverable value of Framatome is determined on the basis of a 10-year business plan and a terminal value. This business plan is sensitive to assumptions concerning the completion of major construction projects that are incorporated into the reactor scenario, market share assumptions concerning services to the installed base, and assumptions concerning fuel deliveries to customers' reactors. The baseline scenario includes expansion of the EPR2 programme in France and realisation of the Sizewell C project in the United Kingdom, but does not include realisation of other EPR projects, particularly the Jaïtapur nuclear power plant in India.

The long-term growth rate used in impairment testing was stable (at 1.5%).

The WACC used to discount future cash flows is weighted according to Framatome's different businesses and their risk profiles. The headroom indicated by the test increased compared to 31 December 2023 as a result of favourable business development in the medium term and the 10bp decrease in the WACC.

Framatome's intangible assets recognised at the time of its acquisition (technologies, including the EPR, which are depreciated over an average 15 to 20 years; customer relations amortised over an average period of 11 years; and the brand) were tested, and no risk of impairment was identified.

Sensitivity analysis:

Sensitivity tests based on a 50bp increase in discount rates or a 50bp decrease in the growth rate to infinity did not indicate any risk of impairment.

EDF Renewables (Goodwill and tangible and intangible assets: €13,563 million)

EDF Renewables' assets mainly consist of CGUs that benefit from Power Purchase Agreements (PPAs) providing contractually defined revenues over most of the assets' useful lives, and consequently have low market risk exposure.

Impairment of €(176) million was identified, mainly concerning wind farms and solar power plants in operation in China (where there were slightly unfavourable changes in the tariffs set by law), solar plants and wind farms in operation in the United Kingdom (construction budget overruns), and a solar plant in the United States (due to insufficient profitability).

€(911) million of impairment of associates and related receivables was also recognised (see notes 12.3 and 18.1.3).

Dalkia (Goodwill and tangible and intangible assets: €3,278 million)

At 31 December 2024, Dalkia's goodwill amounts to €634 million, principally resulting from acquisition of the Dalkia group in France in 2014.

The recoverable value of Dalkia is based on future cash flows projected over a medium-term horizon, and a terminal value that represents cash flow projections to infinity. The test update at 31 December 2024 found that the recoverable value had increased, principally due to the 20bp decrease in the WACC (from 6.0% to 5.8%), growth in the works business, and sales effects driven by a good business dynamic.

The Dalkia brand, which was recognised as an asset when the Group took control of Dalkia in 2014 at the value of €130 million, is valued by the royalty relief method. The updated impairment test at 31 December 2024 did not call into question the value recorded in the financial statements.

Sensitivity analysis:

Sensitivity tests based on an additional 50bp increase in the WACC, and a 20bp decrease in the growth rate to infinity, did not indicate any risk of impairment.

France - Generation and Supply (Goodwill and tangible and intangible assets: €67,255 million)

In terms of asset value, this segment consists almost entirely of the generation fleet in mainland France. Due to the integrated management and interdependence of the different generation facilities that make up the French fleet (nuclear, thermal and hydropower plants), independently of their maximum technical capacities, the Group considers the entire fleet as a single CGU. It includes the Flamanville 3 plant, with net book value of €16,131 million (see note 10.3). It does not include any goodwill.

No indication of impairment was identified in 2024 for the CGU consisting of the French generation fleet.

However, in view of the decrease in electricity prices, the recoverable value was updated.

The recoverable value is estimated by discounting future cash flows by the Group's usual methodology, described in the accounting policies, over the assets' useful life, using an after-tax WACC of 6.9% at 31 December 2024 (7% at 31 December 2023). For nuclear assets, the Group's benchmark model assumes an operating lifetime of 50 years for 900MW and 1,300MW-series plants and 40 years for N4-series plants, consistent with the depreciation periods used in the consolidated financial statements at 31 December 2024, although it is the Group's strategy to keep plants in operation well beyond 50 years. The recoverable value also incorporates the most recent forecasts concerning Flamanville 3 (which will have a 60-year operating lifetime, see note 10.3).

For 2025, the key assumptions concerning price and regulation include forward prices (lower over this horizon than at the 2023 year-end) and take account of hedges already contractualised, a maximum 100TWh volume for ARENH deliveries to alternative suppliers (and 26TWh for network operators), and an ARENH price of €42/MWh.

For the post-ARENH period, the French government announced on 14 November 2023 that a 50% and 90% contribution of nuclear power revenues would be payable above respective "taxation" and "capping" thresholds of €78/MWh and €110/MWh (both in 2022 euros). This information was used as key assumptions in estimating recoverable value at 31 December 2024, in the absence of any other official regulations setting thresholds for payment of the contribution. The measures adopted in France's Finance Law for 2025 stipulate that these thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain watchful regarding retention of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros) (see note 5.1.1).

The new market organisation aims to develop medium-term products in addition to the short-term products and renewable energy PPAs currently available on the wholesale electricity markets: 4 or 5-year annual baseload supply contracts allowing EDF and all electricity suppliers in France to offer supply contracts that provide customers with visibility and stability over horizons of up to 5 years.

EDF also offers certain electro-intensive customers long-term industrial partnership contracts relating to the historic nuclear fleet (Nuclear Power Allocation Contracts).

The recoverable value resulting from the test has decreased but remains well above the net book value. The key assumptions in the test still concern:

- the operating lifetimes of nuclear assets;
- the long-term market price scenario (after the end of the ARENH scheme) and to a lesser degree the changes in forward prices over the medium-term horizon;
- post-ARENH regulations;
- the volume of nuclear power output;
- the discount rate;
- and to a lesser extent, changes in costs and investments, and the assumed capacity revenue.

Sensitivity analysis:

These key assumptions were subjected to individual sensitivity analyses (a 50bp increase in the WACC; a 10TWh annual decrease in nuclear power output over the whole period; a 5% increase in investments or operating expenses; a decline in capacity prices, and post-2026 market prices €10/TWh below the baseline scenario price for a sustained period) and the results did not call into question the existence of a positive difference between the book value and the recoverable value.

For example, a decrease of 10TWh a year over the whole generation period would have a negative impact of €(3.8) billion on recoverable value.

A 50bp increase in the discount rate would have a negative impact of €(3.4) billion on the recoverable value.

A 10% increase in investments over the whole period would have a negative impact of €(3.9) billion on the recoverable value.

Other International – Belgium (Goodwill and tangible and intangible assets of the whole Other International segment: €2,598 million)

The impairment test update for Luminus confirmed the absence of risk of impairment in this segment, which still has substantial headroom, as the 30bp decrease in the WACC (from 7.2% to 6.9%) compensated for the lower price assumptions.

Sensitivity analysis:

The sensitivity tests conducted based on a 50bp increase in the WACC, or the risk that hydropower concessions may be shortened, did not show any risk of impairment.

Note 11 French public electricity distribution concessions

ACCOUNTING PRINCIPLES AND METHODS

The accounting treatment of public distribution electricity concessions in France is determined by the concession agreements, with particular reference to their special clauses. It takes into consideration the possibility that the EDF group, particularly Enedis, may one day lose its status as the sole authorised State concession operator.

In application of the concession agreements, the concession operator manages the facilities at its own risk for the entire term of the concession, and bears substantially all the risks and benefits (both technical and economic) over the useful life of the network infrastructure. Under IAS 16, the assets are controlled by the operator and the grantors have no decisive characteristics of control over the infrastructures as defined by IFRIC 12.

All concession assets are consequently carried in the balance sheet, regardless of their origin (facilities constructed or purchased by the concession operators, and facilities provided by the concession grantors) and the source of financing, while the contractual obligations to the grantor are recognised in the liabilities.

Public electricity distribution facilities that are constructed or purchased by the concession operator are carried at production or acquisition cost:

- purchased facilities are initially recognised at acquisition cost including directly attributable expenses incurred to make the asset ready for use;
- the production cost of facilities developed in-house includes all labour and materials costs, and all other production costs attributable to the construction of the asset, whether incurred directly by the company or invoiced by third parties.

New facilities provided by the concession grantors are carried at the value of the cost the Group would have borne if it had constructed them itself.

In the specific case of rising mains transferred for no consideration to the public distribution network in application of article 176 of French Law 2018 - 1021 on housing, development and digital affairs (the "ELAN" law), these assets are carried at their market value.

Balance sheet liabilities are recognised in respect of new facilities provided for no consideration by the concession grantors and the rising mains transferred under the ELAN law are included in "Special French public electricity distribution concession liabilities" in the balance sheet liabilities.

Distribution assets (pipes, substations, connections) are depreciated over periods of 30 to 60 years, meters and metering equipment over periods of 20 to 30 years. The Group regularly checks the relevance of the main accounting parameters for concession assets (depreciation periods, replacement values, management levels).

Regulations governing distribution concessions in France

Since the enactment of the French Law of 8 April 1946, EDF, and subsequently Enedis, has been the concession operator of most of the public distribution networks in France.

SEI is the concession operator for distribution network zones that are not interconnected with the network in mainland France, under identical concession regulations to Enedis.

Électricité de Strasbourg is the concession operator for public distribution networks in a limited zone depending on a non-nationalised distributor, in application of the Law of 8 April 1946.

In accordance with France's Energy Code and Local Authorities Code, the public distribution of electricity is principally operated under the public service concessions system. The authorities granting the concessions (local authorities or public establishments for cooperation invested with the relevant competence) organise the public electricity distribution service through concession agreements with specifications that define the respective rights and obligations of the parties. Enedis distributes electricity to 95% of the population of mainland France under such concessions, with 356 concession agreements at 31 December 2024. The other 5% are served by Local Distribution Companies (including Électricité de Strasbourg).

2017 concession agreement model

On 21 December 2017, the FNCCR, France Urbaine, EDF and Enedis signed a framework agreement for a new concession agreement model. This new model modernises the relationship between Enedis and concession-granting authorities in the long term and reflects the parties' attachment to the principles of French concessions for electricity distribution: public service, regional solidarity and national optimisation. The FNCCR and France Urbaine represent the concession-granting authorities, particularly towns, syndicated municipalities, boroughs and major cities when they are the authorities with competence to grant public electricity distribution concessions.

At the effective date of a new agreement, the existing special concession liabilities recorded in application of the previous concession agreement (corresponding to the 1992 model) to represent the concession-granting authority's rights in the concession assets remain in the accounts. Like earlier concession agreements signed since 2011, the contractual obligation to establish provisions for replacement no longer exists, and the governance of investments is different.

To provide an effective public service, the distribution network operator and the concession-granting authority agree to jointly set up a governance system to oversee investments in the public electricity distribution network over the area covered by the concession, including replacement of infrastructures. This system mainly takes the form of an investment master plan taking a long-term view of developments in the network over the concession area, and multi-year investment plans (*programmes pluriannuels d'investissements* - PPIs) for 4 and 5-year periods that are medium-term applications of the master plan.

PPIs contain detailed objectives for each investment purpose, covering a selection of quantified, localised investments with financial valuations for the duration of the plan.

PPIs are revised when necessary, after consulting with Enedis and the authority granting the concession, to take account of changes in each party's investment priorities and financial resources.

If it were observed at the end of a PPI that any investment concerned by Enedis' financial commitment had not been made, the concession-granting authority could oblige Enedis to deposit a sum equal to 7% of the investments still to be made. This deposit would then be returned or retained after a two-year period, depending on the investments made by that time.

11.1 Property, plant and equipment operated under French public electricity distribution concessions

(in millions of euros)	31/12/2023	Increases[1]	Assets Commissioned	Decreases	Other movements[2]	31/12/2024
Land and buildings	3,644	-	156	(11)	(2)	3,787
Networks	112,463	866	3,959	(502)	-	116,786
Other installations, plant, machinery, equipment & other	5,254	2	614	(122)	(5)	5,743
Assets in progress	2,698	5,218	(4,729)	(15)	4	3,176
Gross value	**124,059**	**6,086**	**-**	**(650)**	**(3)**	**129,492**
Land and buildings	(1,803)	(89)	-	11	(9)	(1,890)
Networks	(52,860)	(190)	-	316	(2,598)	(55,332)
Other installations, plant, machinery, equipment & other	(3,268)	(291)	-	118	(166)	(3,607)
Depreciation and impairment	**(57,931)**	**(570)**	**-**	**445**	**(2,773)**	**(60,829)**
NET VALUE	**66,128**	**5,516**	**-**	**(205)**	**(2,776)**	**68,663**

(1) Increases also include facilities provided by the concession-granting authorities.

(2) Other movements mainly concern depreciation of assets operated under concessions, booked against a decrease in concession liabilities.

11.2 Special French public electricity distribution concession liabilities

ACCOUNTING PRINCIPLES AND METHODS

Concession liabilities represent the contractual obligations specific to the concession rules for public electricity distribution concessions in France, and comprise the following:

- the concession-granting authority's rights in existing assets (its right to recover all the concession assets), corresponding to:
  - the value in kind of the facilities (the net book value of assets operated under concessions),
  - less any as yet unamortised financing provided by the operator;
- the concession-granting authority's rights in assets to be replaced (the operator's obligations relating to assets due for replacement):
  - amortisation of financing by the grantor: this is a liability owed by the concession operator to the grantor and is recognised progressively as the asset is used,
  - provision for replacement: this provision exclusively concerns assets due for replacement before the end of concessions using the 1992 concession agreement model, except for the rising mains transferred in application of the ELAN law. It is accrued over the asset's useful life, based on the difference between the asset's replacement value for identical capacity and functions, and the original value. In application of the 2017 concession model, used in almost all current concession agreements, no provision for renewal is now established for concession assets. The balance of provisions at the end of the previous concession agreement have been transferred to the new concession and the provisions for renewal continue to be used for their intended purpose.

When assets are replaced, amortisation recognised on the portion of assets considered to be financed by the grantor, and the provision for replacement established for the relevant asset, are cancelled and transferred to rights in existing assets. Any excess provision is taken to income.

During the concession, the grantor's rights in assets to be replaced are transferred upon the asset's replacement to become the grantor's rights in existing assets, with no outflow of cash to the benefit of the grantor.

The Group considers that the obligations related to assets to be replaced are to be valued on the basis of the special clauses contained in the concession agreements. Under this approach, these obligations are stated at the value of the contractual obligations as calculated and reported annually in the reports to the grantors. This contractual value also reflects the eventuality that the EDF group may one day lose its status as the mandatory concession operator.

The changes in special concession liabilities for existing assets and assets to be replaced are as follows:

(in millions of euros)	31/12/2024	31/12/203
Value in kind of assets[1]	59,123	57,300
Unamortised financing by the operator	(34,978)	(33,176)
Rights in existing assets - net value	**24,145**	**24,124**
Amortisation of financing by the grantor	17,717	17,007
Provisions for replacement	8,741	8,879
Rights in assets to be replaced	**26,458**	**25,886**
SPECIAL FRENCH PUBLIC ELECTRICITY DISTRIBUTION CONCESSION LIABILITIES	**50,603**	**50,010**

(1) Including contributions received to finance concession assets, amounting to €133 million (€144 million in 2023).

Note 12 Investments in associates and joint ventures

Investments in associates and joint ventures are as follows:

		31/12/2024			31/12/2023	
(in millions of euros)	Notes	Ownership%	Share of net equity	Share of net income	Share of net equity	Share of net income
CTE	12.1	50	1,888	68	1,793	190
Other investments (dedicated assets) of EDF SA	15.1.2	n.a.	2,290	(26)	1,850	(48)
Investments held by EDF Renewables	12.3	n.a.	2,235	(1,057)	2,509	(61)
Taishan (TNPJVC)	12.2	30	n.c	n.c	n.c.	n.c.
Investments in EDF Trading	12.3	n.a.	948	214	867	255
Sizewell C (Holding) Ltd	12.3	n.a.	652	-	n.a	n.a
Other investments	12.3	n.a.	n.c	n.c	n.c.	n.c.
TOTAL			**10,167**	**(683)**	**9,037**	**257**

n.a. = not applicable.

n.c. = not communicated.

12.1 Coentreprise de Transport d'Électricité (CTE)

The key financial indicators for the CTE subgroup (on a 100% basis) are as follows:

(in millions of euros)	31/12/2024	31/12/2023
Non-current assets	23,140	21,528
Current assets	4,225	3,946
TOTAL ASSETS	**27,365**	**25,474**
Equity	3,768	3,579
Non-current liabilities	16,976	15,571
Current liabilities	6,621	6,324
TOTAL EQUITY AND LIABILITIES	**27,365**	**25,474**
Sales	5,559	6,131
Operating profit before depreciation and amortisation	1,629	1,891
Net income	**135**	**380**
Net indebtedness	14,665	13,287
Gains and losses recorded directly in equity	291	(39)
Dividends paid	238	287

CTE's affiliate, RTE (Réseau de Transport d'Électricité), is responsible for managing the high voltage and very high voltage public electricity transmission network in France. Enedis uses RTE's network to convey energy to the distribution network.

EDF's investment in CTE (50.1%) is accounted for by the equity method due to RTE's specific governance arrangements, and is entirely allocated to dedicated assets.

On 10 January 2024, CTE issued a €500 million senior bond with maturity of 12 years and a rate of 3.75%.

12.2 Taishan

12.2.1 Taishan financial indicators

As CGN (Taishan's parent company) publishes its consolidated financial statements later than the Group, the following table presents the key financial indicators published for Taishan at 31 December 2023 (on a 100% basis):

(in millions of euros)	31/12/2023	31/12/2022
Non-current assets	10,760	11,838
Current assets	897	884
TOTAL ASSETS	**11,657**	**12,722**
Equity	3,137	3,606
Non-current liabilities	6,684	7,457
Current liabilities	1,836	1,659
TOTAL EQUITY AND LIABILITIES	**11,657**	**12,722**
Sales	729	640
Net income	**(254)**	**(327)**
Dividends paid	-	-

12.2.2 Transactions between the EDF group and Taishan

EDF owns 30% of Taishan Nuclear Power Joint Venture Company Limited (TNPJVC), which operates two 1,750MW EPR nuclear reactors in Taishan, in the Chinese province of Guangdong. CGN holds a 51% stake and Guangdong Energy Group a 19% stake.

Taishan reactor 1 was taken offline during the first quarter of 2023 for a scheduled refuelling outage. As CGN stated in a press release of 9 June 2023, during that outage TNPJVC added some inspections and tests to collect data and experience for the unit's stable long-term operation. Reactor 1 was recoupled to the network on 27 November 2023 and has operated safely since then. Reactor 2's third scheduled maintenance and refuelling outage took place in the spring of 2024. It has now been recoupled to the network and is operating safely.

The provision booked principally to cover tariff uncertainties affecting the Taishan plant remains in the financial statements, as no new information has been published by the NDRC (National Development and Reform Commission).

In application of the shareholder pact of TNPJVC Guangdong Taishan Nuclear Power Company Limited, formed for the construction, operation, maintenance and management of the Taishan nuclear power plant, EDF began an "interpretation" arbitration procedure in January 2021 in the Singapore International Chamber of Commerce (SIAC) against its partners China General Nuclear Power Co. Ltd, Guangdong Nuclear Power Investments Co. Ltd and Taishan Nuclear Power Industry Investments Co. Ltd. (Group CGN).

The disagreement concerned the accounting policy for the power plant, particularly its depreciation period. EDF wanted a period in line with the plant's operating lifetime, while CGN considered the depreciation period should be limited to the duration of the entity TNPJVC.

In June 2023, the SIAC's Court of Arbitration ruled in favour of EDF. In May 2024, the parties signed a letter of intent to frame discussions concerning changes to the shareholder pact and the depreciation policy.

12.3 Other investments in associates and joint ventures

At 31 December 2023, Sizewell C, in which the Group owned 49.44%, was controlled and fully consolidated. At 31 December 2024, the Group owned 16.23% of the project and certain events of 2024 led the Group to change the consolidation method for this company, which is accounted for by the equity method from 31 December 2024 (see notes 3.1.3 and 10.3).

The other investments held by EDF Renewables are mainly located in North America, and to a lesser degree in Europe, China and Brazil.

Other investments in associates and joint ventures principally concern:

- JERA Global Markets (JERA GM), 33%-owned by EDF Trading, a company specialising in trading and optimisation activities, particularly for liquified natural gas (LNG);
- the supercritical coal-fired plant owned by Jiangxi Datang International Fuzhou Power Generation Company Ltd. in China, 49% - owned by the Group;
- the dam owned by Compagnie Énergétique de Sinop (CES) in Brazil, 51% - owned by the Group;
- the Nachtigal dam in Cameroon, 40%-owned by the Group. The first turbine, with 60MW capacity, began to supply electricity in early June 2024. Six turbines with combined power of 360MW had been commissioned by the end of 2024, and the seventh and last is due to be commissioned in early 2025, bringing the total installed capacity to 420MW.

During 2024, €(1,036) million of impairment was booked in respect of investments in associates and joint ventures, principally concerning the investments in the Atlantic Shores Offshore Wind (ASOW) project which is fully impaired (€(764) million), dedicated assets (€(118) million), the Spinning Spur Wind Two, LLC wind farm in the United States (€(48) million) and solar projects in Mexico (€(25) million).

ASOW is the joint venture formed by Shell and EDF Renewables to develop offshore wind farm projects in the United States. Five projects are currently in development. After unfavourable changes in the political situation in the United States, and the decision by the State of New Jersey on 4 February 2025 to cancel the tender for which ASOW had bid its most advanced project, the Group has recognised all the consequences of these events through a total expense of €(934) million booked in the net income of associates.

During 2023, €(240) million of impairment was booked in respect of investments in associates and joint ventures, principally concerning dedicated assets (€(86) million), the Jiangxi Datang International Fuzhou Power Generation Company Ltd. supercritical coal-fired plant In China (€(79) million), the Neart na Gaoithe (NnG) project in the United Kingdom (€(54) million), and wind farms in Mexico (€(16) million).

Note 13 Working capital

13.1 Working capital: composition and change

Changes in working capital during 2024 are as follows:

(in millions of euros)	Notes	31/12/2023	Monetary changes	Non-monetary changes	31/12/2024
Inventories and work-in-process	13.2	(18,092)	(590)	(566)	(19,248)
Trade receivables net of provisions	13.3	(26,833)	3,106	(412)	(24,139)
Trade payables	13.5	19,687	(359)	138	19,466
Compensation receivable for Public Energy Service charges: CSPE payable/(receivable)	13.4	2,030	(2,822)	-	(792)
Other receivables and payables[1]	13.4 and 13.6	12,468	(947)	821	12,342
Other components of working capital[2]		(628)	160	(1,056)	(1,524)
NET WORKING CAPITAL		**(11,368)**	**(1,452)**	**(1,075)**	**(13,895)**

(1) Excluding receivables and payables on acquisition/disposal of assets and investment subsidies.

(2) Other components of working capital include CO_2 emission certificates and green certificates presented in intangible assets in the balance sheet, and operating derivatives.

Monetary changes in working capital were less favourable in 2024 at €(1,452) million, mainly as a result of the €(2,822) million variation in CSPE positions: a receivable of €792 million was booked at 31 December 2024, compared to a payable of €(2,030) million in 2023 (see note 13.4).

Non-monetary changes include the effect of changes in the scope of consolidation, foreign exchange effects, changes in fair values and reclassifications. The variation in non-monetary changes in 2024 is mainly explained by changes in fair value primarily concerning inventories and operating derivatives, totalling €(1,614) million, and scope effects totalling €347 million, essentially the loss of control over Sizewell C (Holding) Ltd (€120 million) and the acquisition of Arabelle Solutions (€237 million).

13.2 Inventories

ACCOUNTING PRINCIPLES AND METHODS

Inventories are recognised at the lower of acquisition cost or net realisable value, except for inventories held for trading activities, which are carried at market value. Inventories consumed are generally valued by the weighted average unit cost method.

Cost includes all direct materials costs, labour costs, and a share of indirect production costs.

NUCLEAR FUEL

Inventory accounts include:

- nuclear materials, whatever their form during the fuel production cycle;
- and fuel components in the warehouse or in the reactor.

The stated value of nuclear fuel and materials and work-in-progress is determined based on direct processing costs including materials, labour and subcontracted services (e.g. fluoration, enrichment, fabrication, etc.).

In accordance with regulatory obligations specific to each country, inventories of fuel (new or not entirely consumed) may also comprise expenses for spent fuel management and long-term radioactive waste management, with corresponding provisions or debts in the liabilities, or full and final payments made when the fuel is loaded.

In France, in application of the concept of "loaded fuel" as defined in article D594-1 of the Environment Code, the cost of inventories for fuel loaded in the reactors but not yet irradiated includes expenses for spent fuel management and long-term radioactive waste management. The corresponding amounts are taken into account in the relevant provisions.

In compliance with IAS 23, interest expenses incurred in financing inventories of nuclear fuels are charged to expenses for the period provided these inventories are manufactured in large quantities on a repetitive basis.

Nuclear fuel consumption is determined by component (natural uranium, fluoration, enrichment, fuel assembly fabrication) as a proportion of the expected output when the fuel is loaded in the reactor. These quantities are valued at weighted average cost of inventories. Inventories are periodically corrected in view of forecast spent quantities based on neutronic measurements and physical inventories.

OTHER INVENTORIES

Other inventories comprise:

- other fuels, comprising fossil fuels required for operation of fossil-fired power plants and gas stocks;
- other operating supplies, consisting of operating materials and equipment such as spare parts supplied under a maintenance programme (excluding capitalised strategic safety spare parts);
- goods and services in progress, particularly relating to the businesses of EDF Renewables, Dalkia and Framatome;
- other inventories, mainly consisting of certificates issued under the various environmental schemes (see notes 5.5.4 and 10.2) and capacity obligation mechanisms (capacity guarantees in France – see note 5.1).

Other non-trading operating inventories are generally valued at weighted average cost including direct and indirect purchasing costs.

Impairment of spare parts principally depends on the turnover of these parts.

The carrying value of inventories, broken down by nature, is as follows:

	31/12/2024			31/12/2023		
(in millions of euros)	Gross value	Provision	Net value	Gross value	Provision	Net value
Nuclear fuel	12,376	(430)	11,946	11,760	(431)	11,329
Other fuel	1,547	(274)	1,273	1,556	(260)	1,296
Other supplies	2,241	(428)	1,813	2,047	(413)	1,634
Work-in-progress for production of goods and services	973	(24)	949	771	(22)	749
Other inventories	3,335	(68)	3,267	3,144	(60)	3,084
TOTAL INVENTORIES	**20,472**	**(1,224)**	**19,248**	**19,278**	**(1,186)**	**18,092**

The long-term portion (more than one year) mainly concerns nuclear fuel inventories and amounts to €9,183 million at 31 December 2024 (8,810 million at 31 December 2023).

The change in inventories in 2024 is principally explained by the increase in nuclear fuel inventories essentially due to a price effect.

13.3 Trade receivables

ACCOUNTING PRINCIPLES AND METHODS

Trade receivables are initially recognised at the fair value of the consideration received or receivable, and subsequently carried at amortised cost or at fair value through OCI.

Trade receivables also include the value of unbilled receivables for energy already supplied, which are presented net of advances received from customers who pay in regular monthly instalments.

The Group applies IFRS 9's simplified approach to measure expected credit losses on trade receivables, using provision matrices established on the basis of credit loss histories.

Details of net trade receivables are as follows:

(in millions of euros)	Note	31/12/2024	31/12/2023
Trade receivables, gross value – excluding EDF Trading		23,370	24,232
contract assets	*13.3.3*	*200*	*286*
Trade receivables, gross value – EDF Trading		2,627	4,341
Impairment		(1,858)	(1,740)
TRADE RECEIVABLES - NET VALUE		**24,139**	**26,833**

Most trade receivables mature within one year.

Advances received from customers in France who pay in regular monthly instalments, amounting to €2,168 million at 31 December 2024 (€1,808 million at 31 December 2023), are deducted from trade receivables.

Trade receivables are lower than at 31 December 2023, in line with the change in sales by the different segments: France – Generation and supply €(1.6) billion, EDF Trading €(1.7) billion, and France - Regulated activities (€0.3 billion). In the Industry et Services segment, the €0.4 billion increase in sales is notably attributable to the acquisition of Arabelle Solutions (€0.2 billion).

13.3.1 Trade receivables due and not yet due

	31/12/2024			31/12/2023		
(in millions of euros)	Gross value	Provision	Net value	Gross value	Provision	Net value
TRADE RECEIVABLES	**25,997**	**(1,858)**	**24,139**	**28,573**	**(1,740)**	**26,833**
overdue by up to 6 months	*2,330*	*(351)*	*1,979*	*2,263*	*(392)*	*1,871*
overdue by 6-12 months	*1,438*	*(428)*	*1,010*	*1,100*	*(401)*	*699*
overdue by more than 12 months	*1,692*	*(1,012)*	*680*	*1,066*	*(728)*	*338*
Trade receivables due	**5,460**	**(1,791)**	**3,669**	**4,429**	**(1,521)**	**2,908**
Trade receivables not yet due	**20,537**	**(67)**	**20,470**	**24,144**	**(219)**	**23,925**

13.3.2 Assignment of receivables

ACCOUNTING PRINCIPLES AND METHODS

The EDF group manages several factoring and securitisation programmes that are used to assign eligible trade receivables in return for a cash payment.

The trade receivables concerned are derecognised in accordance with IFRS 9 when the Group:

- has transferred its rights to receive payments relating to the asset or fulfilled its obligation to pay cash flows received from a third party (other than a consolidated structured entity) under a transfer agreement, and
- has transferred substantially all of the risks and rewards attached to the receivables.

Otherwise, the receivables assigned remain in the balance sheet assets, and the financing received is treated as financial liabilities.

In 2023, the Group entered into a securitisation contract through a Securitisation Fund (a special purpose entity). As this entity is consolidated, the receivables concerned have not been derecognised.

(in millions of euros)	31/12/2024	31/12/2023
Trade receivables assigned and retained in the balance sheet	75	57
Trade receivables assigned and derecognised	1,323	1,764

The Group assigned trade receivables for a total of €1,323 million at 31 December 2024, mainly concerning Edison, EDF SA, Dalkia and Luminus (€1,764 million at 31 December 2023).

As most assignment operations are carried out on a recurrent, without-recourse basis, the corresponding receivables are no longer carried in the Group's consolidated balance sheet.

13.3.3 Contract assets

Contract assets are rights held by an entity to receive a consideration in return for goods or services supplied to customers, when such rights are conditional on something other than the passage of time. Most contract assets mature within one year.

The contract assets included in receivables represent an amount of €200 million at 31 December 2024 (€286 million at 31 December 2023) and in 2024 mainly concern Dalkia, EDF Renewables, Arabelle Solutions and the Other International segment.

13.4 Other receivables

Details of other receivables are as follows:

(in millions of euros)	31/12/2024	31/12/2023
Prepaid expenses	1,652	1,609
VAT receivables	2,460	2,193
Other tax receivables	344	315
CSPE receivable	792	-
Other operating receivables[1]	7,086	7,067
OTHER RECEIVABLES	**12,334**	**11,184**
Non-current portion	*1,979*	*2,110*
Current portion	*10,355*	*9,074*
Gross value	*12,424*	*11,252*
Impairment	*(90)*	*(68)*

(1) Including receivables related to asset disposals.

At 31 December 2024, other operating receivables mainly include €2.4 billion of margin calls made in the trading activity (€3.1 billion in 2023). The decrease in margin calls is notably due to the replacement of collateral with letters of credit, and lower volatility on the markets. The amounts of margin calls recognised in assets cannot be netted with the margin calls recognised in liabilities (see note 13.6).

EDF's public service charges

The amount of public service charges to be compensated to EDF for 2024 is €6,861 million. The compensation mechanism is presented in note 5.5.1.

The amounts received in 2024 out of the State's General Budget totalled €3,472 million, notably corresponding to the €227 million balance outstanding under the mechanism for the year 2023, and payments of €3,245 million for the year 2024.

In compliance with the CRE's decision 2024-124 of 26 June 2024, taken in application of article L.336-5 of the French Energy Code amended by article 225 of France's Finance Law for 2024 (Law 2023- 1322 of 29 December 2023) and article 5 of decree 2024-556, the compensation to be financed by the State's budget in 2025 will be reduced by the amount of ARENH price supplements received in 2024 (€556 million). This has lowered EDF SA's 2024 receivable for public energy service charges at 31 December 2024.

At 31 December 2024, EDF SA therefore has a €792 million operating receivable on the State for the compensation of its public service charges (compared to a €2,030 million operating liability at 31 December 2023).

13.5 Trade payables

(in millions of euros)	31/12/2024	31/12/2023
Trade payables - excluding EDF Trading	15,302	14,533
Trade payables - EDF Trading	4,164	5,154
TRADE PAYABLES	**19,466**	**19,687**

The €0.8 billion increase in trade payables excluding EDF Trading mainly concerns EDF Energy (€0.4 billion), Arabelle Solutions (€0.3 billion), Edison (€0.2 billion) and Enedis (€(0.4) billion).

The Group has a reverse factoring programme allowing suppliers to transfer their receivables on EDF to a factoring company, at their own initiative. For the Group, this programme does not cause any change in the substance and features of the receivables held by suppliers on EDF. In particular, it does not affect the sequences of operating cash flows. The associated liabilities therefore remain in "Trade payables" in the Group's financial statements for an amount of €985 million at 31 December 2024.

13.6 Other liabilities

Details of other liabilities are as follows:

(in millions of euros)	31/12/2024	Including contract liabilities	31/12/2023	Including contract liabilities
Advances and progress payments received	3,614	2,435	4,011	2,099
Liabilities related to property, plant and equipment	5,542	-	5,464	-
Tax liabilities	5,167	-	4,740	-
Social charges	6,717	-	6,236	-
Deferred income on long-term contracts	3,975	3,974	3,548	3,548
Other deferred income[1]	1,219	897	1,267	857
Margin calls - trading activity	486	-	922	-
CSPE liability	-	-	2,030	-
Other[2]	3,950	-	4,442	-
OTHER LIABILITIES	**30,670**	**7,306**	**32,660**	**6,504**
Non-current portion	*6,039*	*3,367*	*5,685*	*3,539*
Current portion	*24,631*	*3,939*	*26,975*	*2,965*

(1) Including the initial payment made under the Fessenheim compensation protocol, received in 2020 and not yet transferred to other operating income and expenses (see note 5.5.4).

(2) Including payables on acquisition of assets and investment subsidies.

13.6.1 Advances and progress payments received

At 31 December 2024, advances and progress payments received comprise €1,501 million of payments made by the customers in Framatome's long-term contracts (€719 million at 31 December 2023).

13.6.2 Tax liabilities

At 31 December 2024, tax liabilities mainly include an amount of €1,409 million for the excise duty on electricity, reflecting the successive application of tariffs of €20.5/MWh for business customers and €21/MWh for residential customers from 1 February 2024, compared to €0.5/MWh and €1/MWh from 1 February 2023.

13.6.3 Deferred income on long-term contracts

EDF's deferred income on long-term contracts at 31 December 2024 comprises partner advances for nuclear plant financing of €2,137 million to EDF (€2,089 million at 31 December 2023) and €329 million to Arabelle Solutions.

Deferred income on long-term contracts also includes the remaining balance of the advance of €1.7 billion paid to the EDF group in 2010 under the agreement with the Exeltium consortium. This advance is transferred to the income statement progressively over the term of the contract (24 years).

13.6.4 Margin calls - trading activity

At 31 December 2024, other operating liabilities include €0.5 billion of margin calls made in the trading activity (€0.9 billion in 2023). The amounts of margin calls recognised in liabilities cannot be netted with margin calls recognised in assets (see note 13.4), as they concern different counterparties.

13.6.5 Other

At 31 December 2024, the "Other" line in the above table includes €1.6 billion of investment subsidies, the same as at December 2023. Subsidies received in 2024, net of the effects of changes in the scope of consolidation, amount to €232 million (€258 million in 2023).

Investment subsidies received by Group companies are included in this item in the liabilities and recognised in the income statement based on the rate of consumption of the economic benefits of the related assets.

13.6.6 Contract liabilities

Contract liabilities represent an entity's obligations to provide customers with goods or services for which it has already been paid, or for which payment is due.

Changes in contract liabilities were as follows:

(in millions of euros)	31/12/2023	Amounts recorded during the period	Amounts transferred to sales during the period	Amounts cancelled during the period with no impact on sales	Effect of unwinding the discount	Change in scope of consolidation	Foreign exchange effect	31/12/2024
Advance payments received	2,099	1,710	(1,395)	(34)	-	25	30	2,435
Deferred income on long-term contracts	3,548	872	(684)	(167)	49	334	22	3,974
Other deferred income	857	673	(686)	-	-	51	2	897

These liabilities comprise the majority of advances and progress payments received, amounting to €2,435 million (principally concerning the Industry and Services, United Kingdom and France – Regulated Activities segments), and the majority of deferred income (on long-term and other contracts), amounting to €4,871 million (principally concerning the France – Generation and Supply and Industry and Services segments). They thus total €7,306 million at 31 December 2024 (€6,504 million at 31 December 2023). Changes in the scope of consolidation in 2024 essentially concern the acquisition of Arabelle Solutions.

Contracts with a duration of more than one year on which obligations are unfulfilled or partially fulfilled at the closing date should generate sales revenues of approximately €19,191 million which have not yet been recognised. €778 million of these sales revenues will be recognised progressively until 2034 on the Exeltium contract, and the balance will be recognised until the end of the operating period for contracts relating to jointly-operated power plants, and over the term of the contract for other firm sale contracts (excluding energy sales).

Note 14 Equity

14.1 Share capital

ACCOUNTING PRINCIPLES AND METHODS

Share issue expenses correspond exclusively to external costs expressly related to the capital increase. They are charged against the issue premium at their net-of-tax value.

Other expenses are classified as expenses of the period.

At 31 December 2024, EDF's share capital amounts to €2,084,365,041 comprising 4,168,730,082 fully subscribed and paid-up shares with nominal value of €0.50, owned 100% by the French State since 8 June 2023.

14.2 Dividends

At the General Meeting of 11 June 2024 it was decided not to pay out any dividend in 2024 in respect of 2023.

No interim dividend was paid for 2024.

14.3 Perpetual subordinated bonds

ACCOUNTING PRINCIPLES AND METHODS

The perpetual subordinated bonds issued by the Group ("hybrid" bond issue) incorporate options for redemption at the initiative of EDF. These options may be exercised after a minimum period that depends on the specific terms of each issue, and subsequently at each coupon date or in the event of highly specific circumstances. The annual yield is fixed and reviewable based on contractual clauses that vary according to the specific terms of the issuance. There is no obligation for EDF to make any payment, due to the existence of contractual clauses entitling it to defer payment indefinitely.

However, those clauses stipulate that any deferred payments must be made in the event of a dividend distribution. All these features give EDF an unconditional right to avoid paying out cash or another financial asset for the principal or interest. Consequently, in compliance with IAS 32, these bonds are recorded as equity instruments and any payment made is treated in the same way as dividends.

At 31 December 2024, perpetual subordinated bonds carried in equity amounted to €10,047 million (less net-of-tax transaction costs) (€12,009 million at 31 December 2023).

On 5 June 2024 EDF announced that it intended to exercise its option on 5 July 2024 to redeem the €1,250 million tranche of hybrid notes issued in October 2018 with a coupon of 4%, due to mature on 30 October 2024. As the operation was certain, at 30 June 2024 EDF reclassified the amount of €1,243 million carried in equity to other financial liabilities (€1,250 million) and premiums and reserves (€(7) million corresponding to the issue expenses). The notes were redeemed on 5 July 2024 for €1,250 million.

On 10 September 2024 EDF launched contractual redemption offers for the €1,000 million perpetual subordinated bonds issued in January 2014 with a coupon of 5.0% (for which EDF's first-call option date was 22 January 2026) and the £1,250 million perpetual subordinated bonds issued in January 2013 with a coupon of 6.0% (for which EDF's first-call option date is 29 January 2026). Following this offer, €499 million was paid to redeem the €1,000 million January 2014 tranche of bonds, and €730 million (£621 million) was paid to redeem the £1,250 million January 2013 tranche of bonds.

On 10 September 2024 EDF announced that it intended to exercise its option on 29 January 2025 to redeem the €1,250 million hybrid notes issued in January 2013 with a coupon of 5.38% which were due to mature in January 2025. At 31 December EDF reclassified the €1,229 million carried in equity to other financial liabilities (€1,250 million) and premiums and reserves (€21 million corresponding to issue expenses).

Also on 10 September 2024, EDF issued three hybrid green bonds, recorded in equity at the respective values of €500 million (coupon of 5.125%), €650 million (coupon of 5.625%) and £500 million (coupon of 7.375%).

Interest paid by EDF to the bearers of perpetual subordinated bonds issued totalled €582 million in 2024 (€630 million in 2023). The resulting cash payout is recorded as a reduction in Group equity.

In January 2025, EDF paid interest of €74 million to the bearers of perpetual subordinated bonds.

Perpetual subordinated bonds in the accounts of EDF

(in millions of currency units)

Entity	Issue date[1]	Nominal amount	Currency	Redemption option	Coupon
EDF	01/2013	629	GBP	13 years	6.00%
EDF	01/2014	501	EUR	12 years	5.00%
EDF	01/2014	750	GBP	15 years	5.88%
EDF	12/2019	500	EUR	8 years	3.00%
EDF	09/2020	850	EUR	6.5 years	2.88%
EDF	09/2020	1,250	EUR	10 years	3.38%
EDF	06/2021	1,250	EUR	7 years	2.63%
EDF	12/2022	1,000	EUR	6 years	7.50%
EDF	06/2023	1,500	USD	10 years	9.13%
EDF	09/2024	500	EUR	5 years	5.13%
EDF	09/2024	650	EUR	8 years	5.63%
EDF	09/2024	500	GBP	11 years	7.38%

(1) Date funds were received.

14.4 Non-controlling interests (minority interests)

The following table presents details of the principal non-controlling interests:

		31/12/2024		31/12/2023	
(in millions of euros)	Ownership %	Equity (non-controlling interests)	Net income attributable to non-controlling interests	Equity (non-controlling interests)	Net income attributable to non-controlling interests
Principal non-controlling interests:					
EDF Energy Nuclear Generation Ltd.	20.00%	1,453	300	2,014	136
NNB Holding Company (HPC) Ltd.	27.40%	5,915	(87)	5,349	(2,703)
Sizewell C (Holding) Ltd.	83.77%	-	(5)	1,475	-
EDF Investissements Groupe SA	13.78%	1,024	17	520	13
Luminus SA	31.37%	995	102	698	25
Framatome	19.50%	200	(23)	218	(34)
Other non-controlling interests		**1,442**	**144**	**1,677**	**158**
TOTAL		**11,029**	**448**	**11,951**	**(2,404)**

Non-controlling interests in EDF Energy Nuclear Generation Ltd., which is owned 80% by the Group *via* EDF Energy, correspond to Centrica's share.

Non-controlling interests in NNB Holding Company (HPC) Ltd, the holding company for the Hinkley Point C project, which is owned 72.60% (67.72% at 31 December 2023) by the Group via EDF Energy, correspond to CGN's share.

Following the loss of control over Sizewell C (Holding) Ltd, the holding company for the Sizewell C project which is owned 16.23% (49.44% at 31 December 2023) by the Group via EDF Energy, the company is accounted for by the equity method at 31 December 2024. At 31 December 2023, the non-controlling interests in Sizewell C (Holding) Ltd corresponded to the UK Government's share in the project.

Non-controlling interests in Framatome, owned 80.5% by the Group via EDF SA, correspond entirely to the 19.5% share held by Mitsubishi Heavy Industries since 25 January 2024 when EDF purchased the 5% held by Assystem.

Non-controlling interests in Luminus correspond principally to the investments held by Belgian local authorities, and partner contributions to the Seraing CCGT project.

Non-controlling interests in EDF Investissements Groupe (EDF IG) correspond to the investment held by Natixis Belgique Investissements. On 6 November 2024, Natixis Belgique Investissements subscribed a €500 million capital increase and now holds 13.78% of EDF IG at 31 December 2024 (7.54% at 31 December 2023) while EDF holds the remaining 86.22% via C3 (92.46% at 31 December 2023).

Other non-controlling interests principally consist of the minority interests in subsidiaries of the Edison and EDF Renewables subgroups.

They also include instruments in the form of bonds convertible into shares, issued by the Dalkia group and subscribed by minority interests, amounting to a total €66 million at 31 December 2024 (€96 million in 2023).

Note 15 Provisions related to nuclear generation and dedicated assets

ACCOUNTING PRINCIPLES AND METHODS

The Group recognises provisions when it has a present obligation (legal or constructive) arising from a past event, an outflow of resources will probably be required to settle the obligation, and the obligation amount can be estimated reliably.

If it is anticipated that all or part of the expenses covered by a provision will be reimbursed, the reimbursement is recognised under receivables if and only if the Group is reasonably certain of receiving it.

Provisions are determined based on the Group's expectation of the cost necessary to settle the obligation. Estimates are based on management data from the information system, assumptions adopted by the Group, and if necessary, experience of similar transactions or operations, based on independent expert reports, or contractor quotes. The various assumptions are reviewed for each closing of the accounts.

In the case of decommissioning provisions for power plants in operation, adjustments are recorded *via* fixed assets.

The discount effect generated at each closing to reflect the passage of time is recorded under "Discount effect" in financial expenses.

Changes in provisions resulting from a change in discount rates, a change in the disbursement schedule or a change in contractor quote are recorded:

- as an increase or decrease in the corresponding assets, up to the net book value, if the provision was initially covered by balance sheet assets;
- in the income statement in all other cases.

Provisions related to nuclear generation mainly cover the following:

- back-end nuclear cycle expenses: provisions for spent fuel management, for waste removal and conditioning and long-term radioactive waste management are established in accordance with the obligations and final contributions specific to each country;
- costs for decommissioning power plants;
- costs relating to fuel in the reactor when the reactor is shut down (provisions for last cores). These correspond to the cost of the fuel stock in the reactor that is not totally spent at the time of the final reactor shutdown and cannot be reused due to technical and regulatory constraints, the cost of processing for that fuel, and the cost of removal and storage of the resulting waste.

Obligations can vary noticeably depending on each country's legislation and regulations, and the technologies and industrial scenarios involved.

The breakdown between current and non-current provisions related to nuclear generation is as follows:

	31/12/2024			31/12/2023		
(in millions of euros)	Non-current	Current	Total	Non-current	Current	Total
Provisions for the back-end of the nuclear cycle	33,220	1,995	35,215	28,193	2,069	30,262
Provisions for decommissioning and last cores	35,609	1,453	37,062	32,013	1,269	33,282
Provisions related to nuclear generation	**68,829**	**3,448**	**72,277**	**60,206**	**3,338**	**63,544**

The breakdown of provisions by company is shown below:

	EDF	EDF Energy	Belgium	Total
(in millions of euros)	Note 15.1	Note 15.2	Note 15.3	
Provisions for spent fuel management	17,449	1,265	-	18,714
Provisions for waste removal and conditioning	-	520	-	520
Provisions for long-term radioactive waste management	14,156	1,446	379	15,981
PROVISIONS FOR THE BACK-END OF THE NUCLEAR CYCLE AT 31/12/2024	**31,605**	**3,231**	**379**	**35,215**
Provisions for nuclear plant decommissioning	19,221	12,878	599	32,698
Provisions for last cores	2,995	1,369	-	4,364
PROVISIONS FOR DECOMMISSIONING AND LAST CORES AT 31/12/2024	**22,216**	**14,247**	**599**	**37,062**
PROVISIONS RELATED TO NUCLEAR GENERATION AT 31/12/2024	**53,821**	**17,478**	**978**	**72,277**

The movement in provisions for the back-end of the nuclear cycle, provisions for decommissioning and provisions for last cores break down as follows:

(in millions of euros)	31/12/2023	Increases	Decreases	Discount effect	Translation adjustments	Other movements	31/12/2024
Provisions for spent fuel management	15,114	4,074	(1,248)	638	59	77	18,714
Provisions for waste removal and conditioning	406	-	-	22	21	71	520
Provisions for long-term radioactive waste management	14,742	881	(348)	371	61	274	15,981
Provisions for the back-end of the nuclear cycle	**30,262**	**4,955**	**(1,596)**	**1,031**	**141**	**422**	**35,215**
Provisions for nuclear plant decommissioning	29,291	400	(1,000)	1,321	537	2,149	32,698
Provisions for last cores	3,991	-	-	193	62	118	4,364
Provisions for decommissioning and last cores	**33,282**	**400**	**(1,000)**	**1,514**	**599**	**2,267**	**37,062**
PROVISIONS RELATED TO NUCLEAR GENERATION	**63,544**	**5,355**	**(2,596)**	**2,545**	**740**	**2,689**	**72,277**
Current portion	3,338						3,448
Non-current portion	60,206						68,829
EDF SA	48,220						53,821
Provisions within the scope of the law of 28 June 2006	*47,001*						*52,583*
United Kingdom	14,365						17,478
Belgium	960						978

The change in provisions related to nuclear generation in 2024 is mainly explained by the following:

- In France (see note 15.1.1):
  - an increase of €3,301 million in provisions for spent fuel management due to revision of the industrial scenario for interim spent fuel storage (see note 15.1.1.1);
  - an increase of €823 million in provisions for long-term radioactive waste management due to revision of storage costs (Cigéo) for high-level waste and long-lived intermediate-level waste (HLW and ILW-LL) (see note 15.1.1.2);
  - the first nuclear reaction at the Flamanville 3 power plant, leading to an increase of €428 million in provisions related to nuclear generation (see note 15.1.1.3);
  - a 10 base points increase in the real discount rate in France (see note 15.1.1.5) which led to a €(964) million decrease in provisions.
- In the United Kingdom (see note 15.2):
  - a €3,440 million update to the cost estimate based on Integrated Plan 25, approved by the Non-Nuclear Liabilities Assurance team (NLA) in December 2024;
  - an increase in the real discount rate in the United Kingdom (including +30 base points on provisions for the back-end of the cycle and decommissioning) leading to a €(825) million decrease in provisions;
  - the new assumptions (announced by the Group in December 2024) concerning the closure of the Heysham 1 and Hartlepool AGR plants, which are now scheduled for 2027 instead of 2026 previously, and the closure of the Heysham 2 and Torness AGR plants, which are now scheduled in 2030 rather than 2028, leading to a €(366) million decrease in provisions for the back-end of the cycle and decommissioning.

15.1 Provisions related to nuclear generation and dedicated assets in France

15.1.1 Nuclear provisions

In France, the provisions established by EDF SA for the nuclear generation fleet result principally from the Law of 28 June 2006 on long-term management of radioactive materials and waste, and the associated implementing provisions concerning secure financing of nuclear expenses.

In compliance with the accounting principles described above:

- EDF books provisions to cover all obligations related to the nuclear facilities it operates;
- EDF also holds dedicated assets for secure financing of long-term obligations (see note 15.1.2).

The calculation of provisions incorporates a level of risks and uncertainties as appropriate to the operations concerned. It also involves estimates, judgment and uncertainty factors as described in note 1.3.4.2. At 31 December 2024 the level of uncertainties was rising due to the specific situations presented below, which are likely to evolve in the short and medium term, particularly: (i) conceptual design studies in 2025 and 2026 concerning new interim spent fuel storage capacities (the ADEC project) in the Back-End of the Future programme (see note 15.1.1.1); (ii) recent changes in the regulations for processing paint containing asbestos, and analysis of the potential impact on the decommissioning cost estimate for installations currently in operation (an analysis action plan has begun in 2025 given the complexity of sampling, and the scale and diversity of the surfaces concerned) (see note 15.1.1.3). Additionally, the French government is expected to publish the new official decision on the costs of the Cigéo project in September 2025 (see note 15.1.1.2).

Details of changes in provisions for the back-end of the nuclear cycle, decommissioning and last cores in France are as follows:

(in millions of euros)	Notes	31/12/2023	Increases	Decreases	Discount effect	Other movements	31/12/2024
Provisions for spent fuel management	15.1.1.1	13,876	4,058	(1,113)	573	55	17,449
Amount unrelated to the operating cycle		*1,760*	*2,678*	*(36)*	*76*	*18*	*4,496*
Amount outside the scope of the Law of 28 June 2006		*1,219*	-	*(42)*	*61*	-	*1,238*
Provisions for long-term radioactive waste management	15.1.1.2	13,205	869	(348)	301	129	14,156
Provisions for the back-end of the nuclear cycle		**27,081**	**4,927**	**(1,461)**	**874**	**184**	**31,605**
Provisions for nuclear plant decommissioning	15.1.1.3	18,419	399	(274)	753	(76)	19,221
Provisions for last cores	15.1.1.4	2,720	-	-	126	149	2,995
Provisions for decommissioning and last cores		**21,139**	**399**	**(274)**	**879**	**73**	**22,216**
PROVISIONS RELATED TO NUCLEAR GENERATION		**48,220**	**5,326**	**(1,735)**	**1,753**	**257**	**53,821**
Provisions related to nuclear generation within the scope of the Law of 28 June 2006[1]		47,001	5,326	(1,693)	1,692	257	52,583
Provisions related to nuclear generation outside the scope of the Law of 28 June 2006[1]		1,219	-	(42)	61	-	1,238

(1) Scope of application of the law of 28 June 2006 on the sustainable management of radioactive materials and waste and its application decrees concerning secure financing of nuclear expenses. The provisions that do not fall within the scope of this law are provisions for the back-end of the nuclear cycle concerning non-EDF installations (see below).

The change in EDF SA's provisions related to nuclear generation is mainly explained by:

- an increase of €3,301 million in provisions for spent fuel management in France due to revision of the industrial scenario for interim spent fuel storage (see note 15.1.1.1), recorded as follows: €3,291 million in "Increases", corresponding to provisions adjusted via profit and loss, and €10 million in "Other movements", corresponding to the change in provisions backed by assets;
- the first nuclear reaction at the Flamanville 3 power plant, leading to an increase of €428 million in provisions related to nuclear generation (see note 15.1.1.3), allocated as follows: €235 million to provisions for decommissioning of plants currently in operation (see note 15.1.1.3), €22 million to provisions for last cores, €73 million to provisions for spent fuel management, and €98 million to provisions for long-term radioactive waste management. These amounts are principally recorded in "Other movements", corresponding to the change in provisions backed by assets;
- an increase of €823 million in provisions for long-term radioactive waste management due to revision of storage costs (Cigéo) for high-level and long-lived intermediate-level waste (HLW and ILW-LL) (see note 15.1.1.2), recorded as follows: €775 million in "Increases", corresponding to provisions adjusted via profit and loss, and €48 million in "Other movements", corresponding to the change in provisions backed by assets.

There was also a 10 base point increase in the real discount rate in France (see note 15.1.1.5) which led to a €(964) million decrease in provisions, recorded as follows: €(514) million in the "Discount effect", corresponding to provisions adjusted via profit and loss, and €(450) million in "Other movements", corresponding to the decrease in provisions backed by assets (assets associated with provisions and underlying assets).

The discount effect also includes the €2,267 million cost of unwinding the discount, recorded in the financial result.

Concerning non-EDF installations:

- EDF, Orano Recyclage and the French Atomic Energy Commission (*Commissariat à l'Énergie Atomique* or CEA) signed an agreement in December 2004 which transferred the management and financing of final shutdown, decommissioning and waste recovery and reconditioning for the UP1 reprocessing facility at Marcoule to the CEA. In return, EDF paid the CEA a one-time financial contribution covering its full share of the cost of outstanding operations, while remaining the owner of its final waste and bearing only the transport and storage costs;
- EDF and Orano Recyclage signed two agreements in December 2008 and July 2010 defining the legal and financial terms for the transfer to Orano Recyclage of EDF's contractual obligations regarding its financial contribution to the dismantling of La Hague installations and the recovery and conditioning of waste. In application of those agreements, EDF paid Orano Recyclage a one-time financial contribution covering its full share of the cost of outstanding operations, while remaining the owner of its final waste and bearing only the transport and storage costs.

15.1.1.1 Provisions for spent fuel management

Spent fuel processing

EDF's currently adopted strategy with regards to the fuel cycle, in agreement with the French State, is to process spent fuel, recycle the separated plutonium in the form of MOX fuel (Mixed OXide of plutonium and uranium), and recycle the reprocessed uranium.

The nominal quantities to be processed by Orano Recyclage at the request of EDF, totalling approximately 1,100 tonnes per year, are determined based on the quantity of recyclable plutonium in the reactors that are authorised to load MOX fuel (currently, 24 reactors under the authorisation for creation).

Consequently, provisions for spent fuel management (€17,449 million) mainly cover the following services to be provided by Orano Recyclage:

- removal of spent fuel from EDF's generation centres, and its reception and interim storage;

- processing, including conditioning and storage of recyclable matter.

The processing expenses included in these provisions concern spent fuel that can be recycled in existing facilities, including the portion in reactors but not yet irradiated.

Expenses are mainly measured based on forecast physical flows at the closing date, with reference to the contracts with Orano Recyclage which define the terms of application of the framework agreement for the period 2008-2040. These contracts contain price indexes that are revised annually.

With the previous contract due to terminate at the end of 2023, in September 2023 negotiations between EDF and Orano Recyclage achieved convergence, and an agreement was signed on the principles for the next contract covering the period 2024-2026. This led to a €2,216 million increase in provisions for spent fuel management at 31 December 2023. The agreement took account of changes in the economic conditions underlying the contract, and the requirements expressed by Orano Recyclage regarding the necessary operating costs to enhance its plants' performance.

The new contract for the period 2024-2026, reiterating the principles agreed in September 2023 as stated above, was signed on 1 October 2024, and thus has no significant impact on provisions for spent fuel management in 2024.

Spent fuel storage

The interim storage of spent fuel is a key issue for the back-end of the nuclear cycle. The situation at 31 December 2023 was as follows:

- there was a risk that the pools at La Hague could be saturated by 2030, based particularly on load factor forecasts for interim storage facilities for spent fuel from EDF's generation fleet. To prevent saturation, the long-term storage capacity for spent fuel was to be increased by constructing a first pool in a centralised spent fuel pool facility under EDF's supervision and subsequent operation, to be commissioned in 2034. This first pool was to act as an extension of the reactor pools to ensure continuity of operation by the generation fleet, and was therefore considered as a tangible asset. In the meantime, studies were undertaken of transitional workaround solutions involving densification of the existing pools at Orano's La Hague site, and the supplementary solution of a dry storage facility for spent plutonium (MOX) fuel and reprocessed uranium (RepU). The costs of these studies were covered by provisions;
- there was a need for long-term storage for spent fuel that cannot currently be recycled in industrial facilities that already exist or are under construction: spent plutonium (MOX) fuel and reprocessed uranium (RepU), and the fuel from Creys-Malville until fourth-generation reactors become available. This need was covered by provisions founded on a scenario assuming construction of a second pool in the centralised spent fuel pool facility, to be commissioned in 2047.

The following developments relating to spent fuel management took place during the first half of 2024:

- France's Nuclear Policy Council held a meeting on 26 February 2024. The Council confirmed the major orientations of France's policy for the back-end of the nuclear cycle, which combines reprocessing, reuse of spent fuel and use of a closed nuclear fuel cycle, through extended operating lifetimes and resilience of existing installations, and upgrading of the nuclear fuel cycle facilities at La Hague;
- The ASN Commission called Orano and EDF to a hearing on 11 April 2024. This was an opportunity, in view of the above Nuclear Policy Council meeting, to present a joint report on the existing storage capacities at La Hague, and the projected quantities of spent fuel to be stored. After the hearing, the ASN's statement of 17 April 2024 noted that the risk of storage pool saturation at La Hague had been deferred, while re-emphasising the need to introduce transitional solutions to restore safety margins. The ASN also called for new long-term storage capacities to be implemented by operators as soon as possible, with high-level safety objectives.

The industrial scenario presented to the ASN Commission by EDF on 11 April 2024 thus incorporated the expected easing of the risk of saturation at La Hague's spent fuel pools in the short term (through application of transitional solutions), combined with the prospect of upgrades to installations at La Hague, notably the plan to use a single pool (as opposed to two as originally considered and mentioned above) for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville. The work would be supervised by EDF, in accordance with the ministerial order of 9 December 2022 made in application of Decree 2022-1547 of 9 December 2022. The estimates used for calculations under this scenario are founded on these key assumptions.

At 30 June 2024, this change of industrial scenario led to impairment of capitalised costs for the first pool, amounting to €142 million, and adjustment of the provisions for spent fuel management based on the most recent estimates, as follows:

- regarding the risk of spent fuel pool saturation at La Hague in the short term (between 2030 and 2040), implementation of the transitional solution of pool densification was confirmed and the development studies were finalised, leading to a €311 million increase in provisions at 30 June 2024. The supplementary solution of dry storage was also still under consideration at this stage;
- regarding the need for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville, the provision was adjusted to take account of the new capacity corresponding to a single pool, assuming it will be commissioned as soon as possible, based on revised project costs put forward by EDF in the Conceptual Design phase which was completed in the first quarter of 2024 and incorporated the latest safety and security requirements. These factors led to an increase of €2,657 million at 30 June 2024 in the provision, which is unrelated to the operating cycle as defined by the law of 2006 and is thus backed by dedicated assets;
- regarding the current spent uranium fuel derived from processing (spent RepU), the new industrial scenario assumes that it will be processed (dilution of the spent RepU) in the existing facilities at La Hague (instead of undergoing long-term interim storage followed by direct storage). The portion of provisions for spent fuel management related to reprocessing was increased by €333 million, and the provisions for long-term radioactive waste management were reduced by €120 million.

In the autumn of 2024, EDF and Orano submitted an industrial plan for future nuclear fuel cycle facilities (the Back-End of the Future programme) at Orano's La Hague site for examination by the French General Directorate for Energy & Climate (*Direction générale de l'énergie et du climat* or DGEC) and the ASN. This plan will include a new spent fuel reprocessing plant, and a MOX fuel fabrication plant. It will be supervised by Orano, and will also comprise a project for new storage capacities (ADEC) that will later be connected to the future reprocessing facilities.

The proposed plan was still under examination by the competent authorities at 31 December 2024. If validated, the ADEC project supervised by Orano would replace the initial storage pool project supervised by EDF.

Orano recently began studies for the Conceptual design phase of its Back-End of the Future programme which comprises the ADEC new storage capacities project. These studies should continue until the end of 2026. The funding arrangements for the programme are not yet finalised.

Given the key information that remains to be clearly defined, the current best estimate of the amount to be covered by the provision for the spent fuel storage obligations is still based on the underlying assumptions updated during the first half of 2024.

In total, provisions for specific storage solutions for spent fuel amount to €504 million for the cost of densification of Orano's pools at La Hague, and €4,496 million for interim storage of spent MOX fuel and Creys-Malville fuel (these fuels cannot be recycled in existing facilities or facilities currently under construction).

Recycling of RepU

In 2018, the Board of Directors approved resumption of reprocessed uranium recycling, which had been suspended in 2013 pending availability of a new industrial schema. The corresponding contracts were signed with the respective suppliers in the second quarter of 2018. The first assemblies were made at the Framatome plant in Romans sur Isère and loaded in 2023 into a 900MW reactor that is already authorised and resumed operation on 4 February 2024. Subject to completion of technical modifications and issuance of the necessary authorisations by the ASN, other 900MW reactors and certain 1,300MW reactors will be loaded with assemblies based on reprocessed uranium by 2027. Since 2021, the provision for storage of reprocessed uranium included in the provisions for spent fuel management (€485 million) has been based on a 50-year operating lifetime for nuclear plants for the series concerned, following the extension of the depreciation period of 1,300MW-series plants from 40 to 50 years.

Audit commissioned by the DGEC and the French Treasury

In accordance with its powers under Article 594-4 of the Environment Code, in early 2024 the DGEC and the French Treasury commissioned an external audit of the valuation of EDF's spent fuel management costs at 31 December 2023. This audit began in the second quarter of 2024 and should be completed in the first quarter of 2025. It is not currently expected to have any significant impacts on the provisions for spent fuel management.

15.1.1.2 Provisions for long-term radioactive waste management

Provisions for long-term radioactive waste management concern the following future expenses:

- interim storage, removal and storage of radioactive waste packages resulting from spent fuel processing;
- direct storage, after long-term interim storage where relevant, of spent fuel that cannot be recycled in existing installations: specifically plutonium (MOX) fuel or uranium fuel derived from processing, and fuel from Creys-Malville and Brennilis;
- characterisation, processing, conditioning and interim storage of radioactive waste resulting from decommissioning and certain operating waste, and removal and final storage of this radioactive waste;
- EDF's share of the costs of studies, construction, operation and maintenance, shutdown and surveillance of existing and future storage centres.

The volumes of waste concerned by provisions include existing packages of waste and all waste to be conditioned, resulting in particular from plant decommissioning or spent fuel processing at La Hague (comprising all fuel in reactors at 31 December, irradiated or otherwise). These volumes are regularly reviewed, in keeping with the data declared for the purposes of the national waste inventory undertaken by ANDRA.

The provisions for long-term radioactive waste management break down as follows:

(in millions of euros)	Storage centre	31/12/2024	31/12/2023
Very low-level and low and intermediate-level waste	Very low-level waste: CIRES -Morvilliers (ANDRA) Low and intermediate-level waste: CSA - Soulaines (ANDRA)	3,310	3,176
Long-lived low-level waste	Project under examination: Soulaines (ANDRA)	371	369
Long-lived intermediate-level and high-level waste	Geological storage centre (Cigéo project) / ICEDA conditioning and interim storage facility	10,475	9,660
PROVISIONS FOR LONG-TERM RADIOACTIVE WASTE MANAGEMENT		**14,156**	**13,205**

Very low-level and low and intermediate-level waste

Basis for estimation

Very low-level waste (VLLW) and low and intermediate-level waste (LILW) come from nuclear facilities in operation or in the process of being decommissioned:

- VLLW mainly comes from nuclear plant decommissioning, and generally takes the form of metals (large components, piping, support structures, etc.) or rubble (concrete, earth, etc.). This type of waste is stored at surface level at the Morvilliers storage centre managed by ANDRA, commissioned in 2003;
- LILW (gloves, filters, resins, materials, etc.) is stored at surface level at the Soulaines storage centre managed by ANDRA, commissioned in 1992.

The cost of removing, processing and storing short-lived waste (VLLW and LILW) is assessed on the basis of:

- current contracts with transporters, and ANDRA for operation of the existing storage centres;
- the costs of the plant run by the subsidiary Cyclife France (the Centraco site at Codolet commissioned in 1999) for processing some of this waste that can be melted or incinerated prior to storage in ANDRA's centres;
- an estimate of the cost of a centralised facility for interim storage, segmentation and conditioning of major components such as steam generators.

For the management of VLLW, the regulations (decrees issued by the Ministry for the Ecological Transition) governing recycling of very low-level metallic waste in France were published in the *Journal Officiel* of 15 February 2022. EDF is thus continuing with the development of the Technocentre, a segmentation and fusing facility to process and recycle the very low-level metallic waste resulting from decommissioning of nuclear plants. The target commissioning date is 2031. In line with France's 5th National Plan for Managing Radioactive Matter and Waste, a roadmap setting out the objectives and timetable for the Technocentre project was sent to the DGEC in early 2023. The project was referred to the National Public Debate Commission in mid-January 2024. The public debate began in October 2024 and will end in February 2025.

Developments in 2023

In 2023, the annual review of cost estimates incorporated the most recent assumptions regarding management of radioactive waste. This had no significant impact on provisions. It should be noted that this review took account of the effects of France's Finance Law for 2024, which introduced a general tax on polluting activities in order to encourage recycling of very low-level metallic waste, and reduced the INB tax on storage centres once they are permanently shut down. These steps will modify the storage costs invoiced by ANDRA.

Developments in 2024

In 2024, the annual review of cost estimates incorporated the most recent assumptions regarding management of radioactive waste, particularly assumptions relating to VLLW (based on the current contract with ANDRA). This led to a €56 million increase in provisions.

Long-lived low-level waste

Long-lived low-level waste (LLW-LL) belonging to EDF essentially consists of graphite waste from the ongoing decommissioning of the former UNGG (natural uranium graphite gas-cooled) nuclear plants.

As this waste has a long lifetime but is lower-level than long-lived intermediate-level and high-level waste (ILW-LL and HLW), specific subsurface storage requirements apply under the French Law of 28 June 2006.

Following the initial geological investigations, in July 2015 ANDRA remitted a report on a proposed storage centre for LLW-LL on a site located in the Soulaines region (Aube) in France. This report was submitted to the ASN for its opinion. In compliance with the ASN's opinion 2020-AV-0357 issued on 6 August 2020, and the 5th National Plan for Managing Radioactive Matter and Waste (PNGMDR[1]), in March 2024 ANDRA produced a file presenting the technical and safety options selected for storage of LLW-LL at the Vendeuvre-Soulaines site, leading to consideration of alternative sites for graphite waste storage. The ASN is currently examining the file.

In addition, the studies conducted by EDF to characterise the radiological inventory of this waste suggest that it should be possible to store the graphite from the first decommissioned reactor (Chinon A2) in the existing Aube surface level storage centre, with no need to wait for a specific LLW-LL storage facility.

The provisions for Chinon A2 graphite waste extracted from the reactor up to 2045 are thus currently based on a scenario assuming storage at the Aube centre. For this graphite, the construction of an interim storage facility at Chinon and final storage in a specific LLW-LL repository are treated as risks.

For graphite from other reactors, the provisions cover direct storage in an LLW-LL repository.

High-level and long-lived intermediate-level waste

High-level waste (HLW) and long-lived intermediate-level waste (ILW-LL) essentially comes from processing of spent fuel, and to a lesser extent waste resulting from nuclear plant operation, maintenance and decommissioning (metallic components that have been inside the reactor).

The French Law of 28 June 2006 requires reversible storage in deep geological layers for long-lived medium and high-level waste. This is the aim of the Cigéo project for an industrial geological storage centre

On 15 January 2016 the Ministry of Ecology, Sustainable Development and Energy issued a ministerial order setting the target cost for the Cigéo storage project at €25 billion under 2011 year-end economic conditions. The cost as defined constitutes an objective to be met by ANDRA, in compliance with safety standards set by the ASN, working in close cooperation with the operators of nuclear installations.

In application of this ministerial order, the cost of the Cigéo project is regularly updated, at least at each key milestone in the course of the project's development (authorisation to create the facility, commissioning, end of the "pilot industrial phase", safety reviews) in accordance with the opinion of the ASN.

ANDRA is to remit an updated file on the costing of Cigéo in April 2025 to the DGEC, the ASN and the competent parliamentary commissions. This will be followed by consultation of stakeholders, including producers of waste, and the State will then define the new "objective cost" of Cigéo by September 2025.

Work on this file is currently in process and several points remain open to discussion. Estimation of the total effects of the various dimensions of the work and the interactions between them will need to be based on an all-round view, which will be finalised in 2025.

EDF has nonetheless updated the Cigéo provision in the 2024 financial statements to take account of information that is sufficiently certain and was not included in the 2016 cost calculation. This update resulted in a €823 million increase in the provision, independently of the rest of the ongoing cost calculations.

The provisions established for storage of HLW and ILW-LL amount to €9,508 million. They are based on the cost of storage, taking account of the waste producers' share, which depends on the volumes and characteristics of the waste, and also preliminary interim storage of radioactive waste resulting from spent fuel processing, removal to the storage site, and direct storage of spent fuel that cannot be recycled in existing installations.

The Cigéo project has passed the following principal milestones since 2016:

On 11 January 2018, the ASN considered that the Cigéo project had reached satisfactory overall technological maturity at the safety options file stage. A detailed design review by a group of independent experts was organised at the request of the DGEC. In late 2020, this group issued a generally favourable opinion on the file presented by ANDRA.

The public inquiry regarding the Cigéo project's public utility was held between 15 September and 23 October 2021. It resulted in a favourable opinion from the inquiry commissioners (along with five recommendations to the project manager), made public on 20 December 2021. The findings of the commission noted that the public enquiry had "attracted a large number of contributions from the public, most of them with extensive supporting arguments" and that Cigéo was "opportune, relevant, and robust".

Prior to the enquiry, a second appraisal of Cigéo's socioeconomic assessment by France's General Secretariat for Investment (SGPI) had resulted in a favourable opinion "both for the overall project and its transport component". It highlighted the fact that "the Cigéo project has strong prudential and insurance value to cope with environmental and health risks".

In an opinion issued on 13 January 2021, the French Environmental Authority emphasised the educational nature of the environmental assessment. It made a series of recommendations, which ANDRA took into account in the public inquiry.

Decree 2022-993 of 7 July 2022 declared Cigéo to be in the public interest and adjusted the Pays Barrois (Meuse) area land use master plan, the Haute-Saulx (Meuse) local inter-municipality urban planning document, and the Gondrecourt-le-Château (Meuse) local urban planning document for compatibility. Decree 2022-992 of 7 July 2022 also included the Cigéo project among the operations of national interest specified in Article R. 102-3 of the French Urban Planning Code.

The application for authorisation to create the Cigéo storage centre was filed on 17 January 2023.

On 22 June 2023 the ASN declared the application admissible and on 27 June 2024 France's Environmental Authority also issued an opinion on the application to create the centre. This meant that technical examination of the application could begin. This involves three meetings of the ASN's Advisory Committee of Experts: the first took place in April 2024, the second in December 2024, and the third is scheduled for mid-2025, with issuance of the ASN opinion expected in November 2025.

The aim is to receive authorisation by the end of 2027.

Under ANDRA's current reference schedule, Cigéo will begin with a pilot industrial phase and the first waste packages will be delivered between 2035 and 2040.

(1) *Plan National de Gestion des Matières et des Déchets Radioactifs*. Decree 2022-1547 and the implementation order published in the *Journal Officiel* of 10 December 2022.

For the specific case of bituminous waste, when examining the safety options file, the ASN required examination of alternatives to the proposal to store bituminous waste at Cigéo with no processing. In September 2018, a group of experts was appointed by the DGEC to draw up a report on current bituminous waste management practices. In September 2019, this group concluded that various options (storage or neutralisation) were in theory feasible, but stressed the importance of continuing the studies in order to identify the most appropriate option. A four-party research programme involving producers and ANDRA is still exploring this question.

Finally, regarding the tax status of Cigéo, article 127 of France's Finance Law for 2021 modified the tax treatment of the project (from the standard tax regime to a storage tax-based regime), but the associated measures and their potential impact on the level of taxation on the installation still remained to be clarified at 31 December 2024.

ICEDA

The provision established for HLW and ILW-LL also includes €968 million to cover the conditioning and interim storage of ILW-LL, principally at the ICEDA radioactive waste conditioning and storage facility *(Installation de Conditionnement et d'Entreposage des Déchets Activés)*.

ICEDA, located at the Bugey plant, is a dedicated facility for the conditioning and interim storage of ILW-LL resulting from operation (other than fuel management) and decommissioning of power plants. The facility was commissioned in 2020 and conditioned its first waste in 2021.

Since 2021, all the radioactive waste from decommissioning operations at Chooz A and the initial operating waste from Fessenheim has been conditioned at the ICEDA facility.

In 2024, the ASN approved a modification to the regulatory characteristics of waste that could be received for conditioning at the ICEDA facility. As a result of this modification, the facility is now authorised to condition 100% of the waste for which it was designed. The conditioning permit corresponding to the new scope is expected in early 2025.

Finally, after the two reactors at the Fessenheim plant were shut down permanently, EDF filed an application to modify the ICEDA's authorisation decree in order to allow the facility to condition waste resulting from the decommissioning of Fessenheim. The amended decree is expected in 2025.

15.1.1.3 Provisions for nuclear plant decommissioning

EDF bears full technical and financial responsibility for decommissioning of the basic nuclear facilities (*Installations Nucléaires de Base*, INB) it operates. The final shutdown and decommissioning process is governed by legal provisions and regulations set out in Articles L.593-20 to L.593-25 and R.593-65 to R.593-74 of the Environment Code. It involves the following operations for each INB:

- a definitive shutdown declaration, to be made at least two years prior to the planned shutdown date: since the Energy Transition Law of 17 August 2015, the final shutdown of the INB, which takes place during its operating phase, is considered separately from its dismantling, as a significant modification of lesser importance (simply requiring a declaration by the operator to the Minister and the ASN);
- a dismantling plan compiled by the operator and sent to the minister in charge of nuclear safety, which after examination by the authorities and a public inquiry, leads to a decree prescribing dismantling that authorises the start of dismantling operations;
- key-stage progress reviews submitted for the ASN's approval, with a safety file specific to the dismantling operations to be performed;
- an internal control process concerning significant modifications introduced by the operator in the case of operations that must be declared to or approved by the ASN;
- finally, once these operations are complete, declassification of the facility, which removes it from the scope of the laws governing basic nuclear facilities.

The decommissioning scenario adopted by EDF complies with France's Environment Code, which requires as short a period as possible to elapse between final shutdown and dismantling in economically acceptable conditions and in compliance with the principles laid down in Article L. 1333 - 1 of the Public Health Code (radioprotection) and section II of Article L. 110 - 1 of the Environment Code (protection of the environment). The intended end-state is industrial use: the sites will be restored to their original condition and will be reusable for industrial purposes.

The ongoing dismantling operations concern plants that were constructed and operated before the nuclear fleet currently in operation, known as "first-generation" plants, the Superphenix plant, the Tricastin Operational Hot Unit (BCOT) and the Irradiated Materials Workshop in Chinon. These operations cover four different technologies: a heavy water reactor (Brennilis), a sodium-cooled fast-neutron reactor (the Superphenix at Creys-Malville), natural uranium graphite gas-cooled (UNGG) reactors (at Chinon, Saint Laurent and Bugey) and a pressurised water reactor (PWR, at Chooz).

For the Fessenheim PWR plant, the dismantling application is currently under examination by the ASN, and the operations completed concern the pre-dismantling phase.

Each of these operations is a first for EDF, and apart from the PWR, they concern reactor technologies for which there is little or no international experience. They therefore require development of new methods and technologies that are riskier than technologies for which feedback already exists. Decommissioning of the PWR is benefiting from past experience (essentially in the US and limited). The Chooz plant also has the specificity of being partly located in a cave: this means it is also a unique operation, generating experience that is not immediately transposable and involves specific challenges.

Based on the ongoing decommissioning operations at permanently shut-down plants (particularly the experience gained from the Chooz PWR), the conceptual studies conducted for the two 900MW reactors at Fessenheim, and the preparatory work for dismantling, it was possible at the end of 2021 to establish a detailed reference estimate of future decommissioning costs for the nuclear fleet currently in operation ("second-generation" plants). However, neither EDF nor any other operator has yet begun a decommissioning programme on a scale comparable to the current PWR fleet, and as a result the estimates include both opportunities and risks, especially associated with the scale effect.

The decommissioning provisions cover future decommissioning expenses as described above (excluding the cost of removing waste from the site and storing it, which is covered by the provisions for long-term waste management).

Details of changes in provisions for nuclear plant decommissioning are as follows:

(in millions of euros)	31/12/2023	Increases	Decreases	Discount effect	Other movements	31/12/2024
Provisions for decommissioning nuclear plants in operation	13,002	-	(10)	594	(76)	13,510
Provisions for decommissioning permanently shut-down nuclear plants	5,417	399	(264)	159	-	5,711
PROVISIONS FOR NUCLEAR PLANT DECOMMISSIONING	**18,419**	**399**	**(274)**	**753**	**(76)**	**19,221**

"Other movements" in provisions for decommissioning nuclear plants in operation (provisions backed by assets) principally include the effects of the change in real discount rates at 31 December 2024, and recognition of the decommissioning provision for Flamanville 3 (€235 million) following the reactor's first nuclear reaction in September 2024.

"Decreases" correspond to decommissioning expenses paid in 2024. "Increases" essentially reflect the consequences of annual cost estimate updates for permanently shut-down plants (principally relating to hazardous material reprocessing and obsolescence, as discussed below), and therefore concern provisions not backed by assets.

For nuclear power plants currently in operation (PWR pressurised water reactor plants with 900MW, 1300MW and N4 reactors)

The bases for estimation described in the next two sections concern the 56 nuclear reactors currently in operation (for Flamanville 3, see the section on "Developments in 2024" below).

History of the calculation of provisions and the 2014-2015 Audit commissioned by the DGEC

Until 2013, provisions were estimated based on a 1991 study by the French Ministry of Trade and Industry, which set an estimated benchmark cost for decommissioning expressed in €/MW, confirming the assumptions defined in 1979 by the PEON commission. These estimates were confirmed from 2009 by a detailed study of decommissioning costs conducted by EDF at the representative site of Dampierre (four 900MW units), and the results of that study were corroborated by an intercomparison with the study carried out by consultants La Guardia, based mainly on the Maine Yankee reactor in the United States.

In 2014, the Dampierre study was reviewed by EDF to make sure that the previous calculations were still valid in view of recent developments and experience, both internationally and internally, which called the past estimates into question. For this review, the decommissioning provisions for plants in operation were based on costs resulting from the Dampierre study, in order to incorporate the company's best estimates and experience from inside and outside France. This change of estimate had no significant impact on the level of provisions at 31 December 2014.

Between June 2014 and July 2015, an audit of decommissioning costs for EDF's nuclear fleet currently in operation was conducted by specialised consulting firms, at the request of the DGEC. On 15 January 2016 the DGEC published a summary of the audit report. It stated that although estimating the cost of decommissioning nuclear reactors is a demanding exercise due to relatively limited past experience, the prospects of changes in techniques and the distant timing of the expenditure, overall, the audit confirmed EDF's estimate of decommissioning costs for its nuclear fleet currently in operation. The DGEC also made a number of recommendations to EDF following this audit.

Revision in 2016 and current basis for estimation

In 2016, EDF revised the decommissioning estimate, in order to incorporate the recommendations resulting from the audit commissioned by the DGEC, and past experience gained from dismantling operations for first-generation reactors (particularly Chooz A).

A detailed analytical approach was used to revise this estimate, identifying all costs for the engineering, construction work, operation and waste processing involved in future decommissioning of reactors currently in operation. This led to figures based on detailed timetables for plant decommissioning. The approach adopted provided a more thorough assessment of costs specific to the first-of-their-kind units, estimated for each series based on transposition coefficients applied to the baseline costs for the initial 900MW unit, and the series and mutualisation effects, as these costs and effects are inherent to the fleet's size and configuration. In 2021, the reference estimate of decommissioning costs for the first 900MW unit was updated based on preliminary studies conducted in preparation for the decommissioning of Fessenheim, and experience gained at the beginning of the pre-dismantling phase.

The natures of the principal series and mutualisation effects used to arrive at the estimate are explained below.

Series effects (effects of work at a first-of-a-kind site on the following sites of the same series) are mainly of two types:

- first, in a fleet using the same technology, many studies do not need to be repeated each time;
- second, in a fleet using the same technology, robots and tooling can be largely reused from one site to another.

Mutualisation effects (effects between units on the same site, whether in operation or being decommissioned) are of several different types:

- some of them relate to the fact that several reactors may share common buildings and facilities on the same site, and these buildings and facilities will not have to be dismantled twice;
- certain costs are not higher when two or four reactors are dismantled on the same site. This is usually the case for surveillance costs, common equipment, and the cost of maintaining safe operating conditions on the site.

Due to mutualisation effects, dismantling a pair of reactors on the same site costs less than dismantling two standalone reactors on two different sites. In France, unlike other countries, there are no single reactors but sites with two or four, and in one case six reactors.

Series and mutualisation effects reduce the estimated decommissioning cost by 9% and 7% respectively compared to an estimate for the PWR fleet currently in operation that ignores these effects. Series and mutualisation effects vary depending on the series: they are greater when there are more units in a series (series effect) and more units on a site (mutualisation effect), leading to a combined effect (series and mutualisation effect) of over 16% for the 900MW series.

In particular, series and mutualisation effects explain why it is not appropriate simply to compare the average dismantling cost per reactor between the French fleet and other countries' nuclear fleets.

Conversely, the estimates only marginally reflect changes in productivity and the learning effect. The DGEC-ordered external audit of the decommissioning cost for the fleet currently in operation considered that this approach resulted in a prudent estimation method.

For reasons of prudence, the estimate also includes an assessment of risks and uncertainties as follows:

- incorporation of uncertainties relating to each "elementary" block of costs, the schedule, series effects, mutualisation effects, transposition coefficients and fleet expenses;
- incorporation of risks, corresponding to the completion risks (which are identifiable and quantifiable, but only contingent). From the 2023 year-end, the financial consequences of these risks are based on valuation of a register of identified risks that incorporates the schedule impact (referring notably to an adapted version of the Fessenheim project risk register), rather than applying a flat-rate increase as previously.

The above method for assessing risks and uncertainties led to an overall margin of some 19.4% for the whole fleet currently in operation (34.1% for the reference Fessenheim cost estimate).

Since its in-depth revision in 2016 this cost estimate has been reviewed annually. The reviews have led to non-significant annual adjustments.

EDF also confirms its analyses through an international intercomparison, taking care to identify and characterise a number of factors that could distort direct comparisons, for example differences in the scope concerned by the cost estimate, or national and regulatory contexts.

Developments in 2023

The annual review of the decommissioning estimate in 2023 took into consideration methodological changes and experience acquired from Fessenheim, principally:

- methodological changes (which were also applied to provisions for decommissioning permanently shut-down power plants and long-term waste management) regarding the assessment of requirements for research and engineering, a first reference to the risk of obsolescence in existing equipment that is needed for dismantling, and the implementation of an analytical method for assessment of scheduling risks that was already applied in 2022 to most decommissioning projects for permanently shut-down power plants;
- inclusion of an assumption that decommissioning of the 900MW series will begin with pairs of reactors (as opposed to the previous assumption of independent start dates for each reactor), following experience gained from preparations for the Fessenheim decommissioning;
- an update to property costs (covering general operation and maintenance of the non-industrial sections of the plants), particularly by reference to the most recent cost figures for the Fessenheim site;
- reference to a register of risks identified in the PWR fleet (instead of the previous practice of assigning standard values to risks), applying the valuation methods used for other plants being decommissioned (based in particular on an adapted version of the Fessenheim project risk register);
- revised extrapolation coefficients (transposition and mutualisation) for operating purchase costs, based on historical data for the currently active fleet.

Overall, the above factors in the annual cost estimate review had a non-significant impact on provisions for decommissioning of nuclear power plants currently in operation.

Developments in 2024

The annual review of the decommissioning estimate for the 56 nuclear reactors currently in operation did not have a significant impact on the provisions.

Based on the estimates of the different types of cost, the cost at completion (in 2024 euros) amounts to approximately €0.67 billion for one reactor at Fessenheim, compared to an average cost of €0.42 billion per unit for the entire PWR fleet when the series and mutualisation effects described above are taken into account.

At Flamanville 3, after the nuclear fuel was loaded into the reactor in May 2024, EDF carried out the first nuclear reaction (started the chain reaction process) on 3 September 2024, once the ASN had given its approval. In the Group's consolidated financial statements, this first nuclear reaction led to recognition of provisions for Flamanville 3, amounting to €235 million for decommissioning. The estimate is based on transposition of the reference decommissioning cost for the first 900MW reactor, adapting it to the configuration of Flamanville 3 (which has an operating lifetime of 60 years).

For permanently shut-down nuclear power plants

Decommissioning of shut-down reactors involves pilot operations corresponding to four different technologies, each with clear specificities: a PWR reactor at Chooz A located in a cave, UNGG (natural uranium graphite gas-cooled) reactors at Bugey, Saint-Laurent and Chinon, a heavy water reactor at Brennilis, a sodium-cooled fast neutron reactor at Creys-Malville, and the first-of-a-kind second-generation PWR reactor at Fessenheim.

Basis for estimation

The decommissioning costs are based on estimates that take account of accumulated industrial experience, unforeseeable and regulatory developments, and the latest available figures. They have been revised annually since 2015.

The industrial scenario for dismantling of the UNGG reactors was reviewed in depth in late 2015, leading in particular to a switch from "underwater" to "in-air" dismantling, which involves:

- an essentially remote-controlled dismantling process;
- qualification of tools and the remote operation platform on an "industrial demonstrator", which was inaugurated in 2022;
- dismantling of the initial first-of-a-kind reactor (Chinon A2), and putting the 5 other reactors into a safe storage configuration.

Under this strategy, dismantling operations for the reactor caissons (including the site decontamination and rehabilitation phase) should be completed between 2063 and 2093, depending on the reactors.

Updating the industrial decommissioning scenario for first-generation power plants, particularly UNGG plants, led to a €590 million increase in the provision at 31 December 2015.

From 2016 to 2022:

The amendment made in 2015 to the industrial scenario for dismantling of the UNGG reactors was presented to the ASN's commissioners on 29 March 2016, and examined by the ASN until 2019. It was reviewed by international experts, examined by the Institute for Radiation protection and Nuclear Safety IRSN, and was the subject of three hearings before the ASN's commissioners, before the ASN issued two decisions dated 3 March 2020. These decisions and the discussions prior to their adoption by the ASN showed that there was convergence on most major technical questions: the dismantling technique ("in-air"), the usefulness of setting up an industrial demonstrator to develop the tools required for these complex operations, the timetable for dismantling the Chinon A2 reactor, and the need to gain experience from operations on a first reactor.

Regarding the timetable of operations, in draft decisions issued for public consultation in 2019, the ASN asked for this work to be brought forward compared to EDF's proposed schedule, so that dismantling operations on the five reactors after Chinon A2 would begin "no later than 31 December 2055".

In view of this request for a shorter timescale, the nuclear provisions were increased in 2019 by a total €108 million: €77 million for decommissioning provisions for permanently shut-down nuclear power plants and €31 million for provisions for long-term radioactive waste management (for long-lived low-level waste, very low-level and low and intermediate-level waste).

The ASN's decisions concerning dismantling of the UNGG reactors were published in March 2020 and did not contradict the principles of the draft decisions of 2019. Consequently, the nuclear provisions for decommissioning of UNGG plants were not subjected to any particular re-estimation in 2020, and reflect the best estimate of the industrial and technical scenario.

Finally, in accordance with its powers under Article 594-4 of the Environment Code, in June 2020 the DGEC commissioned an external audit of the estimated cost of dismantling operations for EDF's permanently shut-down nuclear facilities (the UNGG plants and management of its long-lived low-level waste, Superphenix and Brennilis), conducted by a consortium of specialist firms. This audit took place from December 2020 to July 2021, and the audit report was posted on the Ministry for the Ecological Transition website in November 2021. Its conclusions (confirming the ASN's observations during its inspection of complex project management, the conclusions of which were released in the first quarter of 2021) highlight "an organisation with a structural focus on execution of dismantling projects", an "annual estimation and revision process [that] is robust, and provides good traceability for the assumptions used and the original data", and "a long-term industrial approach to overcome the small number of technological challenges that remain". Finally, the report states that apart from a non-significant correction (taken into account in the 2021 provisions), "the provisions are coherent with the basic scenarios of the projects and cover the full scope of expenses for the scope audited", and were found to be of "adequate scale" through testing the scale of EDF's expenses and provisions.

In 2022, following the recommendations made by the DGEC-commissioned audit to confirm scheduling risk assessments and the uncertainty levels concerning estimates, an analytical methodology for assessment of scheduling risks and uncertainties (applied to most of decommissioning projects currently in process) and an additional level of uncertainty for estimates "based on expert assessment" (used in provisions for decommissioning and radioactive waste management) were introduced. This led to an increase of €116 million to decommissioning provisions for permanently shut-down nuclear plants.

Developments in 2023

The annual review in 2023 of the cost estimate for decommissioning of permanently shut-down power plants took into consideration methodological changes regarding the assessment of requirements for research and engineering, the risk of obsolescence in existing equipment that is needed for dismantling (such as maintenance and lifting equipment), and the general application of an analytical method for estimating schedule risks and uncertainties that was already applied in 2022 to most current decommissioning projects. These factors led to an €182 million increase in provisions.

It should also be noted that provisions for decommissioning of permanently shut-down power plants were increased by €41 million to reflect property costs (covering general operation and maintenance of the non-industrial sections of the plants), after the estimate for those costs was updated.

Developments in 2024

In 2024, methodological work was undertaken and the two following subjects of general relevance were studied in more detail:

- the treatment of hazardous materials (asbestos, lead, etc): a multi-year action plan was launched to consolidate the inventories of asbestos and lead on the sites, reinforce control of the hazardous materials risk, and assess the additional costs for management of such materials and the potential scheduling impacts. This led to a €229 million increase in provisions (including €70 million for the effect on the Fessenheim decommissioning of recent changes in the regulations on paint containing asbestos). From the few cases of paint containing asbestos identified at plants in operation, it is not possible to establish whether the asbestos is localised and confined to one type of equipment in particular, in which case an ad hoc treatment would be possible at no significant additional cost, or if its presence is as widespread as in the paint on equipment in certain buildings at Fessenheim. Further tests are necessary to characterise these installations. An action plan will therefore be applied from 2025 to collect the data available in the information system and draw up a characterisation programme, focusing in priority on major painted components that are determinant for the dismantling work, then extending the analysis to other electromechanical equipment. This characterisation programme will take account of the maintenance programme for the fleet currently in operation, and the analysts' capabilities.
- the treatment of obsolescence: a detailed study was conducted following the work done in 2023 on the highest-risk systems. It was based on an analysis of the Saint Laurent A systems, extrapolated to all the permanently shut-down sites, and led to a €108 million increase in provisions.

At 31 December 2024, the gross amounts estimated under year-end economic conditions (amounts still to be spent) and the present value of those amounts are as follows, presented by type of reactor technology:

	31/12/2024	
(in millions of euros)	Costs based on year-end economic conditions	Amounts in provisions at present value
Pressurised water reactor - PWR - Chooz A	334	294
Pressurised water reactor - PWR – Fessenheim[1]	1,161	971
Natural uranium graphite gas-cooled reactors – UNGG - Bugey, Saint Laurent, Chinon	6,348	3,258
Heavy water reactor – Brennilis	444	381
Sodium-cooled fast neutron reactor – Superphenix at Creys Malville	690	604

(1) Excluding interim storage and processing of steam generators.

Provisions for decommissioning of permanently shut-down nuclear plants also cover dismantling costs for related facilities such as the APEC Fuel Storage Building at Creys-Malville and the BCOT Operational Hot Unit at Tricastin.

Compared to decommissioning costs for the PWR technology, the cost at completion (all costs both settled and remaining) for decommissioning of the other reactors is higher, to different extents depending on their specific characteristics:

- costs are around twice as high for Brennilis (completion cost of approximately €1.1 billion for one reactor) due to its compactness, the fact that the core is encased in concrete and thus difficult to access, the absence of a fuel pool, which complicates remote-controlled segmentation, and the presence of zircaloy (a fire hazard), meaning that segmentation work takes longer and must be more closely supervised;
- costs are around twice as high for UNGG reactors (completion cost of approximately €7.6 billion for six reactors), because they require removal of 20 times more material than a PWR due to their size, and contain graphite which is hard to access and requires special handling such that specific remote-controlled equipment must be developed;
- costs are around four times as high for Superphenix (completion cost of approximately €2.3 billion for one reactor), due to processing of sodium for which elimination is very sensitive, and the size of the facilities, especially the reactor (with a vessel 20 times bigger than the vessel of the 1,300MW PWR).

The following progress has been made on permanently shut-down plants:

- Chooz A: the reactor was shut down in 1991 and nuclear dismantling began in 2007 after the dismantling decree was issued. The final stage of dismantling began in 2016 and involves segmentation, conditioning and removal of reactor vessel internals, to be followed by dismantling of the vessel itself. Difficulties were encountered on the site until 2022 (the Covid crisis, unavailability of the bridge crane), but significant progress was made in 2023 and 2024, including emptying of the pool after segmentation of the reactor vessel internals, segmentation of the primary system pipework before lifting out the reactor vessel, and renovation of the reactor cavern fuel handling machine. Dismantling work on the vessel itself is scheduled to end in 2027. Also, a partnership agreement with the French national research agency CNRS was signed on 7 September 2022 for reuse of the caverns for fundamental research on neutrinos.
- Fessenheim: the two pressurised water reactors were permanently shut down on 22 February 2020 and 30 June 2020 respectively, in accordance with the law and before the end of their technical operating lifetime.

At the end of 2024, progress on the trajectory for decommissioning preparation activities was in line with the projected schedule, and the following operations had taken place:

> all the spent fuel was removed from the site and sent to la Hague;

> Full System Decontamination (FSD) was successfully completed on both reactors in June 2023;

> treatment in Sweden of the upper components of the used steam generators (after their replacement during the operation of Fessenheim units 1 & 2) was completed, and the multilateral agreement was in negotiation with the safety authorities of the countries the lower components will transit through on the way to Sweden (France, Belgium, Germany, the Netherlands and Sweden);

> electromechanical dismantling of the turbine hall, with a view to converting it into a radioactive waste decoupling and transit facility;

Major steps were taken towards obtaining the decree ordering decommissioning operations, which will mark the start of the decommissioning phase: the decommissioning application for Fessenheim was filed with the Minister for the Ecological Transition and the ASN in December 2020, the ASN Advisory Committee held a meeting on 22 June 2023, a public inquiry took place (from 25 March to 30 April 2024) and subsequently the Inquiry Committee and the Prefecture issued favourable opinions.

Under the current schedule, the decommissioning decree for the Fessenheim installations is expected to be issued in mid-2025, and to take effect in early 2026 once the ASN has approved the general operating rules applicable to decommissioning.

- UNGG reactors: these six reactors were shut down between 1973 and 1994 and received their dismantling decrees between 2008 and 2010 (except for Chinon A1 and A2). Defuelling and circuit draining have been completed for all these reactors, and dismantling operations are in process for the conventional and nuclear buildings in the periphery of the "reactor caissons". Following the ASN's decision of 2020, applications for dismantling permits were submitted for all these reactors in December 2022, to obtain new decrees allowing continuation of dismantling operations under an "in-air" strategy (these are expected for the end of 2026 at the earliest). Updated versions of all these applications were sent by EDF in February 2024, in response to requests made by the nuclear safety body MSNR (*Mission de la Sureté Nucléaire et de la Radioprotection*) in connection with the admissibility assessment. Examination of these applications by the ASN and the IRSN began on 25 November 2024 ahead of a meeting of the ASN Advisory Committee scheduled for March 2026. Opening of the top part of the first UNGG reactor caisson – Chinon A2 – is expected in 2034: the initial extractions of vessel internals and graphite blocks are due to start in 2044 and last 14 years. In parallel, the other UNGG sites are finalising work to put the sites into a safe storage configuration (by 2040). A safe storage configuration state means that 80% of surfaces have been dismantled and the reactor caissons are safe while awaiting the full benefit of experience on dismantling the caisson of the Chinon A2 first-of-a-kind unit. Opening of subsequent caissons is scheduled to begin from 2056;
- Superphenix: this plant was shut down in 1998 and received its dismantling decree in 2006. The following key stages have been completed: removal of the fuel to a building located on site (the APEC project), dismantling of the turbine hall, drainage of the circuits, processing and elimination of the sodium used for cooling in all circuits, filling the reactor vessel, opening and extracting the vessel containment plugs for segmentation. After removal of the reactor vessel containment plugs, installation of the "SCOT"[(1)] rotating confinement structure and commissioning of the automated workshop, segmentation of the reactor vessel internals began in 2024. In late 2024, the neutron shield support (the first part of the vessel internals) was extracted, segmented and conditioned in waste packages. The second part, the diagrid (the last large-scale component to be removed from inside the vessel) will be extracted for segmentation in the first quarter of 2025. Meanwhile, work inside the reactor building continued: in 2024, dismantling of the vessel head plug was completed, and dismantling work began on the reactor pit and the safety containment vessel. The end of the Superphénix reactor decommissioning is scheduled for 2034.
- Brennilis: this plant was shut down in 1985 and received a partial dismantling decree in 2011 allowing dismantling of all installations peripheral to the "reactor block". The following key stages have been completed: defuelling, dismantling of the turbine hall, the fuel building, auxiliary buildings, heat exchangers and the effluent treatment station. On 26 September 2023 the Brennilis plant received its "full dismantling" decree. Its implementation was marked in June 2024 by the ASN's approval of the new general operating rules, and in November 2024 by issuance of the ASN's final authorisation concerning the new water discharge and withdrawal practices allowing work to begin on dismantling the reactor block and demolition of the containment building, with site rehabilitation expected in 2041.

(1) Structure de Confinement Tournante

15.1.1.4 Provisions for last cores

These provisions cover the future expenses resulting from scrapping fuel that will only be partially irradiated when the reactor is shut down. They are estimated based on:

- the cost of the loss on fuel in the reactor that is not totally spent at the time of final reactor shutdown and cannot be reused due to technical and regulatory constraints ("front-end" expenses);
- the cost of fuel processing, and waste removal and storage operations ("back-end" expenses). These costs are estimated in a similar way to provisions for spent fuel management and long-term radioactive waste management.

These unavoidable costs are components of the cost of nuclear generating unit shutdown and decommissioning. As such, they are fully covered by provisions from the commissioning date and an asset associated with the provision is recognised. In a decision of 11 December 2020, France's Council of State challenged the tax-deductibility of the consequences of immediate recognition of a provision for dismantling of the last core ("front-end" last core expenses). In a ruling of 31 March 2023, the Council of State definitively confirmed that this nuclear provision is not tax-deductible (see note 21.1).

In 2023, provisions for last cores were increased by €103 million after the costs of processing operations were updated.

In 2024, provisions for last cores include €22 million for the last core of the Flamanville 3 plant.

15.1.1.5 Discount rate, inflation and sensitivity analyses

Calculation of the discount rate and inflation rate

The discount rate is based on an interest rate curve, which comprises a sovereign yield curve constructed on year-end market data for liquid horizons (OAT bond 0-20 year curve) and then converging, using an interpolation curve, towards the very long-term rate UFR (Ultimate Forward Rate) - with yields that become close to the UFR after 50 years – plus a curve of the spread of corporate bonds rated A to BBB. Based on the disbursement outflows expected to meet nuclear obligations, a single equivalent discount rate is deduced by applying the discount rates from the interest rate curve constructed in this way to each flow as appropriate to its maturity. This single discount rate is then applied to the forecast disbursement schedules for the costs of the obligations, to determine the provisions.

The UFR was defined by the European Insurance and Occupational Pensions Authority (EIOPA) for very long-term insurance liabilities that will involve disbursements beyond market horizons. The UFR calculated for 2024 (taking into account a 2% inflation rate) is 3.22%. This is used in the calculation methodology, in compliance with the decision by the French authorities, which in the ministerial order of 1 July 2020 amending the order of 21 March 2007 on secure financing of nuclear expenses (see below) changed the formula of the regulatory ceiling for the discount rate, such that it now refers to the UFR instead of the arithmetic 48-month average of the TEC 30-year rate. The UFR is considered more relevant for nuclear provisions in view of the very long-term maturities. The sovereign yield curve at 31 December 2024 indicates rates in a range of [2.3%; 3.6%] ([2.2%; 3%] in 2023) for outflows between 0 and 20 years, [3.4%; 3.6%] ([3%; 3.2%] in 2023) for outflows between 20 and 50 years, and a rate moving towards 3.22% (3.35% in 2023) for outflows after 50 years.

This calculation methodology for the discount rate provides the best assessment of the time value of money with regard to nuclear provisions, which are characterised by very long-term disbursement outflows, well beyond market horizons. This assessment is largely achieved through:

- use of an interest rate curve based on observed year-end market data with liquid horizons, converging over nonliquid horizons towards a very long-term rate with no cycle effect, *i.e.* yield data for all the maturities associated with nuclear provisions;
- use of a very long-term rate (calculated UFR) produced by an independent body and now adopted by the French authorities in setting the formula for the regulatory ceiling, to take account of long trends in yield movements, in coherence with the distant disbursement horizon;
- references to spreads on corporate bonds rated A to BBB by ratings agencies, in order to construct a robust spread curve since there are few AA-rated bonds, particularly on long maturities, whereas most "Investment Grade" bonds are BBB-rated and the great majority of them have longer maturities.

The inflation assumption is based on an inflation curve constructed by reference to inflation-indexed market products and economic forecasts, in long-term coherence with the inflation assumption underlying the UFR (2%).

By this calculation method, and taking account of the high volatility at the end of 2024 in OAT bond rates, which are expected to decrease, and the interest rate volatility in 2025, the discount rate determined is thus 4.5% at 31 December 2024 (4.5% at 31 December 2023), assuming inflation of 1.9% (2.0% at 31 December 2023), *i.e.* a real discount rate of 2.6% at 31 December 2024 (2.5% at 31 December 2023).

The decrease in the inflation rate assumption reflects the lower inflation forecasts in France. A 2% long-term inflation rate is still used given the ECB's target level, consistent with the inflation assumption underlying the UFR.

Regulatory discount rate limit

The discount rate must comply with two regulatory limits. Under article D594-4 of the Environment Code and the ministerial order of 1 July 2020 on secure financing for nuclear expenses (which amended the initial ministerial order of 21 March 2007), it must be lower than:

- a regulatory maximum, expressed in real value, *i.e.* net of inflation; this value is equal to the unrounded value representative of expectations concerning the real long-term interest rate, as used for the calculation of the "real" Ultimate Forward Rate (UFR) applicable at the date concerned published by the European Insurance and Occupational Pensions Authority (EIOPA), plus 150bp;
- and the expected rate of return on assets covering the liability (dedicated assets).

The maximum discount rate calculated by reference to the UFR is 2.72% at 31 December 2024 (2.85% at 31 December 2023).

The real discount rate used in the financial statements at 31 December 2024, calculated by the method presented above, is 2.6%.

Analyses of sensitivity to macro-economic assumptions

Sensitivity to assumptions concerning costs, inflation rate, long-term discount rate, and disbursement schedules can be estimated through comparison of the gross amount estimated under year-end economic conditions with the present value of the amount.

	31/12/2024		31/12/2023	
(in millions of euros)	Costs based on year-end economic conditions	Amounts in provisions at present value	Costs based on year-end economic conditions	Amounts in provisions at present value
Spent fuel management	24,849	16,211	18,998	12,657
amount unrelated to the operating cycle	*7,794*	*4,496*	*3,658*	*1,760*
Long-term radioactive waste management	40,405	14,156	38,467	13,205
BACK-END NUCLEAR CYCLE EXPENSES	**65,254**	**30,367**	**57,465**	**25,862**
Decommissioning of nuclear plants in operation	25,154	13,510	23,335	13,002
Decommissioning of shut-down nuclear plants	9,313	5,711	8,832	5,417
Last cores	5,167	2,995	4,668	2,720
DECOMMISSIONING AND LAST CORE EXPENSES	**39,634**	**22,216**	**36,835**	**21,139**
PROVISIONS RELATED TO NUCLEAR GENERATION within the scope of the law of 28 June 2006	**-**	**52,583**	**-**	**47,001**

The cumulative disbursements of nuclear expenses (based on gross values at year-end economic conditions) are distributed as follows:

	31/12/2024		
	Costs based on year-end economic conditions		
(in millions of euros)	Disbursement expected within 10 years	Disbursement expected after 10 years[1]	Total
Spent fuel management	12,589	12,260	24,849
amount unrelated to the operating cycle	*2,977*	*4,817*	*7,794*
Long-term radioactive waste management	6,548	33,857	40,405
BACK-END NUCLEAR CYCLE EXPENSES	**19,137**	**46,117**	**65,254**
Decommissioning of nuclear plants in operation	623	24,531	25,154
Decommissioning of shut-down nuclear plants	3,854	5,459	9,313
Last cores	1,146	4,021	5,167
DECOMMISSIONING AND LAST CORE EXPENSES	**5,623**	**34,011**	**39,634**

(1) Over a 20-year and 50-year horizon, 24% and 45% respectively of cumulative disbursements (at year-end economic conditions) will concern long-term radioactive waste management provisions, and 37% and 93% respectively will concern decommissioning provisions.

For additional information, the table below shows the estimated impact of a +/-20bp change in the discount rate on the present value of provisions for the back-end of the nuclear cycle, decommissioning of nuclear plants and last cores:

At 31 December 2024:

		Sensitivity to discount rate			
	Amounts in provisions at present value	Balance sheet provisions		Pre-tax net income	
(in millions of euros)		+20bp	-20bp	+20bp	-20bp
Back-end nuclear cycle expenses:					
- spent fuel management	17,449	(314)	332	269	(285)
- long-term radioactive waste management	14,156	(712)	795	543	(613)
Decommissioning and last core expenses:					
- decommissioning of nuclear plants in operation	13,510	(588)	621	-	-
- decommissioning of shut-down nuclear plants	5,711	(164)	175	164	(175)
- last cores	2,995	(97)	103	-	-
TOTAL	**53,821**	**(1,875)**	**2,026**	**976**	**(1,073)**
Amount covered by dedicated assets	*38,507*	*(1,636)*	*1,777*	*833*	*(924)*

The impact of a +/-10 base point variation in discount rates on the present value of provisions for the back-end of the nuclear cycle, decommissioning and last cores is estimated at €(956)/993 million, including €499/(523) million on the pre-tax net income.

15.1.2 EDF's dedicated assets

15.1.2.1 Regulations

Articles L. 594-1 and following of France's Environment Code and their implementing regulations require assets (dedicated assets) to be set aside for secure financing of nuclear plant decommissioning expenses and long-term storage expenses for radioactive waste. These regulations govern the way dedicated assets are built up, and the management and governance of the funds themselves. Dedicated assets are clearly identified and managed separately from the Company's other financial assets and investments. They are also subject to specific monitoring and control by the Board of Directors and the administrative authorities.

The law requires the realisable value of dedicated assets to be higher than the value of the provisions corresponding to the present value of the long-term nuclear expenses defined in France's Environment Code.

The Decree of 1 July 2020 codified the regulatory obligations concerning dedicated assets in articles D594-1 and following of the Environment Code, modified by a decree of 22 November 2023 and complemented by the ministerial order of 21 March 2007 amended by the order of 1 July 2020.

Since the decree of 1 July 2020, EDF is no longer obliged to add to dedicated assets when the coverage rate of obligations, determined by the ratio of the assets' realisable value to the amount of the provisions concerned, is above 100%, and withdrawals from assets are not authorised unless that rate is above 120%. The decree also set the maximum period for allocating funds to dedicated assets in the event of undercoverage at 5 years, subject to authorisation by the administrative authority.

15.1.2.2 Strategic allocation and composition of dedicated assets

Given the regulations governing dedicated assets, they form a highly specific category of assets.

Dedicated assets are structured and managed according to a strategic allocation defined by the Board of Directors and reported to the administrative authorities. The strategic allocation is designed to meet the overall objective of long-term coverage of obligations, and determines the structure and management of the portfolio as a whole. It takes into account regulatory constraints concerning the nature and liquidity of the dedicated assets, the financial outlook for the equity and bond markets, and the diversifying contribution of unlisted assets.

Several changes have been made to this strategic allocation in order to pursue the diversification into unlisted assets, particularly in 2010 when the shares in RTE (now held *via* CTE) were allocated to dedicated assets, and in 2013 when an unlisted asset portfolio (consisting of infrastructures, real estate and debt or equity funds) was set up. This portfolio is managed by EDF SA's "EDF Invest" Division.

The strategic allocation validated by the Board of Directors on 28 June 2024 adjusted the previous allocation approved on 29 June 2018, and the composition of dedicated assets is as follows:

- yield assets (target of 29% of dedicated assets), consisting of infrastructure assets, including the shares of CTE, and real estate property;
- growth assets (target of 41% of dedicated assets), consisting of equity funds investing in listed or unlisted equities;
- fixed-income assets (target of 30% of dedicated assets), consisting of listed bonds or listed bond funds, unlisted debt funds, receivables and cash.

These targets will be reached gradually.

EDF Invest manages yield assets, but through unlisted investment funds it also manages some of the growth and fixed-income assets.

At 31 December 2024 the total realisable value of assets managed by EDF Invest is €10,839 million, including €9,485 million for yield assets.

Yield assets

The yield assets consist mainly of assets related to investments in infrastructures and real estate, made either directly or by investment funds under delegated management arrangements.

Yield assets particularly include:

- the Group's investments in CTE, Madrileña Red de Gas (MRG), *Aéroports de la Côte d'Azur*, Fjord1, Orange Concessions, Optimus Tower, Energy Assets Group, Nam Theun Power Company, companies that own wind and solar power plants (in the United States, Canada, and the United Kingdom) and companies that own real estate assets (Central Sicaf, Ecowest, Clariane & Partenaires Immobilier, Issy Shift, 92 France, and LF Memphis, Nordic Logistics, Parcolog Invest, Encore+ Bergère), presented in investments in associates in the consolidated balance sheet;
- the Group's investments in Teréga, Porterbrook, Autostrade per l'Italia, Q-Park, Géosel, Norlys Fiber, Databank and companies that own wind farms in the United Kingdom, presented in debt and equity securities in the consolidated balance sheet.

Growth assets and fixed-income assets

Certain growth and fixed-income assets take the form of bonds held directly by EDF. Others consist of specialised collective investment funds on leading international markets and French general-purpose investment funds (FIVGs), managed by independent asset management companies. They take the form of open-end funds and "reserved" funds located in France, established for the company. The reserved funds are owned by EDF and are not consolidated as EDF does not participate in management of these funds and provides no financial support for them.

The value of the assets of the reserved investment funds amounts to €17,802 million at 31 December 2024 (€14,579 million at 31 December 2023). These funds mainly consist of 20 listed funds with total value of €16,341 million (at 31 December 2023, 18 listed funds with total value of €13,298 million).

The listed equity funds consist of international equities (mainly in North America but also in Europe, Asia-Pacific and emerging countries). Listed bonds and listed bond funds consist of sovereign and corporate bonds.

These investments are structured and managed in line with the strategic allocation, which takes into consideration international stock market cycles, for which the statistical inversion generally observed between equity market cycles and bond market cycles – as well as between geographical areas – has led the Group to define a long-term investment policy with appropriate allocation between growth assets and fixed-income assets.

Growth assets also include a small portion of funds invested in unlisted equities, and fixed-income assets also include a small portion of funds invested in unlisted debt. These funds are managed by EDF Invest.

At the year-end, dedicated assets are presented in debt and equity securities in the balance sheet, at their liquidation value.

In the course of operational asset monitoring, the Group applies long-term, specific management rules defined and supervised by its governance bodies (maximum investment ratios, volatility analyses and assessment of individual fund manager quality).

15.1.2.3 Changes in dedicated assets in 2024

Equity market performances were strong for a second successive year in 2024, particularly in the US. Economic growth in the United States was surprisingly vigorous all year long, and the economy was very well oriented generally towards services, and investment in artificial intelligence. The outcome of the American presidential elections had positive effects on the markets in late 2024 (due to expectations of lower taxes and deregulation) despite the potentially unfavourable effects on inflation, and the resulting lack of visibility regarding changes to the Fed's monetary policy. In Europe, conversely, economic growth remained sluggish.

The divergence between Europe and the United States is clearly reflected in the 2024 performances, which were substantially higher in the US. This led to the indexes concentrating more on American equities, the technology sector and certain specific names (the Magnificent Seven).

The listed equities portfolio grew by 21.67% in 2024. In more detail, the net growth in euros was 26.93% on North American equities, 6.58% in Europe, 19.78% in Japan, and 15.08% in emerging countries.

Listed bonds grew by 4.30% in 2024. The portfolio benefited from tactical management of interest rate sensitivity, and good credit performances in general. The sovereign bond portfolio registered a performance of 2.48%, the inflation-indexed bond portfolio 0.37%, the Euro investment grade credit portfolio 5.99%, and the high-yield short-term credit portfolio 5.02%.

Positive changes in the fair value of the dedicated asset portfolio (investment funds, equities) amounting to +€2,998 million were recognised in the financial result in 2024 (see note 8.3), compared to positive changes amounting to +€2,220 million in 2023. Positive changes in the fair value of the bonds in the dedicated asset portfolio amounting to +€164 million were also recognised in OCI in 2024 (see note 18.1.2), compared to positive changes amounting to +€431 million in 2023.

EDF Invest continued to extend its portfolio of unlisted assets in 2024, purchasing minority stakes in infrastructures and real estate (logistics, offices), and investing in private equity and private debt funds.

During the first half of 2024, EDF Invest finalised the acquisition of a 50% share in Nordic Logistic (logistics warehouses in Sweden), and the acquisition, as part of a consortium, of a 40% stake in the Norwegian electric ferry operator Fjord1. During the second half of 2024, EDF Invest purchased 50% of Parcolog Invest, a portfolio of logistics warehouses in France, 49% of the shares of a real estate partnership which owns an office building in Paris, and a 40.1% stake in the consortium that has taken over the Austrian telecoms tower operator On Tower, now renamed Optimus Tower.

Withdrawals from dedicated assets in 2024 totalled €527 million, equivalent to payments made in respect of the long-term nuclear obligations to be covered during the year (€465 million in 2023).

15.1.2.4 Valuation of EDF's dedicated assets

EDF's dedicated assets are included in the Group's consolidated financial statements at the following values:

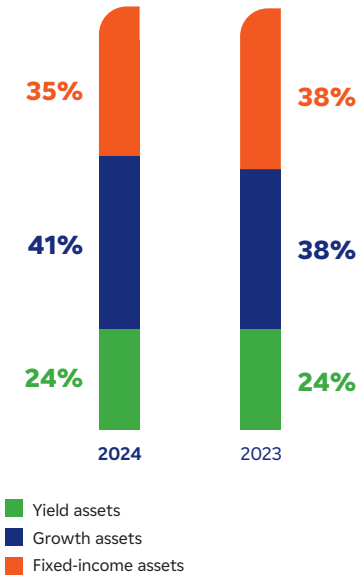
		31/12/2024		31/12/2023	
(in millions of euros)	Consolidated balance sheet presentation	Book value	Realisable value	Book value	Realisable value
YIELD ASSETS (EDF Invest)[1]		**6,877**	**9,485**	**6,196**	**8,657**
Other associates (including CTE)	Investments in associates[2]	4,534	7,135	3,834	6,287
Other unlisted assets	Debt and equity securities and other net assets[3]	2,354	2,361	2,359	2,367
Derivatives	Fair value of derivatives	(11)	(11)	3	3
GROWTH ASSETS (EDF INVEST)		**16,633**	**16,633**	**14,036**	**14,036**
Equities (investment funds)	Debt securities	15,995	15,995	13,392	13,392
Unlisted equity funds (EDF Invest)	Debt securities	699	699	589	589
Derivatives	Fair value of derivatives	(61)	(61)	55	55
FIXED-INCOME ASSETS (EDF Invest)		**14,202**	**14,202**	**14,192**	**14,192**
Bonds and listed negotiable debt instruments	Debt securities	13,172	13,172	12,488	12,488
Unlisted igh-yield debt funds (EDF Invest)	Debt securities	260	260	236	236
Unlisted senior debt funds (EDF Invest)	Debt securities	395	395	363	363
Cash portfolio	Debt securities	365	365	1,104	1,104
Derivatives	Fair value of derivatives	10	10	1	1
TOTAL DEDICATED ASSETS		**37,712**	**40,320**	**34,424**	**36,885**

(1) Including 50.1% of CTE, the company that holds 100% of the shares in RTE (see note 12). The realisable value of EDF Invest in the above table has been determined by an independent assessor.

(2) Including the value of the share in equity of the controlled companies owning these investments.

(3) Including debt and equity securities amounting to €2,235 million and the value of the share in equity of other controlled companies.

The structure of the dedicated asset portfolio in 2024 and 2023 is as follows (in realisable value):



15.1.3 Coverage of EDF's long-term nuclear obligations

The Group's long-term nuclear obligations in France concerned by the regulations for dedicated assets related to nuclear generation are included in the EDF group's consolidated financial statements at the following values:

(in millions of euros)	31/12/2024	31/12/2023
Provisions for spent fuel management – portion unrelated to the operating cycle as defined in the regulations	4,496	1,760
Provisions for long-term radioactive waste management	14,156	13,205
Provisions for nuclear plant decommissioning	19,221	18,419
Provisions for last cores – portion for future long-term radioactive waste management	634	605
PRESENT COST OF LONG-TERM NUCLEAR OBLIGATIONS	**38,507**	**33,989**
REALISABLE VALUE OF DEDICATED ASSETS	**40,320**	**36,885**
REGULATORY COVERAGE RATE	**104.7%**	**108.5%**

At 31 December 2024, by the regulatory calculations provisions are 104.7% covered by dedicated assets. The potential regulatory caps on the realisable value of certain investments set in the Environment Code were not applicable at 31 December 2024.

As the coverage of provisions by dedicated assets was above 100%, EDF had no obligation to add to the dedicated asset portfolio in 2024 and no allocation was made during the year.

At 31 December 2023, by the regulatory calculations provisions were 108.5% covered by dedicated assets (and the regulatory caps were again not applicable). No allocation to dedicated assets was made in 2023.

15.2 EDF Energy's nuclear provisions

The specific financing terms for long-term nuclear commitments related to EDF Energy are reflected as follows in the EDF group's financial statements:

- the obligations are reported in liabilities in the form of provisions amounting to €17,478 million at 31 December 2024;
- in the assets, EDF Energy reports receivables corresponding to the amounts payable under the restructuring agreements by the Nuclear Liabilities Fund (NLF), for non-contracted obligations or decommissioning obligations, and by the UK Government for contracted obligations (or historical liabilities).

These receivables are discounted at the same real rate as the obligations they are intended to finance. They are included in "Financial assets" in the consolidated balance sheet (see note 18.1.3) at the amount of €16,142 million at 31 December 2024 (€13,104 million at 31 December 2023).

Details of changes in provisions for the back-end of the nuclear cycle and provisions for decommissioning and last cores are as follows:

(in millions of euros)	31/12/2023	Increases	Decreases	Discount effect	Translation adjustments	Other movements	31/12/2024
Provisions for spent fuel management	1,238	16	(135)	65	59	22	1,265
Provisions for waste removal and conditioning	406	-	-	22	21	71	520
Provisions for long-term radioactive waste management	1,173	2	-	64	61	146	1,446
Provisions for the back-end of the nuclear cycle	**2,817**	**18**	**(135)**	**151**	**141**	**239**	**3,231**
Provisions for nuclear plant decommissioning	10,277	-	(724)	554	538	2,233	12,878
Provisions for last core	1,271	-	-	66	62	(30)	1,369
Provisions for decommissioning and last cores	**11,548**	**-**	**(724)**	**620**	**600**	**2,203**	**14,247**
PROVISIONS RELATED TO NUCLEAR GENERATION	**14,365**	**18**	**(859)**	**771**	**741**	**2,442**	**17,478**

"Other movements" include the changes in nuclear liabilities with a corresponding adjustment in the amount of reimbursements receivable from the NLF and the British government, and the change in the provision for last cores *via* an adjustment to fixed assets.

The overall change in "other movements" is mainly due to:

- an update of the costs estimates based on the Integration plan 25 (IP 25) approved by the Non-Nuclear Liabilities Assurance team (NLA) in December 2024 of € 3,440 million driven primarily by a combination of: increases to AGR back-end of the cycle costs (known as the Uncontracted Liabilities), following engagement to Sellafield on a joint working panel; increases to AGR Deconstruction costs due to a combination of updated assumptions regarding the length of the pre-Care and Maintenance phase (arising following initial work on the Hunterston B Single Site Delivery Plan); and an update of the forecast staff (full time equivalent) requirements to deliver AGR deconstruction scope, and increases to operational costs, staff costs and centre costs forecasts, arising as a result of inflationary pressure;
- an increase in the real discount rate in the United Kingdom (particularly +30 base point on provisions for the backend of the cycle and decommissioning), resulting in a decrease of the provisions for an amount of €(825) million;
- the new assumptions (as announced by the Group in December 2024) regarding the closure of Heysham 1 and Hartlepool AGR plants, scheduled for 2027 (previously 2026), and the closure of Heysham 2 and Torness plants, scheduled for 2030 (previously 2028), resulting in a decrease of the provisions for the backend of the cycle and decommissioning for an amount of €(366) million.

15.2.1 Regulatory and contractual framework

Amendments signed with the Nuclear Liabilities Fund (NLF – an independent trust set up by the UK Government as part of the restructuring of British Energy) following the EDF group's acquisition of British Energy had a limited impact on the contractual financing commitments made to British Energy by the UK Secretary of State and the NLF under the "Restructuring Agreements". These agreements were entered into by British Energy on 14 January 2005 as part of the restructuring led by the UK Government in order to stabilise British Energy's financial position. These agreements were amended and restated on 5 January 2009 as part of the acquisition of the British Energy Generation Limited by the Group. British Energy Generation Limited changed its name to EDF Energy Nuclear Generation Limited on 1 July 2011 and replaced British Energy in these agreements and amendments.

Under the terms of the Restructuring Agreements:

- the NLF agreed to fund, to the extent of its assets: (i) qualifying contingent and/or latent nuclear liabilities (including liabilities for management of spent fuel from the Sizewell B power station); and (ii) qualifying decommissioning costs for EDF Energy's existing nuclear power stations;
- the Secretary of State agreed to fund: (i) qualifying contingent and/or latent nuclear liabilities (including liabilities for the management of spent fuel from the Sizewell B power station) and qualifying decommissioning costs related to EDF Energy's existing nuclear power stations, to the extent that they exceed the assets of the NLF; and (ii) subject to a cap of £2,185 million (in December 2002 monetary values, adjusted accordingly), qualifying known existing liabilities for EDF Energy's spent fuel (including liabilities for management of spent fuel from plants other than Sizewell B loaded in reactors prior to 15 January 2005);
- EDF Energy is responsible for funding certain excluded or disqualified liabilities (*e.g.* those defined as EDF Energy liabilities), and additional liabilities which could be created as a result of failure by EDF Energy to meet minimum performance standards under applicable law. The obligations of EDF Energy to the NLF and the Secretary of State are guaranteed by the assets of the principal members of EDF Energy.

EDF Energy also made commitments to pay:

- annual decommissioning contributions for a period limited to the useful life of the plants as at the date of the "restructuring agreements"; the corresponding provision amounts to €67 million at 31 December 2024;
- £150,000 (indexed to inflation) per tonne of uranium loaded in the Sizewell B reactor after the date of the "restructuring agreements".

Furthermore, EDF Energy entered into a separate contract with the Nuclear Decommissioning Authority (NDA) for management of AGR spent fuel and associated radioactive waste resulting from operation of power plants other than Sizewell B after 15 January 2005, and bears no responsibility for this fuel and waste once it is transferred to the processing site at Sellafield. The corresponding costs of £150,000 (indexed to inflation) per tonne of loaded uranium – plus a rebate or surcharge dependent on market electricity price and electricity generated in the year – are included in inventories.

On 23 June 2021 EDF and the UK government signed an update to the "restructuring agreements". The changes and clarifications to the Agreements confirm the recovery of qualifying costs and stipulate that once the AGR stations have finished defueling under EDF Energy responsibility, they will transfer to the NDA which will be responsible for subsequent decommissioning activities. These amended agreements had no consequences in the Group financial statements at 31 December 2024.

On an annual basis the cost estimates which form the basis of EDF Energy's Back End Nuclear Cycle and Nuclear Plants Decommissioning provision are updated based on Integrated Plan (IP) assumptions. The IP is submitted to the NLA for approval. The IP24 and the IP25 were approved by the NLA respectively in December 2023 and in December 2024.

The cost estimates from IP25, updated for the announced AGR Plant Life Extension, together with the assumption of Sizewell B life extension from 2035 to 2055 form the basis of the nuclear liabilities as at 31st December 2024.

15.2.2 Provisions for the back-end of the nuclear cycle

Spent fuel from the Sizewell B PWR (pressurised water reactor) plant is stored on site. Spent fuel from the AGR plants is transferred to Sellafield for storage and reprocessing.

EDF Energy's provisions for the back-end of the nuclear cycle concern obligations for reprocessing and storage of spent fuel and long-term storage of radioactive waste, required by the existing regulations in the UK approved by the Nuclear Decommissioning Authority (NDA). Their amount is based on contractual agreements or if this is not possible, on the most recent technical estimates.

	31/12/2024		31/12/2023	
(in millions of euros)	Costs based on year-end economic conditions[1]	Amounts in provisions at present value	Costs based on year-end economic conditions[1]	Amounts in provisions at present value
Spent fuel management	4,173	1,265	3,790	1,238
Waste removal and conditioning	3,086	520	2,071	406
Long-term radioactive waste management	7,780	1,446	5,784	1,173
BACK-END NUCLEAR CYCLE EXPENSES	**15,039**	**3,231**	**11,645**	**2,817**

(1) The costs based on year-end economic conditions include spent fuel and associated waste management over the operating life of the reactors (including future load fuel for Sizewell B only); the provisions are based on the fuel committed to date.

15.2.3 Provisions for nuclear plant decommissioning

Provisions for decommissioning of nuclear plants cover the full cost of decommissioning and are measured on the basis of existing techniques and methods that are most likely to be used for application of current regulations.

As explained above, the "restructuring agreements" updated in June 2021 provide that once the AGR power plants have finished defueling that they will transfer to the NDA for subsequent decommissioning activities.

The signature of these agreements has no immediate accounting consequences for decommissioning provisions or the receivable representing reimbursements to be made by the NLF and the UK government. Nuclear decommissioning liabilities and the associated assets will be derecognised during the agreement's operational implementation phase.

	31/12/2024		31/12/2023	
(in millions of euros)	Costs based on year-end economic conditions	Amounts in provisions at present value	Costs based on year-end economic conditions	Amounts in provisions at present value
PLANT DECOMMISSIONING EXPENSES	**27,273**	**12,809**	**20,459**	**10,195**

15.2.4 Discounting of EDF Energy's provisions related to nuclear generation

The method used to determine the discount rate is the following:

- Like the discount rate for nuclear provisions in France, the discount rate for EDF Energy's provisions is based on an interest rate curve, which comprises a sovereign yield curve constructed on year-end market data for liquid horizons (UK gilt 0-20 year yield) and then converging, using an interpolation curve, towards the very long-term rate UFR (Ultimate Forward Rate) plus a curve of the spread of corporate bonds rated A to BBB. Based on expected disbursements corresponding to nuclear obligations, a single equivalent discount rate is deduced from the curve constructed in this way. This single discount rate is then applied to the forecast disbursement schedules for the costs of the obligations, to determine the provisions;
- The inflation assumption is based on an inflation curve constructed by reference to economic forecasts and inflation-indexed market products, in long-term coherence with the inflation assumption underlying the UFR (2%).

As a consequence, the real discount rate used to calculate provisions for the back-end of the nuclear cycle and decommissioning of nuclear plants is 3.4% (3.1% as at 31 December 2023).

15.3 Nuclear provisions in Belgium

(in millions of euros)	31/12/2023	Increases	Decreases	Discount effect	Other movements	31/12/2024
Provisions for the back-end of the nuclear cycle	364	10	-	5	-	379
Provisions for decommissioning and last cores	596	1	(2)	15	(11)	599
PROVISIONS RELATED TO NUCLEAR GENERATION	**960**	**11**	**(2)**	**20**	**(11)**	**978**

In Belgium, the law of 11 April 2003 assigned management of provisions concerning the Belgian nuclear plants, and the funds that cover them, to Synatom (a subsidiary of the ENGIE group). Luminus contributes *via* Synatom to these funds, to cover its share of plant decommissioning and back-end nuclear fuel expenses as a co-owner of 4 nuclear plants. These funding mechanisms are reflected through the following items in the consolidated financial statements:

- provisions, amounting to €352 million at 31 December 2024 (€352 million at 31 December 2023);
- a receivable representing the advance payments made to Synatom, recognised as financial assets carried at fair value (see note 18.1.3) at the value of €354 million at 31 December 2024 (€298 million at 31 December 2023). This receivable, which corresponds to the fair value of the share of funds held by Synatom on behalf of Luminus, is reported at present value in Luminus' financial statements, applying the same real discount rate used to determine the obligations these funds will cover.

Other provisions related to nuclear generation in Belgium correspond to provisions that are not part of the mechanisms described above.

At 31 December 2023, nuclear provisions in Belgium included an increase of €367 million mainly resulting from the final agreement between ENGIE and the Belgian State on 13 December 2023 on all the nuclear waste-related obligations for Luminus and EDF Belgium (the agreement defines a fixed amount for future nuclear waste processing costs), and extension of the operating lifetimes of Tihange 3 and Doel 4.

On 19 April 2024 the Belgian Chamber of Representatives approved the proposed laws that will extend the operating lifetimes of the Doel 4 and Tihange 3 reactors. Clearance by the European Commission, which is currently conducting an investigation, has yet to be issued.

Note 16 Provisions for employee benefits

ACCOUNTING PRINCIPLES AND METHODS

The Group grants its employees post-employment benefits (pension plans, retirement indemnities, etc.) and other long-term benefits (e.g. long-service awards) in compliance with the specific laws and measures in force in each country where it does business.

CALCULATION AND RECOGNITION OF EMPLOYEE BENEFIT OBLIGATIONS

Obligations under defined-benefit plans are calculated by the projected unit credit method, which determines the present value of entitlements earned by employees at year-end under all types of plan, taking into consideration the prospects for wage increases and each country's specific economic conditions.

Post-employment benefit obligations are valued mainly using the following methods and assumptions:

- retirement age, determined on the basis of the applicable rules for each plan, and the requirements to qualify for a full pension;
- career-end salary levels, with reference to employee seniority, projected salary levels at the time of retirement based on the expected effects of career advancement, and estimated trends in pension levels;
- forecast numbers of pensioners, determined based on employee turnover rates and mortality data available in each country;
- reversion pensions where relevant, taking into account both the life expectancy of the employee and his/her spouse and the marriage rate;
- a discount rate that depends on the geographical zone and the duration of the obligations, determined at the year-end date by reference to the market yield on high-quality corporate bonds or the rate on government bonds whose duration is coherent with the EDF group's commitments to employees.

The amount of the provision corresponds to the value of obligations less the fair value of the fund assets that cover those obligations.

The net expense booked during the year for employee benefit obligations includes:

- in the income statement:
  - the current service cost, corresponding to additional benefit entitlements earned during the year,
  - the net interest expense, corresponding to interest on obligations net of the return on fund assets, which is calculated using the same discount rate as for the obligations,
  - the past service cost, including the income or expense related to amendments or settlements of benefit plans or introduction of new plans,
  - the actuarial gains and losses relating to other long-term benefits;

- in other components of consolidated comprehensive income:
  - the actuarial gains and losses relating to post-employment benefits and any return on hedging assets in excess of the discount rates used,
  - the effect of the limitation to the asset ceiling if any.

POST-EMPLOYMENT BENEFIT OBLIGATIONS

When they retire, Group employees benefit from pensions determined under local rules. They may also be entitled to benefits directly paid by the companies, and additional benefits prescribed by the relevant regulations.

French entities covered by the IEG statutes

Entities covered by the specific IEG (electricity and gas sector) statutes, namely EDF, Enedis, Électricité de Strasbourg and EDF PEI, are Group companies where a great many employees benefit from those statutes, including IEG statutory benefits and, for employees hired before 1 September 2023, the special IEG pension system.

Obligations under the special IEG pension system

After the financing reform for the special IEG pension system took effect on 1 January 2005 (law of 9 August 2004), pension provisions were recognised by IEG companies to cover entitlements not funded by France's standard pension system (through the CNAV, AGIRC and ARRCO pension funds), to which the IEG system is affiliated, or by the CTA (*Contribution Tarifaire d'Acheminement*) levy on gas and electricity transmission and distribution services.

As a result of the system affiliation mechanism, any change in the standard French pension system (whether favourable or unfavourable to employees) that is not incorporated into the IEG pension system is likely to cause a variation in the amount of the provisions recorded by the Group to cover its obligations.

The IEG pension obligations for which a provision is recorded include:

- specific benefits of employees covered by the IEG statutes in the deregulated or competitive activities;
- specific benefits earned by employees covered by the IEG statutes from 1 January 2005 for the regulated activities (transmission and distribution) (benefits earned prior to that date are financed by the CTA levy).

In application of France's pension reform law of 14 April 2023, employees covered by the IEG statutes hired from 1 September 2023 are affiliated to the standard pension system (CNAV, AGIRC and ARRCO). These employees' pensions are funded under the standard French pension rules, but they are still entitled to other IEG statutory benefits (energy at preferential prices, family benefits, etc).

Obligations for IEG statutory benefits other than pensions

All retired employees covered by the IEG statutes, regardless of their pension system, are entitled to other IEG statutory benefits, including:

- benefits in kind (energy): Article 28 of the national IEG personnel statutes entitles retirees receiving an IEG or standard pension to the same benefits in kind as currently active employees covered by the IEG statutes. Consequently, they are granted preferential prices for electricity and natural gas. The obligation relating to supplies of energy to present and past IEG-status employees of the EDF and ENGIE groups corresponds to the probable present value of kWh to be supplied to those employees or their dependants during their retirement, valued on the basis of the unit cost (which mainly depends on the marginal production cost and taxes). It also includes the balancing payment made under the energy exchange agreement with ENGIE: under agreements signed with ENGIE in 1951, EDF supplies electricity to the entire population of current and retired EDF and ENGIE employees, while ENGIE supplies gas to the same population, and EDF pays (or receives) an amount to balance the costs of energy exchanges between the two companies that concern EDF's employees covered by the IEG statutes;
- family benefits and help with the cost of studies: retirees receiving an IEG or standard pension have the same entitlements as current employees covered by the IEG statutes;
- bereavement benefit: this is paid out upon the death of an inactive employee covered by the IEG statutes, regardless of their pension system, to provide financial assistance for the expenses incurred at such a time (Article 24 - § 3 of the National Statutes). It is paid to the deceased retiree's principal dependants (statutory indemnity equal to three months' pension, subject to a limit) or to a third party that has paid funeral costs (discretionary indemnity equal to the costs incurred).

Obligations for benefits payable to employees covered by the IEG statutes at the time of retirement

All retired employees covered by the IEG statutes, regardless of their pension system, are entitled to the following benefits when they take retirement:

- retirement gratuities: these are paid upon retirement to employees covered by the IEG statutes, regardless of their pension system, or to their dependants if the employee dies before reaching retirement. These obligations are almost totally covered by an insurance policy;
- bonus pre-retirement paid leave: all employees covered by the IEG statutes, regardless of their pension system, who are immediately eligible for an old-age pension and are aged at least 55 at their retirement date are entitled to 18 days of bonus paid leave during the last twelve months of their employment.

Obligations for benefits awarded in recognition of exposure to physically arduous work to employees affiliated to the special IEG pension system

The IEG statutes contain early retirement measures for employees affiliated to the special IEG pension system who are exposed to physically arduous work. Employees hired before 1 January 2009 benefit from bonus contribution periods for calculation of their pension, and employees hired after 1 January 2009 are attributed paid leave entitlements through a special "Pension days" time banking system.

EDF Energy

Regarding pension obligations in the United Kingdom, EDF Energy's three defined-benefit plans (BEGG (British Energy Generation Group), EEGSG (EDF Energy Generation and Supply Group), and EEPS (EDF Energy Pension Scheme)) were closed at 31 December 2021, and replaced by a defined-contribution plan called "myRetirement Plan". The rights vested under the previous plans up to their closing date still exist, and the corresponding obligations are updated for changes in discount and inflation rates, but are no longer affected by new members or wage increases. Meanwhile, the closed plans were merged into a single plan called "EDF group of the Electricity Supply Pension Scheme (ESPS)" (EDFG).

OTHER LONG-TERM BENEFIT OBLIGATIONS

These benefits concern employees currently in service, and are earned according to local regulations, particularly the statutory regulations for the electricity and gas sector for EDF and French subsidiaries covered by the IEG regime. They include:

- annuities following incapacity, invalidity, industrial accident or work-related illness;
- long-service awards;
- specific benefits for employees who have been in contact with asbestos.

16.1 Group provisions for employee benefits

(in millions of euros)	31/12/2024	31/12/2023
Provisions for employee benefits – current portion	778	665
Provisions for employee benefits – non-current portion	17,284	15,895
PROVISIONS FOR EMPLOYEE BENEFITS	**18,062**	**16,560**

16.1.1 Change in the provision by geographical area: obligations, fund assets, net liability

(in millions of euros)	France[1]	United Kingdom	Other	Total
Obligations at 31/12/2023	**26,187**	**6,913**	**822**	**33,922**
Net expense for 2024	1,500	294	65	1,859
Actuarial gains and losses	1,252	(1,145)	(5)	102
Employees' contributions to funds	-	1	1	2
Benefits paid	(1,190)	(317)	(45)	(1,552)
Translation adjustment	-	308	-	308
Changes in scope of consolidation	-	-	51	51
Other movements	-	-	-	-
OBLIGATIONS AT 31/12/2024	**27,749**	**6,054**	**889**	**34,692**

(in millions of euros)	France[1]	United Kingdom	Other	Total
Fund assets at 31/12/2023	**(10,001)**	**(7,033)**	**(470)**	**(17,504)**
Net expense for 2024	(332)	(319)	(17)	(668)
Actuarial gains and losses	(191)	846	(33)	622
Employer's contributions to funds	-	(72)	(34)	(106)
Employees' contributions to funds	-	4	(1)	3
Benefits paid	431	317	14	762
Translation adjustment	-	(322)	-	(322)
Changes in scope of consolidation	-	-	-	-
Other movements	-	-	28	28
FUND ASSETS AT 31/12/2024	**(10,093)**	**(6,579)**	**(513)**	**(17,185)**

(in millions of euros)	France[1]	United Kingdom	Other	Total
Net employee benefit liability at 31/12/2023[2]	**16,186**	**(120)**	**352**	**16,418**
Net expense for 2024	1,168	(25)	48	1,191
Actuarial gains and losses	1,061	(299)	(38)	724
Employer's contributions to funds	-	(72)	(34)	(106)
Employees' contributions to funds	-	5	-	5
Benefits paid	(759)	-	(31)	(790)
Translation adjustment	-	(14)	-	(14)
Changes in scope of consolidation	-	-	51	51
Other movements	-	-	28	28
NET EMPLOYEE BENEFIT LIABILITY AT 31/12/2024	**17,656**	**(525)**	**376**	**17,507**
Including:				
Provisions for employee benefits				*18,062*
Non-current financial assets				*(555)*

(1) France comprises the two operating segments "France - Generation and Supply" and "France - Regulated activities" (see note 16.2).

(2) The net liability at 31 December 2023 comprised €16,560 million of provisions for employee benefits and €(142) million of non-current financial assets, giving a net amount of €16,418 million.

Actuarial gains and losses on obligations

Actuarial gains and losses on obligations amount to €102 million for 2024, including:

- €1,252 million in France as a result of:
  - the €1,694 million change in experience adjustments,
  - the €(446) million change in the inflation rate, and
- €(1,145) million in the United Kingdom, essentially associated with changes in the discount and inflation rates (€(1,015) million), demographic assumptions (€(14) million) and experience adjustments (€(116) million) (see note 16.1.3).

Actuarial gains and losses on obligations amounted to €(9) million for 2023, including:

- €(509) million in France as a result of:
  - the €2,037 million change in the discount rate,
  - the €(1,165) million change in the inflation rate,
  - the €(1,382) million change in experience adjustments; and
- €470 million in the United Kingdom, essentially associated with changes in the discount and inflation rates (€306 million), demographic assumptions (€(119) million) and experience adjustments (€284 million) (see note 16.1.3).

Actuarial gains and losses on fund assets in 2024

Actuarial gains and losses on fund assets amount to €622 million for 2024, contributing to the increase in provisions. They mainly result from a €846 million change in the United Kingdom where the return on fund assets, principally bonds, was lower than the discount rate due to a rise in interest rates in 2024, and a €191 million decrease in France where fund assets outperformed the discount rate by +1.8%, largely thanks to a good equity market performance.

Net employee benefit liability at 31 December 2024

The net liability at 31 December 2024 amounts to €17,507 million, including:

- €17,656 million in France;
- €(525) million in the United Kingdom, reflecting recognition by EDF Energy of surplus funding on its EDFG pension scheme totalling €540 million, compared to €134 million at 31 December 2023. This surplus funding, which has increased primarily as a result of the higher sovereign rates in the United Kingdom compared to the 2023 year-end, is recognised in balance sheet assets under "non-current financial assets".

16.1.2 Actuarial assumptions and sensitivity analyses

The following actuarial assumptions are used:

	France		United Kingdom	
(in %)	31/12/2024	31/12/2023	31/12/2024	31/12/2023
Discount rate/rate of return on assets[1]	3.40%	3.40%	5.55%	4.50%
Inflation rate	1.90%	2.00%	2.95%	2.90%
Wage increase rate[2]	2.90%	3.10%	2.85%	2.75%

(1) The interest income generated by assets is calculated using the discount rate. The difference between this interest income and the real return on assets is recorded in actuarial gains and losses in equity.

(2) Average wage increase rate, including inflation and projected over a full career.

The discount rate used for employee benefit obligations is determined by applying the yield rate on high-quality corporate bonds of appropriate duration to maturities corresponding to the future disbursements resulting from these obligations. For longer durations, the calculation also takes into consideration data from a wider selection of corporate bonds adjusted for comparability with the high-quality bonds, as the panel of bonds with these durations is limited.

In France, changes in the economic and market parameters used have led the Group to set the nominal discount rate at 3.40% at 31 December 2024 (stable compared to 31 December 2023).

The inflation assumption is based on an inflation curve constructed from economic forecasts and inflation-indexed market products. As a result of changes in the economic and market parameters, the assumed average inflation rate used as the Group's benchmark for Euro zone countries is 1.90% at 31 December 2024 (2.00% at 31 December 2023).

Wage law projections from 2024 onwards are based on average wage increases observed in the IEG sector in recent years (adjusted for non-recurring effects).

The mortality table used to calculate obligations is based on the INSEE 2013-2070 generation table (produced by the French statistics office), corrected for differences in mortality between the general French population and the population covered by the IEG regime.

Sensitivity analyses on the amount of the obligations are as follows:

	31/12/2024	
(in millions of euros)	France	United Kingdom
Impact of a +/- 25bp variation in the discount rate	(1,128) / 1,210	(226) / 236
Impact of a +/- 25bp variation in the inflation rate	1,176 / (1,100)	180 / (191)
Impact of +/- 25bp variation in the wage increase rate	1,176 / (1,105)	n.a

n.a.: not applicable.

16.1.3 Breakdown by geographical area of post-employment and other long-term employee benefits

	2024			
(in millions of euros)	France	United Kingdom	Other	Total
Current service cost	(475)	(14)	(37)	(526)
Past service cost	-	31	-	31
Actuarial gains and losses – other long-term benefits	(138)	-	1	(137)
Net expenses recorded as operating expenses	**(613)**	**17**	**(36)**	**(632)**
Interest expense (discount effect)	(887)	(311)	(29)	(1,227)
Return on fund assets	332	319	17	668
Net interest expense included in financial result	**(555)**	**8**	**(12)**	**(559)**
EMPLOYEE BENEFIT EXPENSES RECORDED IN THE INCOME STATEMENT	**(1,168)**	**25**	**(48)**	**(1,191)**
Actuarial gains and losses – post-employment benefits	(1,252)	1,145	5	(102)
Actuarial gains and losses on fund assets	191	(846)	33	(622)
Actuarial gains and losses	**(1,061)**	**299**	**38**	**(724)**
Translation adjustments	**-**	**14**	**-**	**14**
GAINS AND LOSSES ON EMPLOYEE BENEFITS RECORDED DIRECTLY IN EQUITY	**(1,061)**	**313**	**38**	**(710)**

	2023			
(in millions of euros)	France	United Kingdom	Other	Total
Current service cost	(402)	(16)	(18)	(436)
Past service cost	(338)	92	(5)	(251)
Actuarial gains and losses – other long-term benefits	(102)	-	-	(102)
Net expenses recorded as operating expenses	**(842)**	**76**	**(23)**	**(789)**
Interest expense (discount effect)	(1,008)	(298)	(31)	(1,337)
Return on fund assets	357	336	15	708
Net interest expense included in financial result	**(651)**	**38**	**(16)**	**(629)**
EMPLOYEE BENEFIT EXPENSES RECORDED IN THE INCOME STATEMENT	**(1,493)**	**114**	**(39)**	**(1,418)**
Actuarial gains and losses – post-employment benefits	509	(470)	(30)	9
Actuarial gains and losses on fund assets	652	(259)	11	404
Actuarial gains and losses	**1,161**	**(729)**	**(19)**	**413**
Translation adjustments	**-**	**19**	**(6)**	**13**
GAINS AND LOSSES ON EMPLOYEE BENEFITS RECORDED DIRECTLY IN EQUITY	**1,161**	**(710)**	**(25)**	**426**

The actuarial gains and losses on obligations in France are as follow:

(in millions of euros)	2024	2023
Experience adjustments	(1,848)	1,308
Changes in demographic assumptions	-	-
Changes in financial assumptions [1]	458	(901)
ACTUARIAL GAINS AND LOSSES ON OBLIGATIONS	**(1,390)**	**407**
Actuarial gains and losses on post-employment benefits	*(1,252)*	*509*
Actuarial gains and losses on other long-term benefits	*(138)*	*(102)*

(1) Financial assumptions mainly concern the discount rate, inflation rate and wage increase rate.

16.2 France (Generation and supply, and Regulated activities)

The two operating segments "France – Generation and Supply" and "France – Regulated activities" (see note 4.1) are combined here into a single subtotal, "France", which primarily includes EDF and Enedis. Almost all of these companies' employees have IEG status, including the special IEG pension and other IEG benefits.

16.2.1 Breakdown of obligations by type of beneficiary

(in millions of euros)	31/12/2024	31/12/2023
Current employees	13,078	12,673
Retirees	14,671	13,514
OBLIGATIONS	**27,749**	**26,187**

16.2.2 Provisions for employee benefits by nature

At 31 December 2024:

(in millions of euros)	Obligations	Fund assets	Provisions in the balance sheet
Pensions	20,190	(9 432)[1]	10,758
Benefits in kind (electricity/gas)	3,864	-	3,864
Retirement gratuities	794	(645)	149
Other	1,381	(16)	1,365
Provisions for post-employment benefits at 31/12/2024	**26,229**	**(10,093)**	**16,136**
Annuities following work-related accident and illness, and invalidity	1,270	-	1,270
Long service awards	225	-	225
Other	25	-	25
Provisions for other long-term employee benefits at 31/12/2024	**1,520**	**-**	**1,520**
PROVISIONS FOR EMPLOYEE BENEFITS AT 31/12/2024	**27,749**	**(10,093)**	**17,656**

(1) Mainly EDF SA's fund assets (52% of pension obligations were covered by funds at 31 December 2024).

At 31 December 2023:

(in millions of euros)	Obligations	Fund assets	Provisions in the balance sheet
Pensions	19,667	(9,367)[1]	10,300
Benefits in kind (electricity/gas)	2,968	-	2,968
Retirement gratuities	781	(619)	162
Other	1,311	(15)	1,296
Provisions for post-employment benefits at 31/12/2023	**24,727**	**(10,001)**	**14,726**
Annuities following work-related accident and illness, and invalidity	1,214	-	1,214
Long service award	221	-	221
Other	25	-	25
Provisions for other long-term employee benefits at 31/12/2023	**1,460**	**-**	**1,460**
PROVISIONS FOR EMPLOYEE BENEFITS AT 31/12/2023	**26,187**	**(10,001)**	**16,186**

(1) Mainly EDF SA's fund assets (52% of pension obligations were covered by funds at 31 December 2023).

16.2.3 Fund assets

For France, fund assets, managed under an asset/liability model, amount to €10,093 million at 31 December 2024 (€10,001 million at 31 December 2023) and concern the coverage of retirement gratuities and the specific benefits of the special pension system.

They consist of insurance contracts with the following risk profile:

- 65% in a hedging pocket consisting of bonds, designed to replicate variations in the obligation caused by changes in interest rates;
- 33% in a growth asset pocket consisting of international equities;
- 2% in real estate investments.

Fund assets break down as follows:

(in millions of euros)	31/12/2024	31/12/2023
FUND ASSETS	**10,093**	**10,001**
Assets funding special pension benefits	**9,432**	**9,367**
Including (%)		
Listed debt instruments (bonds)	*65%*	*67%*
Listed equity instruments (shares)	*33%*	*31%*
Real estate property	*2%*	*2%*
Assets funding retirement gratuities	**645**	**619**
Including (%)		
Listed debt instruments (bonds)	*58%*	*59%*
Listed equity instruments (shares)	*42%*	*41%*
Other fund assets	**16**	**15**

At 31 December 2024, the bonds held as part of fund assets are distributed as follows:

- approximately 72% of the total are AAA and AA rated bonds;
- approximately 28% of the total are bonds with A, BBB and other ratings.

Around 60% of bonds are sovereign bonds issued by Euro zone countries, and the balance mainly consists of bonds issued by financial and non-financial firms.

At 31 December 2024, the equities held as part of fund assets are distributed as follows:

- approximately 70% of the total are shares in North American companies;
- approximately 13% of the total are shares in European companies;
- approximately 17% of the total are shares in companies in the Asia-Pacific zone and emerging countries.

This distribution is stable compared to the distribution at 31 December 2023.

The performance of pension fund assets in France is 5.2% in 2024.

16.2.4 Future Cash Flows

Cash flows related to future employee benefits are as follows:

(in millions of euros)	Cash flow under year-end economic conditions	Amount covered by provisions (present value)
Less than one year	1,232	1,212
One to five years	4,903	4,422
Five to ten years	6,095	4,680
More than ten years	49,257	17,435
CASH FLOWS RELATED TO EMPLOYEE BENEFITS	**61,487**	**27,749**

At 31 December 2024, the average duration of employee benefit commitments in France is 16.7 years.

16.3 United Kingdom

16.3.1 Breakdown of obligations by type of beneficiary

(in millions of euros)	31/12/2024	31/12/2023
Current employees	2,328	2,916
Retirees	3,726	3,997
OBLIGATIONS	**6,054**	**6,913**

16.3.2 Fund assets

The investment strategy applied in these funds is a liability driven investment strategy. The allocation between growth and back-to-back is regularly reviewed by the trustees, at least after every actuarial valuation, to ensure that the funds' overall investment strategy remains coherent in order to achieve the target coverage level required.

These assets break down as follows:

(in millions of euros)	31/12/2024	31/12/2023
FUND ASSETS	**6,579**	**7,033**
Including (%)		
Listed equity instruments (shares)	*9%*	*5%*
Listed debt instruments (bonds)	*92%*	*91%*
Real estate properties	*5%*	*9%*
Cash and cash equivalents	*1%*	*4%*
Other (including private equity)[1]	*-8%*	*-9%*

(1) Including the fair value of derivatives hedging listed instruments

At 31 December 2024, the bonds held as part of fund assets are distributed as follows:

- approximately 84% of the total are AAA and AA-rated bonds;
- approximately 16% of the total are bonds with A, BBB and other ratings.

Around 77% of all these bonds are sovereign bonds, mainly issued by the United Kingdom. The balance mainly consists of bonds issued by financial and non-financial firms.

16.3.3 Future cash flows

Cash flows related to future employee benefits are as follows:

(in millions of euros)	Cash flow under year-end economic conditions	Amount covered by provisions (present value)
Less than one year	298	303
One to five years	1,271	1,090
Five to ten years	1,793	1,212
More than ten years	10,995	3,449
CASH FLOWS RELATED TO EMPLOYEE BENEFITS	**14,357**	**6,054**

The average weighted duration of funds in the United Kingdom is 16 years at 31 December 2024.

Note 17 Other provisions

		31/12/2024			31/12/2023		
(in millions of euros)	Notes	Non-current	Current	Total	Non-current	Current	Total
Other provisions for decommissioning	17.1	2,147	147	2,294	1,943	116	2,059
Other provisions	17.2	3,875	2,547	6,422	2,935	3,175	6,110
OTHER PROVISIONS		**6,022**	**2,694**	**8,716**	**4,878**	**3,291**	**8,169**

17.1 Other provisions for decommissioning

The breakdown of other provisions for decommissioning by company is as follows:

(in millions of euros)	31/12/2024	31/12/2023
EDF	1,133	1,017
EDF Energy	40	48
Edison	132	127
Framatome	449	430
Other	540	437
TOTAL	**2,294**	**2,059**

Other provisions for decommissioning principally concern fossil-fired power plants, installations for the production of nuclear fuel assemblies, and dismantling of wind farms.

The costs of decommissioning fossil-fired power plants are calculated using regularly updated studies based on estimated future costs, measured by reference to the charges recorded on past operations and the most recent estimates for plants still in operation. The provision recorded at 31 December 2024 reflects the most recent known cost estimates and includes rehabilitation costs for generation sites.

Provisions for decommissioning notably include €154 million for Basic nuclear installations (INB) in France, in the amounts of €110 million for Framatome and €44 million for Cyclife France. Dedicated assets are set aside to cover these provisions as required by the regulations.

Dedicated assets of Framatome and Cyclife France

The dedicated assets of Framatome and Cyclife France relating to Basic nuclear installations (INB) in France have realisable values of €114 million at Framatome and €66 million at Cyclife France and the degree of coverage of provisions according to the regulations is 102% for Framatome and 149% for Cyclife France.

17.2 Other provisions

Details of changes in other provisions are as follows:

			Decreases				
(in millions of euros)	31/12/2023	Increases	Utilisations	Reversals	Changes in scope	Other changes	31/12/2024
Provisions for contingencies related to subsidiaries and investments	638	6	(7)	-	-	169	806
Provisions for tax liabilities (excluding income tax)	30	13	(4)	(1)	-	3	41
Provisions for litigation	233	86	(93)	(15)	(109)	121	223
Provisions for onerous contracts and losses on completion	676	75	(182)	-	16	24	609
Provisions related to environmental schemes	1,707	2,062	(2,122)	-	-	53	1,700
Other provisions for contingencies and losses	2,826	1,267	(935)	(77)	53	(91)	3,043
TOTAL	**6,110**	**3,509**	**(3,343)**	**(93)**	**(40)**	**279**	**6,422**

Provisions for onerous contracts

Provisions for onerous contracts are mainly related to the Group's LNG activities (a long-term regasification contract with Dunkerque LNG). Losses on these contracts are measured by comparing the costs of fulfilling the contract with the resulting economic benefits, based on market and sales assumptions.

Framatome's and Arabelle Solutions' long-term contracts are recorded under the percentage-of-completion method. When the estimated result upon completion is negative, the expected loss is immediately recorded in profit and loss, and a provision is booked to cover the portion of the loss not yet recognised.

Provisions related to environmental schemes

Provisions related to environmental schemes include provisions for greenhouse gas emission quota trading, renewable energy certificates and where relevant energy savings certificates (see notes 5.5.4 and 20).

At 31 December 2024, a provision of €1,392 million (€1,176 million at 31 December 2023) was booked in connection with the obligation to surrender **renewable energy certificates** at that date, essentially concerning EDF Energy (United Kingdom) and Luminus (Belgium). For reminder, a large portion of these obligations is covered by purchases of certificates included in intangible assets (see note 10.2).

One of the main features of the fourth period (2021-2030) of the European Union **greenhouse gas emission quota system** (SEQE-EU or EU-ETS) is to achieve the emission reduction targets set in the 2030 Climate and Energy framework, and the EU's contribution to the Paris Climate Agreement adopted in 2015.

In the EDF group, the entities concerned by this European system are EDF, Edison, Dalkia, PEI and Luminus.

The volume of emissions at 31 December 2024 stood at 11.1 million tonnes (13.5 million tonnes for 2023), reflected in the recognition of provisions of €309 million at 31 December 2024 (€531 million at 31 December 2023).

In 2024, the Group surrendered 13 million tonnes in respect of emissions generated in 2023 under the EU ETS (in 2023 it surrendered 18 million tonnes in respect of emissions generated in 2022).

The United Kingdom has set up its own system, the UK ETS (Emissions Trading Scheme), which uses a bidding system, covers the same sectors as the EU ETS and operates under generally similar rules, with comparable accounting treatment.

In 2024 EDF Energy did not produce any CO_2 emissions subject to certificates (compared to 4,000 tonnes for 2023), and consequently did not establish a provision at 31 December 2024 (a provision of €0.4 million was recognised in 2023).

Other provisions for contingencies and losses

Following the agreement signed by Edison and ENI on 31 July 2023 concerning the industrial sites contributed to Enimont in 1989, a provision of €430 million was established at 31 December 2023. This provision was increased by €587 million at 31 December 2024 in view of new technical and legal assessments of the actions taken or to be taken together with ENI in the next few years (see note 21.3). Concerning the costs prior to 31 December 2023 borne by ENI, the share to be paid by Edison stands at €545 million. Edison paid €245 million to ENI in December 2024, and the balance was reclassified as liabilities at 31 December 2024 and should be paid in two equal instalments in 2025 and 2026. The provision recorded at 31 December 2024 for the future costs of action to be taken amounts to €416 million.

Oher provisions for contingencies and losses also cover various contingencies and expenses related to operations (employers' matching contributions to employee profit sharing, restructuring operations, contractual maintenance obligations, etc.). No individual provision is significant.

In extremely rare cases, specific litigation covered by a provision may be unmentioned in the notes to the financial statements if such disclosure could cause serious prejudice to the Group.

Note 18 Financial assets and liabilities

ACCOUNTING PRINCIPLES AND METHODS

Financial assets comprise equity instruments (particularly non-consolidated investments), debt securities, loans and receivables at amortised cost, derivative assets and cash and cash equivalents.

The classification and measurement of financial instruments depend on the business model and the instruments' contractual characteristics. They are carried at amortised cost, fair value through other comprehensive income (OCI), or fair value through profit and loss.

Financial liabilities comprise loans and other financial liabilities, bank credit and derivative liabilities.

Financial assets and liabilities are recorded in the balance sheet as current if they mature within one year and non-current if they mature after one year, apart from derivatives held for trading, which are all classified as current.

DERECOGNITION OF FINANCIAL ASSETS AND LIABILITIES

The Group derecognises a financial asset when:

- the contractual rights to the cash flows generated by the asset expire, or
- the Group transfers the rights to receive contractual cash flows related to the financial asset through the transfer of substantially all of the risks and rewards associated with ownership of the asset.

Any interest created or retained by the Group in transferred financial assets is recorded as a separate asset or liability.

The Group derecognises a financial liability when its contractual obligations are extinguished, cancelled or expire. When a debt is renegotiated with a lender the Group derecognises the debt and recognises a new liability when the new terms are substantially different; otherwise, the book value is recalculated. In either case, the impacts of the debt renegotiation are recorded in profit and loss.

18.1 Financial assets

ACCOUNTING PRINCIPLES AND METHODS

The accounting treatment of financial assets depends on their contractual characteristics and business model.

FINANCIAL ASSETS CARRIED AT FAIR VALUE THROUGH OCI WITH OR WITHOUT RECYCLING

Financial assets carried at fair value through OCI comprise:

- non-consolidated investments for which the Group has irrevocably opted to recognise subsequent fair value changes in OCI, with no recycling to profit and loss in the event of sale. Only dividends received from these investments are recognised in the income statement, under "Other financial income";
- debt securities (such as bonds) invested under a mixed "collect and sell" business model for which contractual cash flows consist entirely of principal and interest payments reflecting the time value of money and the credit risk associated with the instrument (the IFRS 9 "SPPI" test – Solely Payment of Principal and Interest). Changes in fair value are recorded directly in OCI with recycling and transferred to profit and loss when the securities are sold. For these debt securities, interest income is calculated at the effective interest rate and credited to the income statement under the heading "Other financial income".

Upon initial recognition, these financial assets are recorded at fair value plus transaction costs attributable to their acquisition.

At each reporting date, they are adjusted to fair value based on quoted prices where possible, or using the discounted future cash flow method or by reference to external sources otherwise. Changes in the fair value of these instruments are recorded directly in OCI with recycling (for debt securities) or OCI with no recycling (for equity instruments) in the income statement.

FINANCIAL ASSETS CARRIED AT FAIR VALUE THROUGH PROFIT AND LOSS

Financial assets carried at fair value through profit and loss comprise:

- assets acquired from inception with the intention of resale in the short term;
- derivatives not classified as hedges (derivatives held for trading);
- equity instruments (non-consolidated investments) which the Group has not irrevocably opted to classify as at fair value through OCI with no recycling;
- debt securities that do not meet the requirements of the SPPI test, regardless of their business model. This chiefly concerns shares in investment funds.

These assets are recorded at the transaction date at fair value, which is generally equal to the amount of cash paid out. Transaction costs directly attributable to the acquisition are recorded in the income statement.

At each reporting date, they are adjusted to fair value based on quoted prices where possible, or using recognised valuation techniques such as the discounted cash flow method or reference to external sources otherwise. Changes in the fair value of these instruments are recorded in the income statement under the heading "Other financial income and expenses".

FINANCIAL ASSETS CARRIED AT AMORTISED COST

Loans and financial receivables are carried at amortised cost if the business model involves holding the instrument in order to collect contractual cash flows which consist entirely of principal and interest.

The interest received is calculated under the effective interest rate method and recorded in "Other financial income" in the income statement.

Loans and financial receivables that are not eligible for classification at amortised cost are carried at fair value through profit and loss, and recorded in "Other financial income and expenses" in the income statement.

IMPAIRMENT MODEL

The impairment model is based on expected credit loss (ECL). The Group applies a rating-based approach for counterparties with low credit risk. In application of the risk management policy, the Group's bond portfolio consists almost entirely of instruments issued by low-risk counterparties rated "Investment Grade".

In this situation, the ECL is estimated over a 12-month horizon following the year-end.

The threshold indicating a significant increase in credit risk is reached when the counterparty ceases to be rated "Investment Grade". The significant increase in the default risk may lead to reassessment of the ECL over the instrument's residual life.

For loans and receivables, the Group has chosen an approach based on the probability of default by the counterparty and assessment of changes in the credit risk.

18.1.1 Breakdown between current and non-current financial assets

Current and non-current financial assets break down as follows:

	31/12/2024			31/12/2023		
(in millions of euros)	Non-current	Current	Total	Non-current	Current	Total
Instruments at fair value through OCI with recycling	6,459	15,304	21,763	5,894	18,014	23,908
Instruments at fair value through OCI with no recycling	302	5	307	268	30	298
Instruments at fair value through profit and loss	28,613	1,939	30,552	25,629	1,845	27,474
Debt and equity securities	**35,374**	**17,248**	**52,622**	**31,791**	**19,889**	**51,680**
Trading derivatives – Positive fair value	-	4,915	4,915	-	14,519	14,519
Hedging derivatives – Positive fair value[1]	4,109	1,892	6,001	3,512	2,654	6,166
Loans and financial receivables[2]	16,468	2,684	19,152	13,024	2,380	15,404
CURRENT AND NON-CURRENT FINANCIAL ASSETS	**55,951**	**26,739**	**82,690**	**48,327**	**39,442**	**87,769**

(1) Including €3,937 million for derivatives used to hedge liabilities in 2024.

(2) Including impairment of €(653) million at 31 December 2024 (€(353) million at 31 December 2023).

The decrease in the positive fair value of trading derivatives (€(9.6) billion) is explained by a decrease in the value of derivatives used in the trading activity, principally associated with commodity market price movements observed in 2024.

18.1.2 Debt and equity securities

Details of debt and equity securities

Financial assets are monitored and managed by the Group with two main objectives:

- **dedicated assets set aside in France for secure financing of nuclear plant decommissioning expenses and long-term storage expenses for radioactive waste**, as required by article L. 594 of France's Environment Code. These assets consist of diversified investments in bonds, monetary and equity investment funds, and equity investments held by EDF Invest. The general management policy for dedicated assets and a breakdown of the portfolio is presented in note 15.1.2;
- **assets managed according to a liquidity-oriented policy ("liquid assets")**. These are financial assets consisting of funds or interest rate instruments with initial maturity of over three months that are readily convertible into cash. EDF's monetary investment funds included in liquid assets amount to €1,430 million at 31 December 2024 (€1,369 million at 31 December 2023).

Details of debt and equity securities are shown in the table below:

	31/12/2024				31/12/2023
(in millions of euros)	At fair value through OCI with recycling	At fair value through OCI with no recycling	At fair value through profit and loss	Total	Total
EDF dedicated assets	5,566	-	27,557	33,123	30,410
Liquid assets	16,132	-	1,867	17,999	20,077
Other assets[1]	65	307	1,128	1,500	1,193
TOTAL	**21,763**	**307**	**30,552**	**52,622**	**51,680**

(1) Investments in non-consolidated companies.

Changes in debt and equity securities

(in millions of euros)	31/12/2023	Net decreases	Changes in fair value	Changes in scope	Translation adjustments	Other	31/12/2024
Instruments at fair value through OCI with recycling	23,908	(2,594)	362	-	111	(24)	21,763
Instruments at fair value through OCI with no recycling	298	57	8	1	-	(57)	307
Instruments at fair value through profit and loss	27,474	(400)	3,420	(11)	9	60	30,552
TOTAL DEBT AND EQUITY SECURITIES	**51,680**	**(2,937)**	**3,790**	**(10)**	**120**	**(21)**	**52,622**

Changes in fair value recorded in equity

Changes in the fair value of debt and equity securities were recorded in equity (EDF share) over the period as follows:

	2024			2023		
(in millions of euros)	Gross changes in fair value recorded in OCI with recycling[1]	Gross changes in fair value recorded in OCI with no recycling[1]	Gross changes in fair value recycled to profit and loss[2]	Gross changes in fair value recorded in OCI with recycling[1]	Gross changes in fair value recorded in OCI with no recycling[1]	Gross changes in fair value recycled to profit and loss[2]
EDF dedicated assets	6	-	(158)	319	-	(112)
Liquid assets	290	-	(85)	525	-	(14)
Other assets	-	8	-	-	46	-
DEBT AND EQUITY SECURITIES [3]	**296**	**8**	**(243)**	**844**	**46**	**(126)**

(1) +/( ): increase / (decrease) in equity (EDF share).

(2) +/( ): increase / (decrease) in income (EDF share).

(3) Excluding associates and joint ventures.

In 2024, gross changes in fair value recorded in OCI with recycling (before transfer to profit and loss) principally concern EDF (€539 million, including €164 million for dedicated assets). In 2023, gross changes in fair value recorded in OCI with recycling principally concern EDF (€970 million, including €431 million for dedicated assets).

No significant impairment was recorded in 2024.

18.1.3 Loans and financial receivables

Loans and financial receivables consist of the following:

(in millions of euros)	31/12/2024	31/12/2023
Amounts receivable from the NLF	16,142	13,104
Loans and financial receivables – other	3,010	2,300
LOANS AND FINANCIAL RECEIVABLES	**19,152**	**15,404**

At 31 December 2024 loans and financial receivables mainly include:

- amounts representing reimbursements receivable from the Nuclear Liabilities Fund (NLF) and the UK government for coverage of long-term nuclear obligations, totalling €16,142 million at 31 December 2024 (€13,104 million at 31 December 2023), discounted at the same rate as the provisions they finance (see note 15.2);
- other loans and financial receivables notably include:
  - the overfunding of EDF Energy's EDFG (EDF group of the ESPS) pension scheme by €525 million at 31 December 2024, compared to €120 million at 31 December 2023 (see note 16.1.1),
  - an amount of €354 million representing the advance payments made by Luminus to Synatom to cover long-term nuclear obligations (€298 million at 31 December 2023) which are discounted at the same rate as the provisions they fund (see note 15.3). This receivable is equal to the fair value of the amounts held by Synatom on behalf of Luminus as fund assets,
  - loans made by EDF Renewables to entities accounted for by the equity method for its project development activity, amounting to €814 million at 31 December 2024 compared to €903 million at 31 December 2023. These loans mainly relate to wind farms in the United Kingdom (including €464 million for the NnG offshore wind farm, written down by €(248) million), France (including €55 million for the Provence Grand Large offshore wind farm, written down by €(35) million) and North America.

Changes in loans and financial receivables

(in millions of euros)	31/12/2023	Net increases	Discount effect	Changes in scope	Translation adjustments	Other	31/12/2024
Loans and financial receivables	15,404	16	700	(177)	710	2,499	19,152

Other changes in loans and financial receivables principally correspond to the changes in the receivable representing amounts reimbursable by the Nuclear Liabilities Fund (NLF) and the UK government, and the surplus funding of EDF Energy's EDFG pension scheme.

18.2 Cash and cash equivalents

ACCOUNTING PRINCIPLES AND METHODS

Cash and cash equivalents comprise immediately available liquidities and very short-term investments that are readily convertible (e.g. in monetary funds) into a known amount of cash, usually maturing within three months or less of the acquisition date, and with negligible risk of fluctuation in value. These items are held to cover short-term obligations rather than for short-term investments or other purposes. When they mature in more than 3 months, they are included in Liquid assets in Debt and equity securities (see note 18.1.2).

"Cash equivalents" are recorded at fair value, with changes in fair value included in the heading "Other financial income and expenses".

Cash and cash equivalents include the following amounts recorded in the balance sheet:

(in millions of euros)	31/12/2024	31/12/2023
Cash	6,354	8,861
Cash equivalents	1,243	1,914
CASH AND CASH EQUIVALENTS	**7,597**	**10,775**

Cash restrictions

Cash and cash equivalents include €437 million of cash subject to restrictions at 31 December 2024 (€369 million at 31 December 2023) (see note 1.3.5).

18.3 Financial liabilities

ACCOUNTING PRINCIPLES AND METHODS

Loans and other financial liabilities are carried at amortised cost, adjusted for changes in the value of the risks hedged when they are covered by a fair value hedge (see note 18.7). Interest expenses are calculated at the effective interest rate and recorded in the income statement in "Cost of gross financial indebtedness" over the duration of the loan or financial liability.

18.3.1 Breakdown between current and non-current financial liabilities

Current and non-current financial liabilities break down as follows:

	31/12/2024			31/12/2023		
(in millions of euros)	Non-current	Current	Total	Non-current	Current	Total
Loans and other financial liabilities	68,871	12,931	81,802	67,769	18,878	86,647
Trading derivatives - negative fair value	-	4,315	4,315	-	14,418	14,418
Hedging derivatives - negative fair value[1]	2,225	1,642	3,867	1,955	4,807	6,762
FINANCIAL LIABILITIES	**71,096**	**18,888**	**89,984**	**69,724**	**38,103**	**107,827**

(1) Including €2,065 million of derivatives used to hedge liabilities included in net indebtedness in 2024 (see note 19.2).

The decrease in the negative fair value of trading derivatives (€(10.1) billion) is explained by the lower value of derivatives used in the trading activity, mainly resulting from the downturn in commodity market prices observed in 2024.

18.3.2 Loans and other financial liabilities

18.3.2.1 Changes in loans and other financial liabilities

(in millions of euros)	Bonds	Loans from financial institutions	Other financial liabilities	Lease liability	Accrued Interest	Total
BALANCES AT 31/12/2023	**49,083**	**18,313**	**13,447**	**4,318**	**1,486**	**86,647**
Increases	6,672	7,279	1,434	846	289	16,520
Decreases	(2,904)	(12,977)	(10,073)	(770)	(100)	(26,824)
Translation adjustments	447	(35)	94	30	(7)	529
Changes in scope of consolidation	49	146	15	(62)	17	165
Changes in fair value	770	78	23	-	-	871
Other changes	(1)	(27)	3,885	59	(22)	3,894
BALANCES AT 31/12/2024	**54,116**	**12,777**	**8,825**	**4,421**	**1,663**	**81,802**

In 2024, EDF issued €6,672 million (or equivalent value) of **bonds** on various markets. The main bond issues were:

- On 15 April 2024, a three-tranche senior bond issue of €1,852 million ($2,050 million) (see the Group press release of 16 April 2024);
- On 13 May 2024, a two-tranche senior bond issue of €506 million (CAD 750 million) (see the Group press release of 14 May 2024);
- On 11 June 2024, a three-tranche senior green bond issue of €3,000 million (see the Group press release of 11 June 2024);
- On 21 August 2024, a two-tranche senior green bond issue of €329 million (CHF 310 million) (see the Group press release of 21 August 2024);
- On 31 October 2024, a senior bond issue of €589 million (£500 million) (see the Group press release of 31 October 2024).

The principal operations in 2024 concerning **loans from financial institutions** relate to drawings on credit lines totalling €6,982 million (€4,950 million and $1,650 million, excluding credit from the European Investment Bank (EIB)) and their partial repayment of €(12,599) million (€12,414 million excluding credit from the EIB).

At 31 December 2024, EDF's **other financial liabilities** include negotiable debt instruments amounting to €2,918 million, and an amount of €565 million recognised in respect of the cash received for debt securities transferred to several banks under repurchase agreements. These operations are carried out for liquidity management purposes and do not affect the net indebtedness.

The Group redeemed perpetual subordinated bonds for a total €3,031 million in 2024 (€539 million of the €1,500 million issue of 2014 was redeemed in January; the €1,250 million issue of 2018 was redeemed in full in July 2024; €504 million of the €1,000 million issue of 2014 was redeemed in September; and €738 million of the £1,250 million bond issue was redeemed in September). Prior to these redemptions, the instruments concerned were reclassified from equity to other financial liabilities under "Other changes".

On 10 September 2024 EDF announced that it intended to exercise its redemption option for the €1,250 million hybrid bonds issued on 29 January 2013 with nominal value of €1,250 million, and this redemption was carried out on 29 January 2025. At 31 December 2024, the amount of €1,250 million was reclassified from equity to other financial liabilities under "Other changes"(see note 14.3).

A breakdown of the issuance and repayments of borrowings as presented in the cash flow statement is presented below:

(in millions of euros)	Bonds	Loans from financial institutions	Other financial liabilities	Lease liability	Termination of hedging derivatives	31/12/2024
Issuance of borrowings	6,672	7,279	1,434	-	-	15,385
Repayments of borrowings	(2,904)	(12,977)	(10,073)	(770)	160	(26,564)

18.3.2.2 Principal borrowings of the Group

The Group's principal borrowings of more than €650 million or equivalent value at the time of issuance (excluding Green Bonds) at 31 December 2024 are as follows:

Type of borrowing (in millions of currencies)	Issue date[1]	Maturity	Issue amount	Currency	Rate
Euro MTN	11/2010	11/2025	750	EUR	4.00%
Bond	10/2022	12/2026	750	EUR	3.88%
Bond	01/2017	01/2027	107,900	JPY	1.09%
Euro MTN	03/2012	03/2027	1,000	EUR	4.13%
Bond	05/2023	05/2028	1,000	USD	5.70%
Bond	09/2018	09/2028	1,800	USD	4.50%
Bond	**04/2024**	**04/2029**	**650**	**USD**	**5.65%**
Bond	10/2022	10/2029	1,000	EUR	4.38%
Euro MTN	04/2010	04/2030	1,500	EUR	4.63%
Euro MTN	10/2018	10/2030	1,000	EUR	2.00%
Euro MTN	07/2001	07/2031	650	GBP	5.88%
Euro MTN	01/2023	01/2032	1,000	EUR	4.25%
Euro MTN	02/2003	02/2033	850	EUR	5.63%
Bond	05/2023	05/2033	1,000	USD	6.25%
Bond	**04/2024**	**04/2034**	**650**	**USD**	**5.95%**
Euro MTN	06/2009	06/2034	1,500	GBP	6.13%
Euro MTN	10/2016	10/2036	750	EUR	1.88%
Bond	09/2018	09/2038	650	USD	4.88%
Bond	01/2009	01/2039	1,750	USD	6.95%
Bond	01/2010	01/2040	850	USD	5.60%
Euro MTN	11/2010	11/2040	750	EUR	4.50%
Euro MTN	10/2011	10/2041	1,250	GBP	5.50%
Euro MTN	01/2023	01/2043	1,000	EUR	4.63%
Bond	01/2014	01/2044	1,000	USD	4.88%
Bond	10/2015	10/2045	1,500	USD	4.75%
Bond	10/2015	10/2045	1,150	USD	4.95%
Bond	09/2018	09/2048	1,300	USD	5.00%
Euro MTN	12/2019	12/2049	1,250	EUR	2.00%
Euro MTN	09/2010	09/2050	1,000	GBP	5.13%
Bond	05/2023	05/2053	1,000	USD	6.90%
Euro MTN	10/2016	10/2056	2,164	USD	4.99%
Bond	**04/2024**	**04/2064**	**750**	**USD**	**6.00%**
Euro MTN	11/2019	12/2069	2,000	USD	4.50%
Bond	01/2014	01/2114	700	USD	6.00%
Bond	01/2014	01/2114	1,350	GBP	6.00%

(1) Date funds were received.

At 31 December 2024, the Group's **Green Bonds** (see note 20.3.1) are as follows:

Type of borrowing (in millions of currency units)	Issue date[1]	Maturity	Issue amount	Currency	Rate
Bond	10/2015	10/2025	1,250	USD	3.63%
Euro MTN	10/2016	10/2026	1,750	EUR	1.00%
Euro MTN	12/2023	06/2027	1,000	EUR	3.75%
Euro MTN	08/2023	09/2027	200	CHF	2.30%
Bond	01/2017	01/2029	19,600	JPY	1.28%
Euro MTN	**09/2024**	**09/2029**	**155**	**CHF**	**1.57%**
Euro MTN	**06/2024**	**06/2031**	**1,000**	**EUR**	**4.13%**
Euro MTN	08/2023	09/2031	125	CHF	2.55%
Bond	01/2017	01/2032	6,400	JPY	1.57%
Euro MTN	**09/2024**	**09/2032**	**155**	**CHF**	**1.74%**
Euro MTN	11/2021	11/2033	1,850	EUR	1.00%
Bond	10/2022	10/2034	1,250	EUR	4.75%
Euro MTN	**06/2024**	**06/2036**	**750**	**EUR**	**4.38%**
Euro MTN	**06/2024**	**06/2044**	**1,250**	**EUR**	**4.75%**

(1) Date funds were received.

18.3.3 Loans and financial liabilities by maturity, currency and interest rate

18.3.3.1 Maturity of loans and financial liabilities

(in millions of euros)	Bonds	Loans from financial institutions	Other financial liabilities	Lease liability	Accrued Interest	Total
Less than one year	1,920	1,367	7,624	726	1,294	12,931
From one to five years	11,466	9,184	456	2,208	40	23,354
More than five years	40,730	2,226	745	1,487	329	45,517
LOANS AND OTHER FINANCIAL LIABILITIES AT 31/12/2024	**54,116**	**12,777**	**8,825**	**4,421**	**1,663**	**81,802**

The non-discounted lease liability matures as follows:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1-5 years	> 5 years	Total
NON-DISCOUNTED CONTRACTUAL CASH FLOWS	**5,026**	**816**	**2,434**	**1,776**	**5,089**

18.3.3.2 Breakdown of loans and other financial liabilities by currency

The breakdown of loans and other financial liabilities by currency includes the effect of derivatives classified as hedges (of debts in foreign currencies and net investments in foreign subsidiaries) under IFRS 9.

At 31 December 2024

	Initial debt structure		Impact of hedging instruments	Debt structure after hedging	
(in millions of euros)	amount	% of debt	amount	amount	% of debt
Euro (EUR)	43,009	53%	22,327	65,336	80%
American dollar (USD)	22,841	27%	(21,543)	1,298	2%
Pound sterling (GBP)	10,580	13%	1,843	12,423	15%
Other	5,372	7%	(2,627)	2,745	3%
LOANS AND OTHER FINANCIAL LIABILITIES	**81,802**	**100%**	**-**	**81,802**	**100%**

At 31 December 2023

(in millions of euros)	Initial debt structure amount	Initial debt structure % of debt	Impact of hedging instruments amount	Debt structure after hedging amount	Debt structure after hedging % of debt
Euro (EUR)	51,346	59%	12,811	64,157	74%
American dollar (USD)	20,860	24%	(16,634)	4,226	5%
Pound sterling (GBP)	9,849	12%	5,989	15,838	18%
Other	4,592	5%	(2,166)	2,426	3%
LOANS AND OTHER FINANCIAL LIABILITIES	**86,647**	**100%**	**-**	**86,647**	**100%**

18.3.3.3 Breakdown of loans and other financial liabilities by type of interest rate

The breakdown of loans and other financial liabilities by type of interest rate includes the effect of derivatives classified as hedges under IFRS 9.

At 31 December 2024

(in millions of euros)	Initial debt structure amount	Initial debt structure % of debt	Impact of hedging instruments amount	Debt structure after hedging amount	Debt structure after hedging % of debt
Fixed rates	68,605	84%	(25,766)	42,839	52%
Floating rates	13,197	16%	25,766	38,963	48%
LOANS AND OTHER FINANCIAL LIABILITIES	**81,802**	**100%**	**-**	**81,802**	**100%**

At 31 December 2023

(in millions of euros)	Initial debt structure amount	Initial debt structure % of debt	Impact of hedging instruments amount	Debt structure after hedging amount	Debt structure after hedging % of debt
Fixed rates	67,531	78%	(16,197)	51,334	59%
Floating rates	19,116	22%	16,197	35,313	41%
LOANS AND OTHER FINANCIAL LIABILITIES	**86,647**	**100%**	**-**	**86,647**	**100%**

A large portion of the Group's fixed-rate loans is swapped to variable rates.

18.3.4 Early repayment clauses

Project financing loans from non-Group parties to SPV-type project companies, mainly owned by EDF Renewables, may include early repayment clauses that principally apply when the project company concerned fails to respect certain covenants, particularly a minimum Debt Service Coverage Ratio (DSCR). In general, early repayment clauses are activated when this ratio falls below 1. However, the clauses contained in the contracts concerned have no impact on the classification of underlying assets as current or non-current in the Group's financial statements, because they only concern companies accounted for by the equity method.

In other Group entities, certain clauses contained in contracts for financing or other commitments may make reference to Group credit ratings but are not classified as covenants.

Eleven loans with a combined total of €2,647 million contain a clause for modification of the terms of the loan, subject to certain conditions, if the borrower's credit rating falls below a specified level.

No early repayment took place in 2024 as a result of any Group entity's failure to comply with contractual clauses concerning loans.

18.4 Unused credit lines

At 31 December 2024, the Group has unused credit lines with various banks totalling €14,315 million (€15,842 million at 31 December 2023). This total includes €11,688 million of credit lines indexed on ESG criteria, which were totally undrawn at 31 December 2024 (€11,175 million at 31 December 2023).

The decrease in these credit lines notably relates to the termination of the €1 billion credit line granted to Edison by a pool of banks, and the expiry of €2.2 billion of credit lines granted to EDF by various banks, partly offset by the opening of new credit lines totalling €1.4 billion.

Also, on 29 November 2024, EDF signed an agreement for a €6 billion syndicated credit facility with five-year maturity, renewable twice for 1 year. The cost will be indexed on three Group sustainable development performance indicators, in accordance with the Loan Markets Association's Sustainability Linked Loans Principles:

- direct greenhouse gas emissions;
- avoided CO_2 emissions;
- the proportion of women senior executives in the Group.

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1-5 years	> 5 years	Total
CONFIRMED CREDIT LINES	**14,315**	**3,050**	**11,240**	**25**	**15,842**

18.5 Fair value of financial instruments

ACCOUNTING PRINCIPLES AND METHODS

Financial instruments are stated at fair value, which corresponds to the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction on the principal or most advantageous market at the measurement date. The valuation methods for each level are generally as follows:

- level 1 (unadjusted quoted prices): prices accessible to the entity at the measurement date on active markets, for identical assets or liabilities;
- level 2 (observable data): data concerning the asset or liability, other than the market prices included in initial level 1 input, which are directly observable (such as a price) or indirectly observable (i.e. deduced from observable prices);
- level 3 (non-observable data): data that are not observable on a market, including observable data that have been significantly adjusted.

Level 3 debt and equity securities are principally non-consolidated investments carried at historical value, and shares in real estate or infrastructure investment companies carried at fair value.

The distribution of financial assets and liabilities in the balance sheet by level is as follows:

At 31 December 2024

(in millions of euros)	Balance sheet value	Fair value	Level 1 Unadjusted quoted prices	Level 2 Observable data	Level 3 Non-observable data
Equity securities	2,765	2,765	21	452	2,292
Debt securities	49,857	49,857	7,230	42,494	133
Hedging derivatives	6,001	6,001	25	5,973	3
Trading derivatives	4,915	4,915	122	4,200	593
Cash equivalents	1,243	1,243	62	1,181	-
FINANCIAL ASSETS CARRIED AT FAIR VALUE	**64,781**	**64,781**	**7,460**	**54,300**	**3,021**
Receivables from the NLF	16,142	16,142	-	16,142	-
Other loans and financial receivables	3,010	3,010	-	3,010	-
FINANCIAL ASSETS CARRIED AT AMORTISED COST	**19,152**	**19,152**	**-**	**19,152**	**-**
Hedging derivatives	3,867	3,867	21	3,846	-
Trading derivatives	4,315	4,315	93	3,718	504
FINANCIAL LIABILITIES CARRIED AT FAIR VALUE	**8,182**	**8,182**	**114**	**7,564**	**504**
Loans and other financial liabilities	81,802	78,793	-	78,793	-
FINANCIAL LIABILITIES CARRIED AT AMORTISED COST	**81,802**	**78,793**	**-**	**78,793**	**-**

At 31 December 2023

(in millions of euros)	Balance sheet value	Fair value	Level 1 Unadjusted quoted prices	Level 2 Observable data	Level 3 Non-observable data
Equity securities	2,527	2,527	-	2,020	507
Debt securities	49,153	49,153	6,599	42,400	154
Hedging derivatives	6,166	6,166	14	6,152	-
Trading derivatives	14,519	14,519	477	11,851	2,191
Cash equivalents	1,914	1,914	61	1,853	-
FINANCIAL ASSETS CARRIED AT FAIR VALUE	**74,279**	**74,279**	**7,151**	**64,276**	**2,852**
Receivables from the NLF	13,104	13,104	-	13,104	-
Other loans and financial receivables	2,300	2,300	-	2,300	-
FINANCIAL ASSETS CARRIED AT AMORTISED COST	**15,404**	**15,404**	**-**	**15,404**	**-**
Hedging derivatives	6,762	6,762	37	6,725	-
Trading derivatives	14,418	14,418	487	12,921	1,010
FINANCIAL LIABILITIES CARRIED AT FAIR VALUE	**21,180**	**21,180**	**524**	**19,646**	**1,010**
Loans and other financial liabilities	86,647	84,736	-	84,736	-
FINANCIAL LIABILITIES CARRIED AT AMORTISED COST	**86,647**	**84,736**	**-**	**84,736**	**-**

18.6 Market and counterparty risks

As an operator in the energy sector worldwide, the EDF group is exposed to financial market risks, energy market risks and counterparty risks. All these risks could generate volatility in the financial statements.

A more detailed description of these risks and the sensitivity analyses required by IFRS 7 can be found in section 5.1.7 of the 2024 Universal Registration Document "Management and control of market risks".

Financial market risks

The main financial market risks to which the Group is exposed are the liquidity risk, the foreign exchange risk, the interest rate risk and the equity risk.

The objective of the Group's liquidity risk management is to seek resources at optimum cost and ensure their constant accessibility.

The foreign exchange risk relates to the diversification of the Group's businesses and geographical locations, and results from exposure to the risk of exchange rate fluctuations. These fluctuations can affect the Group's translation differences, balance sheet items, financial expenses, equity and net income.

The interest rate risk results from exposure to the risk of fluctuations in interest rates that can affect the value of assets invested by the Group, the value of the liabilities covered by provision, or its financial expenses.

The Group is exposed to equity risks, particularly through its dedicated asset portfolio held for secure financing of long-term nuclear commitments, through external pension funds, and to a lesser extent through its cash assets and directly-held investments.

Energy market risks

The EDF group operates on deregulated energy markets, mainly in Europe, through its generation, supply and trading activities. This exposes the Group to price variations on the wholesale markets for energy (electricity, gas, coal, oil products) and the CO_2 emissions quota market, with a potentially significant impact on the financial statements.

Counterparty risks

Counterparty risk is defined as the total loss that the EDF group would sustain on its business and market transactions if a counterparty defaulted and failed to perform its contractual obligations.

Regarding the customer risk, which is another component of the counterparty risk, a statement of receivables not yet due and overdue is shown in note 13.3.1.

18.7 Derivatives and hedge accounting

ACCOUNTING PRINCIPLES AND METHODS

The Group uses derivatives such as swaps and forward contracts to hedge its interest rate, foreign exchange, energy and commodity risks.

In accordance with IFRS 9, hedge accounting can be applied to derivatives when they meet certain eligibility criteria. Some derivatives classified as "own use" are excluded from application of IFRS 9.

DERIVATIVES NOT COVERED BY IFRS 9: "OWN USE" CONTRACTS

Forward purchase and sale contracts for physical delivery of energy or commodities are considered to fall outside the scope of application of IFRS 9 when they are entered into as part of the Group's normal business activity ("own use"). This is demonstrated to be the case when all the following conditions are fulfilled:

- a physical delivery takes place under all such contracts;
- the volumes purchased or sold under these contracts correspond to the Group's operating requirements;
- the contracts cannot be considered as options as defined by the standard. In the specific case of electricity sale contracts, the contract is equivalent to a firm forward sale or can be considered as a capacity sale.

The Group considers that transactions negotiated with a view to balancing the volumes between electricity purchase and sale commitments are part of its normal business as an integrated electricity operator, and are thus outside the scope of IFRS 9.

MEASUREMENT AND RECOGNITION OF DERIVATIVES

Derivatives are initially recorded at fair value, based on quoted prices and market data available from external sources. If no quoted prices are available, the Group may refer to recent comparable transactions or, if no such transactions exist, base its valuation on internal models that are recognised by market participants, giving priority to information directly derived from observable data such as over-the-counter listings.

In application of IFRS 13, the fair value of derivatives incorporates the counterparty credit risk for derivative assets and the own credit risk for derivative liabilities.

DERIVATIVES CLASSIFIED AS HEDGES

The EDF group uses derivatives to hedge its foreign exchange and interest rate risks, as well as risks related to certain commodity contracts.

The Group applies the criteria defined by IFRS 9 to identify operations subject to hedge accounting, particularly regarding the existence of formal documentation from their inception and compliance with hedge effectiveness requirements.

The hedging relationship ends when it ceases to satisfy the above criteria. This includes situations in which the hedging instrument expires or is sold, terminated or exercised, or when the risk management objectives initially defined are no longer met.

Only derivatives external to the Group, and internal derivatives that are matched with similar transactions external to the Group, qualify for hedge accounting.

The Group uses the following categories for hedges:

- fair value hedge;
- cash flow hedge;
- net foreign investment hedge.

HEDGE CATEGORIES

Fair value hedge

This is a hedge of exposure to changes in the fair value of an asset or liability recorded in the balance sheet, or a firm commitment to purchase or sell an asset. Changes in the fair value of the hedged item attributable to the hedged component of that item are recorded in profit and loss and offset by corresponding variations in the fair value of the hedging instrument. Only the ineffective portion of the hedge has an impact on profit and loss.

Some loans and financial liabilities, and some commodity contracts, are covered by a fair value hedge. In such cases their balance sheet value is adjusted for changes in fair value attributable to the hedged risks (foreign exchange, interest rate and price risks).

Cash flow hedge

This is a hedge of exposure to variability in cash flows associated with an asset or liability or a highly probable future transaction for which variations in cash flows generated by the hedged item are offset by changes in the value of the hedging instrument.

The effective portion of accumulated changes in the hedging instrument's fair value is recorded in equity, and the ineffective portion (i.e. changes in the fair value of the hedging instrument in excess of changes in the fair value of the hedged item) is recorded in profit and loss.

When the hedged cash flows materialise, the amounts previously recognised in equity are recycled to profit and loss in the same way as for the hedged item, or are treated as an adjustment to the value of the non-financial asset acquired.

Net foreign investment hedge

This is a hedge of exposure to the foreign exchange risk related to a net investment in an entity which does not have the same functional currency as the Group. The effective portion of accumulated changes in the hedging instrument's fair value is recorded in equity until the disposal or liquidation of the net investment, when it is included in the gain or loss on disposal. The ineffective portion (defined in the same way as for cash flow hedges) is recorded directly in profit and loss.

This risk is hedged in the EDF group level either by matching it with debts in the same currency, or by using derivatives.

Hedging costs: foreign currency basis spread on cross-currency swaps

Hedging costs include the foreign currency basis spread on cross-currency swaps. Fair value variations are included in equity with recycling, and subsequently transferred to interest expenses on financing operations, which are included in the cost of gross financial indebtedness in the income statement.

TRADING DERIVATIVES

Trading derivatives comprise:

- derivatives subscribed for economic hedging that do not qualify as hedges for accounting purposes; changes in the value of these instruments are reported in profit and loss. When the derivatives are used for economic hedging of negotiable debt instruments and purchased bonds, they are included in "Other financial income and expenses". When the derivatives are used for economic hedging of generation and supply operations, they are included in "Net changes in fair value on Energy and Commodity derivatives, excluding trading activities" (see note 6);
- derivatives used in trading activities; changes in the fair value of these instruments are included in sales (see note 5.1).

18.7.1 Breakdown of hedging and trading derivatives

The fair value of hedging and trading derivatives reported in the balance sheet breaks down as follows:

(in millions of euros)	Notes	31/12/2024	31/12/2023
Positive fair value of hedging derivatives	18.1.1	6,001	6,166
Negative fair value of hedging derivatives	18.3.1	(3,867)	(6,762)
FAIR VALUE OF HEDGING DERIVATIVES		**2,134**	**(596)**
Positive fair value of trading derivatives	18.1.1	4,915	14,519
Negative fair value of trading derivatives	18.3.1	(4,315)	(14,418)
FAIR VALUE OF TRADING DERIVATIVES		**600**	**101**

The fair value of hedging and trading derivatives by type of risk hedged is shown below:

(in millions of euros)	Notes	31/12/2024	31/12/2023
Hedging derivatives - interest rate risk	18.7.2	489	997
Hedging derivatives - foreign exchange risk	18.7.3	1,851	795
Hedging derivatives - commodity risks	18.7.4	(206)	(2,388)
FAIR VALUE OF HEDGING DERIVATIVES		**2,134**	**(596)**
Trading derivatives - interest rate risk	18.7.2	(129)	(4)
Trading derivatives - foreign exchange risk	18.7.3	133	(72)
Trading derivatives - commodity risk	18.7.4	596	177
FAIR VALUE OF TRADING DERIVATIVES		**600**	**101**

The fair value of hedging derivatives by type and purpose of hedge is shown below:

(in millions of euros)	Notes	31/12/2024	31/12/2023
Fair value hedges of loans and liabilities		(552)	(1,006)
Cash flow hedges of loans and liabilities		2,424	2,385
Sub-total	**19.2**	**1,872**	**1,379**
Fair value hedges of commodity contracts		(35)	220
Cash flow hedges of commodity contracts		111	(2,478)
Sub-total		**76**	**(2,258)**
Net foreign investment hedges		272	191
Fair value hedges of dedicated assets		(74)	57
Fair value hedges of liquid assets	19.2	(12)	35
FAIR VALUE OF HEDGING DERIVATIVES		**2,134**	**(596)**

18.7.2 Interest rate derivatives

The Group is exposed to the risk of fluctuations in interest rates that can affect the value of its loans and financial liabilities, its assets (liquid assets and dedicated assets), and its future financial expenses.

The Group hedges its exposure to changes in the fair value of fixed-rate debts, many of which are converted to floating rates. The derivatives used for these hedges are fixed/floating interest rate swaps and cross-currency swaps, with changes in fair value recorded in profit and loss symmetrically to changes in the value of the hedged debts.

The Group also hedges its floating-rate debt against future changes in interest rates by using floating/fixed interest rate swaps for cash flow hedges.

Details of interest rate derivatives used in a hedging relationship or designated as trading derivatives are shown below:

	Notional at 31/12/2024				Notional at 31/12/2023	Fair Value	
(in millions of euros)	< 1 year	1-5 years	> 5 years	Total	Total	31/12/2024	31/12/2023
Purchases of Caps	6	225	27	258	61	5	7
Sales of Floors	-	200	-	200	-	-	-
Interest rate transactions	**6**	**425**	**27**	**458**	**61**	**5**	**7**
Fixed rate payer/floating rate receiver	1,573	5,083	8,216	14,872	13,380	1,274	1,448
Floating rate payer/fixed rate receiver	2,068	7,314	24,745	34,127	24,759	(1,388)	(1,176)
Floating rate/floating rate	-	7,054	3,530	10,584	3,680	201	79
Fixed rate/fixed rate	144	5,586	6,182	11,912	10,828	397	639
Interest rate swaps	**3,785**	**25,037**	**42,673**	**71,495**	**52,647**	**484**	**990**
INTEREST RATE DERIVATIVES - HEDGING	**3,791**	**25,462**	**42,700**	**71,953**	**52,708**	**489**	**997**
Purchase of options	-	-	-	-	520	29	(11)
Interest rate swaps	705	821	9,218	10,744	2,384	(158)	7
INTEREST RATE DERIVATIVES - TRADING	**705**	**821**	**9,218**	**10,744**	**2,904**	**(129)**	**(4)**

The fair value of interest rate/exchange rate cross-currency swaps comprises the interest rate effect only.

The notional value of cross-currency swaps is included both in this note and the note on currency derivatives (see note 18.7.3).

18.7.3 Currency derivatives

The Group is exposed to the risk of exchange rate fluctuations due to the diversification of its businesses, supply contracts in foreign currencies for goods and services, and its geographical locations. These fluctuations can affect the Group's translation differences recognised in equity, balance sheet items, financial expenses, equity and net income.

There are several types of hedged item:

- Liabilities in foreign currencies, for which cross-currency swaps are used in cash flow hedge;
- Financial assets subscribed in foreign currencies;
- Purchases of commodities and fuels, for which the Group hedges the associated foreign exchange risk;
- Net investments in subsidiaries in foreign currencies.

Details of currency derivatives used in a hedging relationship or designated as trading derivatives are shown in the following tables. The notional value of cross-currency swaps is included both in this note and the note on interest rate hedging derivatives (see note 18.7.2).

At 31 December 2024

	Notional amount to be received at 31/12/2024				Notional amount to be given at 31/12/2024				Fair value
(in millions of euros)	< 1 year	1-5 years	> 5 years	Total	< 1 year	1-5 years	> 5 years	Total	31/12/2024
Forward exchange transactions	2,068	477	-	2,545	2,024	467	-	2,491	44
Swaps	35,375	19,152	17,294	71,821	34,922	18,500	16,193	69,615	1,807
Options	1	-	-	1	1	-	-	1	-
CURRENCY DERIVATIVES - HEDGING	**37,444**	**19,629**	**17,294**	**74,367**	**36,947**	**18,967**	**16,193**	**72,107**	**1,851**
Forward transactions	4,642	1,210	104	5,956	4,593	1,209	99	5,901	60
Swaps	19,242	2,674	4,447	26,363	19,269	2,781	4,308	26,358	26
Options	48	-	-	48	48	-	-	48	-
Embedded currency derivatives	82	195	-	277	62	148	-	210	47
CURRENCY DERIVATIVES - TRADING	**24,014**	**4,079**	**4,551**	**32,644**	**23,972**	**4,138**	**4,407**	**32,517**	**133**

At 31 December 2023

	Notional amount to be received at 31/12/2023				Notional amount to be given at 31/12/2023				Fair value
(in millions of euros)	< 1 year	1-5 years	> 5 years	Total	< 1 year	1-5 years	> 5 years	Total	31/12/2023
Forward exchange transactions	4,644	639	-	5,283	4,641	629	-	5,270	10
Swaps	32,046	11,920	15,030	58,996	31,773	11,792	14,665	58,230	785
Options	3,371	-	-	3,371	3,426	-	-	3,426	-
CURRENCY DERIVATIVES - HEDGING	**40,061**	**12,559**	**15,030**	**67,650**	**39,840**	**12,421**	**14,665**	**66,926**	**795**
Forward transactions	5,854	3,310	-	9,164	5,815	3,275	-	9,090	54
Swaps	21,767	4,666	2,012	28,445	21,879	4,697	2,018	28,594	(126)
Options	-	-	-	-	-	-	-	-	-
CURRENCY DERIVATIVES - TRADING	**27,621**	**7,976**	**2,012**	**37,609**	**27,694**	**7,972**	**2,018**	**37,684**	**(72)**

The notional value of cross-currency swaps shown in this note is also included in the note on interest rate derivatives (see note 18.7.2).

18.7.4 Commodity derivatives

The Group is exposed to price variations on the wholesale markets for energy (electricity, gas, oil products) and the CO_2 emissions certificates market with a potentially significant impact on the financial statements.

The Group hedges its forecast sales and purchases of electricity and gas using futures, forwards, options and swaps, essentially through cash flow hedges.

Details of commodity derivatives used for hedging are as follows:

		31/12/2024					31/12/2023	
		Net notional						
(in millions of euros)	Units of measure	< 1 year	1-5 years	> 5 years	Total	Fair value	Net notional	Fair value
Electricity	TWh	(5)	(29)	-	(34)	(499)	17	(1,745)
Gas	Millions of therms	929	357	-	1,286	309	650	(636)
Oil products	Thousands of barrels	2,422	-	-	2,422	(30)	6,645	-
CO_2	Thousands of tonnes	2,921	365	-	3,286	14	2,362	(7)
COMMODITY DERIVATIVES - HEDGING						**(206)**		**(2,388)**

The negative fair value of commodity derivatives used for hedging at 31 December 2024 (€(0.2) billion) is mainly explained by the narrowing of the market price / strike price spread on gas and electricity hedging instruments, due to the lower commodity price volatility observed in 2024.

Details of commodity derivatives used for trading, principally in the EDF Trading portfolio, are as follows:

		31/12/2024		31/12/2023	
(in millions of euros)	**Units of measure**	**Net notional**	**Fair value**	**Net notional**	**Fair value**
Electricity	TWh	(50)	267	(18)	1,213
Gas	Millions of therms	(2,886)	376	(3,623)	(1,071)
Oil products	Thousands of barrels	(6,666)	4	3,380	(73)
CO_2	Thousands of tonnes	(3,985)	8	(4,429)	21
Coal and other	Millions of tonnes	-	(59)	(1)	87
COMMODITY DERIVATIVES - TRADING			**596**		**177**

18.7.5 Impact of hedging derivatives on comprehensive income

Changes in the fair value of hedging derivatives included in equity (EDF share) and profit and loss:

	2024			2023		
(in millions of euros)	**Gross changes in fair value recorded in equity[1]**	**Gross changes in fair value transferred to income - Recycling[2]**	**Gross changes in fair value transferred to income - Ineffectiveness**	**Gross changes in fair value recorded in equity[1]**	**Gross changes in fair value transferred to income - Recycling[2]**	**Gross changes in fair value transferred to income - Ineffectiveness**
Interest rate hedging[3]	117	-	(2)	(202)	-	6
Exchange rate hedging	254	605	(5)	(1,069)	(335)	12
Net foreign investment hedging	(666)	-	-	(107)	-	-
Commodity hedging	1,462	(1,051)	(76)	4,833	(3,066)	(8)
HEDGING DERIVATIVES[4]	**1,167**	**(446)**	**(83)**	**3,455**	**(3,401)**	**10**

(1) *Increase/(decrease) in equity (EDF share).*

(2) *Increase/(decrease) in net income (EDF share).*

(3) *Gross changes in fair value recorded in equity in 2024 include +€133 million of changes in the fair value of hedging costs resulting from the foreign currency basis spread on on interest rate swaps and cross-currency swaps. These changes are transferred to profit and loss via interest expenses on financing operations, which are included in the cost of gross indebtedness in the income statement (see note 8.1).*

(4) *Excluding associates and joint ventures.*

The gross change in the fair value of hedging instruments recognised in equity (EDF share), including the effect of recycling, is +€1,613 million in 2024 (+€6,856 million in 2023).

In 2024 this change is explained by the gross fair value changes in net foreign investment hedges, amounting to €(666) million (€(107) million in 2023), interest rate, exchange rate and commodity hedges, amounting to +€2,146 million (+€7,089 million in 2023) and hedging costs associated with the foreign currency basis spread on interest rate swaps and cross-currency swaps, amounting to +€133 million in 2024 (see the consolidated statement of comprehensive income).

The amount transferred to operating profit before depreciation and amortisation in 2024 in respect of commodity hedges is €(1,051) million comprising:

- €(908) million for electricity hedging contracts, concerning the France - Generation and supply and United Kingdom segments,
- €(183) million for gas hedging contracts, concerning the France - Generation and supply and United Kingdom segments,
- +€40 million for other hedging contracts.

18.7.6 Offsetting of financial assets and liabilities

ACCOUNTING PRINCIPLES AND METHODS

A financial asset and financial liability must be offset if the entity currently has a legally enforceable right to do so and intends either to settle the net amount or to realise the asset and settle the liability simultaneously.

At 31 December 2024

			Balance with offsetting under IAS 32			Amounts covered by a general offsetting agreement but not offset under IAS 32		
(in millions of euros)	As reported in balance sheet	Balance without offsetting	Gross amount recognised (before offsetting)	Gross amount offset under IAS 32	Net amount recognised after offsetting under IAS 32	Financial instruments	Fair value of financial collateral	Net amount
Fair value of derivatives - assets	10,917	466	14,623	(4,172)	10,451	(1,715)	(1,849)	6,887
Fair value of derivatives - liabilities	(8,180)	(42)	(12,310)	4,172	(8,138)	1,715	317	(6,106)

At 31 December 2023

			Balance with offsetting under IAS 32			Amounts covered by a general offsetting agreement but not offset under IAS 32		
(in millions of euros)	As reported in balance sheet	Balance Without offsetting	Gross amount recognised (before offsetting)	Gross amount offset under IAS 32	Net amount recognised after offsetting under IAS 32	Financial instruments	Fair value of financial collateral	Net amount
Fair value of derivatives - assets	20,685	9,618	17,835	(6,768)	11,067	(1,504)	(2,718)	6,845
Fair value of derivatives - liabilities	(21,180)	(8,554)	(19,394)	6,768	(12,626)	1,504	3,974	(7,148)

Note 19 Financial indicators

The financial indicators are not defined by the accounting standards and are not directly visible in the Group's financial statements. The principal financial indicators are the following:

19.1 Net income excluding non-recurring items

The net income excluding non-recurring items amounts to €15,233 million at 31 December 2024, down by €3,248 million compared to 2023.

Net income excluding non-recurring items corresponds to the Group's share of net income (EDF net income) excluding non-recurring items, net changes in the fair value of energy and commodity derivatives (excluding trading activities), and net changes in the fair value of debt and equity instruments, net of tax.

The following tables show the transition from EDF net income to net income excluding non-recurring items:

		2024				2023
(in millions of euros)	Notes	Gross value	Income taxes	Non-controlling interests	EDF net income	EDF net income
Net income					**11,406**	**10,016**
Changes in the fair value of debt and equity instruments		**(3,094)**	**798**	**7**	**(2,289)**	**(1,653)**
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	**6**	**(443)**	**129**	**-**	**(314)**	**(263)**
Impairment		**3,289**	**(401)**	**(122)**	**2,766**	**8,250**
impairment of goodwill, intangible and tangible asssets[1]	*10.7*	*1,835*	*(392)*	*(123)*	*1,320*	*8,019*
impairment and provisions related to investments in associates and joint ventures[2]	*12.3*	*1,454*	*(9)*	*1*	*1,446*	*231*
Other items		**4,834**	**(1,158)**	**(12)**	**3,664**	**2,131**
other income and expenses	*7*	*4,834*	*(1,158)*	*(12)*	*3,664*	*2,120*
NET INCOME EXCLUDING NON-RECURRING ITEMS					**15,233**	**18,481**

(1) At 31 December 2024, this impairment notably concerns the assets related to Hinkley Point C (€(1,116) million) and NUWARD (€(228) million). In 2023, it mainly concerned EDF Energy (€(12,871) million gross).

(2) Including impairment of investments in associates and joint ventures, and associated receivables and provisions associated with these investments. At 31 December 2024, this impairment notably concerns assets related to the Atlantic Shores offshore wind project (€934 million), the Neart na Gaoithe (NnG) project in the United Kingdom (€248 million) and dedicated assets (€118 million). In 2023, concerned dedicated assets (€86 million), the Fuzhou plant in China (€79 million, the Neart na Gaoithe (NnG) project in the United Kingdom (€54 million) and wind farms in Mexico (€16 million).

19.2 Net indebtedness

The Group's net indebtedness amounts to €54,346 million at 31 December 2024 (€54,381 million at 31 December 2023).

Net indebtedness comprises total loans and financial liabilities, less cash and cash equivalents and liquid assets. Liquid assets are financial assets consisting of funds or interest rate instruments with initial maturity of over three months that are readily convertible into cash and are managed according to a liquidity-oriented policy.

Net indebtedness are as follows:

(in millions of euros)	Notes	31/12/2024	31/12/2023
Loans and other financial liabilities	18.3.2	81,802	86,647
Derivatives used to hedge liabilities	18.7.1	(1,872)	(1,379)
Cash and cash equivalents	18.2	(7,597)	(10,775)
Debt and equity securities – liquid assets	18.1.2	(17,999)	(20,077)
Derivatives hedging liquid assets	18.7.1	12	(35)
NET INDEBTEDNESS		**54,346**	**54,381**

Note 20 Sustainability-issues in the financial statements

Introduction and background

EDF's *raison d'être*, **"To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive well-being and economic development",** is founded on four key issues which are addressed together to ensure that the Group's action for the energy transition is fair and inclusive. For a detailed presentation, see the "Just Transition principles, from strategy to action" publication on the Group's website[1]. The EDF group's CSR objectives are consistent with the "*Ambitions 2035*" corporate plan and the Group's *raison d'être*: EDF is committed to building the electricity system of tomorrow, working within the planetary boundaries and acting for a just transition.

These commitments and their implementation in the Group are managed and monitored by several Group governance bodies (see section 3.4.2 of the 2024 Universal Registration Document "Governance and business conduct policies ").

On 10 December 2021 the European Union adopted article 8 of European regulation 2020 - 852 which aims to classify economic activities based on their contribution to the achievement of environmental objectives. This **"Taxonomy regulation"** is part of the European strategy to promote emergence of sustainable finance that contributes to attainment of carbon neutrality by 2050, particularly by encouraging capital inflows into sustainable investments. It was supplemented by a specific Delegated Act for nuclear and gas activities, published on 2 February 2022 and applicable from 2022. The information and indicators contained in this regulation (proportion of sales, capital expenditure and operating expenditure associated with eligible activities and aligned with the European taxonomy) are described in section 3.7.4 of the 2023 Universal Registration Document, "European taxonomy".

To complement the Taxonomy, the European Union adopted the **Corporate Sustainability Reporting Directive (CSRD)** in January 2022. This directive was transposed into French law in December 2023 and is applicable for the Group in 2024 for the first time. It is designed to reinforce the quality and comparability of sustainability reporting and to structure the environmental and social information published by companies. The EDF group publishes its first Sustainability Report in its 2024 Universal Registration Document (chapter 3). The CSRD has replaced the Non-Financial Reporting Directive (NFRD) and is part of an integrated management dynamic that combines financial and non-financial dimensions.

The Group's financial statements incorporate sustainability issues at different levels, as summarised below. Those issues are taken into consideration through the Group's investment and divestment strategy, introduction of sustainable financing, specific expenditure incurred in response to environmental and social challenges, particularly under applicable laws and regulations, mobilising Group employees and executives to engage with sustainability issues, and also through the valuation methods used for the Group's assets and liabilities.

Themes	Notes	Content
Regulatory mechanisms related to greenhouse gas emission rights, Energy Savings Certificates, Renewable Energy Certificates - see note 20.1	Note 5.5.4 "Other items" Note 10.2 "Other intangible assets" Note 17.2 "Other provisions"	Climate and environmental issues are addressed in compliance with the regulatory systems existing in different countries for greenhouse gas emission rights, renewable energy certificates and energy savings certificates. These systems have an impact on the Group's financial statements at several levels: the income statement and the balance sheet.
Nuclear provisions and provisions for contingencies and losses incorporating environmental risks - see note 20.2.1	Note 15 "Provisions related to nuclear generation and dedicated assets" Note 17 "Other provisions"	These are provisions relating to: • nuclear generation, comprising provisions for the back-end of the cycle (spent fuel management and long-term radioactive waste management), provisions for plant decommissioning, and provisions for last cores; • environmental measures; • environmental litigations.
Valuation of assets – see note 20.2.2	Note 10.7 "Impairment/reversals"	Climate issues are addressed in impairment tests, notably though the long-term scenarios applied for electricity prices in different countries in line with the trajectories of European decarbonisation objectives
Sustainable finance – see note 20.3	Note 18.3.2 "Loans and other financial liabilities" Note 14.3 "Perpetual subordinated bonds" Note 18.4 "Unused credit lines"	The Group has made several finance issues indexed on environmental indicators or to advance CSR projects: *Green bonds*, *Social bonds* and credit lines indexed on ESG criteria
Low carbon investments and expenses in favour of sustainability - see notes 20.4, 20.5 20.6 et 20.7	Note 10.2 "Other intangible assets"	The Group devotes a significant portion of its research and development budget to decarbonisation and the energy system transition, and undertakes other expenses for the environment or to adapt its installations to changes in the climate. The accounting policies applicable to research and development expenses are described in note 10.2.

(1) https://www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/corporate-social-responsibility/just-transition

20.1 Regulatory expenses

20.1.1 Greenhouse gas emission trading systems

EU Emissions Trading System (EU ETS)

The European Union's Emissions Trading System (SEQE-UE or EU ETS) exists to fight climate change and reduce greenhouse gas emissions.

This system, which applies in all EU countries, sets an annual cap on emissions. Businesses (including EDF) receive or buy emission quotas, then the following year surrender to the European Commission a number of greenhouse gas emission certificates corresponding to their Scope 1 emissions for the year elapsed, such as direct greenhouse gas emissions from production of the goods sold (e.g. electricity, heat, steel, paper, etc.). Fines are payable if there is a shortfall (€100 per tonne of CO_2 not covered by quotas, and an obligation to cover these amounts by quota the following year).

The cap is being progressively reduced in order to bring down the total emissions in Europe.

The legislative framework of the EU-ETS for the fourth trading period (2021 - 2030) has been tightened up to achieve the emission reduction targets set in the 2030 Climate and Energy framework, and the EU's contribution to the Paris Climate Agreement adopted in 2015 (which set a general target of a 40% cut in emissions compared to 1990 levels for the whole EU)[1]

As part of the Fit for 55 package of legislation, the European Commission adopted laws in April 2023 raising the target for cuts in CO_2 emissions to at least 62% by 2030 for sectors concerned by the Emissions Trading System. The new rules also introduce a reduction in the number of quotas automatically allocated to each company concerned by the Emissions Trading System.

Having halved its direct CO_2 emissions between 2017 and 2022, the Group has set itself new targets for 2025, 2030 and 2035, defining an ambitious short and medium-term trajectory to achieve a carbon-free electricity mix (see the Group press release of 28 November 2023):

- a 60% reduction (compared to 2017) in its scope 1 emissions by 2025;
- a 70% reduction in its scope 1 emissions, and carbon intensity of 30gCO_2/kWh, by 2030;
- an 80% reduction in its scope 1 emissions, and carbon intensity of 22gCO_2/kWh, by 2035.

In the EDF group, the entities concerned by application of these European regulations are EDF, Edison, Dalkia, PEI and Luminus.

The volume of emissions at 31 December 2024 stood at 11.1 million tonnes (13.5 million tonnes for 2023).

Actual greenhouse gas emissions amounted to €309 million at 31 December 2024 (€531 million at 31 December 2023) and are included in provisions.

In 2024, the Group surrendered 13 million tonnes in respect of emissions generated in 2023 under the EU ETS (in 2023 it surrendered 18 million tonnes in respect of emissions generated in 2022).

UK Emissions Trading Scheme (UK ETS)

The United Kingdom has set up its own system (UK ETS - Emissions Trading Scheme). The UK ETS, which uses a bidding system, covers the same sectors as the EU ETS and operates under generally similar rules, with comparable accounting treatment.

In 2024 EDF Energy did not produce any CO_2 emissions subject to certificates (compared to 4,000 tonnes for 2023), and consequently did not establish a provision at 31 December 2024 (a provision of €0.4 million was recognised in 2023).

Accounting treatment of CO_2 emission certificates

Emission certificates acquired to comply with the regulatory requirements on greenhouse gas emissions are recorded in intangible assets.

At the year-end a provision corresponding to the emissions is established, equal to the acquisition cost up to the amount of certificates acquired on the spot or forward markets, and to market prices for the balance. This provision is cancelled when the certificates are surrendered to the State.

20.1.2 Renewable energy certificates (green certificates)

In application of EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources, every EU member state has set national targets for consumption of electricity from renewable sources. The United Kingdom has its own equivalent system.

Guarantee of Origin certificates prove the renewable origins of this electricity, which transits through the grid. They are sold by operators of renewable energy plants and bought by customers who want to use renewable-source electricity.

There are two systems for States to meet their targets:

- setting a specific sales tariff for renewable energies (this is the approach taken in France and Italy);
- setting an obligation for electricity producers to surrender a certain volume of renewable energy certificates (as is the case in the United Kingdom and Belgium).

The renewable energy certificate system may apply to:

- non-obligated electricity producers when the obligation applies to sales (EDF Renewables);
- obligated electricity producers when the obligation applies to generation;
- electricity producers who are also sellers of electricity when the obligation applies to energy sales (EDF Energy, Edison and Luminus).

At 31 December 2024, a provision of €1,392 million (€1,176 million at 31 December 2023) was booked in connection with the obligation to surrender renewable energy certificates at that date, essentially concerning EDF Energy (United Kingdom) and Luminus (Belgium). For reminder, a large portion of these obligations is covered by purchases of certificates included in intangible assets (see note 10.2).

Accounting treatment of green certificates

For the entities that produce and sell electricity:

- certificates earned through energy generation are not recognised, since their cost is nil;
- certificates purchased are recognised as intangible assets in the line "Greenhouse gas emission certificates – green certificates".

A provision is also established to reflect the obligation to surrender certificates. It is based on the cost of certificates earned (with nil value) and purchased (on the spot or forward market), the market price of the certificates still to be purchased, and where relevant the market price or penalty price for the balance. This provision is cancelled when the certificates are surrendered to the State.

(1) The current EU ETS allocations trajectory does not yet include changes to be made in application of the Fit for 55 package.

20.1.3 Energy savings certificates

In all its subsidiaries, the Group is engaged in a process to control its energy consumption through various legislative measures in application of European Union Directives and national laws.

In France, the Law of 13 July 2005 introduced a system of energy savings certificates, imposing energy savings obligations on suppliers of energy (electricity, gas, heat, cold, domestic fuel oil and fuel for vehicles) with sales above a certain level. At the end of the period concerned, obligated actors are required to present energy savings certificates that correspond to their obligatory energy savings, otherwise sanctions apply. These certificates are obtained in return for energy savings operations conducted directly or indirectly, or purchased from other obligated or "eligible" economic actors.

For the fifth period, which began on 1 January 2022 and will end on 31 December 2025, the obligation has been raised significantly by a series of significant regulatory changes from 1 January 2024, particularly for major home retrofits. Consultation with the government regarding the terms for the sixth period continued in 2024. As a result of these new measures, actors concerned by the system are having to partly reconsider their model for obtaining energy savings certificates.

To meet this obligation, three sources are available to the EDF group: supporting consumers undertaking energy efficiency operations (in 2024, for example, over 324,000 home retrofits were completed), funding State-approved energy savings programmes, and purchasing certificates from eligible actors.

In the United Kingdom, EDF Energy voluntarily helps companies explore and develop solutions by enabling them to save energy, carbon and costs, particularly through its Powershift flexibility platform.

Accounting treatment of energy savings certificates

Expenses incurred for energy savings certificates are recorded in expenses of the year concerned, in "Other operating income and expenses". Expenses in excess of the accumulated obligation at the year-end are included in inventories and the stocks of energy savings certificates may be used to cover the obligation in later years.

A provision is recognised if the volume of certificates earned is lower than the accumulated energy savings obligation at the year-end. The amount of the provision is equal to the cost of actions still to be taken to extinguish the obligation related to energy sales, or where applicable the cost of the penalty payable for the portion of energy savings certificates the company considers it will be unable to earn or purchase.

20.2 Valuation of assets and liabilities

20.2.1 Provisions relating to environmental issues

Most of these provisions are provisions related to nuclear generation, which comprise provisions for back-end nuclear cycle expenses (management of spent fuel and radioactive waste), provisions for plant decommissioning and provisions for last cores. Obligations can vary noticeably depending on each country's legislation and regulations, and the technologies and industrial scenarios involved. Details of these provisions are provided in note 15.

They also include provisions for environmental schemes including provisions for greenhouse gas emission certificates, renewable energy certificates and energy savings certificates. At 31 December 2024, these provisions totalled €1,700 million (€1,707 million in 2023, see note 17.2).

Contingent liabilities also exist in connection with environmental litigation, described in note 21.3. They largely arose following the sale of Ausimont (the Bussi site) to Solvay by Edison in 2002, and the sale of Enimont industrial sites contributed to ENI in 1989.

20.2.2 Valuation of assets

In valuing the Group's long-term assets, climate issues are taken into account through impairment testing. The long-term scenarios used for electricity prices in countries where the Group does business are consistent with the trajectories of European decarbonisation targets, particularly as set out in the Paris Agreement. As explained in note 10.7, in constructing long-term electricity prices, the impact of climate contingencies is incorporated into assumptions concerning demand (particularly energy requirements for heating, and summer comfort), generation of renewable energies (onshore and offshore wind power, solar power) for all European countries, the contribution of hydropower, and environmental tax cuts for nuclear power generation in France. Climate time series analyses are based on the European EUROCORDEX model and include the impact of climate change. This is taken into account through an approach that avoids bias towards underestimation of the practical effects of climate change on the relevant physical quantities (temperatures, cloud coverage and wind speeds) and ultimately on the European electricity system between 2030 and 2050. Scenarios also take account of the objectives of public energy and climate policies such as the Paris Agreement, the European Union's Fit For 55 package and RepowerEU plan, and the National Low Carbon Strategy (*Stratégie Nationale Bas Carbone*) in France. The scenarios used mainly use high CO_2 prices conducive to achieving carbon-free electricity production in Europe, and a lower-carbon economy more generally through electrification of uses.

The impairment tests at 31 December 2024 are thus based on CO_2 prices (in 2023 euros) of €130/t for 2030, €170/t for 2040 and €210/t for 2050.

The Group controls and operates thermal (gas-fired, oil-fired) electricity generation plants principally in France and Italy, to a smaller extent in Brazil, in Laos and Belgium. The net book value of the assets concerned is €4.9 billion at 31 December 2024 (€5.2 billion at 31 December 2023), including €2.8 billion for assets in France and €1.4 billion for assets in Italy (€3.2 billion for assets in France and €1.4 billion for assets in Italy at 31 December 2023). The operating lifetimes of these plants take account of the Group's current emission reduction commitments, and local regulations.

In **mainland France**, the electricity generated by EDF's fleet of thermal power plants (CCGT, CT), with net book value of €1.5 billion at 31 December 2024 (€1.6 billion at 31 December 2023) accounted for around 0.65% of EDF's total electricity output in 2024. These plants operate in semi-baseload and peak periods and are used to variable degrees throughout the year, playing a significant role in system security when there are tensions in the supply-demand balance, which was the case during the winter of 2022.

Coal-fired generation in France is to end in application of the multi-year energy programme. The Cordemais plant, with a net book value of €0.1 billion, is due to cease operations in 2026 at the latest (its operating lifetime has been extended by the French government).

EDF is modernising its fleet of natural gas CCGT plants (Blénod, Martigues, Bouchain) to reduce air emissions of CO_2, NOx and SO2. The Bouchain plant in particular produces CO_2 emissions of around 360g/kWh on average. This fleet of plants has a net book value of €1.0 billion, and their operating lifetimes are due to end between 2036 and 2041.

In France's **island territories**, electricity is principally generated by an oil-fired fleet with net book value of €1.3 billion at 31 December 2024 (€1.6 billion at 31 December 2023), and to a smaller degree by hydropower and other renewable energy plants. On 4 October 2023, EDF announced that it would be moving to carbon-free electricity generation for all island territories under its responsibility by 2033, by converting the thermal power plants presently located there so they can be run on bioliquid instead of fossil fuels (the Port Est plant was converted to liquid biomass on 4 December 2023, and the Group is planning to convert the Lucciana plant in Corsica in late 2025).

In **Belgium,** Luminus has a thermal fleet made up of several power plants (both combined cycle and open cycle). The new CCGT plant at Seraing was selected under the Capacity Remuneration Mechanism (CRM). This new plant will be a gas-steam turbine (GST) type plant with total capacity of approximately 870MW. Work started in autumn 2022 and commissioning is scheduled for the second half of 2025.

In **Italy,** Edison's thermal fleet consists of 14 CCG (Combined-Cycle Gas) plants. In keeping with the "National plan for energy and the climate" supporting development of gas-based electricity generation and its integration with renewable energy generation, Edison commissioned the first new-generation CCG plant at the Marghera Levante site (780MW), and a 760MW greenfield project at Presenzano, using the same technology, with a more moderate environmental impact (CO_2 emissions 40% below the national average, and a 70% reduction in NOx emissions). The combined net book value of these two plants is €1.4 billion, and they account for approximately 65% of the total net book value with an operating lifetime currently set at 25 years. The operating lifetimes of the other CCG plants are currently scheduled to end before 2037.

20.3 Sustainable financing

20.3.1 Green Bonds

Since 2013 the Group has issued Green Bonds for a value equivalent to €16.4 billion, of which €12.2 billion were still outstanding at 31 December 2024. The Group's financing framework for green bonds (the Green Financing Framework) includes financing of eligible projects that meet the European Taxonomy criteria. In 2022, the Green Financing Framework was reviewed by an independent body which confirmed that it respects best practices on the Green Loan market (the Green Loan Principles, published by the Loan Syndications and Trading Association).

In 2024, EDF has issued several green bonds to finance distribution networks, the existing nuclear fleet and renewables projects for an amount of €5,082 million including two hybrid emissions for €1,150 million and £500 million.

Allocation of the funds raised by EDF's Green Bond issues is certified by one of the statutory auditors (see section 6.7 of the 2023 Universal Registration Document). This certification can be consulted on the EDF website's sustainable development page.

20.3.2 Social bonds (social hybrid notes)

On 26 May 2021 EDF launched an issue of Euro-denominated perpetual social hybrid notes with total nominal value of €1.25 billion and a first redemption date in 2028.

The proceeds were used to finance eligible projects, as defined in the EDF group's Social Bond Framework. These projects include investment expenditure by EDF in Small and Medium-Sized Enterprises (SMEs) that contribute to the development and maintenance of electricity generation and distribution assets in Europe (including the United Kingdom).

The Social Bond Framework's compliance with the Social Bond Principles published by the International Capital Markets Association (ICMA) has been validated by an independent body.

20.3.3 Bilateral green loans

EDF has signed bilateral green loans with several major international banks since 2022. Their total amount is €6.2 billion, including €5.2 billion signed in 2024. These funds are dedicated to refinancing investments in existing nuclear reactors in France in connection with extension of their operating lifetimes as defined in EDF's Green Financing Framework[1].

20.3.4 Credit lines indexed on sustainability criteria

The EDG group has 22 renewable bilateral credit lines and two syndicated credit facilities indexed on the Group's sustainable development performance (incorporating a cost adjustment mechanism for financing costs):

- a €6 billion syndicated credit facility with more than 36 banks, with five-year maturity, renewable twice for 1 year. The margin is adjusted based on three environmental key performance indicators. This facility, set up in November 2024, replaces the previous syndicated credit lines of €4 billion and €1.5 billion.
- 21 renewable bilateral credit lines indexed on sustainability criteria. The margins are adjusted based on the Group's performance on KPIs selected with the banks.

At 31 December 2024, undrawn renewable credit lines (including syndicated credit facilities) indexed on sustainability criteria totalled €11.7 billion, or 82% of the EDF group's total undrawn credit lines (see note 18.4). In 2024, the Group respected the required indicators.

20.4 Low-carbon investments

In 2024, the Group continued its programme of operating investments, which amounted to €26.4 billion (€21.4 billion in 2023, see notes 4 and 10.7) and included €24.8 billion of gross investments in intangible assets and property, plant and equipment (€21 billion in 2023) and €1.6 billion of gross financial investments (€0.4 billion in 2023).

In 2024, nearly 94% of the Group's investments were in low-carbon technologies (€24,8 billion, comprising 64% in the nuclear sector, 23% in network activities, 11% in renewable energies (solar, wind, hydropower) and 2% in energy services). These investments cover the gross increases in tangible assets, intangible assets and right-of-use assets (IFRS 16 leases), including assets resulting from business combinations in the consolidated financial statements (first consolidation of a subsidiary). They do not include the effects of deconsolidation, financial investments by the Group in entities accounted for by the equity method, or investments made by such entities, and investment subsidies are eliminated.

59% of the Group's investments in 2024 were aligned with the European Green Taxonomy (64% in 2023). These investments totalled €15.6 billion, including 26% in the nuclear sector in the European Union, 22% in network activities, and 10% in renewable energy generation facilities (solar, wind, hydropower). These indicators do not include the following activities, which are non-eligible under the Taxonomy but are considered low-carbon by the Group: nuclear activities outside the European Union (EDF's nuclear activities in the United Kingdom), and activities associated with nuclear power generation such as Framatome's and Arabelle Solutions' activities of design, construction and supply of nuclear power plant equipment. Without these restrictions, 94% of the Group's investments for all activities would be taxonomy-aligned.

(1) According to the Life Cycle Analysis of EDF's nuclear kWh, published by EDF in 2022 and reviewed by independent experts: https://www.edf.fr/sites/groupe/files/2022-11/edfgroup_acv-4_plaquette_2022111_en.pdf

20.5 Expenses to address sustainability issues

ACCOUNTING PRINCIPLES AND METHODS

Other expenses for protection of the environment and climate are identifiable expenses incurred to prevent, reduce or repair damage that has been or may be caused by the Group as a result of its activities. These expenses are treated as follows:

- they are capitalised if they are incurred to prevent or reduce future damage or protect resources (e.g. expenses for structures to facilitate the passage of migrating fish, effluent treatment installations, etc.);
- they are booked as environmental liabilities and increases to provisions for environmental risks if they correspond to an obligation that exists at the year-end and it is probable or certain at the closing date that they will lead to an outflow of resources;
- they are recognised as expenses if they are operating expenses for the units in charge of environmental concerns, environmental supervision, environmental duties and taxes, processing of liquid and gas effluents and non-radioactive waste, or research unrelated to an investment.

All of the Group's functions, employees, activities and projects are mobilised to fulfil EDF's objective of being an environmentally responsible company. The expenses to adress sustainability issues are presented in chapter 3 of the 2024 Universal Registration Document. Some of the actions concerned are presented below.

20.5.1 Research and development (R&D) expenses

Given the goal of carbon neutrality by 2050, and the fact that electricity is a major lever in action to decarbonise the French economy, R&D has a crucial role to play in the electricity, climate, digital and societal transition.

In 2024, the EDF group's total R&D expenses amounted to €752 million, comprising €533 million for EDF SA's R&D, and expenditure for separate R&D by certain subsidiaries, principally Framatome, Arabelle Solutions, EDF Energy and Edison.

In France, the entire EDF's R&D expenses is dedicated to achieving the net zero goal, and the energy system transition.

The R&D budget is particularly channelled into research into energy efficiency, uses of electricity as a substitute for fossil fuel-based energies, renewable energies and their insertion into the grid, energy storage and production, carbon-free hydrogen and its applications for decarbonising the economy, sustainable cities, the local impacts of climate change and other environmental issues such as biodiversity, water quality, and the mitigation of all forms of pollution.

Research concerning electricity storage, enhancement of energy performance diagnosis methods, improvement of techniques for urban heating and cooling networks, platforms for sharing studies relevant to the ecological transition, and increasing safety at nuclear power plants is supported by public subsidies, notably from the European Union.

20.5.2 Other expenses to address sustainability issues

Action for biodiversity

The EDF group has been committed to action for biodiversity since 2006 with a dedicated policy, and today its biodiversity ambitions are reflected in formal commitments made through two initiatives, *Entreprises engagées pour la nature* (Committed companies for nature) and "Act4nature international". These voluntary commitments cover some twenty actions to reduce contributions to major pressure points on biodiversity (as identified by IPBES, the biodiversity equivalent of the IPCC), recreate biodiversity-friendly spaces and conditions, further improve and share knowledge, strengthen biodiversity governance and raise employee awareness.

In addition to these commitments, between 2014 and 2024, the Group undertook more than 70 operations through EDF Hydro and its hydropower activities for a cumulative total investment of €126 million (including subsidies received for all the operations), to facilitate fish migration at ecologically sensitive sites in mainland France ("list 2" sites for the purposes of the "national law on water and aquatic environments"), installing fish passes and fish ladders and removing river weirs.

Adaptation of nuclear plants

To adapt France's current and future nuclear power plants, in addition to work on safety and security in compliance with regulations and ASN recommendations, EDF has established a plan to adapt its facilities and their operations. The ADAPT project is part of a systemic approach for analysing the resilience of all ecosystems, natural or socio-economic, which are decisive for generation capacity.

This plan considers that climate change is systemic and evolving. Among other things, the analyses conducted are a basis for:

- imagining the climate futures of different areas and regions over different time horizons;
- improving the level of protection for the group's installations against unforeseeable natural events, through better quantification of their extreme versions;
- reducing the environmental impact of the Group's facilities;
- identifying innovative solutions, for example for recovering evaporated water from cooling towers, and testing the most promising ideas on site in the near future.

The increasing pace of climate change is also leading the Group to reinforce its R&D and engineering capacities, by increasing the number of people hired with key skills in all the related areas: climatology, hydrogeology, environmental matters, and of course technical engineering.

20.6 EDF, a responsible investor

EDF promotes innovation to contribute to the achievement of the net zero objective, by investing in startups and venture capital funds dedicated to innovation (the EDF Pulse Ventures programme), and by developing intrapreneurial projects (the EDF Pulse Incubation programme). The Group has formed several subsidiaries for these purposes, such as Hynamics, a company that produces and sells low-carbon hydrogen produced by water electrolysis to meet the needs of the heavy-duty transport industry and Oklima, a subsidiary of the EDF group specialising in carbon contribution which develops projects that contribute to carbon sequestration and to the reduction of greenhouse gas emissions.

The Group's *raison d'être* is also expressed in the management policy for its portfolio of dedicated assets held to finance long-term nuclear expenses in France (realisable value of €40.3 billion at 31 December 2024), and its responsible investor's charter introduced in 2020, which has three focal points (compliance with the United Nations' Principles for Responsible Investment; respect of the major international agreements on human rights; and annual reporting on responsible investments). This charter is applicable both to assets managed directly and assets managed by specialist companies under delegated management arrangements.

In 2024, a review was conducted of these delegated management companies' compliance with the United Nations' Principles for Responsible Investment and the major international agreements, and for climate risks, a carbon emission assessment was established for listed and unlisted assets. The climate scenarios incorporated into risk/return studies of dedicated assets were analysed in accordance with the recommendations of the NGFS (Network for Greening the Financial System), to assess the risk of nuclear provisions being underfunded in the event of a climate stress scenario that could affect the value of dedicated assets, depending on different time horizons. Additionally, projections of the portfolio's carbon emissions were calculated for each of the climate scenarios analysed.

Carbon emissions by EDF Gestion's listed investments are close to their benchmark levels, and emissions by the listed companies' bonds were below benchmark thanks to active portfolio management.

For unlisted dedicated assets, EDF is committed to integrating environmental, social and governance (ESG) considerations, notably by encouraging its partners and the management of directly-owned assets to introduce carbon reviews, define net-zero emission objectives for 2050 and action plans to achieve them, and undertake a climate risk assessment.

The Group's captive insurance company Wagram became a signatory to the United Nations' Principles for Sustainable Insurance (PSI) in 2024.

20.7 Mobilisation of Group employees and executives on sustainability issues

Sustainability performance-related remuneration for Group executives

In line with EDF's aim to promote integrated performance based on both finance and CSR, the annual variable salary of the Group's senior executives is also based on financial and non-financial environmental and social criteria that can represent up to 21% of their remuneration. They consist of climate and social criteria.

For certain Group executives, the long-term remuneration (3-year plan) also depends on financial performance plus non-financial criteria. These criteria account for 30% of the variable remuneration, up from the previous 20%.

Vehicle fleet electrification

As the first French Group to sign the EV100 initiative, EDF made a commitment to have a fully-electric light vehicle fleet by 2030. By the end of 2024 the worldwide fleet numbered more than 48,000 light vehicles (especially in Europe) and 35.6% were already electric (over 17,150 electric vehicles, an increase of more than 3,450 from 2023). Joining the EV100 initiative is also an encouragement for Group employees to control their energy consumption and reduce their carbon footprint, as it gives them access to competitive offers from car suppliers and offers for recharging services sold by EDF group subsidiaries.

For 2024, the vehicle fleet electrification indicator accounted for 9.6% of Enedis' profit share criteria. Under EDF SA's new profit share agreement effective from 2024, the level of use of EDF SA's electric light vehicles accounts for 7.5% of profit share criteria.

Note 21 Contingent liabilities and assets

ACCOUNTING PRINCIPLES AND METHODS

A contingent liability is:

- a potential obligation arising from past events, which will only be confirmed by the occurrence (or non-occurrence) of one or more uncertain future events that are not completely within the entity's control, or
- a present obligation arising from past events that is not recognised in the financial statements because an outflow of resources representing economic benefits is unlikely to be necessary to extinguish the obligation, or because the amount of the obligation cannot be measured reliably.

A contingent asset is a potential asset arising from past events, whose existence will only be confirmed by the occurrence (or non-occurrence) of one or more uncertain future events that are not completely within the entity's control.

The principal contingent liabilities and assets at 31 December 2024 are the following:

21.1 Tax inspections

EDF

The French tax authorities questioned the tax-deductibility of certain long-term nuclear liabilities for the years 2012-2021. The Paris Administrative Appeal Court issued a ruling on 5 July 2024 that was identical to the original first-instance ruling on all points: it validated EDF's position for one of the contested provisions, but upheld the tax adjustment for the other. This decision has no financial impact for EDF, as the Company had already paid €297 million in 2022 in execution of the original ruling. The Company has filed an appeal before the Court of Cassation against the unfavourable part of the new ruling, and the Minister concerned has done the same regarding the part of the ruling that was favourable to the Company.

EDF International

Following the tax inspections of EDF International for the years 2009 to 2014, the French tax authorities questioned the valuation of the bond convertible into shares issued to refinance the acquisition of British Energy. The total amount concerned was approximately €310 million. EDF International contested this reassessment.

In judgements of 2 July 2019 for the period 2009 - 2013 and 30 January 2020 for the year 2014, Montreuil Administrative Court confirmed the tax reassessments. EDF International therefore paid the tax in execution of these decisions, but also appealed against them. In a ruling of 25 January 2022, Versailles Administrative Court found in favour of EDF International and cancelled the first-instance judgements, thus nullifying the notified reassessments. In early 2022, EDF International received a full refund of the amounts it had paid. In a decision of 16 November 2022, the Council of State overturned the Administrative Court's ruling and sent the case back to be rejudged before the same court. In application of this decision, EDF International repaid the full amount previously received.

On 28 November 2023, the Administrative Court dismissed the new arguments put forward by EDF International, which lodged an appeal against this decision before the Council of State in late January 2024.

21.2 ARENH dispute – *Force majeure*

In the crisis caused by the Covid-19 pandemic, some suppliers requested total suspension of their ARENH deliveries, and/or partial suspension to the extent of the decrease in electricity consumption by their customer portfolio during the crisis, citing the *force majeure* clause contained in the master ARENH agreement signed with EDF.

Seven cases concerning the substance of the matter were brought by suppliers, claiming compensation from EDF for the prejudice caused by its allegedly unlawful refusal to apply the *force majeure* clause. The suppliers concerned were Hydroption, Vattenfall, Priméo Energie Grands Comptes and Priméo Energie Solutions, Arcelor Mittal Energy, Plüm Energy et Entreprises et Collectivités, TotalEnergies and Ekwateur.

Of the seven cases, four are now closed, and the three still ongoing concern Hydroption, TotalEnergies and Ekwateur.

On 13 April 2021, the Paris Commercial Court issued a first judgement on the merits in the Hydroption case, ordering EDF to pay the claimant €5.88 million in damages. On 15 October 2021, the Paris Court of Appeal overturned the Commercial Court's judgement, considering that the exemption clause of *force majeure* was not established, and that EDF was not obliged to satisfy a request for suspension of the contract. On 2 December 2021, the Toulon Commercial Court placed Hydroption SAS in liquidation. The liquidator filed an appeal before the Court of Cassation on 19 January 2022. In a ruling of 22 March 2023, the Court of Cassation overturned and cancelled all the terms of the Paris Court of Appeal's verdict, solely on procedural grounds, and sent the case back before that Court. On 24 June 2024, the Paris Court of Appeal cancelled the Commercial Court's judgement and dismissed Hydroption's claims for compensation. On 8 November 2024, the liquidator took the case to the Court of Cassation.

In the cases brought by TotalEnergies and Ekwateur, on 30 November 2021 the Paris Commercial Court issued two judgements on the merits ordering EDF to pay damages of €53.9 million to TotalEnergies and €1.8 million to Ekwateur. EDF appealed against these two judgments. The case is to be heard by the Paris Court of Appeal on 20 March 2025.

21.3 Edison

Environmental agreement with ENI

On 31 July 2023 Edison and ENI signed an agreement concerning the industrial sites contributed to Enimont in 1989. The main purposes of this agreement are: i) to put an end to the litigation cases pending before the Milan Court of Appeal and prevent all further litigation on similar matters that could arise in future; ii) to define a mutual framework for conduct in environmental matters relating to these sites and resolve the environmental issues resulting from past pollution, on a 50/50 basis.

This agreement marked a major turning point in local regeneration and restoration activities for places like the sites it covers, which were significantly affected by the industrialisation processes of the last century.

Following the signature of the agreement, Edison established a provision of €430 million at 31 December 2023. An additional provision of €587 million was recorded at 31 December 2024, based on new technical and legal assessments of the actions taken or to be taken together with ENI in the next few years (see note 17.2). Future costs estimates are underway.

In 2024, Edison formed a new company Edison Regea S.r.l. to act as operational facilitator for execution of the agreement and generally coordinate all the Edison group's environmental activities.

Mantua - criminal proceedings

The Public Prosecutor's Office of Mantua decided to initiate criminal proceedings on the basis of Legislative Decree 231 of 2001, against certain executive directors working or having worked for Edison since 2015 and some of Edison's representatives for alleged environmental offences claimed to have occurred in certain areas of the Mantua petrochemical plant. These orders of the Province of Mantua were confirmed by the Council of State's ruling of April 2020 as described below. These proceedings are ongoing.

The Mantua petrochemical plant - which Edison (as the successor of Montedison) has not owned or managed since 1990 - is subject to a large-scale and complex programme of environmental clean-up and restoration activities which also concerned all of the areas targeted by the proceedings initiated by the Public Prosecutor. The ENI group has begun implementation of the programme. Since the clean-up projects were transferred to Edison in June of 2022 following the above-mentioned ruling of the Council of State, Edison is carrying out many of these activities.

Mantua - environmental proceedings

Over the past few years, the Italian province of Mantua notified Edison of eight orders to rehabilitate the land and the whole Mantua petrochemical site sold by Montedison to the ENI group in 1990, despite two settlement agreements concerning these environmental issues signed by ENI and the Italian Ministry for the Environment.

Edison appealed against all these orders before the Brescia Division of the Lombardy regional administrative court, but lost its appeal in August 2018. Edison then took the matter to the Italian Council of State, which rejected Edison's appeal in a ruling of 1 April 2020 confirming the first-instance decisions. Edison pursued its appeal before the ECHR, and the proceedings are ongoing. However, as mentioned above, Edison has already begun cleanup work on the site, taking over from the previous operators and conducting a series of tenders.

Sale of Ausimont (site of Bussi)

Several legal actions before the civil, administrative and criminal courts were begun following the sale by Edison of the Ausimont SpA industrial complex to Solvay Solexis SpA in 2002. The following proceedings are still ongoing:

Administrative cases

- On 28 February 2018, the Province of Pescara notified Solvay Speciality Polymers Italy SpA (formerly Solvay Solexis SpA) and Edison SpA of the launch of an administrative procedure to determine who was responsible for the pollution of the land outside the industrial complex belonging to Ausimont SpA which had been sold. The Province also ordered Edison to remove waste that was on the land concerned. Edison first appealed against this order before Pescara regional administrative court, and then before the Italian Council of State. In April 2020 the Council of State rejected the claim and Edison, considering the ruling unfair and unlawful, filed applications

for its annulment before the Italian Court of Cassation, the Italian Council of State and the European Court of Human Rights (ECHR). The application before the Council of State has been rejected, while the case before the ECHR is still in process.

- Edison has nonetheless begun work to make the site safe in agreement with the competent Public Administrations.

Arbitration

- In 2012, arbitration proceedings were launched by Solvay SA and Solvay Specialty Polymers Italy SpA (the purchaser of Ausimont) for violation by Edison of the representations and warranties in environmental matters concerning the Bussi and Spinetta Marengo sites contained in the sale agreement.
- At the end of June 2021, the Arbitral Tribunal issued a partial award, largely accepting the claims by Solvay Specialty Polymers Italy in relation to the environmental warranties given by Montedison under the Ausimont sale agreement signed in 2001. The Tribunal ordered Edison to pay compensation of €91 million for the period from May 2002 (closing date) to December 2016. This sentence was issued with one dissenting opinion by a member of the Arbitral Tribunal.
- Edison's appeal against this award to the Swiss federal court of Lausanne was rejected in January 2022. The enforcement proceedings before the Milan Court of Appel ended on 24 January 2023 when Edison's action was dismissed, making the Arbitral Tribunal award enforceable. Edison has appealed before the Court of Cassation, and no hearing date has yet been set.
- The Arbitral Tribunal postponed quantification of the damages suffered by Solvay Specialty Polymers Italy in the period after December 2016 and the legal fees incurred by the parties to a further phase of the arbitration, unless the parties were able to reach an agreement in this respect. A hearing was held in September 2023 and the Tribunal's final decision was notified to the parties on 20 January 2025: Edison was ordered to pay approximately €90 million of additional compensation to Solvay Specialty Polymers Italy which has been provisioned.

Two civil cases:

- On 8 April 2019, the Italian Ministry for the Environment, the Abruzzo region and the President of the Council of Ministers brought a civil action against Edison, claiming damages for environmental contamination. A court-ordered technical report was received in December 2024, and Edison submitted its arguments in response to the Court. The time limit for concluding these proceedings is unknown, and they are still ongoing.
- In 2023, a similar civil action was brought by the town of Bussi sul Tirino, claiming damages for the prejudice allegedly suffered as a result of pollution in the zone. The debates are currently in the introductory phase.

21.4 Investigations by France's Competition Authority (ADLC)

Since 31 December 2024 France's Competition Authority (the ADLC) has been investigating the EDF group in relation to two separate matters (the Plüm complaint and the Xélan complaint). These proceedings are ongoing.

21.5 Inframarginal revenue cap in Belgium

In Belgium, the inframarginal revenue cap applicable from 1 August 2022 to 30 June 2023 is currently being challenged before the courts, notably on the grounds that it is unconstitutional and violates international treaties. This revenue cap was introduced as part of the European mechanism for capturing inframarginal rents on electricity production, adopted by the European Union on 6 October 2022. This challenge is currently under examination by the European authorities.

21.6 Litigation with E-Pango

On 14 December 2023 the alternative energy supplier E-Pango filed a claim against EDF, RTE and Enedis before the Paris Commercial Court for full compensation of the prejudice allegedly caused by the termination of its Balance Responsible Entity agreement with RTE. Following that termination E-Pango's authorisation to purchase electricity for resale was suspended, and as a result its customers were switched to a fallback contract with EDF as the temporary supplier.

E-Pango considers that its agreement with RTE was wrongfully terminated, and argues that it was a deliberate exclusion strategy by RTE, with the support of Enedis, for the benefit of EDF.

E-Pango is therefore claiming full compensation for its prejudice, valued at approximately €150 million based particularly on the end of its supply business, and the loss of the economic value of its competitive position.

In parallel, E-Pango filed a complaint with France's Competition Authority, which declared in a decision of 7 September 2023 that it was not competent to rule on the unfair practices alleged by E-Pango. E-Pango lodged an appeal against this decision before the Paris Court of Appeal.

The hearing before the Paris Commercial Court took place on 27 May 2024. EDF (like Enedis and RTE) requested postponement of the decision pending the verdict of the Paris Court of Appeal. On 2 July 2024 the Paris Commercial Court issued its ruling ordering postponement of the decision.

21.7 Compensation claim by ENGIE

On 13 June 2024 ENGIE brought a claim before the Paris Commercial Court against EDF and its subsidiaries Dalkia, Dalkia Smart Building, Citelum and IZI Confort, seeking reparation for the prejudice allegedly suffered as a result of practices sanctioned by the Competition Authority in its decision 22-D-06 of 22 February 2022.

EDF firmly disputes the validity of ENGIE's claim. The Commercial Court proceedings are still ongoing.

21.8 Consultancy contracts - Criminal investigation

On 28 July 2016, the French Court of Accounts sent the National Financial Prosecutor's Office its report on EDF's procurement policy. The National Financial Prosecutor's Office then opened a preliminary investigation which was conducted by the Economic Crime Unit of the police (*Brigade de répression de la délinquance économique* or BRDE). In October 2023, Henri Proglio, Alain Tchernonog and EDF received summons to appear in court between 21 May and 13 June 2024 on charges of favouritism in the hiring of external consultants (14 consultants). EDF argued that the case is time-barred, and contested the charges.

At the end of the hearing, the Prosecution asked the judge to give Henri Proglio a 2-year prison sentence and a €200,000 fine, and to sentence EDF to a €1 million fine. They did not request the additional penalty of exclusion from public procurement procedures.

In the verdict announced on 30 September 2024, the Paris Court acquitted EDF and all the defendants.

21.9 Labour litigation

EDF and its subsidiaries are party to a number of labour lawsuits. The Group considers that none of these lawsuits, individually, is likely to have a significant impact on its results or financial position. However, because they relate to situations that could concern a large number of EDF's employees in France, any increase in such litigations could have a potentially negative impact on the Group's financial position.

Additionally, EDF and its subsidiaries in France regularly undergo inspections by social security bodies such as URSSAF.

21.10 Arbitration proceedings against Venture Global

In 2017, Edison signed a contract with the American company Venture Global LNG Inc to import liquefied natural gas from the United States. Deliveries were to start in 2023.

In breach of its contractual obligations, Venture Global has still not started to make the agreed volumes available to Edison, having chosen instead to sell this gas to other parties on the short-term wholesale market.

In response to this decision, in May 2023 Edison began arbitration proceedings against the American company, claiming compensation of some $1,500 million. The hearing before the London Court of International Arbitration took place in October 2024 and the decision is still pending.

21.11 Litigation concerning defective electricity meters

On 30 July 2024 Enedis initiated legal action before Nanterre Commercial Court against the meter manufacturer Itron, claiming compensation of approximately €113 million due to defects observed in 2022 on certain electricity meters supplied to Enedis' small and medium business customers.

Note 22 Off-balance sheet commitments

This note presents off-balance sheet commitments given and received by the Group at 31 December 2024. The amounts of commitments correspond to non-discounted contractual values.

22.1 Commitments given

The table below shows off-balance sheet commitments given by the Group that have been valued. Other commitments are described separately in the detailed notes.

(in millions of euros)	Notes	31/12/2024	31/12/2023
Operating commitments given	22.1.1	70,464	64,201
Investment commitments given	22.1.2	17,984	17,605
Financing commitments given	22.1.3	6,004	6,043
TOTAL COMMITMENTS GIVEN		**94,452**	**87,849**

In almost all cases, these are reciprocal commitments, and the third parties concerned are under a contractual obligation to supply the Group with assets or services related to operating, investment and financing activities.

22.1.1 Operating commitments given

Operating commitments given by the Group are as follows:

(in millions of euros)	31/12/2024	31/12/2023
Fuel and energy purchase commitments[1]	45,895	43,548
Operating contract performance commitments given	24,222	20,103
Operating lease commitments as lessee	347	550
TOTAL OPERATING COMMITMENTS GIVEN	**70,464**	**64,201**

(1) Excluding gas purchases and related services

22.1.1.1 Fuel and energy purchase commitments

In the course of its ordinary generation and supply activities, the Group has entered into long-term contracts for purchases of electricity, gas, other energies and commodities and nuclear fuel, for periods of up to 20 years.

The Group has also entered into long-term purchase contracts with a certain number of electricity producers, by contributing to the financing of power plants.

At 31 December 2024, fuel and energy purchase commitments mature as follows:

	31/12/2024					31/12/2023
		Maturity				
(in millions of euros)	Total	< 1 year	1 to 5 years	5 to 10 years	> 10 years	Total
Electricity purchases and related services	30,548	4,216	8,392	6,951	10,989	29,142
Other energy and commodity purchases[1]	413	103	158	152	-	390
Nuclear fuel purchases	14,934	2,331	6,482	4,498	1,623	14,016
FUEL AND ENERGY PURCHASE COMMITMENTS	**45,895**	**6,650**	**15,032**	**11,601**	**12,612**	**43,548**

(1) Excluding gas purchases and related services (see note 22.1.1.1.4).

22.1.1.1.1 Electricity purchases and related services

Electricity purchase commitments at 31 December 2024 mainly concern EDF Energy and EDF. In the case of EDF many of these commitments are borne by the Island Energy Systems (SEI), which have made commitments to purchase the electricity generated using bagasse and coal.

The change over the year is mainly explained by a rise in the volume of purchase commitments at EDF (Island energy systems) driven by new contracts, and a positive foreign exchange effect at EDF Energy, partly offset by a decrease in projected electricity prices and volumes contracted by EDF Energy.

In addition to the obligations reported above and under Article 10 of the Law of 10 February 2000, in mainland France, EDF is obliged, at the producer's request and subject to compliance with certain technical features, to purchase the power produced by co-generation plants and renewable energy generation units (wind turbines, small hydro-electric plants, photovoltaic power, etc.). The additional costs generated by this obligation are offset, after validation by the CRE, by the CSPE. These purchase obligations total 48TWh for 2024 (50TWh for 2023), including 5TWh for co-generation (5TWh for 2023), 20TWh for wind power (23TWh for 2023), 15TWh for photovoltaic power (14TWh for 2023) and 2TWh for hydropower (2TWh for 2023).

22.1.1.1.2 Other energy and commodity purchases

Purchase commitments for other energies and commodities mainly concern purchases of biomass fuel used by Dalkia in the course of its business.

22.1.1.1.3 Nuclear fuel purchases

Commitments for purchases of nuclear fuel arise from supply contracts for the nuclear plants intended to cover the EDF group's needs for uranium and fluoration, enrichment and fuel assembly production services.

22.1.1.1.4 Gas purchases and related services

Gas purchase commitments are principally undertaken by Edison and EDF. The volumes concerned for both entities at 31 December 2024 are as follows:

	31/12/2024				31/12/2023
		Maturity			
(in billions of m3)	Total	< 1 year	1 to 5 years	> 5 years	Total
Edison	101	12	42	47	112
EDF	51	2	13	36	52

Gas purchase contracts

Edison has entered into agreements to import natural gas from Libya, Algeria, Azerbaijan and Qatar, for a total maximum volume of 11.9 billion m^3 per year. The residual terms of these contracts vary between 3 and 20 years.

In 2020, EDF signed a 5-year purchase contract for 0.5 billion m^3 of gas per year from Norway.

In 2017 Edison signed a purchase contract for LNG from the United States (1 million tonnes per year, i.e. 1.4 billion m^3 of natural gas, for a 20 - year term). Deliveries under this contract were due to start in 2023. As no deliveries of LNG have been made, Edison began arbitration proceedings against the supplier Venture Global before the London International Court of Arbitration (LCIA) (see note 21.10).

In 2014, EDF signed a contract for LNG imports from the United States, for an annual supply of 0.8 million tonnes of LNG (1 billion m^3 of natural gas per year) over a 20-year period starting from May 2020. In 2020 EDF also signed a 20-year purchase contract for LNG from the United States (1 million tonnes per year, *i.e.* 1.4 billion m^3 of natural gas). Deliveries under this contract are due to begin in 2026.

Some of these contracts contain "take-or-pay" clauses committing the buyer to pay for a minimum volume of gas every year, whether or not it actually takes delivery of that volume.

Gas-related service contracts

Under the contract with Terminale GNL Adriatico, Edison also benefits from approximately 80% of the terminal's regasification capacities until 2034.

Under the contract with the Dunkerque LNG methane terminal, EDF benefits from approximately 61% of the terminal's regasification capacities until 2037, in return for payment of an annual premium of approximately €150 million. A provision for onerous contracts has been recorded in connection with this contract (see note 17.2).

22.1.1.2 Operating contract performance commitments given

At 31 December 2024, these commitments mature as follows:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
Operating guarantees given	14,773	4,314	5,459	5,000	11,805
Operating purchase commitments[1]	9,307	4,928	3,480	899	8,116
Other operating commitments	142	51	78	13	182
OPERATING CONTRACT PERFORMANCE COMMITMENTS GIVEN[2]	**24,222**	**9,293**	**9,017**	**5,912**	**20,103**

(1) Excluding fuel and energy

(2) Including commitments given by controlled entities to joint ventures, amounting to €2,697 million at 31 December 2024 (€2.186 million at 31 December 2023).

In the course of its business, the Group provides contract performance guarantees, generally through the intermediary of banks.

Operating guarantees given at 31 December 2024 mainly consist of guarantees given by EDF Renewables in connection with its development projects, EDF, Edison and Framatome.

The change in these guarantees is essentially explained by EDFs takeover of €2 billion of parent company guarantees given to Arabelle Solutions customers, as part of its acquisition of GE Vernova's nuclear activities on 31 May 2024.

22.1.1.2.1 Operating guarantees given

Operating guarantees given are as follows:

(in millions of euros)	31/12/2024	31/12/2023
EDF Renewables	5,392	4,912
Edison	2,031	2,228
EDF	3,618	1,413
Framatome	971	977
EDF Energy	941	847
Other entities	1,820	1,428
TOTAL	**14,773**	**11,805**

22.1.1.2.2 Operating purchase commitments

Operating purchase commitments are as follows:

(in millions of euros)	31/12/2024	31/12/2023
EDF	3,316	3,294
Framatome	1,572	1,724
Enedis	1,066	1,029
Arabelle Solutions	1,364	-
EDF Renewables	832	673
EDF Energy	404	380
Other entities	753	1,016
TOTAL	**9,307**	**8,116**

22.1.1.2.3 Lease commitments as lessee

At 31 December 2024, lease commitments as lessee break down as follows:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
LEASE COMMITMENTS AS LESSEE	**347**	**54**	**156**	**137**	**550**

The only remaining off-balance sheet lease commitments are:

- Leases that are exempt from recognition in application of IFRS 16. The total amount concerned at 31 December 2024 is €105 million (€108 million at 31 December 2023);
- Leases of assets that have not yet been made available to the Group (principally real estate and LNG tankers under construction). The right-of-use assets and the lease liability will be recognised in the balance sheet when the leased asset is made available. The total amount concerned at 31 December 2024 is €242 million (€442 million at 31 December 2023). The decrease is notably due to the delivery of a tanker in December 2024.

22.1.2 Investment commitments given

At 31 December 2024, details of investment commitments are as follows:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
Commitments related to acquisition of tangible and intangible assets	16,865	11,052	5,456	357	16,065
Commitments related to acquisition of financial assets	908	71	837	-	1,247
Other commitments related to investments	211	148	17	46	293
TOTAL INVESTMENT COMMITMENTS GIVEN[(1)]	**17,984**	**11,271**	**6,310**	**403**	**17,605**

(1) Including commitments given by controlled entities to joint ventures, amounting to €163 million at 31 December 2024 (€161 million at 31 December 2023).

22.1.2.1 Commitments related to acquisition of tangible and intangible fixed assets

The commitments related to acquisition of tangible and intangible fixed assets are as follows:

(in millions of euros)	31/12/2024	31/12/2023
EDF	5,268	4,820
EDF Energy	4,476	4,662
Enedis	4,229	3,089
EDF Renewables	920	1,995
PEI	911	557
Framatome	600	572
Other entities	461	370
TOTAL	**16,865**	**16,065**

Commitments related to acquisition of tangible and intangible fixed assets principally concern EDF SA (€5.3 billion, including commitments for the *Grand Carénage* industrial refurbishment programme, the 10-year plant inspections, and a small amount for the EPR 2 project), EDF Energy (€4.5 billion, mainly commitments related to HPC), and Enedis (€4.2 billion).

For the EPR 2 project, until the final investment decision is made, the amounts recorded in off-balance sheet commitments correspond to the unavoidable commitment for EDF, not the total value of the contracts signed.

The rise in 2024 in commitments given related to acquisition of tangible and intangible fixed assets is mainly explained by the renewal of Enedis' contract to supply cables and medium/low-voltage transformers that link the medium-voltage and low-voltage network, the launch by EDF of construction of the Ricanto bioenergy plant in Corsica, led by the subsidiary PEI (see the Group press release of 22 November 2024), and new contracts related to the programme of 10-year inspections of nuclear power plants. Conversely, commitments by EDF Renewables have decreased due to progress on projects that were under construction.

22.1.2.2 Commitments related to acquisition of financial assets

The increase in commitments related to acquisition of financial assets is principally attributable to EDF SA's commitment to invest in Nordic's logistics warehouses in Sweden and the Norwegian ferry operator Fjord1 in 2024. These operations relate to management of the dedicated assets held to secure financing of the Group's long-term nuclear obligations in France.

Some commitments related to acquisition of financial assets cannot be estimated. They mainly concern Belgium: Luminus signed an amendment to the shareholder pact on 26 October 2015. It contains a liquidity clause for the investments held by its minority shareholders, which could, in certain conditions under the control of EDF, result in sale of their shares through an IPO, or purchase of their shares by the Group at market value. This liquidity clause is valid at all times from 1 July 2018 to 31 December 2025.

Regarding the investment in EDF Investissements Groupe (EIG), C3 (a fully-owned EDF subsidiary) has a call option to buy the EIG shares held by NBI (Natixis Belgique Investissement, a subsidiary of the Natixis group) at a fixed price, exercisable at any time until August 2031. Meanwhile, NBI has a cash-settled put option to sell EDF all of its EIG shares for a fixed price, exercisable subject to certain conditions between May 2029 and August 2031.

Due to their features, in compliance with IAS 32, NBI's put option and C3's call option are considered as derivatives and their net value is included in the positive or negative fair value of trading derivatives. At 31 December 2024, the fair value of these trading derivatives is limited.

22.1.2.3 Other commitments related to investments

Other commitments given related to investments at 31 December 2024 mainly comprise guarantees given by EDF Norte Fluminense in connection with its 51% investment in Sinop Energia.

22.1.3 Financing commitments given

Financing commitments given by the Group at 31 December 2024 comprise the following:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
Security interests in real property	3,656	1,250	418	1,988	3,760
Guarantees related to borrowings	1,195	73	617	505	1,216
Other financing commitments	1,153	886	253	14	1,067
TOTAL FINANCING COMMITMENTS GIVEN[1]	**6,004**	**2,209**	**1,288**	**2,507**	**6,043**

(1) Including commitments given by controlled entities to joint ventures, amounting to €1,540 million at 31 December 2024 (€2,113 million at 31 December 2023). These financing commitments to joint ventures mainly concern EDF Renewables and EDF Trading.

Security interests and assets provided as guarantees mainly concern pledges or mortgages of tangible assets and shares representing investments in consolidated subsidiaries which own property, plant and equipment, for EDF Renewables.

The guarantees given for borrowings are essentially guarantees provided by EDF Renewables for its project financing.

22.2 Commitments received

The table below shows off-balance sheet commitments received by the Group that have been valued. Other commitments received are described separately in the detailed notes.

(in millions of euros)	Notes	31/12/2024	31/12/2023
Operating commitments received[1]	22.2.1	13,841	9,466
Investment commitments received	22.2.2	532	206
Financing commitments received[2]	22.2.3	15	13
TOTAL COMMITMENTS RECEIVED		**14,388**	**9,685**

(1) Excluding commitments related to supplies of energy and related services (see note 22.1.3).

(2) Excluding commitments related to credit lines, which are described in note 18.4.

22.2.1 Operating commitments received

Operating commitments received by the Group at 31 December 2024 comprise the following:

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
Operating lease commitments as lessor	104	29	55	20	429
Operating sale commitments	11,885	3,258	5,727	2,900	7,098
Operating guarantees received	1,791	1,129	437	225	1,895
Other operating commitments received	61	41	19	1	44
OPERATING COMMITMENTS RECEIVED	**13,841**	**4,457**	**6,238**	**3,146**	**9,466**

22.2.1.1 Operating sale commitments

Operating sale commitments received exclude energy deliveries and principally concern firm orders made through contracts recorded on a percentage-of-completion basis at Framatome (construction and engineering contracts), EDF Renewables (agreements for operation services, maintenance services, and Development and Sale of Structured Assets), and Arabelle Solutions (equipment delivery contracts concerning turbines and alternators for nuclear power plants). The significant €4,787 million increase in these commitments is essentially attributable to inclusion of the order book of Arabelle Solutions (acquisition finalised on 31 May 2024) and the implementation of contracts signed by the Group for the Sizewell C nuclear plant project in the United Kingdom, which is accounted for by the equity method in the Group's financial statements from 31 December 2024 (see note 3.1.3).

22.2.1.2 Operating guarantees received

Operating guarantees received principally concern Framatome, and relate to supply and technical assistance contracts for EDF's nuclear power plants with guarantees received from suppliers, particularly in connection with ARENH deliveries.

22.2.1.3 Electricity supply commitments

In the course of its business, the EDF group has signed long-term contracts to supply electricity as follows:

- long-term contracts with a number of European electricity operators, for a specific plant or a defined group of plants in the French nuclear generation fleet, corresponding to installed power capacity of 3GW;
- in execution of France's "NOME" Law on organisation of the French electricity market, EDF has a commitment to sell some of the energy generated by its existing nuclear power plants to other suppliers, until 31 December 2025. This has concerned a maximum volume of 120TWh each year since enactment of the law of 16 August 2022 (see note 5.1.1).

22.2.2 Investment commitments received

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
INVESTMENT COMMITMENTS RECEIVED	**532**	**360**	**-**	**172**	**206**

€345 million of the increase in investment commitments received relates to bonds received from a banking partner as a guarantee in a repurchase agreement concerning securities held by EDF.

22.2.3 Financing commitments received

	31/12/2024				31/12/2023
		Maturity			
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
FINANCING COMMITMENTS RECEIVED	**15**	**3**	**12**	**-**	**13**

Note 23 Related parties

ACCOUNTING PRINCIPLES AND METHODS

Related parties include the French State, companies in which the State holds majority ownership and certain of their subsidiaries, and companies in which the EDF group exercises joint control or significant influence. They also include members of the Group's management and governance bodies.

Details of transactions with related parties are as follows:

	Associates and joint ventures		Joint operations		French State or State-owned entities[1]		Group Total	
(in millions of euros)	31/12/2024	31/12/2023	31/12/2024	31/12/2023	31/12/2024	31/12/2023	31/12/2024	31/12/2023
Sales	913	1,112	-	-	3,058	3,514	3,971	4,626
Energy purchases	4,038	4,218	2	2	3,547	2,893	7,587	7,113
External purchases	4	11	7	7	202	126	213	144
Financial assets	355	180	-	-	-	-	355	180
Other assets	724	952	-	-	659	672	1,383	1,624
Financial liabilities	-	-	-	-	1	-	1	-
Other non-financial liabilities	1,001	1,495	1	1	851	754	1,853	2,250

(1) Excluding tax and social liabilities and the CSPE liability.

23.1 Transactions with associates included in the scope of consolidation

Transactions with the principal associates (CTE (the company that owns RTE) and Taishan) are presented in note 12.

Transactions with other associates, joint ventures, and partner entities in joint arrangements with the Group mainly consist of sales and purchases of energy.

23.2 Relations with the French State and State-owned entities

23.2.1 Relations with the French State

Following the compulsory squeeze-out on 8 June 2023 and the purchase of treasury shares, the French State holds 100% of the capital of EDF at 31 December 2024, and is thus entitled in the same way as any majority shareholder to control decisions that require approval by the shareholders.

In accordance with the legislation applicable to all companies having the French State as their majority shareholder, the EDF group is subject to certain inspection procedures, in particular economic and financial inspections by the State, audits by the French Court of Auditors (*Cour des Comptes*) or Parliament, and verifications by the French General Finance Inspectorate (*Inspection générale des finances*).

The public service contract between the French State and EDF was signed on 24 October 2005. This contract is intended to form the framework for public service missions assigned to EDF by the lawmaker for an unlimited period. The Law of 9 August 2004 does not stipulate the duration of the contract.

23.2.2 Relations with ENGIE

Enedis and GRDF's common service function, defined by Article L. 111 - 71 of the French Energy Code, is not a legal entity in its own right. Enedis and GRDF are bound by an agreement that defines their relations within this common service function, its competences, and the resulting division of costs. The agreement has an unlimited term and can be terminated at any time subject to 18 months' notice: in such a case, the parties undertake to renegotiate the agreement during the notice period. It is updated regularly. In 2019, the Enedis-GRDF governance agreements were entirely reviewed. The Medical and Social Unit is the last remaining joint body in the common function that serves both distributors (Enedis and GRDF).

Concerning the common service of LPG (Liquified petroleum gas) distribution and supply in the cities of Ajaccio and Bastia in Corsica, following adoption of article 96 of France's Finance Law for 2022, decree 2023-554 of 30 June 2023 introducing a simplified modification of Corsica's multi-year energy programme stipulated that the Corsican LPG networks would cease operations on 31 December 2038 and set out measures for progressive discontinuation of use from 2024.

Another decree, 2023-872 of 12 September 2023, defines the terms on which the State will bear part of the costs associated with conversion of the LPG networks to electricity or renewable energies. The tenders for the Ajaccio and Bastia concessions were reissued after failing to find a suitable bidder. Engie is preparing to submit offers, and the concessions should be awarded by the summer of 2025.

These developments have no impact for EDF at this stage, but once the concession renewals are finalised EDF will be required to work on some pilot sectors, to determine the schedule for progressive discontinuation of LPG use over the next 15 years. Ultimately, the prospect of ending LPG distribution operations and converting uses to electricity will need investments to reinforce the electricity distribution networks.

23.2.3 Relations with public sector entities

The EDF group's relations with public sector entities mainly concern Orano.

Transactions with Orano concern:

- the front-end of the nuclear fuel cycle (uranium supplies, conversion and enrichment services);
- the back-end of the nuclear fuel cycle (transportation, storage, processing and recycling services for spent fuel).

Front-end of the cycle

Several important agreements were negotiated between EDF and Orano:

- for supplies of natural uranium: Orano Mining contracts;
- for fluoration and enrichment of natural uranium into uranium 235: an Orano Chimie-Enrichissement contract.

Back-end of the cycle

Relations between EDF and Orano Recyclage concerning transportation, processing and recycling of spent fuels are described in note 15.1.1.1.

23.3 Management compensation

The Company's key management and governance personnel are the Chairman and CEO, the members of the COMEX (Executive Committee) throughout 2024 or since their date of appointment if they joined the COMEX during the year, and the Directors. Directors representing the employees receive no remuneration for their services.

The total compensation paid by EDF and controlled companies to the Group's key management and governance personnel amounted to €17.1 million in 2024 (€18.7 million in 2023 including long-term bonuses that were conditional on meeting performance criteria for 2022-2023). This amount covered short-term benefits (basic salaries, performance-related salary, profit share and benefits in kind), special IEG post-employment benefits where relevant, and the corresponding employer contributions, plus any director's fees.

EDF's key management and governance personnel benefit from no special pension system, starting bonus or severance payment entitlement except by contractual negotiation.

Note 24 Subsequent events

On 6 January 2025, EDF issued a $1.9 billion senior bond in three tranches, for which settlement and delivery took place on 13 January 2025, and a $500 million senior green bond, for which settlement and delivery took place on 20 January 2025 (see the Group press release of 6 January 2025).

Note 25 Statutory auditors' fees

The following table sets forth the fees paid for work done by the Statutory Auditors and their network during 2024:

(in thousands of euros)	PWC network Amount (excluding taxes)	%	KPMG network Amount (excluding taxes)	%
Audit -Statutory audit, certification, review of company and consolidated accounts				
EDF	3,399	15.4	2,553	10.2
Controlled entities[1]	10,907	49.3	15,757	63.1
Sub-total	**14,306**	**64.7**	**18,310**	**73.3**
Certification of sustainability reporting[2]				
EDF	1,000	4.5	1,000	4.0
Controlled entities[2]	-	-	336	1.4
Sub-total	**1,000**	**4.5**	**1,336**	**5.4**
Other *services*[3]				
EDF	1,604	7.3	4,471	17.9
Controlled entities[1]	5,206	23.5	860	3.4
Sub-total	**6,810**	**30.8**	**5,331**	**21.3**
TOTAL	**22,116**	**100.0**	**24,977**	**100.0**

(1) Fully consolidated subsidiaries and jointly controlled entities whose auditors' fees are included in the consolidated income statement.

(2) The CSRD (Corporate Sustainability Reporting Directive) was transposed into French law in December 2023 and is applicable to the Group from the 2024 financial year (see note 20). Controlled entities are Edison and Électricité de Strasbourg, which publish their own sustainability reports.

(3) This covers services (other than audit and sustainability reporting certification services) required by laws and regulations, and services supplied at the request of the Group, mainly (i) certifications of financial and accounting information, (ii) issuance of comfort letters for the Group's financing operations, (iii) services relating to acquisitions or disposals of entities, (iv) tax services authorised by local legislation, and (v) operating process reviews and information system consulting services that are unrelated to the production of accounting and financial information.

Statutory Auditors' fees for 2023

(in thousands of euros)	PWC network Amount (excluding taxes)	%	KPMG network Amount (excluding taxes)	%	Deloitte network Amount (excluding taxes)	%
Audit -Statutory audit, certification, review of company and consolidated accounts						
EDF	2,628	15.3	2,523	11.7	-	-
Controlled entities[1]	5,362	31.3	16,920	78.3	1,758	83.7
Sub-total	**7,990**	**46.6**	**19,443**	**89.9**	**1,758**	**83.7**
Non-audit services[2]						
EDF	1,302	7.6	1,181	5.5	-	-
Controlled entities[1]	7,849	45.8	996	4.6	343	16.3
Sub-total	**9,151**	**53.4**	**2,176**	**10.1**	**343**	**16.3**
TOTAL	**17,141**	**100.0**	**21,620**	**100.0**	**2,101**	**100.0**

(1) Fully consolidated subsidiaries and jointly controlled entities whose auditors' fees are included in the consolidated income statement.

(2) These are services required by laws and regulations, and services supplied at the request of the Group, mainly (i) certifications of financial and accounting information or Independent Reports on social, environmental and societal information required under Article L. 225 - 102 - 1 of the French Commercial Code, (ii) services relating to acquisitions or disposals of entities, (iii) tax services authorised by local legislation, and (iv) operating process reviews and information system consulting services that are unrelated to the production of accounting and financial information.

6.2 Statutory Auditors' report on the consolidated financial statements

For the year ended 31 December 2024

This is a free translation into English of the statutory auditors' report on the consolidated financial statements of the Company issued in French and it is provided solely for the convenience of English-speaking users.

This statutory auditors' report includes information required by European regulation and French law, such as information about the appointment of the statutory auditors or verification of the information concerning the Group presented in the management report and other documents provided to shareholders.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the annual general meeting of Electricité de France,

Opinion

In compliance with the engagement entrusted to us by your annual general meeting, we have audited the accompanying consolidated financial statements of Electricité de France S.A ("EDF", "The Company" or "the Group") for the year ended December 31, 2024.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at December 31, 2024 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European union.

The audit opinion expressed above is consistent with our report to the Risk and Audit Committee.

Basis for opinion

Audit framework

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the Statutory Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

Independence

We conducted our audit engagement in compliance with independence requirements of the French Commercial Code (*code de commerce*) and the French Code of Ethics (*code de déontologie*) for statutory auditors, for the period from January 1st, 2024 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5(1) of Regulation (EU) No 537/2014 or in the French Code of ethics (*code de déontologie*) for statutory auditors.

Justification of assessments - Key audit matters

In accordance with the requirements of Articles L.821-53 and R.821-180 of the French Commercial Code (code de commerce) relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period, as well as how we addressed those risks.

These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the consolidated financial statements.

Valuation of provisions related to nuclear generation in France - back-end of the nuclear cycle, plant decommissioning and last cores - and dedicated assets

Notes 1.3.4.2, 1.3.4.5, 15, 18.1 et 20 to the consolidated financial statements

Key Audit Matter

As at December 31, 2024, the provisions recorded to cover obligations relating to nuclear power plants for which EDF is the operator in France total €53,821 million, including €31,605 million with respect to the back-end of the nuclear cycle (management of spent fuel and radioactive waste) and €22,216 million with respect to the decommissioning of nuclear power plants and last cores.

The valuation of these provisions depends on the regulatory context which is described in Notes 1.3.4.2 and 15.1. It requires defining technical and financial assumptions and using complex calculation models.

They are updated and the assumptions taken into consideration in the models are reviewed at least once a year. The selected assumptions reflect management's best estimate at the reporting date of the impacts of the applicable regulation, the implementation of decommissioning, spent fuel management removal, and disposal of radioactive waste and storage processes. They also take into account the changes in the main financial parameters, inflation and discounting. As every year, the incurred expenses as well as the fuels used during the period are also reflected in the changes in provisions.

Responses

We have analysed the measures for recognizing provisions related to nuclear generation in France. We gained an understanding of the industrial scenarios for decommissioning nuclear power plants and the technical solutions adopted in terms of management of spent fuel and radioactive waste. We have assessed the compliance of the methods for determining the provisions with regard to applicable accounting, legal and regulatory measures.

We have verified the calculation models adopted by the Company and assessed the assumptions adopted in terms of cost, forecast cash outflows, fieldwork progress when compared to incurred costs and financial parameters (discount and inflation rates).

Our work also consisted in verifying the type of costs used to determine provisions and assessing the reconciliation of forecast costs and forecast cash outflows with industrial scenarios as well as the available studies and quotes, based on the current year change in assumptions.

Furthermore, in accordance with the provisions of the French law of June 28, 2006 on the sustainable management of radioactive materials and waste, and its implementing regulations on securing the financing of nuclear liabilities, the Company is required to allocate so-called "dedicated" assets to secure the financing of its long term obligations. The law sets the realizable value of these assets which should allow the Company's commitments relating to the decommissioning of nuclear power plants and long-term storage of radioactive waste in France to be covered (Notes 1.3.4.5, 15.1.2 and 18.1 to the consolidated financial statements).

Dedicated assets include (i) yield assets, made up of infrastructure assets, including CTE securities, and real estate assets; (ii) so-called growth assets, made up of listed equity funds and unlisted equity funds; and (iii) so-called fixed-income assets, made up of listed bonds or listed bond funds, unlisted debt funds, receivables and cash.

The realizable value of these dedicated assets amounts to €40,320 million (or a net carrying amount of €37,712 million) as of December 31, 2024.

We considered the valuation of provisions related to nuclear generation and dedicated assets to be a key audit matter due to:

- the sensitivity of the assumptions on which the valuation of these provisions is based, notably in terms of assumptions and industrial scenarios considered for decommissioning, spent fuel reprocessing, storage, costs, uncertainties and other risks, inflation and long-term discount rates, as well as the depreciation periods of nuclear power plants in operation, and forecast cash outflows; the modification of these parameters can lead to a material revision in the provisioned amounts;
- the negative impacts on the financial position of the Company (cash earmarked to increase the amount of dedicated assets) in the event of an increase in nuclear provisions in France, a decrease in the realizable values of dedicated assets or changes in the legal coverage rate of nuclear provisions for dedicated assets,

It being specified that the valuation of provisions covers and includes uncertainties related to the fact that certain scenarios and technical solutions have never been implemented.

We have also assessed the appropriateness of:

- margins for uncertainties and risks included in the provisions, to take into account the maturity of the projects and the degree of control over decommissioning techniques to be implemented, as well as the identified specific execution risks;
- the series and mutualisation effects adopted in the quotes for decommissioning nuclear power plants in operation, and feedbacks from the preparation of the dismantling of the nuclear power plants of Fessenheim since 2021, so that it can be considered on the other nuclear power plants.

Concerning the inflation and discount rates and their calculation methods adopted by management described in note 15.1.1.5 to the consolidated financial statements, we have verified their compliance with applicable accounting standards and regulatory measures, since 2020. We have reconciled the data used for this purpose with available market data or expertise-based documentation.

Concerning the securing of financing for certain of these provisions through dedicated assets, we have reconciled the realizable value of the dedicated assets in the portfolio, as disclosed in the note 15.1.2.4 to the consolidated financial statements, with the available certificate of depository statements, and available external data and valuations performed by external experts engaged by the Company and we have reviewed these valuations with the help of our experts.

Finally, we have verified the reconciliation of information on the determination of these provisions with the consolidated financial statements and the appropriateness of the disclosures given in the Notes, notably regarding the sensitivity of the valuation of provisions to changes in macro-economic and technical assumptions (Note 15.1.1.5 to the consolidated financial statements).

Valuation of goodwill, intangible assets with indefinite useful live, property, plants and equipments used in generation

Notes 1.3.4.1, 1.3.4.4,10 and 20.2.2. to the consolidated financial statements

Key Audit Matter

As at December 31, 2024, the goodwill, intangible assets and tangible assets (except for assets under concessions) have respectively a net book value of €7,108 million and €120,667 million and represent significant amounts of the Group's consolidated financial statements.

The notes 1.3.4.4 and 10.7 to the consolidated financial statements describe the methodologies adopted and applied to determine if indicators exist showing that an asset may be subject to an impairment loss and the methods for performing impairment tests. Note 20.2.2. to the consolidated financial statements also describes how the impairment tests took into consideration climate and environmental matters. The tests and the determination of recoverable amounts are carried out at the cash-generating unit (CGU) level our group of CGU. They are carried out annually at the CGU level for those holding intangible assets with indefinite lives or goodwill. The recoverable amount corresponds, for the majority of these CGU or groups of CGU, to the value in use determined based on the discounted value of future cash flows. Those tests led, as described in note 10.7 to the consolidated financial statements, to the accounting of a total impairment for €1,835 million, including €1,116 million for the nuclear assets under construction of Hinkley Point C (HPC) and €70 million for the goodwill of EDF Energy.

We considered the valuation of goodwill and intangible and tangible assets of generation and retail activities in France and in the United Kingdom to be a key audit matter due to:

- their materiality at closing date. Their net book values amount to respectively €3,723 million and €92,957 million;

Responses

Our audit approach consisted mainly in:

- Analyzing the determination of the CGUs or groups of CGUs at which impairment tests of goodwill, intangible and tangible assets are performed;
- Substantiating the existence of impairment indicators;
- Understand the process used by Management to develop estimated and assumptions for impairment testing and assess the; appropriateness of the valuation model with the assistance of internal experts in valuation;
- Verifying, for the CGU tested, that the discounted future cash flow projections correspond to those generated by the assets included in these CGU and that they were consistent with (i) the CGU budget data for the first years, and, beyond, with the Group's long-term assumptions, (ii) past performances, and (iii) the expected operating life of the assets;
- Examining by conducting interviews with Management, the different underlying assumptions (economic growth, price of raw material and CO2, electricity demands, production capacities and interconnections and changes in energetic mix) on which the medium and long-term price assumptions are based, by substantiating them with external studies carried out by experts in energy and by verifying their consistency with the European targets for decarbonation;

- the sensitivity of valuations to macro-economic and industry assumptions, in terms of decarbonation and energy efficiency policies and power price, as well as mid-term financial assumptions (discount and inflation rates) and cost-to completion for assets under construction;
- the estimates and judgments that these evaluations require from Management.

- Regarding the HPC nuclear asset under construction, assess the appropriateness of the project schedule and the construction cost estimate as considered for the test in light of the achievements of the period. We have conducted interviews with the program management and the group management to assess the governance and the process implemented and to learn about the events and achievements of the period, as well as the update of the risk analysis;
- Verifying with the assistance of our internal experts, the methods used to determine discount rate assumptions, based on the weighted average cost of capital by geographical area and by activity, and in particular the consistency of the risk-free rates and risk premiums adopted by Management with the underlying market assumptions;
- Comparing the value of assets tested with accounting data;
- Checking the arithmetical accuracy of impairment tests.

Finally, we have verified that Notes 1.3.4.4 and 10.7 to the consolidated financial statements provide appropriate disclosure in particular in terms of assumptions adopted to perform impairment tests and sensitivity analyses.

Valuation and accounting of deferred tax assets in connection with tax loss carryforwards in France

Notes 1.3.4.8 and 9 to the consolidated financial statements

Key Audit Matter

Deferred tax assets on tax loss carryforwards amount to €6,151 million as at 31 December 2024. They include €4,733 million in connection with the France tax group loss for 2022.

As described in note 9 to the consolidated financial statements, the Group determines deferred tax at a level of a tax entity or tax group and recognizes deferred tax assets only when it is probable that the tax entity or tax group will have sufficient taxable profit to utilize the benefit of the assets on a foreseeable future. As at 31 December 2024, according to the accounting Group policy, this foreseeable future corresponds to a period of 10 years for the French tax group.

We considered the valuation and the accounting of deferred tax assets in connection with tax loss carryforwards in France, to be a key audit matter, due to their materiality at closing date, the sensitivity of the assumptions to estimate their expected recoverability, and the justification of the accounting, in particular in terms of future taxable profits and management judgment.

Responses

Our audit approach consisted, with the assistance of our internal tax experts, mainly in:

- assessing the documentation used by Management to estimate the probability that the Group could use within a 10-year horizon its tax losses carried forward generated to date, in particular with regard to the ability of the France tax group to generate future taxable profits;
- reviewing the process for preparing the 2025 budget established by Management and approved by the Board of Directors and the mid-term plan for 2026-2027 prepared by Management and presented to the Board of Directors, as well as the underlying assumptions of the Group's internal financial trajectory;
- assessing the relevance of the methods for extrapolating tax results beyond the financial year 2028;
- comparing the earnings projections for previous fiscal years with the actual results for the fiscal years concerned, in order to assess the reliability of the process for preparing tax earnings projections;
- analyzing the reversal of the main timing differences over the projection horizon;
- Assessing the appropriateness of the information provided regarding deferred tax assets in note 9 of the appendix to the consolidated financial statements.

Specific verifications

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by laws and regulations of the Group's information given in the management report of the Board of Directors.

We have no matters to report as to their fair presentation and their consistency with the consolidated financial statements.

Report on Other Legal and Regulatory Requirements

Format of presentation of the consolidated financial statements intended to be included in the annual financial report

We have also verified, in accordance with the professional standard applicable in France relating to the procedures performed by the statutory auditor relating to the annual and consolidated financial statements presented in the European single electronic format, that the presentation of the consolidated financial statements intended to be included in the annual financial report mentioned in Article L.451-1-2, I of the French Monetary and Financial Code (*code monétaire et financier*), prepared under the responsibility of the Chief Executive Officer, complies with the single electronic format defined in the European Delegated Regulation No 2019/815 of 17 December 2018. As it relates to consolidated financial statements, our work includes verifying that the tagging of these consolidated financial statements complies with the format defined in the above delegated regulation.

Based on the work we have performed, we conclude that the presentation of the consolidated financial statements intended to be included in the annual financial report complies, in all material respects, with the European single electronic format.

We have no responsibility to verify that the consolidated financial statements that will ultimately be included by your company in the annual financial report filed with the AMF are in agreement with those on which we have performed our work.

Appointment of the Statutory Auditors

We were appointed as statutory auditors of Electricité de France S.A by the General meeting of June 6, 2005 for KPMG S.A. and by the General meeting of June 28, 2023 for PricewaterhouseCoopers Audit.

As at December 31, 2024 KPMG S.A. Audit was in its 20th year of total uninterrupted engagement and PricewaterhouseCoopers Audit was in the 2nd year of engagement.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The Risk and Audit Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risks management systems and where applicable, its internal audit, regarding the accounting and financial reporting procedures.

The consolidated financial statements were approved by the Board of Directors.

Statutory Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Objectives and audit approach

Our role is to issue a report on the consolidated financial statements. Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As specified in Article L.821-55 of the French Commercial Code (*code de commerce*), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- Identifies and assesses the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control.
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management in the consolidated financial statements.
- Assesses the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the consolidated financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein.
- Evaluates the overall presentation of the consolidated financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The statutory auditor is responsible for the direction, supervision and performance of the audit of the consolidated financial statements and for the opinion expressed on these consolidated financial statements.

Report to the Risk and Audit Committee

We submit a report to the Risk and Audit Committee which includes in particular a description of the scope of the audit and the audit program implemented, as well as the results of our audit. We also report, if any, significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Risk and Audit Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the consolidated financial statements of the current period and which are therefore the key audit matters that we are required to describe in this report.

We also provide the Risk and Audit Committee with the declaration provided for in Article 6 of Regulation (EU) N° 537/2014, confirming our independence within the meaning of the rules applicable in France such as they are set in particular by Articles L.821-27 to L.821-34 of the French Commercial Code (*code de commerce*) and in the French Code of Ethics (*code de déontologie*) for statutory auditors. Where appropriate, we discuss with the Risk and Audit Committee the risks that may reasonably be thought to bear on our independence, and the related safeguards.

Paris La Défense and Neuilly-sur-Seine, 20 February 2025

The Statutory Auditors

KPMG SA		PricewaterhouseCoopers Audit	
Marie GUILLEMOT	Jacques-François LETHU	Séverine SCHEER	Cédric HAASER

6.3 EDF SA financial statements at 31 December 2024

NB: Most figures in the tables are reported in millions of euros. The resulting approximation can lead to slight differences in totals or movements and changes.

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Income statement

(in millions of euros)	Notes	2024		2023	
Sales	3		**72,335**		**90,291**
Sales in France		58,805		70,552	
Sales outside France		13,530		19,739	
Change in inventories and capitalised production			**1,906**		**1,763**
Operating subsidies	4		**6,928**		**14,198**
Reversals of depreciation, amortisation and operating provisions	5		**3,188**		**4,873**
Other operating income and transfers of charges	6		**1,244**		**1,295**
I Total Operating income			**85,601**		**112,420**
Purchases and other external expenses	7		**48,188**		**71,386**
Fuel purchases used		3,118		5,541	
Energy purchases		25,954		46,812	
Services and other purchases used		19,116		19,033	
Taxes other than Income taxes	8		**2,466**		**2,370**
Personnel expenses	9		**7,475**		**7,071**
Depreciation, amortisation and provisions			**11,805**		**9,879**
Depreciation and amortisation	10	4,989		4,540	
Provisions and impairment	5	6,816		5,339	
Other operating expenses	6		**3,612**		**3,500**
II Total Operating expenses			**73,546**		**94,206**
OPERATING PROFIT (LOSS) (I - II)			**12,055**		**18,214**
III Joint operations			**-**		**-**
IV Financial result	11		**(1,810)**		**(8,945)**
PROFIT OR LOSS BEFORE INCOME TAXES AND EXCEPTIONAL ITEMS (I - II + III + IV)			**10,245**		**9,269**
V Exceptional result	12		**703**		**272**
VI Income taxes	13		**(1,083)**		**(1,831)**
PROFIT OR LOSS (I - II + III + IV + V + VI)			**9,865**		**7,710**

Balance sheet

ASSETS

(in millions of euros)	Notes	31/12/2024 Gross values	Amortisation, depreciation and impairment	Net values	31/12/2023 Net values
Intangible assets	14	**4,201**	**2,799**	**1,402**	**1,519**
Intangible assets in development	14	**2,908**	**10**	**2,898**	**1,929**
Property, plant and equipment owned by EDF	15	**103,752**	**71,010**	**32,742**	**31,312**
Property, plant and equipment operated under concessions	15	**16,988**	**10,087**	**6,901**	**6,864**
Tangible assets in progress	15	**23,590**	**32**	**23,558**	**22,726**
Investments and related receivables		64,691	14,303	50,388	50,749
Investment securities		25,769	814	24,955	24,803
Loans and other financial assets		42,333	169	42,164	36,537
Financial assets	16	**132,793**	**15,286**	**117,507**	**112,089**
I Total Fixed assets		**284,232**	**99,224**	**185,008**	**176,439**
Inventories and work-in-progress	17	**13,661**	**562**	**13,099**	**13,320**
Advances on orders	18	**925**	**-**	**925**	**753**
Trade and other receivables	18	**19,731**	**432**	**19,299**	**18,966**
Marketable securities	19	**16,386**	**265**	**16,121**	**19,507**
Cash instruments	18	**4,151**	**-**	**4,151**	**2,759**
Cash	18-20	**6,023**	**-**	**6,023**	**8,147**
Prepaid expenses	18	**1,028**	**-**	**1,028**	**1,137**
II Total Current assets		**61,905**	**1,259**	**60,646**	**64,589**
Deferred charges (III)		**236**	**-**	**236**	**231**
Bond redemption premiums (IV)		**908**	**385**	**523**	**481**
Unrealised foreign exchange losses (V)	21	**1,363**	**-**	**1,363**	**1,187**
TOTAL ASSETS (I + II + III + IV + V)		**348,644**	**100,868**	**247,776**	**242,927**

EQUITY AND LIABILITIES

(in millions of euros)	Notes	31/12/2024	31/12/2023
Capital		**2,084**	**2,084**
Capital-related premiums		**24,071**	**24,085**
Revaluation surplus		**694**	**693**
Reserves			
Legal reserves		208	194
Other reserves		2,970	2,970
Retained earnings		**(14,751)**	**(22,461)**
Profit or loss for the financial year		**9,865**	**7,710**
Interim dividend		**-**	**-**
Investment subsidies		**265**	**209**
Tax-regulated provisions		**5,502**	**5,636**
Total Equity	22	**30,908**	**21,120**
Additional equity	23	**10,188**	**11,979**
Special concession liabilities	24	**2,592**	**2,515**
Total I Equity and Concession accounts		**43,688**	**35,614**
Provisions for risks	25	**1,205**	**1,231**
Provisions related to nuclear generation (back-end of the nuclear cycle, plant decommissioning and last cores)	26	53,821	48,220
Provisions for decommissioning of non-nuclear facilities	27	1,133	1,018
Provisions for employee benefits	28	12,729	12,535
Provisions for other expenses	29	721	818
Provisions for expenses		**68,404**	**62,591**
Total II Provisions		**69,609**	**63,822**
Financial liabilities	31-32	**73,706**	**80,663**
Advances and progress payments received	31	**2,924**	**2,520**
Operating, investment and other liabilities	31	**51,153**	**53,718**
Cash instruments	31	**3,296**	**2,913**
Deferred income	31	**3,140**	**3,367**
Total III Liabilities	31	**134,219**	**143,181**
Unrealised foreign exchange gains (IV)	33	**260**	**310**
TOTAL EQUITY AND LIABILITIES (I + II + III + IV)		**247,776**	**242,927**

Cash flow statement

(in millions of euros)		Notes	2024	2023
Operating activities				
Profit/(loss) before income tax			10,948	9,541
Depreciation, amortisation and provisions			11,989	13,507
Capital (gains)/losses			109	62
Financial income and expenses			(2,209)	126
Changes in working capital [1]			(2,164)	(2,709)
Net cash flow from operations			**18,673**	**20,527**
Net financial expenses, including dividends received* [2]			1,946	(217)
Income taxes paid			(1,559)	(1,738)
Net cash flow from operating activities	**(A)**		**19,060**	**18,572**
Investing activities				
Investments in property, plant and equipment and intangible assets [3]			(8,158)	(6,807)
Proceeds from sale of property, plant and equipment and intangible assets			15	13
Changes in financial assets [4]			(2,662)	(2,905)
Net cash flow used in investing activities	**(B)**		**(10,805)**	**(9,699)**
Financing activities				
Issuance of borrowings and underwriting agreements [5]			16,768	34,286
Repayment of borrowings and underwriting agreements [5]			(25,691)	(41,565)
Dividends paid		22	-	-
Issuance and redemption of perpetual subordinated bonds, net of expenses		23	511	724
Security deposits		32	(1,732)	(1,100)
Funding contributions received for assets operated under concessions			32	37
Investment subsidies received		22	65	-
Net cash flow used in financing activities	**(C)**		**(10,047)**	**(7,618)**
Net increase/(decrease) in cash and cash equivalents	**(A)+(B)+(C)**		**(1,792)**	**1,255**
CASH AND CASH EQUIVALENTS - OPENING BALANCE [6]		20	**(303)**	**(1,466)**
Effect of currency fluctuations			(76)	(92)
Effect of reclassifications and changes in fair value			10	-
Financial income on cash and cash equivalents*			-	-
CASH AND CASH EQUIVALENTS - CLOSING BALANCE [6]		20	**(2,161)**	**(303)**

* *At 31 December 2024, "financial income on cash and cash equivalents", which was previously presented on a separate line detailing cash and cash equivalents, is reclassified and included in "Net financial expenses" in the amount of €445 million (€240 million in 2023). The 2023 comparative figures have been restated accordingly.*

(1) Changes in working capital in 2024 are mainly explained by a shortfall in CSPE compensation for EDF, which led to recognition of a CSPE receivable at 31 December 2024 amounting to €792 million, compared to a CSPE liability of €2,030 million at 31 December 2023 (see notes 18 (2) and 31 (4)).

(2) The variation in this item is mainly explained by an increase in dividends received (see note 11).

(3) The change in these investments is principally due to expansion of the EPR 2 project (see notes 14 (3) and 15 (2)).

(4) The change in financial assets in 2024 is principally explained by an increase in loans to subsidiaries amounting to €(4.9) billion, a €(0.7) billion guarantees paid by EDF to Enedis (see note 16.6 (4)), and new investments totalling €(3.1) billion, less impairment of €1.5 billion that was transferred to EDF as part of the transfer of all the assets of Arabelle Holding (see note 16.1 (1)). This increase of €(7.2) billion was partly offset by a €5.1 billion decrease in the bond portfolio (see note 19).

(5) In 2024, EDF transferred bonds under repurchase agreements for the amount of €2,943 million and made corresponding repayments of €(5,922) million. These operations are presented in the lines reporting issuance and repayment of borrowings.

Excluding these repurchase operations, the change in 2024 in "Issuance of borrowings and underwriting agreements" and "Repayment of borrowings and underwriting agreements" was a decrease of €(5,944) million. This decrease is notably explained by redemptions of bonds and repayments of bank loans, totalling €(15,517) million (see note 32) and redemptions of negotiable debt instruments in euros net of issuance costs totalling €(2,068) million (see note 32), offset by issues of senior multi-tranche bonds totalling €6,676 million (see notes 2.2.1, 2.2.2, 2.2.5, 2.2.6, 2.2.9 and 2.2.10) and bilateral credit lines concluded during the year for a total of €6,981 million (see note 32). Also, on 5 July 2024 EDF exercised its option to redeem the perpetual subordinated bonds issued in October 2018 for the nominal amount of €(1,250) million (see note 2.2.4).

(6) "Cash and cash equivalents - opening balance" and "Cash and cash equivalents - closing balance" do not include investment funds or negotiable debt instruments maturing in more than three months. Details of the variation in cash and cash equivalents are presented in note 20.

Notes to the financial statements

Électricité de France SA (EDF), the parent company of the EDF group, is a French *société anonyme* governed by French Law and registered in France (22-30 avenue de Wagram, 75008 Paris), operating in electricity generation and electricity and gas supply. EDF is also in charge of all the business activities of the Island Energy Systems (*Systèmes Énergétiques Insulaires*, SEI), for Corsica and France's overseas *départements*.

EDF SA's financial statements at 31 December 2024 were prepared under the responsibility of the Board of Directors and approved by the Directors at the Board meeting held on 20 February 2025. They will become final after approval at the General Meeting.

Note 1 Accounting principles and methods

1.1 Accounting standards

EDF's financial statements are prepared in accordance with the accounting principles and methods defined in regulation 2014-03 of 5 June 2014 issued by the ANC (*Autorité des Normes Comptables*, France's Accounting Standards Authority) concerning the current French national chart of accounts. They also comply with the November 2021 update to ANC Recommendation 2013-02 of 7 November 2013 regarding measurement and recognition rules for retirement commitments and benefits.

The accounting conventions for the preparation and presentation of individual company financial statements have been applied in compliance with the conservatism principle and the basic concepts of:

- the going concern principle;
- consistency of methods;
- accruals-basis accounting.

The accounting and valuation methods applied are identical to those used in the financial statements for the year ended 31 December 2023 and incorporate application from 1 January 2024 of ANC regulation 2023-05 of 10 November 2023 on IT solutions.

EDF has not applied ANC regulation 2022-06 on its financial statement presentation early in 2024.

1.2 Management judgments and estimates

The preparation of the financial statements requires the use of judgments, best estimates and assumptions in determining the value of assets and liabilities, income and expenses recorded for the period, and in considering positive and negative contingencies existing at year-end. The figures in EDF's future financial statements could differ significantly from current estimates due to changes in these assumptions or economic conditions.

In a context characterised by volatility on the financial and energy markets, the parameters used to prepare estimates are based on macro-economic assumptions appropriate to the very long-term cycle of EDF's assets.

The principal items for which EDF uses estimates and judgments are the following:

1.2.1 Depreciation periods of nuclear power plants

In the specific case of the depreciation period of its nuclear power plants, EDF's industrial strategy is to continue operation beyond 40 years, in optimum conditions as regards safety and efficiency.

EDF has therefore been making preparations for several years to extend the operating lifetime, and making the necessary investments under its *Grand Carénage* industrial refurbishment programme which was approved in principle by the Board of Directors in January 2015.

The depreciation period of 900MW-series power plants was extended from 40 years to 50 years in 2016 (except for Fessenheim where both reactors were permanently shut down in the first half of 2020) since all the technical, economic and governance conditions were fulfilled.

On 23 February 2021, the Nuclear Safety Authority (*Autorité de Sûreté Nucléaire* - ASN) issued a resolution on the conditions for continued operation of EDF's 900MW reactors beyond their fourth 10-year inspection. The ASN considered that "the measures planned by EDF combined with those prescribed by the ASN open the prospect of continued operation of these reactors for a further ten years following their fourth 10-year inspection". This resolution ended the "generic" phase of the review, which concerned the studies and modifications of facilities common to all the 900MW reactors, which all have a similar design.

The fourth 10-year inspections have been completed at 21 of the 32 reactors in the 900MW series, including Bugey 3, Gravelines 2, Dampierre 3, Blayais 2, Chinon B1, Tricastin 4, Gravelines 4, Dampierre 4 and Blayais 3 in 2024, and one more is currently in process (Cruas 3).

In 2021, the technical, economic and governance conditions for extending the depreciation period of 1,300MW-series plants were fulfilled, and it was also extended from 40 to 50 years.

The depreciation period of the 1,450MW-series units (the four reactors at Chooz and Civaux), which are much more recent, currently remains at 40 years as the conditions for extension are not yet fulfilled.

These depreciation periods take into account the date of recoupling with the network after the most recent 10-year inspection.

Two preparatory analysis processes are currently under way concerning the extension of power plants' operating lifetimes beyond 50 years:

- for the fifth 10-year inspections of the 900MW series, EDF sent its proposed 10-year Inspection Guidelines to the ASN in June 2023 and the ASN issued its position on those guidelines in November 2024. EDF's written response concerning the objectives of these inspections will be submitted in late 2026. At the end of the process, in mid-2028 the ASN will issue its position regarding a further 10-year extension for operation of the 900MW reactors, based on the conclusions of the generic phase of the fifth 10-year inspections;
- operating lifetime analysis: a "long-term" reflection on plant operation beyond 60 years was initiated in 2023 for all series. It is included in the timetable set by the ASN, which will state its position in late 2026 after expert assessment and examination phases in 2025 and 2026 respectively.

1.2.2 Nuclear provisions

The measurement of provisions for the back-end of the nuclear cycle, decommissioning and last cores is sensitive to assumptions concerning technical processes, costs, inflation rates, long-term discount rates, the depreciation period of plants currently in operation and disbursement schedules.

These parameters are therefore re-estimated at each closing date to ensure that the amounts accrued correspond to the best estimate of the costs eventually to be borne by EDF.

EDF considers that the assumptions used at 31 December 2024 are appropriate and justified. However, any future change in assumptions could have a significant impact on EDF's financial statements (see note 26).

The main assumptions and sensitivity analyses relating to EDF's nuclear provisions are presented in note 26.5.

The calculation of provisions incorporates a level of risks and unknowns as appropriate to the operations concerned, together with uncertainty factors such as:

- changes in the regulations, particularly on safety, security and environmental protection, and financing of long-term nuclear expenses;
- changes in the regulatory decommissioning process and the time necessary for issuance of administrative authorisation;
- future methods for storing long-lived radioactive waste and provision of storage facilities by the French agency for radioactive waste management ANDRA (*Agence nationale pour la gestion des déchets radioactifs*);
- changes in the contractual terms for spent fuel management and more generally the outlook for Orano's long-term industrial strategy in line with French energy policy, the operating performance of its installations, and the level of associated costs and investments;
- changes in certain financial parameters such as discount rates and/or inflation rates;
- the useful life of nuclear facilities (calculation of decommissioning provisions for nuclear plants in operation is based on the depreciation period of the assets concerned, *i.e.* 50 years for 900MW-series and 1,300MW-series power plants and 40 years for 1,450MW-series power plants).

1.2.3 Pensions and other long-term and post-employment benefit obligations

The value of pensions and other long-term and post-employment benefit obligations is based on actuarial valuations that are sensitive to all the actuarial assumptions used, particularly concerning discount rates, inflation rates and wage increase rates.

The principal actuarial assumptions used to calculate these post-employment and long-term benefits at 31 December 2024 are presented in note 28.4. These assumptions are updated annually. EDF considers the actuarial assumptions used at 31 December 2024 appropriate and well-founded, but future changes in these assumptions could have a significant effect on the amount of the obligations and on EDF's net income.

1.2.4 Energy supplied but not yet measured and billed

As explained in note 3, the quantities of energy supplied but not yet measured and billed are calculated at the reporting date based on statistic consumption models and selling price estimates. Determination of the unbilled portion of sales revenues at the year-end is sensitive to the assumptions used to prepare these statistics and estimates.

1.2.5 Impairment of long-term assets

Impairment tests on long-term assets are sensitive to the macro-economic and segment assumptions used, particularly concerning changes in energy prices, and to medium-term financial forecasts (discount and inflation rates) and completion costs for assets under construction. EDF therefore revises the underlying estimates and assumptions based on regularly updated information (see note 15).

1.2.6 Impairment of investments

At each year-end, investments are stated at their value in use. Impairment is recorded when the value in use is lower than the net book value.

Value in use is determined based on the share in the subsidiary's consolidated equity at the year-end, or where relevant based on discounted future cash flows.

Impairment tests of investments valued by the discounted cash flow method are sensitive to the macro-economic and segment assumptions used, particularly concerning changes in energy prices, commodity prices, and medium-term financial forecasts (see note 16).

Note 2 Significant events and transactions

2.1 Nuclear developments

2.1.1 Flamanville 3 EPR

The Flamanville 3 project saw the following developments during 2024:

The Compliance Declaration for the nuclear steam supply systems, which was required before fuel components could be loaded in the reactor vessel, was issued on 7 May 2024. This also marked the completion and compliance of the repairs to the welds on the main secondary circuit.

Following issuance on 8 May 2024 of the ASN's authorisation for commissioning of the Flamanville 3 EPR, EDF's teams loaded 241 nuclear fuel assemblies into the reactor vessel between 8 and 15 May.

After this operation was completed, the vessel head was closed on 26 May, so that the temperature and pressure in the circuits could be gradually increased in preparation for nuclear testing. EDF's teams thus put the facilities into the required conditions to initiate nuclear fission.

The first nuclear reaction took place on 3 September 2024. The generation unit was connected to the electricity network on 21 December 2024 when it reached 17% of its nominal power (the "coupling" milestone), and the reactor ramp-up will continue gradually in 2025 until 100% of nominal power is reached.

On 31 January 2025, the ASN authorised EDF to exceed 25% of its nominal power. Authorisation from the ASN will also be required before reaching the 80% threshold.

The ASN issued a decision on 16 May 2023 authorising use of Flamanville's current reactor vessel head until "the reactor shutdown during which the first complete requalification of the primary circuit takes place". As a result, the reference scenario for EDF now assumes that the reactor vessel head will be replaced during the first scheduled shutdown for a full inspection, which should begin at the end of the reactor's first operating cycle.

2.1.2 *Grand Carénage* programme

Since 2014 EDF has been implementing its *Grand Carénage* industrial refurbishment programme for the French nuclear fleet, designed to enhance reactor safety and extend their operating lifetimes significantly beyond 40 years. On 31 March 2022, EDF's Board of Directors validated a new roadmap for the period 2022-2028. This incorporates information gained from current ASN inspections, particularly the fourth 10-year inspections of 900MW and 1,300MW plants, and includes the start of the research phase for the fifth 10-year inspections of 900MW plants, for a re-estimated total investment of €36.1 billion in current euros, *i.e.* €32.0 billion in 2021 euros.

Investments made under the programme in 2024 totalled €5.2 billion. These amounts include the cost of work to address the stress corrosion issue, estimated at €1.3 billion in current euros (€1.2 billion in 2021 euros) for the period 2022-2025.

2.1.3 Stress corrosion

During scheduled controls included in the 10-year inspection of the Civaux 1 reactor in late 2021, stress corrosion was identified on parts of the auxiliary circuit pipework in the reactor's main primary circuit. EDF immediately carried out inspections and expert appraisals of the four series of reactors making up the French nuclear fleet (900MW, 1,300MW-P4, 1,300MW-P'4 and N4).

The examinations performed in 2022 led to an initial characterisation of the stress corrosion sensitivity of the fleet's 56 reactors, and the industrial programme for preventive replacement of pipe sections in reactors sensitive to stress corrosion was completed in the first quarter of 2024.

The planned checks were carried out in full and confirmed the reactors' sensitivity classification and the specific risk associated with repaired welds. The checks carried out on these units identified a few cases of suspected stress corrosion, which led to around 10 additional replacement projects in 2024. Inspections are carried out during scheduled maintenance shutdowns, and no additional or dedicated shutdown took place in 2024.

EDF sent the ASN its monitoring and maintenance strategy in late 2024 and the ASN is expected to state its position during 2025.

2.1.4 Update on the Hinkley Point C (HPC) project

On 23 January 2024, the EDF group announced that the schedule and construction cost for the two nuclear reactors at Hinkley Point C had been revised. Reactor 1 is now expected to be commissioned around the end of the decade. The cost of civil engineering and the longer duration of the electromechanical phase (and its impact on other work) were the two main reasons for this cost and schedule revision.

The completion cost for the project is estimated at £31-34 billion (in 2015 sterling) depending on the situation. In the scenario assuming a further 1-year duration, the estimated additional cost would be around £1 billion in 2015 values.

Following these cost and timetable revisions, EDF recorded additional impairment in 2023 of €7,013 million on its investment in EDF International (the holding company of EDF Energy which is in charge of the HPC project) (€2,650 million in 2022) (see note 16.1 (4)).

Construction of HPC continued during 2024, particularly with the following advances:

- installation of heat exchangers for Unit 1's diesel systems;
- the transfer pool and the cavity pool were installed for the Unit 2 reactor building;
- Unit 2's third liner ring was lifted into place;
- the reactor pressure vessel for Unit 1 was installed;
- the generator stator was installed in Unit 1's turbine hall.

The shareholders' funding commitments have been fully honoured, and in accordance with the agreements, from the fourth quarter of 2023 construction of the project is funded by the shareholders on a voluntary basis. The EDF group has financed the project alone since then.

The value in use of EDF Energy improved in 2024. For the valuation of the investment in EDF International, this higher value in use only partly offsets the lower positive headroom of cash-generating units in Italy, and the lower value in use of subsidiaries in the United States (see note 16.1 (4)).

2.1.5 Acquisition by EDF of Assystem's minority stake in Framatome

On 25 January 2024 EDF acquired the 5% stake in Framatome held by the minority shareholder Assystem for €206 million including acquisition expenses (see note 16.1 (1)).

This acquisition raised EDF's investment in the Framatome group to 80.5% from the date of completion.

2.1.6 Acquisition by EDF of GE Steam Power's nuclear activities from GE Vernova

Following the binding agreement signed on 4 November 2022 with General Electric and fulfilment of all the required conditions, including issuance of the necessary regulatory authorisations, acquisition of the activities of GE Vernova relating to the conventional islands of nuclear plants (formerly GE Steam Power) was finalised on 31 May 2024.

These activities include the supply of conventional island equipment for new nuclear power plants, including Arabelle steam turbines, as well as maintenance and upgrading of existing nuclear power plants in all regions other than the Americas. These steam turbines can be installed in European pressurised reactors (EPR and EPR 2) and small modular reactors (SMR). This acquisition strengthens the EDF group's conventional island technologies and skills, which are essential for the durability of the existing nuclear fleet and future projects, and brings the EDF group additional key technologies and skills for the nuclear industry and European energy security.

These nuclear activities employ a total 3,300 people mostly located in France, the United Kingdom and India.

For EDF SA, acquisition of GE Steam Power's nuclear activities resulted in:

- a direct 100% investment in Arabelle Holding, which carried the Arabelle subgroup's French activities;
- an indirect investment, through the intermediary of the holding companies Arabelle Solutions and EDF International, both fully-owned by EDF SA, in the Arabelle subgroup's operations outside France.

EDF SA acquired its investment in Arabelle Holding on 31 May 2024. This transaction made EDF SA the holder of 722,479,176 shares making up 100% of the capital of Arabelle Holding for the price of €592 million including acquisition expenses.

On 17 December 2024 the transfer of all the assets and liabilities of Arabelle Holding to EDF SA took effect after the creditor objection period had expired.

EDF SA then cancelled the shares of Arabelle Holding, amounting to €592 million including acquisition expenses, and recognised the net assets transferred at their net book value as follows in the EDF SA balance sheet:

- the 100% investment in Arabelle Solutions France was recognised in the balance sheet assets at the net value of €529 million (gross value of €2,057 million and €(1,528) million of impairment) (see note 16.1 (1) and (4), and note 16.2 (5));
- the 100% investment in Arabelle Electronics France was recognised in the balance sheet assets at the net value of €41 million (gross value of €42 million and €(1) million of impairment) (see note 16.1 (1) and (4), and note 16.2 (5));

- a drawing on a credit line from Arabelle Solutions France was recognised in the balance sheet liabilities at the value of €93 million (see note 31 (4) and note 16.4 (3));
- various items totalling €1 million were recognised in the balance sheet assets;
- a technical loss on the transfer of assets and liabilities, amounting to €(114) million, was recognised in the income tax expense.

At 31 December 2024, the determination of EDF's income tax expense also includes a €115 million income tax saving resulting from deduction of the tax loss of Arabelle Holding, which was transferred to EDF under authorisation. This was calculated by applying the income tax rate applicable at 31 December 2024 (25.83%) to the €445 million loss. The final impact of the tax saving on EDF's net income is €1 million, corresponding to the difference between the actual realised tax saving (€115 million) and the technical loss mentioned above (€114) million).

Completion of this acquisition also has impacts totalling €3,148 million on off-balance sheet operating commitments given and received (see notes 35.1.2 and 35.2.1).

2.1.7 Revision of the estimate for nuclear power generation in France in 2024

Nuclear power generation in France totalled 361.7TWh in 2024, confirming the revised estimate announced by EDF on 11 December 2024 (upward adjustment from 340-360TWh to 358-364TWh).

2.2 Financing operations

2.2.1 Multi-tranche senior bond issue (nominal value $2,050 million)

On 15 April 2024, EDF issued a senior bond with total nominal value of $2,050 million (see note 32 (1)), comprising three tranches:

- $650 million bond, with 5-year maturity and a 5.650% fixed coupon;
- $650 million bond, with 10-year maturity and a 5.950% fixed coupon;
- $750 million bond, with 40-year maturity and a 6.000% fixed coupon.

Settlement and delivery of these USD bonds took place on 22 April 2024, the date at which they were admitted to trading on the multilateral trading facility Euro MTF, operated by the Luxembourg Stock Exchange.

2.2.2 Multi-tranche senior bond issue (nominal value CAD 750 million)

On 13 May 2024, EDF raised CAD 750 million through a senior bond issue (see note 32 (1)) comprising two tranches:

- CAD 350 million bond, with 10-year maturity and a 5.379% fixed coupon;
- CAD 400 million bond, with 30-year maturity and a 5.777% fixed coupon.

Settlement and delivery of these CAD bonds took place on 17 May 2024.

2.2.3 Signature of green bank loans (c. €5.8 billion) dedicated to financing the existing nuclear fleet

On 13 May 2024, EDF signed green bank loans for a total amount of around €5.8 billion[1] (see note 32 (2)). These loans have maturities of between 3 and 5 years and are from major international banks including BNP Paribas, Bank of America, Crédit Agricole CIB [2], ING, Natixis CIB, Société Générale and Wells Fargo.

The funds borrowed will be used to refinance the investments in existing nuclear reactors in France for extension of their operating lifetime, as defined in EDF's Green Financing Framework [3]. These investments are aligned with the European taxonomy.

As the world's leading producer of electricity that produces no direct CO_2 emissions [4], EDF is using its nuclear fleet alongside its hydropower and renewable energy capacities to support its customers' decarbonisation, and thus contribute to achieving carbon neutrality by 2050. The EDF group's carbon intensity of 34gCO_2/kWh at the end of March 2024 set a new record, confirming its ambitious CO_2 emission reduction trajectory, for which the target was raised in November 2023 in line with a +1.5°C global warming scenario [5].

EDF also signed a 5-year €300 million bank loan to finance its general corporate needs (see note 32 (2)).

2.2.4 Exercise of the redemption option for hybrid notes

On 5 June 2024 EDF announced that it intended to exercise its option to redeem the €1,250 million tranche of hybrid notes issued in October 2018.

This early redemption took place on 5 July 2024, in accordance with the terms and conditions of the notes as set out in the prospectus (see note 23).

In accordance with its announcement of 10 September 2024, EDF also announced on 18 December 2024 that it intended to exercise its redemption option for the hybrid notes issued on 25 January 2013 with nominal value of €1,250 million. The early redemption of these notes took place on 29 January 2025, and as it was certain, at 31 December 2024 EDF reclassified an amount of €1,250 million from Additional equity to Financial liabilities (see notes 23 and 32 (4)).

2.2.5 Multi-tranche senior green bond issue (nominal value €3 billion)

On 11 June 2024, EDF raised €3 billion through a senior green bond issue (see note 32 (1)) comprising three tranches:

- €1 billion bond, with 7-year maturity and a 4.125% fixed coupon;
- €750 million bond, with 12-year maturity and a 4.375% fixed coupon;
- €1.250 billion bond, with 20-year maturity and a 4.750% fixed coupon.

(1) Including a portion in USD.
(2) Including an extension to the green loan signed in October 2022.
(3) This Framework is available from the Sustainable Finance section of EDF's website.
(4) Source: ENERDATA 2022 - annual benchmark for electricity producers.
(5) See the assessment of the trajectory by Moody's, MSCI and TPI.

The net proceeds of these bonds were allocated as follows to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework[1]:

- The 7-year tranche is dedicated to investments to extend the operating lifetime of existing French nuclear reactors;
- The 12-year tranche is dedicated to investments in renewable energy projects and hydropower projects;
- The 20-year tranche is dedicated to investments in electricity distribution, particularly for network adaptation to the needs of the energy transition.

Settlement and delivery of these bonds took place on 17 June 2024, the date at which they were admitted to trading on the Euronext Paris regulated market.

2.2.6 Multi-tranche senior green bond issue (nominal value CHF 310 million)

On 21 August 2024, EDF raised CHF 310 million through a senior green bond issue (see note 32 (1)) comprising two tranches:

- CHF 155 million bond, with 5-year maturity and a 1.5650% fixed coupon;
- CHF 155 million bond, with 8-year maturity and a 1.7425% fixed coupon.

The net proceeds of these bonds were allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework [1], in renewable energy projects and hydropower projects.

This transaction is part of EDF's strategy to finance its energy transition and contribute to achieving carbon neutrality by 2050.

2.2.7 Multi-tranche hybrid green bond issue (nominal value €1.15 billion and £500 million)

On 10 September 2024 EDF issued new perpetual subordinated green bonds (see note 23) in several tranches:

- €500 million bond, with an initial 5.125% coupon until 2029 and a first-call option for EDF after 5.25 years;
- €650 million bond, with an initial 5.625% coupon until 2032 and a first-call option for EDF after 8 years;
- £500 million bond, with an initial 7.375% coupon until 2035 and a first-call option for EDF after 11 years (equivalent to €603 million at 31 December 2024).

This transaction is part of EDF's strategy to finance its energy transition and contribute to achieving carbon neutrality by 2050. The net proceeds of these new bonds were allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework[(1)], relating to the operating lifetime extension for existing French nuclear reactors.

2.2.8 Redemption offer for two tranches of hybrid notes

On 10 September 2024 EDF launched contractual redemption offers concerning:

- the €1,000 million perpetual subordinated notes for which EDF's first-call option date was 22 January 2026, €1,000 million of which was outstanding;
- the £1,250 million perpetual subordinated notes for which EDF's first-call option date was 29 January 2026, £1,250 million of which was outstanding, which were admitted to trading on the Euronext Paris regulated market.

On 18 September 2024 EDF announced the final results of these offers. At that date the Company proceeded to:

- a partial redemption for £621.3 million of the initial £1,250 million tranche of notes issued in January 2013, leaving a net residual outstanding nominal amount of £628.7 million (equivalent to €758 million) at 31 December 2024 (see note 23);
- a partial redemption for €498.7 million of the €1,000 million tranche of notes issued in January 2014, leaving a net residual outstanding nominal amount of €501.3 million at 31 December 2024 (see note 23).

2.2.9 "Samurai" senior multi-tranche bond issue (nominal value ¥35.8 billion)

On 18 October 2024, EDF raised ¥35.8 billion through a "Samurai" senior bond issue (see note 32 (1)) comprising two tranches:

- ¥28.3 billion bond, with 3-year maturity and a 1.172% fixed coupon;
- ¥7.5 billion bond, with 5-year maturity and a 1.423% fixed coupon.

This transaction is part of EDF's strategy, which is fully dedicated to building the low-carbon electricity system of tomorrow, and will refinance upcoming maturities.

2.2.10 Senior bond issue in sterling (nominal value £500 million)

On 31 October 2024, EDF raised £500 million through a senior bond issue with 40-year maturity and a 6.5% fixed coupon (see note 32 (1)).

An amount equal to the net proceeds of this bond issue was allocated to the financing and/or refinancing of investments made for the construction of the two EPR-type reactors at the Hinkley Point C site in Somerset in the United Kingdom, with total capacity of 3.26 GW.

These reactors, whose lifecycle analysis is estimated at less than 6g CO_2/kWh [(2)], will make a decisive contribution to the UK's ambition to achieve "Net Zero emissions" by 2050. Pending commissioning, the EDF group's UK subsidiary has already been producing electricity with zero direct CO_2 emissions since 2023.

(1) This Framework is available from the Sustainable Finance section of EDF's website.
(2) See EDF's 2023 URD, sections 1.2.3, 1.3.2 and 3.1

2.2.11 Signature of a €6 billion syndicated credit facility indexed on ESG indicators

On 29 November 2024 EDF signed an agreement for a €6 billion syndicated credit facility with 5-year maturity, renewable twice for one year. The cost will be indexed on three EDF group sustainable development performance indicators, in accordance with the Loan Markets Association's Sustainability Linked Loans Principles:

- direct greenhouse gas emissions;
- avoided CO_2 emissions;
- the proportion of women senior executives in the EDF group.

This credit facility is syndicated with 36 banks. It replaces the existing syndicated credit lines of €4 billion and €1.5 billion.

This ESG-indexed credit facility is in line with EDF's commitment to work for a just energy transition and to contribute to achieving carbon neutrality by 2050.

2.3 Other developments

2.3.1 Corporate plan

EDF has presented its corporate plan, "*Ambitions 2035*", to the Board of Directors: the objective is to build the electricity system of the future to serve its customers. Electricity is set to double its share of the worldwide energy mix by 2050 to meet decarbonisation targets, and flexibility solutions are being developed to cope with the intermittence of renewable energies and meet consumers' needs. This plan will advance decarbonisation in France and the other countries where the Group has operations. EDF is consolidating its position as a leader in the European energy sector for the 2035 horizon, wishing to lead the new electric revolution and build the electricity system of the future to provide its customers with low-carbon, available and competitively-priced electricity.

Income statement

Note 3 Sales

ACCOUNTING PRINCIPLES AND METHODS

Sales essentially comprise income from energy sales (to final customers and as part of trading activities) and sales of services. EDF's energy sales revenues include delivery services through the energy distribution network purchased from the subsidiary Enedis and reinvoiced to end-customers.

Sales are recognised when delivery of goods has taken place or the service has been completed.

The quantities of energy delivered to EDF customers but not yet measured and billed at the end of the period are calculated based on the quantities used by the sites of the EDF balance-responsible entity less the quantities billed, after losses measured by a statistical method presented to the French Energy Regulation Commission (*Commission de régulation de l'énergie* or CRE). These quantities are valued using an average price determined by reference to energy invoiced in the previous month.

Sales of goods and services not completed at the balance sheet date are valued by reference to the stage of completion at that date.

Sales of energy to EDF Trading, the EDF group's trading company, are recorded at their contractually stipulated amount.

CAPACITY MECHANISM

French Law 2010-1488 of 7 December 2010 on the new organisation of the electricity market introduced an obligation in France to contribute to guaranteeing power supply security from 1 January 2017.

A capacity mechanism was therefore set up in France to ensure secure power supplies during peak periods (see note 3.1).

Operators of electricity generation plants and load-shedding operators must have their capacities certified by RTE, and commit to a forecast level of availability for a given year of delivery. In return, they are awarded capacity certificates.

Meanwhile, electricity suppliers and purchasers of power to compensate for network losses (obligated actors) must have capacity certificates equivalent to consumption by their customers in peak periods. Suppliers pass on the cost of the capacity mechanism to final customers through their sale prices.

Capacity auctions are held several times a year.

EDF is concerned by both aspects of this system, as an operator of electricity plants and as an electricity supplier.

The operations are recorded as follows:

- sales of certificates are recognised in income when the auctions or over-the-counter sales take place;
- the cost of the capacity mechanism passed on to final customers through regulated sales tariffs and market-price offers is recognised in sales revenues as and when the electricity is delivered. In addition, the ARENH price is considered to include a capacity value;

- stocks of certificates are stated either at their certification value (*i.e.* cost of certification by RTE) or at their purchase value on the markets;
- decreases in the stock of certificates are valued at the weighted average unit cost. The timing of recognition depends on the actor:
  - operators of installations: when the auction sales take place,
  - obligated actors: over the 5-month peak period (January to March, November and December);
- for operators of installations, if the effective capacity is lower than the certified capacity, a liability (accrued expense or provision) is recorded equivalent to the best estimate of the expense necessary to extinguish the obligation (rebalancing or settlement mechanism);
- for obligated actors, if there is a shortfall in the stock of capacity certificates, a provision is recorded equivalent to the best estimate of the expense necessary to extinguish the obligation;
- at the closing date, if the realisable value of the stock of capacity certificates is lower than its net book value, impairment is recognised.

3.1 Regulatory changes in France

REGULATED ELECTRICITY SALES TARIFFS IN FRANCE

In accordance with Article L. 337-4 of the French Energy Code, regulated electricity sales tariffs are set by the Ministers for Energy and the Economy following proposals by the French Energy Regulation Commission (*Commission de Régulation de l'Énergie* or CRE).

France's Council of State ruled in decisions of 18 May and 3 October 2018 that the principle of regulated electricity sales tariffs is compatible with European Union Law when such tariffs serve the general economic interest objective of guaranteeing consumers an electricity price that is more stable than market prices.

The French Energy and Climate Law of 8 November 2019 authorised continuation of regulated sales tariffs for sites with a subscribed power level of up to 36kVA, but they are reserved for residential or business consumers on condition, as required by European Directive 2019/944 on common rules for the internal market for electricity, that they have fewer than 10 employees and their annual sales income or balance sheet total is below €2 million ("blue" tariffs). In application of Law 2024-330 of 11 April 2024 and decree 2025-49 of 15 January 2025, the restriction on beneficiaries' subscribed power is abolished from 1 February 2025, such that the same consumers will also be eligible for regulated sales tariffs for their sites with power above 36kVA ("yellow" tariffs).

TARIFF CHANGES

In accordance with Article L. 337-4 of the French Energy Code, the CRE is responsible for sending the Ministers for the Economy and Energy its reasoned proposals for regulated sales tariffs for electricity. If no objections are made within three months, the proposals are deemed to have been approved.

The comparability of sales between periods is affected by the tariff changes introduced since 1 January 2023, presented in the table below:

Date of the CRE proposal	Change in "blue" residential customer tariffs (incl. taxes /excl. taxes)	Change in "blue" non-residential customer tariffs (incl. taxes /excl. taxes)	Date of the tariff decision	Date of application
19/01/2023	+15% / +20%	+15% / +19.9%	31/01/2023	01/02/2023
22/06/2023	+10% / +10%	+10% / +10%	28/07/2023	01/08/2023
18/01/2024	+9.5% / +0.18%	+5.7% / -3.55%	29/01/2024	01/02/2024
15/01/2025	-15% / -22.61%	-15.06% / -22.67%	28/01/2025	01/02/2025

In a decision of 15 January 2025, the CRE proposed an average decrease (excluding taxes) of 22.61% in the "blue" tariffs for residential customers, and an average decrease of 22.67% in the "blue" tariffs for non-residential customers from 1 February 2025. This proposal was adopted by the tariff decision of 28 January 2025. Another order of 20 December 2024 set out the excise duty rates on electricity applicable from 1 February 2025. These steps have the combined effect of reducing the "blue" tariffs (including taxes) by an average 15% for residential customers, and 15.06% for non-residential customers.

In a decision of 16 January 2025, the CRE proposed tariff scales for the "yellow" and "green" tariffs applicable for sites with subscribed power above 36kVA. Like the scales for sites with lower power levels, these scales are constructed by the "cost stacking" method described in Articles L.337-6 and R.337-19 of the French Energy Code.

"FINANCIAL SHOCK ABSORBER" MECHANISM FOR ELECTRICITY

Article 225 of the Finance Law for 2024 (Law 2023-1322 of 29 December 2023) extended the "financial shock absorber" mechanism for electricity (or "electricity buffer"), with amendments for 2024. This mechanism was first introduced by Article 181 of the Finance Law for 2023 (the Law of 30 December 2022), in order to support businesses and local authorities that were not eligible for the "tariff shield" price cap.

Decrees 2023-1421 and 2023-1422 of 30 December 2023 then defined the application rules for the "financial shock absorber" mechanism for electricity in 2024: eligible customers benefited from a price reduction of 75% (100% for very small businesses) on the volumes consumed during the month concerned (up to a maximum of 90% of their past consumption), calculated as the difference between the average price of the variable component of their contract (excluding taxes and TURPE fees) over 2024, and the reference price which was set at €250/MWh for 2024 (€230/MWh for very small businesses).

"TURPE" NETWORK ACCESS TARIFFS

TURPE 6 DISTRIBUTION TARIFF

The CRE issued two decisions of 21 January 2021 (published in France's *Journal Officiel* 0096 of 23 April 2021) on the TURPE 6 Transmission (high voltage) and TURPE 6 Distribution (medium voltage – low voltage) tariffs, after the Higher Energy Council (*Conseil Supérieur de l'Énergie*) gave its approval. These tariffs were introduced from 1 August 2021 for a period of approximately 4 years.

In its decision 2024-122 of 26 June 2024, the CRE proposed a rise in the average TURPE Distribution tariff of +4.81% from 1 August 2024. Previous increases had been +6.51% from 1 August 2023 and +2.26% from 1 August 2022, after the CRE set the margin on assets at 2.5% and the additional return on regulated equity at 2.3% in its decision 2021-13 of 21 January 2021.

In a letter dated 29 August 2024 published in France's *Journal Officiel* on 31 August 2024, the delegate minister in charge of industry and energy for the Minister for the Economy, Finance and Industrial and Digital Sovereignty asked the CRE to issue a new decision on adjustment of the TURPE tariffs that would better reflect the French government's energy policy orientations for tariff stability, given the expected reduction in regulated sales tariffs from 1 February 2025. The CRE published its decision 2024-158 on 10 September 2024, stating that it did not consider its previous decisions had ignored the energy policy orientations. It requested that those decisions should be published in the *Journal Officiel* by the administrative authority, stipulating that the effective date of its new decisions would be 1 November 2024. This was duly done.

In its decision 2025-08 of 15 January 2025, the CRE proposed an exceptional increase of 7.7% in the average TURPE distribution tariff from 1 February 2025. This change is intended to achieve early clearance of Enedis' income and expense adjustment account established during the first years of the TURPE 6 period, in order to avoid any change in the TURPE 7 distribution tariff when it takes effect on 1 August 2025.

TURPE 7 DISTRIBUTION TARIFF

On 4 February 2025 the CRE published its decision 2025-40 containing its proposals for the TURPE 7 Distribution tariff, setting the margin on assets at 2.5% the additional return on equity at 2.9%, and interest on financial borrowings at 2.1% for the TURPE 7 period. In view of the charges to be covered, based on current information the CRE stated that the exceptional increase of 7.7% from 1 February 2025 is intended to cover the forecast charges for the tariff period with no tariff change at 1 August 2025, and that subsequent changes from 1 August 2026, 2027 and 2028 should be close to inflation. In the event that the fund for electrification charges FACÉ (*Fonds d'Amortissements des Charges d'Électrification*) is transferred from charges covered by the TURPE tariff to the French State budget at 1 August 2025, the TURPE Distribution tariff will be reduced by 1.92%.

SUPPLIER COMMISSIONING

In application of the CRE's decision of 18 January 2018, energy suppliers receive remuneration from distribution network operators for the service of managing single-contract customers on their behalf.

The commissioning principle is identical for all suppliers selling single-contract offers.

For remuneration of past customer management charges (prior to 1 January 2018), the CRE's decision set an amount it considered as a cap that can be passed on through the TURPE tariff.

Law 2017-1839 of 30 December 2017 introduced a measure intended to rule out the possibility of suppliers receiving remuneration from network managers for past customer management services.

ELECTRICITY EQUALISATION FUND

The TURPE tariff for the medium and low-voltage network is identical for every electricity network operator. It is determined on the basis of forecast expenses to be borne by Enedis, provided they correspond to an efficient network operator, and forecasts of the number of consumers connected to Enedis' networks, their consumption, and the power level subscribed.

To equalise electricity distribution charges between the different network operators, as the TURPE tariff cannot always cover the specific needs of certain service zones, the Electricity Equalisation Fund (*Fonds de Péréquation de l'Electricité* - FPE) exists to compensate for some or all of the charges resulting from disparities in network operating conditions that are not taken into consideration in the tariff. There are two equalisation mechanisms: one based on fixed rates, the other established by the CRE at the request of the network operator based on analysis of its accounts. The calculation method for the fixed-rate allocation mechanism is defined by ministerial decree and order. At EDF, this concerns the Island Energy Systems (SEI).

In its decision 2024-97 of 13 June 2024, following analysis of the network operators' accounts, the CRE set the final amount of the allocation from the Electricity Equalisation Fund to SEI at €252 million for 2024.

CAPACITY MECHANISM

The French capacity mechanism took effect on 1 January 2017. It was introduced by France's Energy Code to contribute to guaranteeing a secure power supply in France.

Updated rules for this mechanism were introduced in October 2023, providing frameworks for early termination of purchase obligation contracts, and restriction of the inclusion of capacities using fossil fuels from 2025.

The duration of the current mechanism's final delivery year, 2026, has been modified so that the future capacity mechanism can be introduced from November 2026: delivery year 2026 of the current capacity mechanism is thus "shortened" and will run from 1 January to 31 March 2026.

A consultation process is being held for the future capacity mechanism, whose principal feature would be the centralisation of purchases to ensure a secure power supply, with a single actor (RTE) collecting availability commitments. This centralisation, combined with a lower number of capacity auctions, should make the market fundamentals more transparent for all actors. The change to the mechanism must be approved by the French Parliament and the European Commission (regarding State aid rules).

For the delivery years shown below, the average market prices resulting from capacity auctions ahead of the delivery year were:

Delivery year	2023	2024	2025
Price (€/kW)	45.6	27.1	14.7

For the delivery year 2026, four auctions have been held, with the following results: €15.5/kW in April, €6.1/kW in September, €3.5/kW in October and €2.5/kW in December.

ARENH SCHEME

GENERAL DESCRIPTION OF THE SCHEME

The ARENH (*Accès Régulé à l'Électricité Nucléaire Historique*) scheme for regulated access to historic nuclear power, set up in 2011 and due to end on 31 December 2025, allows alternative suppliers to purchase electricity from EDF to supply their final customers, after signing a framework agreement, at a regulated price for set quantities determined under the provisions of the French Energy Code. This scheme is also open to network operators to cover their energy losses.

The ARENH price, determined by the Ministers for Energy and the Economy following a proposal by the CRE, has been fixed at €42/MWh since January 2012. This includes delivery of the electricity and has incorporated the associated capacity guarantees since 2017.

The maximum total ARENH volume that can be sold by law to suppliers who apply to the scheme to cover the needs of their final customers is set by ministerial order and cannot exceed a legal ceiling. Until 31 December 2019, the ceiling was 100TWh per year. It was then raised to 150TWh by the Energy and Climate Law of 8 November 2019.

The "MUPPA" Law of 16 August 2022 introducing urgent measures to protect purchasing power reduced this legal ceiling to 120TWh. The MUPPA Law also set a minimum ARENH price of €49.50/MWh, although its application is conditional on prior approval by the European Commission, which has not yet been given.

DISPUTE OVER THE ADDITIONAL 20TWH OF ELECTRICITY FOR THE PERIOD APRIL-DECEMBER 2022

Under measures imposed on EDF by the French government in early 2022, eligible alternative electricity suppliers could benefit from an additional volume of up to 20TWh at the price of €46.20/MWh during the period 1 April to 31 December 2022, provided they first sold EDF an equivalent volume at the price of €256.98/MWh. The alternative suppliers only made applications for 19.5TWh of the additional ARENH volume offered.

This caused very significant prejudice for the Company, and on 9 August 2022 EDF filed an appeal against the measures before the Council of State, on the grounds that the State had exceeded its power.

EDF also lodged a claim before the Paris Administrative Court on 27 October 2022 to obtain full compensation from the French government for the prejudice caused by these measures.

On 3 February 2023, the Council of State rejected EDF's appeal against these measures, in a decision that cannot be challenged. The proceedings brought by EDF in 2023 before the Paris Administrative Court claiming full reparation from the State for the prejudice borne by EDF as a result of the measures are ongoing. The prejudice suffered was estimated by EDF at €7.96 billion at 13 October 2023, the date when the Company filed its reply submissions.

THE ARENH SCHEME IN 2024

For the ARENH allocations for 2024 determined by the CRE's decision 2023-330 of 26 October 2023, as required by the Energy Code (Article R.336-14 of the Energy Code modified by decree 2022-1380 of 29 October 2022), the CRE defined the method for allocating ARENH volumes if applications exceeded the maximum total volume allowed for 2024. It also laid down criteria for assessing ARENH applications (verification methods, and where relevant correction procedures for ARENH applications from alternative suppliers).

The decision stated that any application by EDF-controlled subsidiaries (this excludes network operators, as stipulated in the decision of 28 April 2011) taking the total volume above the limit would be fully curtailed, but they could enter into contracts directly with their parent company for supplies on terms identical to the ARENH framework agreement, including the curtailment conditions applied to other alternative suppliers.

On 15 November 2023, in its decision 2023-333, the CRE decided on a change to the calculation rules for the CP2 ARENH price supplement paid by alternative suppliers whose ARENH applications are excessive in view of their actual sales volumes. These changes made the penalty for such disproportionate applications more dissuasive.

ARENH applications during the November 2023 session for delivery in 2024 totalled 130.45TWh (excluding applications from EDF subsidiaries and network operators). The CRE scaled down certain applications (-0.04TWh in total), bringing the total application volumes validated by the CRE to 130.41TWh. The CRE also curtailed each supplier's application, to respect the ARENH ceiling of 100TWh. The final attribution rate after curtailment was 76.68%. Further volumes were also sold by EDF to its subsidiaries through contracts that replicate the ARENH scheme, and to compensate for network electricity losses (25.54TWh).

The CRE notified EDF of three suspensions to ARENH deliveries during 2024. In two cases this was due to decisions by the CRE's Dispute Settlement and Sanctions Committee (CoRDIS), and the third case related to the transfer of all the assets and liabilities of the subsidiary Sowee to EDF SA, which had no material impact on EDF SA's financial statements at 31 December 2024. These suspensions concerned a total 7.3MW of baseload electricity, of which 1.1MW resulted from CoRDIS decisions.

Decree 2024-556 published on 18 June 2024 modified the regulatory part of the French Energy Code to align it with changes in legislation introduced by the Finance Law for 2024 concerning the ARENH price supplement. The CP1 price supplement collected for ARENH deliveries made since 2023 is no longer allocated between alternative suppliers but paid to EDF via a deduction from its public service charges. This has no impact on EDF's net income.

On 26 June 2024 the CRE published its decision 2024-125 concerning ARENH price supplements, which are set at €555.1 million for the CP1 and €0.5 million for the CP2.

Finally, ARENH applications during the November 2024 session for delivery in 2025 totalled 135.04TWh (excluding applications from EDF subsidiaries and network operators). The CRE scaled down four suppliers' applications (-0.11TWh in total), bringing the total application volumes validated by the CRE to 134.93TWh. The CRE also curtailed each supplier's application, to respect the ARENH ceiling of 100TWh. The final attribution rate after curtailment was 74.12%. Further volumes were also sold by EDF to its subsidiaries through contracts that replicate the ARENH scheme, and subscriptions to compensate for network electricity losses (22.7TWh).

An order of 29 November 2024, published in the *Journal Officiel* of 5 December, introduced changes to the ARENH framework agreement, notably re-introducing parts of the appendices of the previous decision concerning the scheme.

POST-ARENH MARKET FRAMEWORK

To provide customers with additional protection in high-price periods, the new framework, which is now defined in Article 17 of France's Finance Law for 2025, also requires payment by EDF of a portion of its historical nuclear power plants' net annual energy revenues derived from use of nuclear fuel when they exceed a certain level. Two thresholds are set for this contribution: a taxation threshold and a capping threshold, above which the contribution rate will be 50% and 90% respectively. These thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain watchful regarding retention of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros).

3.2 Sales breakdown

Sales are comprised of:

(in millions of euros)	2024	2023
Sales of energy*	**69,717**	**87,413**
electricity	*59,555*	*71,249*
gas	*10,162*	*16,164*
Sales of services and other	**2,618**	**2,878**
SALES	**72,335**	**90,291**

* *Including a share of delivery costs for sales of electricity and gas.*

The €11.7 billion decrease in electricity sales is principally attributable to the lower sales to final customers. The difference is explained by volume effects associated with unfavourable weather effects and a slightly smaller customer portfolio, and more importantly, by price effects on regulated-tariff sales and market-price contracts:

- for regulated-tariff sales, the price effect was favourable; it resulted from indexed adjustment of tariffs from 1 February 2023 (+20.0% on "blue" tariffs for residential customers and +19.96% on "blue" tariffs for non-residential customers), which limited the price increase (including taxes) to 15% due to the reduction in the TICFE tax, and from 1 August 2023 (+10% on "blue" tariffs for residential customers and +10% on "blue" tariffs for non-residential customers);
- for market-price contracts, the lower market prices of 2024 were the main factor in the downturn in sales revenues, which more than outweighed the favourable impact observed in regulated-tariff sales.

The decrease in sales also reflects unfavourable energy price effects on purchase obligations.

The €6 billion decrease in gas sales is due to lower sales with EDF Trading as market prices declined in 2024.

Note 4 Operating subsidies

(in millions of euros)	2024	2023
OPERATING SUBSIDIES RECEIVED	**6,928**	**14,198**

Operating subsidies mainly comprise the subsidy received or receivable by EDF in respect of the compensation for 2024 public energy service charges, reflected in the financial statements through recognition of income of €6,861 million in 2024 (€14,126 million in 2023). This sum consists of:

- income of €3,018 million in compensation for purchase obligations (compared to an expense of €2,193 million at 31 December 2023). In 2023, the public service charges to be covered for purchase obligations were negative because market prices were very high and above the State-guaranteed support prices;
- income of €1,562 million to cover the loss of revenues caused by national measures to support final customers (compared to €13,992 million in 2023). This comprises €1,730 million under the "tariff shield" price cap for electricity, which ended on 31 January 2024, reduced by an accrued liability of €(168) million payable under the "financial shock absorber" mechanism for electricity. As the "tariff shield" price cap for gas was discontinued in July 2023, no subsidy under that mechanism is recognised at 31 December 2024;
- income of €2,281 million for non-interconnected and solidarity zones.

This CSPE income gave rise to a corresponding entry in "Other operating receivables" at 31 December 2024 (see note 18 (2)).

COMPENSATION FOR PUBLIC ENERGY SERVICE CHARGES (CSPE)

MECHANISM

The compensation mechanism for public energy service charges (*compensation des charges de service public de l'énergie or CSPE*) resulted from a reform introduced by France's amended Finance Law for 2015. Since 1 January 2021 public energy service charges have been compensated partly out of the State's general budget and, following France's initial Finance Law for 2024, partly out of ARENH price supplements.

For the compensation of 2024 charges, the initial Finance Law for 2024 introduced a €4.9 billion "public energy service" budget (P345) to cover additional costs (purchase obligations and additional remuneration) incurred on support contracts for renewable energies and biogas, expenses associated with protection of consumers' electricity purchasing power (see note 3.1), solidarity charges borne by gas and electricity suppliers, costs associated with support for non-renewable energy production (essentially cogeneration), and the cost of applying the standard national tariffs to zones that are not connected to France's mainland network. The allocated budget was reduced by €0.2 billion in February 2024 to €4.7 billion.

Income generated by the excise duty on electricity (previously named the domestic tax on the final consumption of electricity (TICFE), and shown on customer invoices as the "Contribution to the public energy service" (CSPE)) goes directly into the general budget. This excise duty is collected by electricity suppliers directly from final consumers through an additional levy on the electricity sale price, or paid directly by electricity producers that produce electricity for their own uses.

The level of this excise duty is set at a full rate of €32/MWh for residential users. The Law also defines a special rate, reduced rates and exemptions for businesses depending on their activity and consumption levels. However, due to the continuation of measures to protect electricity purchasing power, a rate of €21/MWh was applied from 1 February 2024 for residential customers eligible for the full rate.

In accordance with decree 2016-158 of 18 February 2016 concerning compensation for public service energy charges, and the Finance Law for 2024, the CRE published two decisions in 2024. The first, decision 2024-139 of 11 July 2024, set out a forecast of EDF's public service charges for 2025, a revised forecast of charges for 2024, and the actual charges recorded for 2023. The second, decision 2024-216 of 5 December 2024, stated the revised amount of public service energy charges to be compensated in 2024 and 2025 under the "tariff shield" and "financial shock absorber" mechanisms.

CLOSURE OF FESSENHEIM NUCLEAR POWER PLANT

In accordance with the application for termination of operations and the declaration of the permanent shutdown of both reactors at Fessenheim nuclear power plant sent by EDF to the Minister for the Ecological and Inclusive Transition and to the ASN on 30 September 2019, EDF shut down reactor 1 on 22 February 2020 and reactor 2 on 30 June 2020.

On 27 September 2019, due to the cap on nuclear power output set by the "Energy Transition for Green Growth" Law of 17 August 2015, the French State and EDF signed a protocol agreement whereby the State will compensate EDF for the early closure of Fessenheim.

The compensation paid under the terms of this protocol comprises:

- Initial payments to compensate for expenses incurred after the closure of the plant (end-of-operations expenditure, INB taxes on basic nuclear installations, dismantling costs and staff redeployment costs): apart from dismantling costs, these will essentially be paid over a 4-year period following the closure. An amount of €370 million was received on 14 December 2020.

  This compensation is recognised as income in profit and loss as and when the associated costs are incurred.
- Subsequent payments corresponding to the lost income that would have been generated by future power generation up until 2041, based on Fessenheim's previous output figures and calculated *"ex post"* on the basis of nuclear power sale prices, particularly observed market prices. There is no reason to recognise such income in the financial statements at this stage.

Once decoupled from the network, the Fessenheim plant entered a post-operating phase of approximately five years. Units 1 and 2 continue to be operated and maintained as "defueled core" and then "evacuated fuel" reactors until the effective date of the dismantling decree to be issued in 2026.

Note 5 Provisions and impairment

(in millions of euros)	Notes	2024	2023
Reversals of provisions for risks	25	**131**	**290**
Increases to provisions for risks	25	**(88)**	**(251)**
Net provisions for risks		**43**	**39**
Pensions and similar obligations	28	683	777
Spent fuel management	26	1,113	913
Long-term radioactive waste management	26	348	325
Decommissioning of nuclear power plants and last cores	26	274	224
Decommissioning of thermal and hydropower plants	27	71	62
Other provisions for expenses [1]	29	205	1,947
Reversals of provisions for expenses		**2,694**	**4,248**
Pensions and similar obligations	28	(466)	(674)
Spent fuel management [1]	26	(4,058)	(2,475)
Long-term radioactive waste management [2]	26	(869)	(21)
Decommissioning of nuclear power plants and last cores	26	(399)	(294)
Decommissioning of thermal and hydropower plants	27	(131)	(42)
Other provisions for expenses [1]	29	(70)	(1,093)
Increases to provisions for expenses		**(5,993)**	**(4,599)**
Net provisions for expenses		**(3,299)**	**(351)**
Reversals of impairment		**363**	**335**
Increases to impairment [3]		**(735)**	**(489)**
Net impairment		**(372)**	**(154)**
PROVISIONS AND IMPAIRMENT		**(3,628)**	**(466)**
total reversals		3,188	4,873
total increases		(6,816)	(5,339)

(1) In 2024, EDF allocated a further €3,291 million to provisions for spent fuel management following revision of the industrial scenario for interim spent fuel storage (see notes 26 (1) and 26.1).

In 2023, EDF allocated a further €1,026 million to other provisions for expenses in view of the ongoing negotiations with Orano Recyclage concerning the amendment to the processing and recycling agreement for the period 2024-2026, bringing the total provision concerned to €1,880 million at 30 June 2023. Following the signature in September 2023 of an agreement on the principles of the next contract covering the period 2024-2026, this €1,880 million provision was cancelled in full. An additional €2,216 million allocation to the provision for spent fuel management was then recorded to reflect the estimation of costs associated with the future 2024-2026 amendment, replacing the provision for expenses previously recognised.

(2) In 2024, EDF allocated a further €775 million to provisions for long-term radioactive waste management following revision of storage costs (Cigéo) for high-level and long-lived intermediate-level waste (HLW and ILW-LL) (see note 26 (1) and 26.2).

(3) In 2024, these increases to impairment include €115 million corresponding to the total value of intangible assets associated with the NUWARD project, net of subsidies (see note 14 (2)).

Note 6 Other operating income and expenses and transfers of charges

(in millions of euros)	2024	2023
Other operating income	1,156	1,169
Transfers of charges	88	126
Other operating income and transfers of charges	**1,244**	**1,295**
Other operating expenses	**(3,612)**	**(3,500)**
TOTAL OTHER OPERATING INCOME AND EXPENSES AND TRANSFERS OF CHARGES	**(2,368)**	**(2,205)**

Other operating expenses amount to €(3,612) million in 2024 (€(3,500) million in 2023) and notably include costs relating to Energy Savings Certificates used or consumed over the year, financial compensation paid by EDF to RTE for differentials over its scope as balance-responsible entity, losses on non-recoverable receivables, software fees, the net book value of assets demolished or scrapped, royalties relating to hydropower concessions and additional remuneration paid to producers of renewable energies.

The additional remuneration paid to producers of electricity from renewable sources was introduced by France's Energy Transition for Green Growth Law. This mechanism complements the purchase obligation system. It is intended to guarantee reasonable remuneration for producers who sell their energy directly on the markets, by compensating for the differential between the revenues from those sales and a reference amount of revenues. Conversely, when their sales revenues are higher than the reference amount, the producer must repay the differential received. The amount repayable was previously capped in certain cases, but Article 230 of France's Finance Law for 2023 removed the cap with retroactive effect from 1 January 2022.

In its decision 2024-1119/1125 QPC of 24 January 2025, the Constitutional Council cancelled the removal of the cap on the amounts payable by producers of electricity from renewable sources under additional remuneration contracts, but deferred the effect of this step to 31 December 2025 at the latest. The potential reimbursement would be offset through the CSPE compensation mechanism.

Other operating income and expenses also include expenses and income related to closure of the Fessenheim plant, comprising the following at 31 December 2024:

- expenses of €72 million (salaries and social security charges for labour at the site amounting to €21 million, purchases of goods and services amounting to €45 million, taxes other than income taxes, mainly payroll taxes, energy taxes and local taxes amounting to €6 million);
- the compensation defined in the protocol for expenses that will be incurred after the closure, amounting to €36 million, recognised as an operating subsidy in the income statement as explained in note 4.

Energy savings certificates

ACCOUNTING PRINCIPLES AND METHODS

France's energy savings certificates scheme was introduced by the Law of 13 July 2005. Suppliers of energy (electricity, gas, heat, cold, domestic fuel oil and fuel for vehicles) with sales above a certain level became subject to energy savings obligations, initially for a three-year period then, since 2018, for a four-year period.

To meet this obligation, three sources are available to EDF: supporting consumers in their energy efficiency operations, funding State-approved energy savings certificate schemes, and purchasing certificates on the secondary market.

EDF accounts for Energy Savings Certificates in compliance with Articles 616-1 to 616-23 of ANC regulation 2014-03 on France's national chart of accounts, amended by regulation 2024-02 of 5 July 2024.

As its energy savings certificates are held in order to meet the requirements of the regulations on energy savings, EDF applies the "Energy Savings" model defined by ANC regulation 2014-03.

Certificates obtained or receivable are recorded in inventories at production or acquisition cost, and are valued under the FIFO (first in first out) method.

At the year-end, only the net position is presented in the financial statements:

- an asset is recognised (in work-in-progress and other inventories) if the energy savings achieved are greater than the energy savings obligations. This inventory corresponds to the certificates purchased, obtained or receivable that cover future energy savings obligations. It is consumed as and when energy sales are completed that generate energy savings obligations; or
- a liability (provision for other expenses) is recognised if the energy savings achieved are lower than the energy savings obligations. The liability corresponds to the cost of action yet to be taken to cover the obligations associated with energy sales completed. It is subsequently extinguished by making energy savings expenditures that enable the Company to obtain certificates, or by purchasing certificates.

REGULATORY MECHANISM

The fifth period of France's energy savings certificates scheme (2022-2025) began on 1 January 2022. Decree 2021-712 tightened up the scheme (for example by significantly reducing special measures and bringing calculations closer to the real savings), and directs more funding to very vulnerable households (raising the "energy poverty" obligations, restricting the scope to very vulnerable households, and increasing the penalties in this category from €15/MWhc initially to €20/MWh).

However, to reinforce the dynamic, the French General Directorate for Energy & Climate (*Direction Générale de l'Énergie et du Climat* or DGEC) issued a decree just ten months after the fifth period began (decree 2022-1368 of 27 October 2022) that raised the scheme obligations for the period from 1 January 2023 as follows:

- "Standard" obligation: 1970TWhc vs 1770TWhc initially, and +200TWhc for the period 2023-2025;
- "Energy poverty" obligation: 1130TWhc vs 730TWhc initially, and +400TWhc for the period 2023-2025.

These regulatory changes introduced during the period are obliging the actors concerned to make adaptations.

Note 7 Purchases and other external expenses

(in millions of euros)	2024	2023
Fuel purchases used[1]	3,118	5,541
Energy purchases[2]	25,954	46,812
electricity	*17,162*	*31,758*
gas	*7,953*	*13,992*
Services and other purchases used[3]	19,116	19,033
PURCHASES AND OTHER EXTERNAL EXPENSES	**48,188**	**71,386**

(1) Fuel purchases used include costs relating to raw materials for energy generation (nuclear fuels, fossil materials, principally gas and coal and fuel oil in very small proportions), and purchases of services related to the nuclear fuel cycle. Purchases of gas consumed decreased, due to the lower level of electricity generation by CCG (Combined Cycle Gas) facilities.

Fuel purchases used also include greenhouse gas emission certificates used (see note 17):

- at 31 December 2024, the volume of emissions was 3 million tonnes (4 million tonnes in 2023);

- in 2024 EDF surrendered 4 million tonnes in respect of emissions generated in 2023 (6 million tonnes were surrendered in 2023 in respect of emissions generated in 2022).

(2) Energy purchases include purchases made through the purchase obligation mechanism. The decrease in electricity purchases is principally explained by lower purchase volumes induced by the improvement in nuclear power output (see note 2.1.7).

The decrease in gas purchases mostly concerns purchases on the international markets.

(3) Service purchases primarily include distribution network access fees invoiced by the subsidiary Enedis. Excluding delivery, service purchases decreased by €595 million compared to 2023, and in 2024 they include €181 million of costs relating to repair work on the main secondary circuit welds in the Flamanville 3 EPR (€454 million in 2023) (see note 15 (3)).

Note 8 Taxes other than income taxes

Details of taxes other than income taxes are as follows:

(in millions of euros)	2024	2023
Taxes on salaries and wages	201	188
Energy-related taxes	1,120	1,083
Local Economic Contribution	449	453
Property taxes	328	298
Other taxes	368	348
TOTAL TAXES OTHER THAN INCOME TAXES	**2,466**	**2,370**

The EU Inframarginal revenue cap on electricity production (CRI)

On 6 October 2022 the European Union adopted a regulation for harmonised action to address the energy price crisis. Among other measures, this regulation set targets for reducing energy consumption during the winter of 2023, and introduced state aid for businesses and households, funded by a windfall tax on the fossil fuel sectors, and an inframarginal revenue cap on electricity production.

This inframarginal revenue cap is a compulsory tax measure requiring electricity producers to pay to the State all revenues above a threshold expressed in €/MWh. Under the EU regulation, this cap was applicable from 1 December 2022 to 30 June 2023 with a threshold of €180/MWh, but some EU member states decided to lengthen the application period and set different thresholds, well below the EU level, for different generation technologies.

In France, the inframarginal revenue cap was renewed for the period from 1 January 2024 to 31 December 2024 by Article 80 of France's Finance Law for 2024 with minor amendments to the thresholds and calculation methods. The tax on inframarginal rents was set at 50% (as opposed to 90% during the previous periods). Any deficit in one period could still be partially carried over to the next.

In view of the losses carried forward from previous periods, EDF does not expect to pay any tax on inframarginal rents for 2024.

Note 9 Personnel expenses

(in millions of euros)	2024	2023
Salaries and wages	4,540	4,244
Social contributions	2,935	2,827
TOTAL PERSONNEL EXPENSES	**7,475**	**7,071**

The increase in personnel expenses principally results from the pay rise measures introduced in an inflationary economy, and the rise in the average workforce compared to 2023. Personnel expenses in 2023 also included €41 million of exceptional costs relating to repair work on the main secondary circuit welds in the Flamanville 3 EPR, which had no equivalent in 2024.

	2024			2023
	Executives	Non executives	Total	Total
IEG status employees	30,532	29,363	59,895	58,407
Other	1,034	4,052	5,086	4,779
AVERAGE WORKFORCE	**31,566**	**33,415**	**64,981**	**63,186**

Average workforce numbers are reported on a full-time equivalent basis.

Note 10 Depreciation and amortisation

(in millions of euros)	2024	2023
Amortisation of intangible assets	389	384
Depreciation of property, plant and equipment:		
• owned by EDF	4,213	3,782
• operated under concessions*	358	344
Total depreciation and amortisation of fixed assets	**4,960**	**4,510**
Other depreciation and amortisation	29	30
TOTAL DEPRECIATION AND AMORTISATION	**4,989**	**4,540**

* *Increases to this depreciation concern the Island Energy Systems public electricity distribution concessions, and hydropower concessions.*

Note 11 Financial result

(in millions of euros)	2024		2023	
Income from investments [1]		4,719		3,035
Income from other securities and receivables related to fixed assets		1,952		1,592
Interest and similar income and expenses		**(4,309)**		**(4,191)**
• *Expenses on long-term financial liabilities after hedging* [2]	*(3,322)*		*(3,084)*	
• *Other* [3]	*(987)*		*(1,107)*	
Foreign exchange result [4]		(153)		(565)
Gains and losses on sales of marketable securities		(388)		(37)
Increases/Decreases in provisions and transfers of charges:		**(3,631)**		**(8,779)**
• *Discount expense on employee benefits*	*(808)*		*(914)*	
• *Discount expense on nuclear provisions* [5]	*(1,753)*		*(2,489)*	
• *Impairment of investment securities in dedicated assets* [6]	*272*		*832*	
• *Impairment of marketable securities* [6]	*289*		*178*	
• *Impairment of investment securities* [7]	*(1,959)*		*(7,323)*	
• *Provision for foreign exchange losses* [8]	*6*		*638*	
• *Reversals from provisions, impairment and transfers of charges*	*397*		*368*	
FINANCIAL RESULT		**(1,810)**		**(8,945)**

(1) Dividends received principally concern:
- EDF Holding, the holding company for EDF Trading (€3,704 million in 2024 and €947 million in 2023);
- C3, the holding company for EDF Investissements Groupe (€257 million in 2024 and €130 million in 2023);
- CTE, the holding company for RTE (€119 million in 2024 and €174 million in 2023);
- EDF Production Électrique Insulaire (PEI) (€107 million in 2024 and €123 million in 2023);
- EDF Nam Theun Holding (€84 million in 2024 and €32 million in 2023);
- EDF Développement Environnement (EDEV) (€52 million in 2024 and €23 million in 2023);
- Framatome (€51 million in 2024 and €40 million in 2023);
- C93 (€39 million in 2024, no equivalent in 2023);
- EDF Immo (€37 million in 2024 and €19 million in 2023);
- Eureizen (€35 million in 2024, no equivalent in 2023);
- C74 (€7 million in 2024 and €84 million in 2023);
- C81 (€1 million in 2024 and €47 million in 2023);
- Enedis (€1,258 million in 2023, no equivalent in 2024).

(2) The increase in these interest expenses reflects the higher cost of borrowing.

(3) Mainly financial expenses on short-term debt.

(4) The 2024 foreign exchange result principally comprises foreign exchange effects associated with redemptions of perpetual subordinated bonds (see note 23).

(5) In 2024, the discount effect comprises the €(2,267) million cost of unwinding the discount, and the €514 million effect of the change in the discount rate (see note 26.5) for provisions not backed by assets.
In 2023, the discount effect comprised the €(2,109) million cost of unwinding the discount, and the €(396) million effects of adjusting cost estimates to 2023 economic conditions, which were recorded in the income statement for provisions not backed by assets.

(6) This change is due to favourable financial market trends in 2024 and 2023.

(7) Including impairment of €1,330 million in respect of the investment in EDF Développement Environnement (EDEV) and €390 million in respect of the investment in EDF International (see note 16.1 (4)).

(8) See note 25 (1).

Note 12 Exceptional result

At 31 December 2024, the exceptional result is a net €703 million. The main items were the following:

- net gains of €583 million on sales of investment securities included in dedicated assets, undertaken in the course of operational portfolio management;
- net reversals of €169 million from excess tax depreciation.

At 31 December 2023, the exceptional result was a net €272 million. The main items were the following:

- net gains of €100 million on sales of investment securities included in dedicated assets, undertaken in the course of operational portfolio management;
- net reversals of €128 million from excess tax depreciation.

Note 13 Income taxes

13.1 Tax group

Since 1 January 1988, EDF and certain subsidiaries have formed a group subject to the tax consolidation regime existing under French tax legislation (Articles 223A to 223U of the French Tax Code). This tax group comprises 320 subsidiaries in 2024, including Enedis, EDF International, EDF Renewables and Dalkia.

13.2 Income tax payable

Under Article 223A of the French Tax Code, EDF, as the head of the tax group, is the sole entity responsible for payment of income taxes and additional related contributions.

The tax consolidation agreement between the members of the tax group stipulates that the arrangement must be neutral in effect. In application of this principle, each subsidiary pays the consolidating company a contribution to group income tax equivalent to the tax it would have paid had it been taxed separately.

The tax consolidation agreement between EDF and the subsidiaries included in the tax group requires EDF to reimburse loss-making subsidiaries for the tax saving generated by their losses, as and when the entities concerned make taxable profits, in compliance with the standard rules for use of taxable losses.

EDF, as head of the tax group, recorded an income tax expense of €(1,083) million for 2024 (compared to an income tax expense of €(1,831) million for 2023) taking account of €1,377 million of losses carried forward.

This expense breaks down as follows:

- a tax expense of €(1,131) million on the taxable income before exceptional items for 2024;
- a tax expense of €(109) million on the exceptional result;
- tax income of €157 million corresponding to adjustments resulting from the tax consolidation.

"Pillar Two" rules

To address concerns about declining corporate income tax bases and the shifting of taxable profits between States by large multinational companies, a worldwide agreement to introduce a minimum corporate tax rate of 15% was reached in 2021 by more than 135 countries (the "Pillar Two" rules).

Following the European Union's adoption of the "Pillar Two" Directive on 15 December 2022, on 20 December the OECD published simplified procedures which will only apply for financial years beginning on or before 31 December 2026 (which in practice for the EDF group means financial years 2024 to 2026). During that transition period, provided certain requirements are met in the country of operation, groups will be exempt from calculating top-up tax under the "Pillar Two" rules. France's Finance Law for 2024 transposed these new rules into French legislation. The first application is in 2024 and the first declaration will be filed in June 2026.

In 2024, the EDF group finalised its "Pillar Two" evaluation work, and concluded that these rules will not have any significant impact on the consolidated financial statements or on EDF SA's financial statements.

13.3 Deferred taxes

Deferred taxes are not recognised in EDF SA's financial statements. Deferred taxes result from differences between the accounting bases and tax bases of items. They generally arise as a result of timing differences:

- deferred tax assets reflect expenses which will be tax-deductible in future years, or losses carried forward which will reduce taxable income in the future;
- deferred tax liabilities reflect either advance tax deduction of future accounting expenses, or accounting revenues that will be taxable in future years and will increase taxable income in the future.

EDF, as head of the tax group, includes tax losses generated at the level of the tax group in its deferred tax positions.

Changes in the basis for deferred taxes are as follows:

(in millions of euros)	31/12/2024	31/12/2023	Variation
1. Timing differences generating a deferred tax asset			
• Non-deductible provisions [1]	(17,803)	(17,412)	(391)
• Financial instruments and unrealised exchange gains	(6,510)	(3,078)	(3,432)
• Other	(1,535)	(1,588)	53
Total deferred tax assets subject to the standard rate	**(25,848)**	**(22,078)**	**(3,770)**
2. Timing differences generating a deferred tax liability			
• Financial instruments and unrealised exchange losses	4,603	2,653	1,950
• Other	3,674	3,393	281
Total deferred tax liabilities subject to the standard rate	**8,277**	**6,046**	**2,231**
• Capital gains not yet taxed			-
• Provisions for losses taxable at 15%	(71)	(61)	(10)
Total deferred tax assets subject to the reduced rate	**(71)**	**(61)**	**(10)**
BASIS FOR DEFERRED TAXES	**(17,642)**	**(16,093)**	**(1,549)**
Future tax receivable at standard rate	**9,259** [2]	**10,234**	**(975)**
Future tax receivable at reduced rate	**11**	**9**	**2**

(1) Mainly concerning post-employment benefits for personnel.

(2) This figure includes €4.7 billion relating to French tax group losses that are yet to be carried forward, and €4.6 billion relating to the deferred tax position on items subject to the standard rate applicable at 31 December 2024.

Balance sheet

Note 14 Intangible assets

ACCOUNTING PRINCIPLES AND METHODS

RESEARCH AND DEVELOPMENT EXPENSES

Research expenses are recognised as expenses in the financial period incurred.

Development costs that meet the requirements for capitalisation laid down in Article 211-5 of the French national chart of accounts are included in intangible assets and amortised on a straight-line basis over their foreseeable useful life.

OTHER INTANGIBLE ASSETS

Other intangible assets mainly consist of software and storage capacity reservations.

SaaS (Software as a Service) fees are charged to expenses as the services are provided. Implementation costs (chiefly for configuration, adaptation, parameter setting, interfaces) for software made available to the Company under SaaS contracts are capitalised and amortised in application of ANC Regulation 2023-05 of 10 November 2023 on IT solutions.

Intangible assets other than research and development expenses are amortised on a straight-line basis over their useful lives regardless of whether they are generated in-house or purchased.

Details of the net values of intangible assets are shown below:

(in millions of euros)	Cumulative amount at 31/12/2023	Increases	Decreases	Cumulative amount at 31/12/2024
Software [1]	3,306	440	115	3,631
Other [2]	478	92	-	570
Intangible assets in development [3]	1,943	1,427	462	2,908
Gross values	**5,727**	**1,959**	**577**	**7,109**
Software [1]	(2,082)	(506)	(114)	(2,474)
Other [2]	(183)	(142)	-	(325)
Intangible assets in development	(14)	(10)	(14)	(10)
Amortisation and impairment	**(2,279)**	**(658)**	**(128)**	**(2,809)**
NET VALUES	**3,448**	**1,301**	**449**	**4,300**

(1) In 2024, the "Software" lines include the implementation costs for software made available to the Company under SaaS (Software as a Service) contracts and the associated amortisation, in application of ANC Regulation 2023-05 of 10 November 2023 on IT solutions. The amounts concerned are not significant.

(2) In 2024, "Other" intangible assets include €166 million for studies concerning the SMR (Small Modular Reactor) project which were implemented in 2023. The Company recognised impairment at 31 December 2024 on the total amounts capitalised to date for this project, net of subsidies, i.e. €(115) million, following adoption of a new strategic orientation (see the description below, and note 5 (3)).

(3) In 2024, intangible assets in development notably include €2,344 million for studies for the EPR2 project (€1,446 million in 2023).

Principal projects in progress and investments during the year

New nuclear reactors in France: the EPR2 project

The EPR2 project concerns a new pressurised water nuclear reactor that meets the objectives for third-generation reactor safety, using a technology that incorporates design, construction and commissioning experience acquired from EPR reactors and the nuclear reactors currently in operation.

EDF is in charge of design development for this reactor, and the principal safety options were validated by the ASN in 2019.

The EPR2 will offer superior operating performance in terms of power (1,650MW compared to 1,450MW for the N4, the most powerful reactor currently in operation except Flamanville 3), efficiency, availability and manoeuvrability. It will confirm the advance begun with the Flamanville 3 EPR, which was coupled to the network for the first time on 21 December 2024 and is due to start operation in 2025.

On 10 February 2022, the French President announced the launch of a programme to construct 6 EPR2 reactors by 2035, and begin studies for an additional 8 EPR2 reactors by 2050. He also observed that it was necessary to aim to have the first new reactor commissioned by 2035-2040, and said that these new EPR2 units would be built and operated by EDF.

On 29 June 2023, EDF announced that it was making the necessary applications for authorisation to launch construction of the first pair of EPR2 reactors at Penly, and starting other administrative procedures required for their completion and connection to the electricity transmission network. EDF is proposing to build three pairs of EPR2 reactors, at Penly (Normandy), Gravelines (Hauts-de-France) and Bugey (Auvergne-Rhône-Alpes), in that order (see the press release by the French President's Office of 19 July 2023).

While awaiting a final investment decision (FID) for the EPR2 programme, EDF was authorised by its Board of Directors on 15 February 2024 to continue development work on this project until the end of 2024, with a budget extension of approximately €1.2 billion, bringing the total development budget for the EPR 2 programme to €3,042 million.

Major milestones were reached during 2024 for the EPR 2 project: a technical maturity review in July confirmed the move to the detailed design phase for the nuclear buildings, the launch of primary component production was greenlit (as technical maturity had been reached and the ASN had officially lifted its hold points), and the decree authorising the convention for use of the maritime zone at Penly was published in the *Journal officiel* on 6 July, allowing preparatory work at the site to begin in July 2024. Active preparation of the Gravelines and Bugey projects also progressed. The public debate concerning Gravelines was held from 17 September 2024 to 17 January 2025. The Bugey project was submitted to France's National Public Debate Commission (CNDP), which also decided to hold a debate in the first half of 2025. Work on the competitiveness plan, the technical maturity review, asset regulation, and programme consolidation continued through regular contacts with the French State, including the Interministerial Nuclear New Build Delegation (*Délégation Interministérielle du Nouveau Nucléaire* or DINN), on the pathway towards the final investment decision. A financial audit by the State is expected to take place in 2025.

At 31 December 2024, the EPR 2 project consists of €2,344 million of intangible assets (see note 14 (3)) and €375 million of tangible assets (see note 15 (2)).

The EDF group's 2025 budget, approved on 18 December 2024, includes expenditure of €1.1 billion in 2025 on the French nuclear new build programme. The Board of Directors' meeting of 5 February 2025 took note of the opinion of its Commitments Committee which met on 27 January 2025: the Committee considered this level of expenditure appropriate, as it is focused on the work required for a final investment decision to be made in late 2026, and the programme's priorities (design maturity and progress on the licence and permit procedures, funding arrangements, etc).

NUWARD, France's Small Modular Reactor (SMR) project

The Basic Design phase of this project continued throughout the first half of 2024, with deeper consideration of the project's design and market positioning. In view of what was learned, a new strategic orientation was adopted, consisting of developing a new design based on proven technological building blocks.

This orientation will build on the technical, industrial and commercial knowledge accumulated by the subsidiary NUWARD and the EDF group's own experience in nuclear power and PWR technology. The EDF group is continuing its strategy of developing a third-generation SMR jointly with NUWARD, to support the energy transition and meet industrial operators' needs in Europe and internationally.

On 26 April 2024, the European Commission approved French State aid to support NUWARD's research and development for SMRs. €75 million of this aid were received by NUWARD in the first half of 2024.

In view of these factors, the EDF group recognised impairment at 31 December 2024 on the total amounts capitalised to date for this project, net of subsidies, carried in EDF SA's financial statements and the financial statements of NUWARD. EDF SA has recognised intangible asset impairment of €(115) million in respect of the amounts invested during the conceptual design phase (see note 5 (3) and 14 (2)).

Note 15 Property, plant and equipment

ACCOUNTING PRINCIPLES AND METHODS

EDF's property, plant and equipment is reported under two balance sheet headings, as appropriate to the business and contractual circumstances of the assets' use:

- property, plant and equipment owned by EDF, essentially nuclear generation facilities;
- property, plant and equipment operated under concessions.

INITIAL MEASUREMENT

Property, plant and equipment is recorded at acquisition or production cost:

- The cost of facilities developed in-house includes all labour and materials costs, and all other production costs attributable to the construction of the asset.
- The cost of property, plant and equipment also includes the initial estimate of decommissioning costs. These costs are recognised in assets against the provision recognised to cover these obligations. On initial recognition, these assets are measured and recorded in the same way as the corresponding provision (see note 26).
- Decommissioning costs for nuclear generation installations also include last core costs (see note 26).

When some of the decommissioning costs for a plant are to be borne by a partner, the expected reimbursement is recognised as accrued income in the assets.

EDF capitalises safety expenses incurred as a result of legal and regulatory obligations sanctioning non-compliance by an administrative ban from operation.

Strategic safety spare parts for generation facilities are treated as property, plant and equipment, and depreciated over the residual useful life of the installations.

The costs of operations that are necessary for generation assets to remain in service, and are undertaken at the time of scheduled shutdowns, particularly during major inspections, are capitalised and amortised over a period corresponding to the time elapsing between two inspections.

Borrowing costs attributable to the financing of an asset incurred during the construction period are recognised as expenses.

DEPRECIATION

Items of property, plant and equipment are depreciated on a straight-line basis over their useful life, defined as the period during which the Company expects to draw future economic benefits from their use.

The expected useful lives for the main facilities are as follows:

- Hydroelectric dams 75 years;
- Electromechanical equipment used in hydropower plants 50 years;
- Fossil-fired power plants (mainly CCGT-Combined Cycle Gas Turbine plants) 25 to 45 years;
- Nuclear generation facilities 40 to 50 years;
- Distribution installations (lines, substations) 20 to 45 years.

For concession assets, the depreciation periods take account of the duration of the concession agreement.

CONCESSION AGREEMENTS

EDF is the operator for two types of concessions:

- public electricity distribution concessions granted by local authorities (municipalities or syndicated municipalities);
- hydropower concessions granted by the State;

The accounting treatment of concessions is based on the 1975 accounting guide for concession operator firms, as there are no specific instructions in the French national chart of accounts.

Public electricity distribution concessions

EDF is the concession operator for the island public distribution networks located in Corsica and France's overseas *départements*, under concession agreements based on standard concession rules approved by the public authorities. Concession agreements signed since 2018 follow the concession model negotiated in 2017 with the National Federation of Licensing Authorities (*Fédération Nationale des Collectivités Concédantes et Régies* - FNCCR) and *France Urbaine*, while other concessions follow the concession model signed with the FNCCR in 1992 (and updated in 2007).

Concession assets are reported in the balance sheet assets as property, plant and equipment operated under concessions, regardless of their initial financing, at acquisition cost or their estimated value at the transfer date when supplied by the grantor. An offsetting liability is recognised for any assets supplied for nil consideration by concession grantors.

Hydropower concessions

Hydropower concessions follow standard rules approved by decree. For concessions granted before 1999, hydropower concession assets consist solely of hydropower generation equipment (dams, pipes, turbines, etc), while for more recent concessions, they also include hydropower generation equipment and switching facilities (alternators, etc).

Assets used in these concessions are recorded under "Property, plant and equipment operated under concessions" at acquisition cost and depreciated over their useful life.

Additional depreciation is also booked in the balance sheet liabilities for assets operated under concessions (see note 24). Most concessions that expired before 2012 were initially for 75 years and were renewed for terms of 30 to 50 years. However, the French government has not yet renewed 36 concessions that have expired. Since their expiry these concessions have thus been in the "rolling extension" situation defined by the Law, which stipulates that at the expiry date of a concession, if no new concession has been established "the concession is extended on the existing terms until such time as a new concession is granted", so as to ensure continuity of operations in the meantime (Article L. 521-16 par. 3 of the French Energy Code).

When a concession is operated in these circumstances, a fee based on the profits made during the "rolling extension" period has been payable since 2019. This fee amounts to 40% of the normative earnings of the concession as defined by Article R.523-5 of the French Energy Code, less corporate income tax.

LONG-TERM ASSET IMPAIRMENT

At each reporting date, EDF assesses whether there is an indication that an asset could have significantly lost value. If so, an impairment test is carried out as follows:

- EDF measures any long-term asset impairment by comparing the carrying value of these assets, combined into groups where necessary, and their recoverable amount, usually determined using the discounted future net cash flow method. When this recoverable amount is lower than the value in the balance sheet, an amount equivalent to the difference is written off under "Depreciation and impairment";
- the discount rates used are based on the weighted average cost of capital (WACC) for each asset or group of assets concerned;
- future cash flows are calculated on the basis of the best available information at the valuation date;
  - for the first few years, cash flows correspond to the Medium-Term Plan (MTP). Over the MTP horizon, energy and commodity prices are determined based on available forward prices, taking hedges into consideration;
  - beyond the MTP horizon, cash flows are estimated based on long-term assumptions prepared through a scenario-building process that is updated annually. Medium and long-term electricity prices are constructed analytically based on a set of assumptions concerning factors such as economic growth, commodity (oil, gas, coal) and CO_2 prices, demand for electricity, interconnections, changes in the energy mix (rise of renewable energies, installed nuclear capacity, etc.) and fundamental models of supply-demand balance. EDF compares each principal component of assumptions with analyses by external bodies (for example, for commodities and CO_2, which are primary influences on electricity prices). The scenarios used are also based on the objectives of public energy and climate policies such as Fit For 55 and RepowerEU at European Union level, and France's Low Carbon Strategy (Stratégie Nationale Bas Carbone) at national level, and EDF compares its own scenarios with scenarios developed by organisations such as the IEA, IHS, Wood Mackenzie or Aurora, bearing in mind that each of these analysts itself proposes a cone of scenarios corresponding to different macro-economic environments.
  - income from capacity market mechanisms is also taken into consideration in valuing generation assets.

These calculations may be significantly influenced by several variables:

- changes in discount rates;
- changes in market prices for energy and commodities and tariff regulations;
- changes in demand and EDF's market shares, and the attrition rate on customer portfolios;
- the useful life of facilities, or the duration of concession agreements where relevant;
- the growth rates used beyond the medium-term plans.

Details of the net values of property, plant and equipment are shown below:

(in millions of euros)	Cumulative amount at 31/12/2023	Increases	Decreases	Cumulative amount at 31/12/2024
Land, buildings and land improvements	12,856	305	88	13,073
Nuclear power plants	70,503	5,080	2,024	73,559
Machinery and plant other than networks	13,687	421	146	13,962
EDF-owned networks	1,230	30	3	1,257
Other tangible assets	1,860	124	83	1,901
Property, plant and equipment owned by EDF	**100,136**	**5,960**	**2,344**	**103,752**
Land, buildings and land improvements	11,023	87	7	11,103
Machinery and plant other than networks	1,994	93	53	2,034
Concession networks	3,656	183	15	3,824
Other tangible assets	27	-	-	27
Property, plant and equipment operated under concessions (1)	**16,700**	**363**	**75**	**16,988**
Property, plant and equipment in progress (2)	**22,759**	**7,350**	**6,519**	**23,590**
Gross values (3)	**139,595**	**13,673**	**8,938**	**144,330**
Land, buildings and land improvements	(8,580)	(326)	(78)	(8,828)
Nuclear power plants	(48,001)	(3,636)	(2,055)	(49,582)
Machinery and plant other than networks	(10,283)	(411)	(141)	(10,553)
EDF-owned networks	(651)	(33)	(3)	(681)
Other tangible assets	(1,309)	(138)	(81)	(1,366)
Property, plant and equipment owned by EDF	**(68,824)**	**(4,544)**	**(2,358)**	**(71,010)**
Land, buildings and land improvements	(7,104)	(161)	(4)	(7,261)
Machinery and plant other than networks	(1,168)	(35)	(31)	(1,172)
Concession networks	(1,548)	(101)	(13)	(1,636)
Other tangible assets	(16)	(2)	-	(18)
Property, plant and equipment operated under concessions	**(9,836)**	**(299)**	**(48)**	**(10,087)**
Property, plant and equipment in progress	**(33)**	**(139)**	**(140)**	**(32)**
Depreciation and impairment	**(78,693)**	**(4,982)**	**(2,546)**	**(81,129)**
NET VALUES	**60,902**	**8,691**	**6,392**	**63,201**

(1) Property, plant and equipment operated under concessions concern SEI's public electricity distribution concessions, and hydropower concessions.

(2) Investments during the year mainly concern equipment for existing power plants under the Grand Carénage programme (for replacement of major components, particularly steam generators, and work done in connection with the 10-year and regular inspections, see note 2.1.2), and construction of the EPR plant (Flamanville 3). At 31 December 2024, capitalised costs associated with the stress corrosion phenomenon amount to €219 million (see note 2.1.3). Property, plant and equipment in progress also include assets associated with the EPR 2, amounting to €375 million at 31 December 2024 (€78 million at 31 December 2023).

(3) The value of property, plant and equipment related to the Flamanville 3 project in the financial statements at 31 December 2024 is €13,156 million (€12,842 million of tangible assets in progress and €314 million of tangible assets in operation). In addition to the construction cost, this amount includes an inventory of spare parts and capitalised amounts for related projects (notably the initial comprehensive inspection and North Area development) totalling €863 million, and €1,222 million of pre-operating expenses and other tangible assets related to the project. Accumulated depreciation and amortisation recognised at 31 December 2024 in respect of property, plant and equipment in operation amounts to €94 million.

On 16 December 2022, EDF announced an adjustment to the schedule for the Flamanville 3 project, and the estimated cost at completion was raised from €12.7 billion to €13.2 billion in 2015 euros, excluding interim interest. The additional costs relating to work for repairs to the main secondary circuit welds at the Flamanville 3 EPR are abnormal costs that cannot be included in the production cost of an asset. They are recorded in operating expenses and in 2024 amount to €181 million of services and other purchases used (see note 7 (3)). The cumulative total of these additional costs is €2.3 billion. The additional exceptional costs induced by the readjustment announced on 16 December 2022, principally relating to stress-relieving heat treatment on the repaired welds, will also be recognised in operating expenses. The amount of intangible assets for the Flamanville 3 project in the financial statements at 31 December 2024 is €59 million (€53 million of intangible assets in operation and €6 million of intangible assets in development). Consequently, the capitalised value of the Flamanville 3 project in the 2024 financial statements is €13,215 million (see note 2.1.1).

Depreciation periods of nuclear plants in France

As stated in note 1.2.1, the depreciation period of nuclear power plants currently in operation in France, *i.e.* thirty-two 900MW reactors, twenty 1,300MW reactors and four 1,450MW reactors, is 50 years for 900MW-series plants (since 1 January 2016) and 1,300MW-series plants (since 1 January 2021), and 40 years for N4-series plants, which do not yet fulfil the conditions for a longer depreciation period.

Under France's multi-year energy programme (PPE, standing for *Programmation Pluriannuelle de l'Énergie*) for the period 2019-2028, adopted in April 2020, twelve French nuclear reactors are to be shut down by 2035. As this includes the shutdowns of two 900MW reactors in 2027 and 2028 ahead of their fifth 10-year inspection, an early shutdown scenario for two 900MW reactors was adopted. Its effects on nuclear provisions and depreciation in EDF's financial statements are not significant. Application of this scenario continued at 31 December 2024 while awaiting the next multi-year energy programme, which could be adopted in 2025 as part of the current revision of France's Energy and Climate strategy.

Depreciation period of the Cordemais coal-fired plant in France

In view of France's Energy and Climate Law of 8 November 2019, the end of the depreciation period for the Cordemais coal-fired plant was brought forward to 2026 at the 2021 year-end.

In September 2024, since the technical and economic conditions necessary for the repowering project to run the Cordemais plant on biomass were not fulfilled, EDF announced that it was considering stopping electricity generation by the Cordemais coal-fired plant in 2027. The repowering project is subject to consultation with employee representative bodies.

Impairment tests on assets

Due to the integrated management and interdependence of the different generation facilities that make up EDF's fleet (nuclear, thermal and hydropower plants), independently of their maximum technical capacities, EDF considers the entire fleet as a single CGU (cash-generating unit). This CGU includes the Flamanville 3 plant which has a net book value of €13,073 million (€13,215 million gross value (see note 15 (3)) including €367 million of assets in operation, less depreciation of €142 million).

No indication of impairment was identified in 2024 for the CGU consisting of the French generation fleet.

However, in view of the decrease in electricity prices, the recoverable value was updated.

The recoverable value is estimated by discounting future cash flows by the usual methodology, described in the accounting methods and principles for long-term asset impairment, over the assets' useful life, using an after-tax WACC of 6.9% at 31 December 2024 (7% at 31 December 2023).

For nuclear assets, EDF's benchmark model assumes an operating lifetime of 50 years for 900MW and 1,300MW-series plants and 40 years for N4-series plants, consistent with the depreciation periods used in the financial statements at 31 December 2024, although it is EDF's industrial strategy to keep plants in operation well beyond 50 years. The recoverable value also incorporates the most recent forecasts concerning Flamanville 3 (which will have a 60-year operating lifetime, see note 15 (3)).

For 2025, the key assumptions concerning price and regulation include forward prices (lower over this horizon than at the 2023 year-end) and take account of hedges already contractualised, a maximum 100TWh volume for ARENH deliveries to alternative suppliers (and 26TWh for network operators), and an ARENH price of €42/MWh.

For the post-ARENH period, the French government announced on 14 November 2023 that a 50% and 90% contribution of nuclear power revenues would be payable above respective "taxation" and "capping" thresholds of €78/MWh and €110/MWh (both in 2022 euros). This information was used as key assumptions in estimating recoverable value at 31 December 2024, in the absence of any other official regulations setting thresholds for payment of the contribution. The measures adopted in France's Finance Law for 2025 stipulate that these thresholds will be set by ministerial order every three years, based on the full production cost for electricity generated by the historical plants as valued by the CRE, plus an amount of €5-€25/MWh for the taxation threshold and €35-€55/MWh for the capping threshold. EDF will remain watchful regarding retention of the thresholds agreed in November 2023, namely €78/MWh and €110/MWh (both in 2022 euros).

The new market organisation aims to develop medium-term products in addition to the short-term products and renewable energy PPAs (Power Purchase Agreements) currently available on the wholesale electricity markets: 4 or 5-year annual baseload supply contracts allowing EDF and all electricity suppliers in France to offer supply contracts that provide customers with visibility and stability over horizons of up to 5 years.

EDF also offers certain electro-intensive customers long-term industrial partnership contracts relating to the historic nuclear fleet (Nuclear Power Allocation Contracts).

The recoverable value resulting from the test has decreased but remains well above the net book value.

The key assumptions in the test still concern:

- the operating lifetimes of nuclear assets;
- the long-term market price scenario (after the end of the ARENH scheme) and to a lesser degree the changes in forward prices over the medium-term horizon;
- post-ARENH regulations;
- the volume of nuclear power output;
- the discount rate;
- and to a lesser extent, changes in costs and investments, and the assumed capacity revenue.

Sensitivity analyses

These key assumptions were subjected to individual sensitivity analyses (a 50bp increase in the WACC; a 10TWh annual decrease in nuclear power output over the whole period; a 5% increase in investments or operating expenses; a decline in capacity prices, and post-2026 market prices €10/TWh below the baseline scenario price for a sustained period) and the results did not call into question the existence of a positive difference between the book value and the recoverable value.

For example, a decrease of 10TWh a year over the whole generation period would have a negative impact of €(3.8) billion on recoverable value.

A 50bp increase in the discount rate would have a negative impact of €(3.4) billion on the recoverable value.

A 10% increase in investments over the whole period would have a negative impact of €(3.9) billion on the recoverable value.

Note 16 Financial assets

ACCOUNTING PRINCIPLES AND METHODS

INVESTMENTS

Investments and investment securities are carried at acquisition cost.

Gains and losses on sales of investments are valued using the FIFO (first in first out) method.

Transfer duties, fees and commissions and legal fees related to acquisitions of investments are included in the cost of acquisition of the asset.

Expenses of this type relating to other investments are included in expenses. Tax-regulated amortisation of acquisition costs is recorded in an excess depreciation account.

When the book value of investments is higher than their value in use, impairment is recorded equivalent to the difference.

For investments in companies consolidated by the EDF group, value in use is principally determined by reference to the entity's equity value consolidated in the Group's financial statements.

Where relevant, value in use is determined based on discounted future cash flows, calculated on the basis of the best available information at the year-end:

- for the first few years, cash flows correspond to the Budget, then the Medium-Term Plan (MTP). Over the MTP horizon, energy and commodity prices are determined based on available forward prices, taking hedges into consideration;
- beyond the MTP horizon, cash flows are estimated based on long-term assumptions developed through a financial trajectory and scenario development process that is updated annually.

These calculations may be significantly influenced by several variables:

- changes in discount rates;
- changes in market prices for energy and commodities and tariff regulations;
- changes in demand and market shares, and the attrition rate on customer portfolios;
- the useful life of facilities, or the duration of concession agreements where relevant;
- the growth rates used beyond the medium-term plans and where relevant the terminal values taken into consideration.

INVESTMENT SECURITIES

EDF holds investment securities comprising financial assets intended to finance operations at the end of the nuclear cycle, for which provisions have been accrued. These assets are managed separately from other financial assets and investments in view of their specific objective, and consist of bonds, equities, collective investment funds and "reserved" funds.

Shares are recorded at acquisition cost. Transfer duties, professional fees, commissions, legal expenses and purchasing costs are all charged to expenses, applying the option used for other investments.

Investment securities (shares and bonds) are recorded at acquisition cost. If the carrying amount of a security is lower than the acquisition cost at the year-end, the unrealised capital loss is fully covered by a provision without being netted against potential gains on other securities. The carrying amount of listed securities is assessed individually, taking the stock market price into account. For unlisted securities, the carrying amount is also assessed individually, mainly by reference to the growth prospects of the companies concerned.

OTHER FINANCIAL ASSETS

EDF grants short-term loans in foreign currencies to its subsidiaries for the purposes of the Group's activities.

In order to reduce exposure to foreign exchange risks, EDF mainly finances these loans by short-term commercial paper issues in foreign currencies and in euros, together with the use of currency hedging derivatives. Capitalised receivables are stated at nominal value. Impairment is recognised when the carrying amount falls below the book value.

16.1 Changes in financial assets

(in millions of euros)	Cumulative amount at 31/12/2024	Cumulative amount at 31/12/2023
Investments [1]	64,641	61,513
Receivables related to investments	50	50
Investment securities [2]	25,683	25,803
Other investments	86	86
Loans to subsidiaries and other financial assets [3]	42,333	36,705
Total financial assets, gross	**132,793**	**124,157**
Impairment of investments and related receivables [4]	(14,303)	(10,814)
Impairment of investment securities [5]	(983)	(1,254)
Total impairment	**(15,286)**	**(12,068)**
TOTAL FINANCIAL ASSETS, NET	**117,507**	**112,089**

(1) The increase in investments principally corresponds to:

- acquisition of 100% of Arabelle Solutions France at the value of €2,057 million (see note 2.1.6). At 31 December 2024 the value of the shares of Arabelle Solutions France was written down by €13 million in accordance with signed price adjustment agreements. The value of the investment at 31 December 2024 is thus €2,044 million;

- acquisition of 100% of Arabelle Electronics France at the value of €42 million (see note 2.1.6);

- acquisition of the 5% stake in Framatome owned by its minority shareholder Assystem for €206 million including acquisition expenses (see note 2.1.5);

- a €351 million capital contribution by EDF Invest to C93 (the holding company for Fjord1 electric ferries in Norway);

- a €133 million capital contribution by EDF Invest to C94 (a company holding a portfolio of logistics warehouses in France);

- a €131 million capital contribution by EDF Invest to C95 (a company holding an office building in France);

- a €122 million capital contribution by EDF Invest to C96 (a company holding telecommunications towers in Austria);

- a €95 million capital contribution by EDF Invest to C89 (a company holding a portfolio of logistics warehouses in Sweden).

(2) Changes in investment securities mainly correspond to acquisitions and sales of dedicated assets over the period, which generate net gains that are reinvested in the dedicated asset portfolio (see note 12).

(3) Loans to subsidiaries at 31 December 2024 total €41,549 million, principally comprising €22,655 million for EDF International in connection with funding for the HPC project in England, €8,675 million for EDF Renewables, €5,028 million for Enedis, €1,750 million for Dalkia, €1,651 million for EDF Energy and €804 million for EDF Trading. This item also includes a security deposit of €746 million paid by EDF to Enedis.

(4) A review of the value in use of investments carried in EDF's balance sheet assets at 31 December 2024 led to recognition of impairment, principally:

- €1,330 million on the investment in EDF Développement Environnement (EDEV) (see note 11 (7)). As the holding company for most of the EDF group's subsidiaries and investments contributing to development of the EDF group's areas of business in France, the value in use of the investment in EDEV is based on the contributions by various subsidiaries and subgroups to the Group's consolidated equity, taking account of the positive headroom shown by impairment tests of the various cash-generating units. The deterioration in 2024 in the value in use of the investment in EDEV essentially results from a substantial downturn in the realisable value of EDF Renewables, due to impairment recognised by that subsidiary in respect of various international projects;

- €390 million on the investment in EDF International (€7,013 million in 2023, see note 11 (7), and €2,650 million in 2022) As the holding company for most of the EDF group's international investments, the value in use of the investment in EDF International is based on the contributions by various subsidiaries and subgroups to the Group's consolidated equity, taking account of the positive headroom shown by impairment tests of the various cash-generating units;

In 2024, the deterioration in the value in use of the investment in EDF International essentially results from the lower headroom on cash-generating units in Italy and a decrease in the value in use of subsidiaries in the United States, partly offset by an improvement in EDF Energy's value in use in the United Kingdom (see note 2.1.4);

In 2023, the deterioration in the value in use of the investment in EDF International resulted from the EDF group's announcement on 23 January 2024 of a revised schedule and increased completion cost for the HPC project, leading to recognition of substantial impairment by EDF Energy that markedly reduced the value in use;

The deterioration in 2022 in the value in use of the investment in EDF International essentially resulted from a substantial downturn in the realisable value of EDF Energy in the United Kingdom, mostly attributable to the very significant increase in the discount rate, and to a lesser extent to the revised completion cost for the HPC project announced in May 2022.

Impairment at 31 December 2024 also includes amounts relating to the acquisition of Arabelle Solutions France (€1,528 million) and Arabelle Electronics France (€1 million) (see note 2.1.6).

(5) The change in this item is mainly due to more favourable developments on the financial markets in 2024 than in 2023, leading to reversal of impairment on investment securities and other investments during the year (see note 11 (6)).

16.2 Subsidiaries and investments of at least 50% of capital

(in millions of euros)	Head office addresses	Gross book value of shares owned at 31/12/2024	Impairment recorded at 31/12/2024	Net book value of shares owned at 31/12/2024	% capital owned	Share capital 2023	Net income 2023	Equity 2023 excluding share capital and net income	Loans and advances granted by the Company at end-2024	Dividends received in 2024	Sales 2023	Currency
Subsidiaries												
EDF International [1]	20 Place de la Défense 92800 Puteaux	25,930	10,053	15,877	100	18,420	(4,397)	(3,799)	22,655	-	-	EUR
C3 [2]	4 Rue Floréal 75017 Paris	11,196	-	11,196	100	11,196	271	160	-	257	-	EUR
EDF Développement Environnement [3]	33 Place des Corolles 92400 Courbevoie	6,891	1,330	5,561	100	2,641	53	3,662	-	52	-	EUR
CTE [4]	4 Rue Floréal 75017 Paris	2,705	-	2,705	50.1	2,700	253	2,363	-	119	-	EUR
Arabelle Solutions France [5]	32 Avenue Pablo Picasso 92000 Nanterre	2,044	1,528	516	100	10	(27)	39	-	-	437	EUR
EDF Holding [6]	4 Rue Floréal 75017 Paris	1,950	-	1,950	100	1,950	3,704	195	-	3,704	-	EUR
EDF Immo [7]	4 Rue Floréal 75017 Paris	1,361	-	1,361	100	1,360	39	64	-	37	-	EUR
EDF Nam Theun Holding [8]	4 Rue Floréal 75017 Paris	437	50	387	100	87	30	327	-	84	-	EUR
Other [9]		5,282	1,080	4,202	100	1,124	(184)	2,596	215	233	148	EUR
Holding companies		**57,796**	**14,041**	**43,755**					**22,870**	**4,486**		
France												
Enedis	4 Place de la Pyramide 92800 Puteaux	2,700	-	2,700	100	270	(867)	5,547	5,028	-	16,135	EUR
Framatome	1 Place Jean Millier 92400 Courbevoie	2,220	-	2,220	80.5	707	131	2,031	212	51	2,675	EUR
Dalkia	204 Rue Sadi Carnot 59350 Saint André Lez Lille	967	-	967	99.9	220	(8)	126	1,750	-	3,251	EUR
EDF Production Electrique Insulaire	20 Place de la Défense 92050 Paris La Défense Cedex	560	-	560	100	560	195	596	335	107	1,256	EUR
Arabelle Electronics France [5]	204 Rond-Point du Pont de Sèvres 92100 Boulogne-Billancourt	42	1	41	100	44	-	(3)	-	-	9	EUR
Edvance	165-173 Avenue Pierre Brossolette 92120 Montrouge	12	-	12	80	15	50	3	14	26	672	EUR
Centrale Electrique Rhénane de Gambsheim	Haugruen 67760 Gambsheim	3	-	3	50	6	-	3	-	-	7	EUR
Other countries				-								
Emosson	Centrale de la Bâtiaz Case postale 391 1920 Martigny	14	14	-	50	140	-	-	-	-	-	CHF
Rheinkraftwerk Iffezheim (RKI)	Werkstrabe 5 76596 Forbach Allemagne	3	-	3	50	10	3	67	-	-	14	EUR
Forces Motrices du Chatelôt	Centrale du Châtelot 2325 Les Planchettes	-	-	-	50	6	-	2	-	-	4	CHF
Industrial and commercial companies		**6,521**	**15**	**6,506**					**7,339**	**184**		
Other entities (GIE EIFER)		**130**	**125**	**5**					**-**	**-**		
TOTAL SUBSIDIARIES		**64,447**	**14,181**	**50,266**					**30,209**	**4,670**		

(1) EDF International makes and manages investments in entities operating in the energy sector outside France, principally: EDF Energy, Edison, Luminus, EDF Gas Deutschland, EDF China Holding Ltd, Taishan Nuclear Power Joint Venture Company Ltd, EDF Norte Fluminense, EDF Brasil Holding, and EDF Inc. EDF Energy carries the nuclear development projects in England, including HPC and Sizewell C.

(2) Among other investments, C3 holds 100% of EDF Investissements Groupe, a subsidiary in charge of medium and long-term financing for operations outside France.

(3) EDF Développement Environnement (EDEV) is a holding company for subsidiaries and investments contributing to development of the EDF group's areas of business in France, including energy efficiency and renovation (IZI solutions, IZI confort, EDF ENR, Sowee), electric mobility (IZIVIA), nuclear plant decommissioning and management of radioactive waste (Cyclife, Orano DS), energy generation from renewable sources (EDF Renewables, Hydrostadium), local energy management (Agregio, e2m), and other activities, including Électricité de Strasbourg.

(4) CTE holds 100% of RTE.

(5) Acquisition of 100% of Arabelle Solutions France and Arabelle Electronics France as a result of the transfer of all the assets and liabilities of Arabelle Holding on 17 December 2024 (see note 2.1.6).

(6) EDF Holding owns EDF Trading, which provides optimisation and risk management services, and an interface with wholesale markets.

(7) EDF Immo holds 100% of Gérance Générale Foncière and Sofilo, as well as other investments.

(8) EDF Nam Theun Holding holds an investment in Nam Theun 2 Power Co.

(9) Other investments with individual values of less than €400 million.

16.3 Subsidiaries and investments under 50% of capital

(in millions of euros)	Head office addresses	Gross book value of shares owned at 31/12/2024	Impairment recorded at 31/12/2024	Net book value of shares owned at 31/12/2024	% capital owned	Share capital 2023	Net income 2023	Equity 2023 excluding share capital and net income	Dividends received in 2024	Currency
Subsidiaries		**64,447**	**14,181**	**50,266**	**-**		**-**		**4,670**	
Investments:										
Companies in which EDF has an interest of between 10% and 50%										
Trimet France	Rue Henri Sainte Claire Deville 73300 Saint Jean de Maurienne	130	66	64	35	58	115	348	34	EUR
Dalkia Investissements	33 Place des Corolles 92400 Courbevoie	63	56	7	50	1	2	14	1	EUR
Total		**193**	**122**	**71**					**35**	
Companies in which EDF has an interest of less than 10%										
Force Motrice de Mauvoisin	Postfach Axpo 5401 Baden Suisse	1	-	1	9.8	100	6	16	1	CHF
Total		**1**	**-**	**1**					**1**	
Total investments		**194**	**122**	**72**					**36**	
TOTAL SUBSIDIARIES AND INVESTMENTS		**64,641**	**14,303**	**50,338**					**4,706**	

16.4 Relations with subsidiaries

	EDF's receivables[1]		EDF's liabilities[1]			
(in millions of euros)	Loans	Operating receivables	Net liabilities included in current account	Operating liabilities	Financial expenses	Financial income (excluding dividends)
Company						
AT34	168	-	-	-	-	-
CTE	-	334	-	186	-	-
Framatome	212	311	-	726	-	7
EDF Energy	1,651	98	-	166	-	117
EDF Renewables	8,675	-	-	-	-	385
EDF International	22,655	-	-	-	-	630
EDF Trading	804	1,627	-	1,584	-	78
Enedis	5,028	-	-	1,426	-	125
Dalkia France	1,750	55	-	146	-	72
EDF Production Électrique Insulaire	335	-	-	140	-	8
EDF Luminus	-	52	-	-	-	-
Edvance	14	51	-	140	-	-
Arabelle Solutions	215	-	-	-	-	2
Sous-groupe Arabelle	-	-	-	86	-	-
Group Support Services	-	57	-	-	-	-
Électricté de Strasbourg	-	52	-	-	-	-
Agregio	-	-	-	75	-	-
Cyclife	26	-	-	64	-	1
EDF Belgium	-	-	-	105	-	-
Current accounts [2]	-	-	-	1,705	-	-
Investment agreement for subsidiaries' liquidities [3]		-	5,805	-	(319)	-
Group cash management agreement with subsidiaries [4]		-	18,724	-	(866)	-
Tax consolidation agreement	-	-	-	2,077	-	-

(1) Receivables and payables of more than €50 million.

(2) Including €660 million concerning Sofilo, €550 million concerning EDF Production Électrique Insulaire, €274 million concerning EDF Immo and €107 million concerning Enedis.

(3) In 2024, these mainly include the €93 million drawing on the credit line of Arabelle Solutions France, which has been transferred to EDF (see note 2.1.6).

(4) Including €5,378 million concerning C3, €3,197 million concerning EDF Energy, €2,815 million concerning EDF Holding, €2,388 million concerning EDF Trading, €881 million concerning Edison, €833 million concerning Framatome and €738 million concerning EDF International.

16.5 Investment securities portfolio

(in millions of euros)	At start of year			At year-end		
	Gross book value	Net book value	Fair value	Gross book value	Net book value	Fair value
VALUE OF INVESTMENT SECURITIES PORTFOLIO	**25,803**	**24,717**	**28,627**	**25,683**	**24,869**	**31,389**

The net value of the investment securities portfolio at 31 December 2024 comprises €24,869 million of dedicated assets (see note 26.6.5).

16.6 Financial loans and receivables related to investments

This item consists mainly of loans to subsidiaries:

(in millions of euros)	Liquidity			Gross value at	Gross value at
	< 1 year [1]	1-5 years [2]	> 5 years [3]	31/12/2024	31/12/2023
Receivables related to investments	1	-	49	50	50
Loans to subsidiaries and other financial assets [4]	7,474	15,702	19,157	42,333	36,705
FINANCIAL LOANS AND RECEIVABLES RELATED TO INVESTMENTS	**7,475**	**15,702**	**19,206**	**42,383**	**36,755**

(1) Including €4.5 billion concerning EDF Renewables, €0.8 billion concerning EDF Trading, €0.4 billion concerning EDF International, corresponding to maturities of drawings on credit lines, and a €0.7 billion security deposit paid by EDF to Enedis.

(2) Including €10.7 billion concerning EDF International, €3.1 billion concerning EDF Renewables, and €1 billion concerning Enedis, corresponding to maturities of drawings on credit lines.

(3) Including €11.4 billion concerning EDF International corresponding to maturities of drawings on credit lines, €3.8 billion concerning Enedis corresponding to maturities of loans and drawings on credit lines, €1.6 billion concerning EDF Energy corresponding to maturities of loans, and €1 billion concerning EDF Renewables corresponding to maturities of drawings on credit lines.

(4) The change in this item is principally attributable to loans to subsidiaries in 2024 totalling €4.9 billion, including €4.5 billion to EDF International, €1.6 billion to EDF Renewables, a repayment of €(1.7) billion received from EDF Trading, and a €0.7 billion security deposit granted to EDF by Enedis.

Note 17 Inventories and work-in-progress

ACCOUNTING PRINCIPLES AND METHODS

The initial cost of inventories includes all direct material costs (including the effect of hedging), labour costs and a share of indirect production costs.

Inventory consumption is generally valued under the weighted average unit cost method. Consumption of greenhouse gas emission certificates and Energy Savings Certificates is valued under the FIFO (first in first out) method.

Inventories are carried at the lower of historical cost or net realisable value.

NUCLEAR FUEL AND MATERIALS

Inventory accounts include:

- nuclear materials, whatever their form during the fuel fabrication cycle,
- fuel components in the warehouse or in the reactor.

The stated value of nuclear fuel and materials and work-in-progress is determined based on direct processing costs including materials, labour and subcontracted services (*e.g.* fluoration, enrichment, fabrication).

In application of the concept of "loaded fuel" as defined in Article D. 594-1 of the Environment code, the cost of inventories for fuel loaded in the reactors but not yet irradiated includes expenses for spent fuel management and long-term radioactive waste management. The corresponding amounts are taken into account in the relevant provisions.

Nuclear fuel consumption is determined by component (natural uranium, fluoration, enrichment, fuel assembly fabrication) as a proportion of the expected output when the fuel is loaded in the reactor. These quantities are valued by applying the weighted average cost of inventories to each component. Inventories are periodically corrected in view of forecast spent quantities based on neutronic measurements and physical inventories.

OTHER OPERATING INVENTORIES

Other operating inventories comprise:

- fossil fuels required for operation of fossil-fired power plants;
- operating materials and equipment such as spare parts supplied under a maintenance programme (excluding capitalised strategic safety spare parts);
- greenhouse gas emission certificates and Energy Savings Certificates acquired for the generation cycle (see note 6);
- gas stocks, valued at weighted average cost, including direct and indirect purchase costs, especially transport costs;
- certificates issued under capacity obligation mechanisms (capacity guarantees in France) (see note 3.1).

Impairment of spare parts depends mainly on the turnover of these parts.

GREENHOUSE GAS EMISSION CERTIFICATES

EU Directive 2003/87/EC set up a greenhouse gas emission trading system for the European Union (the EU-ETS).

This system, which applies in all EU countries, sets an annual cap on emissions. Businesses (including EDF) receive or buy emission quotas, then the following year surrender to the European Commission a number of greenhouse gas emission certificates corresponding to their Scope 1 emissions for the year elapsed, such as direct greenhouse gas emissions from production of the goods sold (*e.g.* electricity, heat, steel, paper, etc.). Fines are payable if there is a shortfall (€100 per tonne of CO_2 not covered by quotas, and an obligation to cover these amounts by quota the following year).

The cap is being progressively reduced in order to bring down the total emissions in Europe.

The legislative framework of the EU-ETS for the fourth trading period (2021-2030) has been tightened up to achieve the emission reduction targets set in the 2030 Climate and Energy framework, and the EU's contribution to the Paris Climate Agreement adopted in 2015 (which set a general target of a 40% cut in emissions compared to 1990 levels for the whole EU) [1].

As part of the Fit for 55 package of legislation, the European Commission adopted Laws in April 2023 raising the target for cuts in CO_2 emissions to at least 62% by 2030 for sectors concerned by the EU-ETS. The new rules also introduce a reduction in the number of quotas automatically allocated to each company concerned by the Emissions Trading System.

EDF applies the accounting methods for greenhouse gas emission certificates stipulated in ANC regulation 2012-03 of 4 October 2012, incorporated into Articles 615-1 to 615-22 of ANC regulation 2014-03.

The accounting treatment of emission certificates depends on the holding intention.

Emission certificates held to comply with regulatory requirements on greenhouse gas emissions (the "Generation" model) are included in inventories at acquisition cost, and the FIFO (first in first out) method is applied. A write-down is recorded when the generation cost of the electricity that includes the cost of the rights is higher than the present value of that electricity.

(1) The current EU ETS allocations trajectory does not yet include changes to be made in application of the Fit for 55 package.

At year-end, a "net presentation" principle is applied as follows:

- an asset is recognised in raw materials inventories if the quantities of greenhouse gas emissions are lower than the number of emission certificates held in the portfolio. This corresponds to the certificates available to cover future greenhouse gas emissions;
- a tax liability is recorded in the opposite situation, equivalent to the rights still needed to cover emissions already produced, valued at the contractualised acquisition price for forward purchases deliverable before surrender, and at market value for the balance.

The net reporting principle assumes that the emission certificates held in the portfolio will be the ones used to offset emissions produced. However, there is a limit to the fungibility of rights at EDF, as there are no transfers of rights between the island and mainland activities. This can lead to concurrent recognition of an asset and a liability.

The book value of inventories by category is as follows:

	31/12/2024			31/12/2023		
(in millions of euros)	Gross value	Impairment	Net value	Gross value	Impairment	Net value
Nuclear fuel	10,198	(3)	10,195	9,801	(24)	9,777
Other raw materials*	429	(243)	186	445	(230)	215
Other supplies	1,843	(316)	1,527	2,463	(299)	2,164
Work-in-progress and other inventories	1,191	-	1,191	1,164	-	1,164
TOTAL INVENTORIES	**13,661**	**(562)**	**13,099**	**13,873**	**(553)**	**13,320**

* *The decrease in Other raw materials in 2024 includes additional impairment of €(13) million on coal stocks (€(230) million in 2023), since less use was made of coal-fired facilities due to the better availability of other plants, particularly nuclear plants.*

Note 18 Other current assets and cash

ACCOUNTING PRINCIPLES AND METHODS

Trade receivables are initially stated at nominal value.

They also include the value of unbilled receivables for energy already supplied.

A write-down is recorded when, based on the probability of recovery assessed according to the type of receivable, the recoverable amount of receivables falls below their book value. Depending on the nature of the receivable, the risk associated with doubtful receivables is assessed individually or by reference to provision matrices based on credit loss histories. EDF does not bear the risks of non-payment for the delivery portion of these receivables, which is borne by Enedis.

The table below shows a breakdown of other current assets and cash by maturity:

	Liquidity				
(in millions of euros)	< 1 year	1-5 years	> 5 years	Gross value at 31/12/2024	Gross value at 31/12/2023
Advances and progress payments on orders	**620**	**194**	**111**	**925**	**756**
Trade receivables:					
Amounts billed	3,861	-	-	3,861	4,028
Unbilled receivables [1]	10,491	-	-	10,491	11,469
Other operating receivables [2]	5,037	103	239	5,379	3,772
Total operating receivables	**19,389**	**103**	**239**	**19,731**	**19,269**
Cash instruments [3]	4,056	94	1	4,151	2,759
Cash	6,023	-	-	6,023	8,147
Prepaid expenses	442	237	349	1,028	1,137
TOTAL CURRENT ASSETS	**30,530**	**628**	**700**	**31,858**	**32,068**

(1) In 2024 this item mainly concerns receivables for energy supplied and not billed. The decrease observed principally reflects the lower level of outstanding trade receivables due to a receivables securitisation programme implemented in 2023.

(2) Including €3,431 million of receivables on the State related to taxes other than income taxes in 2024 (€2,539 million in 2023). Other operating receivables at 31 December 2024 also include a €792 million receivable for the compensation of public energy service charges (CSPE), compared to a €2,030 million operating liability at 31 December 2023 (see notes 4 and 31 (4)).

(3) This corresponds to unrealised gains on foreign exchange instruments, and on all debit balances relating to EDF's margin calls on derivatives and transfers of securities to its banking partners under repurchase agreements (€160 million in 2024, €591 million in 2023).

EDF's public service charges

The amount of public service charges to be compensated to EDF for 2024 is €6,861 million. The compensation mechanism is presented in note 4.

The amounts received in 2024 out of the State's General Budget totalled €3,472 million, notably corresponding to the €227 million balance outstanding under the mechanism for the year 2023, and payments of €3,245 million for the year 2024.

In compliance with the CRE's decision 2024-124 of 26 June 2024, taken in application of Article L. 336-5 of the French Energy Code amended by Article 225 of France's Finance Law for 2024 (Law 2023-1322 of 29 December 2023) and Article 5 of decree 2024-556, the compensation to be financed by the State's budget in 2025 will be reduced by the amount of ARENH price supplements received in 2024 (€556 million). This has lowered EDF's 2024 receivable for public energy service charges at 31 December 2024.

At 31 December 2024, EDF therefore has a €792 million operating receivable on the State for the compensation of its public service charges (compared to a €2,030 million operating liability at 31 December 2023).

Note 19 Marketable securities

ACCOUNTING PRINCIPLES AND METHODS

Marketable securities are initially recorded as assets at acquisition cost, and restated at the lower of historical cost or present value at year-end.

For listed securities, the present value is equal to the year-end stock market price. For unlisted securities, the market value is the probable trading value taking the Company's growth prospects into consideration.

Provisions are recorded to fully cover any unrealised losses, without netting against unrecorded unrealised gains.

Gains and losses on sales of marketable securities are valued using the FIFO (first in first out) method.

Details of marketable securities are as follows:

(in millions of euros)	31/12/2024	31/12/2023	Variation
Investment funds	1,156	1,369	(213)
Short-term negotiable debt instruments in euros and foreign currencies[1]	1,323	372	951
Securities received as guarantees[2]	345	-	345
Bonds	11,436	16,525	(5,089)
Junior securities received as guarantees	2,013	1,689	324
Accrued interest and other marketable securities	113	105	8
Total gross value[3]	**16,386**	**20,060**	**(3,674)**
Impairment	(265)	(553)	288
TOTAL NET VALUE	**16,121**	**19,507**	**(3,386)**

(1) The portion allocated to dedicated assets was nil at 31 December 2024 and at 31 December 2023 (see note 26.6.5).

(2) These include €345 million of bonds received as guarantees from a banking partner, recognised via financial liabilities (see note 32 (4)).

(3) The reduction in bonds outstanding in 2024 served notably for early repayments of drawings on bilateral credit lines with banks. The rise observed in negotiable debt securities is explained by an inflection of interest rates, which led to more favourable returns.

Note 20 Variation in cash and cash equivalents reported in the cash flow statement

(in millions of euros)	31/12/2024	31/12/2023	Variation
Marketable securities	16,386	20,060	(3,674)
Cash	6,183[1]	8,738[1]	(2,555)
Sub-total in balance sheet assets	**22,569**	**28,798**	**(6,229)**
Euro investment funds	(1,156)	(1,369)	213
Negotiable debt instruments *(in euros)*	(1,265)	(282)	(983)
Negotiable debt instruments *(non-euro)*	(58)	(90)	32
Securities received as guarantees	(345)	-	(345)
Bonds	(11,436)	(16,525)	5,089
Junior securities received as guarantees	(2,013)	(1,689)	(324)
Accrued interest	(113)	(105)	(8)
Marketable securities included in financial assets in the cash flow statement	**(16,386)**	**(20,060)**	**3,674**
Cash advances made to subsidiaries (cash pooling agreements) included in "other operating receivables" in the balance sheet	-	-	-
Cash advances received from subsidiaries (cash pooling agreements) included in "operating, investment and other liabilities" and junior securities included in "marketable securities" in the balance sheet	(8,344)	(9,041)	697
Cash and cash equivalents, closing balance in the cash flow statement*	**(2,161)**	**(303)**	**(1,858)**
Elimination of the effect of currency fluctuations			76
Effect of reclassifications and changes in fair value			(10)
Elimination of net financial income on cash and cash equivalents and other items*			-
NET VARIATION IN CASH AND CASH EQUIVALENTS IN THE CASH FLOW STATEMENT*			**(1,792)**

* *See the Cash flow statement.*

(1) Including €160 million corresponding to all debit balances relating to margin calls on derivatives at 31 December 2024, compared to €591 million at 31 December 2023 (see note 18 renvoi (3)).

As of 2018, the cash positions of all subsidiaries in the cash flow statement are classified by reference to criteria of autonomy.

An entity is considered non-autonomous when it is a holding company, generates the majority of its sales with EDF group entities, or does not have the status of employer.

The main subsidiaries classified as non-autonomous are C3, EDF Holding, Arabelle Solutions and EDF international, and the main subsidiaries classified as autonomous are Enedis, EDF Production Électrique Insulaire, EDF Trading, EDF Energy, Sofilo and GGF.

In the cash flow statement, the cash positions of autonomous subsidiaries are presented as a deduction from Cash and cash equivalents. The cash positions of non-autonomous subsidiaries are included in the components of the changes in working capital.

Note 21 Unrealised foreign exchange losses

ACCOUNTING PRINCIPLES AND METHODS

Foreign currency receivables and payables are translated into Euros at the year-end exchange rates. The resulting translation differences are recorded in the balance sheet under "Unrealised foreign exchange gains" and "Unrealised foreign exchange losses". Provisions are recorded to cover all unrealised exchange losses on foreign currency borrowings not hedged for exchange risks. Unrealised gains are not recognised in the income statement.

Unrealised gains and losses on currency derivatives classified as hedging instruments are recorded in the balance sheet in the revaluation surplus accounts, and netted with the unrealised foreign exchange gains and losses booked in respect of the hedged items, in compliance with ANC regulation 2015-05 of 2 July 2015 on forward financial instruments and hedging operations. Realised gains and losses on hedging derivatives are recognised in the income statement symmetrically to gains and losses on the hedged item.

Foreign exchange gains and losses on trade receivables and payables are recorded in operating income and expenses.

Unrealised foreign exchange losses at 31 December 2024 amount to €1,363 million, principally reflecting:

- unrealised losses caused by currency movements (essentially in the US dollar and the pound sterling) amounting to €1,127 million at 31 December 2024 (€936 million at 31 December 2023) on liabilities and receivables in foreign currencies, and currency hedging instruments;
- the balance at 31 December 2024 of realised gains and losses on the settlement of hedging instruments with the subsidiary EDF International, amounting to €236 million (€251 million at 31 December 2023). In accordance with France's national chart of accounts, in application of the symmetry principle set out in Article 628-11, the net result (€311 million in 2019, no equivalent in 2020, 2021, 2022, 2023 and 2024) is recognised in unrealised foreign exchange losses and transferred to expenses over the residual life of the hedged item, symmetrically to the accounting treatment of gains and losses on the hedged item. A €15 million expense was accordingly recognised in the 2024 financial result (€15 million in 2023).

After elimination of the effects of foreign exchange differences on settled hedging instruments with the subsidiary EDF International, amounting to €236 million, and currency swaps hedging dedicated assets, amounting to €714 million, provisions for unrealised foreign exchange losses amounted to €413 million at 31 December 2024 (see note 25 (1)).

Note 22 Changes in equity

(in millions of euros)	Capital	Reserves and premiums	Retained earnings and interim dividends	Profit or loss for the financial year	Investment subsidies	Tax-regulated provisions	Total equity
At 31 December 2022	**1,944**	**25,698**	**8,187**	**(30,648)**	**218**	**5,742**	**11,141**
Allocation of 2022 net income	-	-	(30,648)	30,648	-	-	-
2023 profit	-	-	-	7,710	-	-	7,710
Dividend distribution	-	-	-	-	-	-	-
Capital increase of 2023 [1]	141	2,249	-	-	-	-	2,390
Capital reduction of 2023 [2]	(1)	(6)	-	-	-	-	(7)
Interim dividend for 2023	-	-	-	-		-	-
Other changes	-	1	-	-	(9)	(106)	(114)
At 31 December 2023	**2,084**	**27,942**	**(22,461)**	**7,710**	**209**	**5,636**	**21,120**
Allocation of 2023 net income	-	-	7,710	(7,710)	-	-	-
2024 profit	-	-	-	9,865	-	-	9,865
Dividend distribution	-	-	-	-	-	-	-
Interim dividend for 2024	-	-	-	-	-	-	-
Other changes	-	1	-	-	56	(134)	(77)
AT 31 DECEMBER 2024	**2,084**	**27,943**	**(14,751)**	**9,865**	**265**	**5,502**	**30,908**

(1) See notes 22.1 and 22.3. to EDF SA's 2023 financial statements.

(2) See notes 22.1 and 16.6. to EDF SA's 2023 financial statements.

22.1 Share capital

At 31 December 2024, EDF's share capital amounts to €2,084,365,041 comprising 4,168,730,082 fully subscribed and paid-up shares with nominal value of €0.50, owned 100% by the French State since 8 June 2023.

22.2 Dividends

At the General Meeting of 11 June 2024 it was decided not to pay out any dividend in 2024 in respect of 2023.

No interim dividend was paid for 2024.

Note 23 Additional equity

ACCOUNTING PRINCIPLES AND METHODS

Perpetual subordinated bonds issued by EDF in Euros and other currencies are recorded in compliance with the French Chartered accountants' body *Ordre des Experts Comptables* opinion 28 of July 1994, taking their specific characteristics into consideration.

As a result, they are classified as additional equity, since redemption is exclusively controlled by EDF.

Issuance expenses and issue premiums on perpetual subordinated bonds are recognised in deferred charges in the balance sheet and amortised over the duration of the relevant tranche, on a pro rata basis.

The annual interest expense on these bonds is recorded as a financial expense in the income statement.

These perpetual subordinated bonds are reclassified from Additional equity to Financial liabilities when the intent to exercise a redemption option in the short term is announced.

Additional equity at 31 December 2024 amounts to a net €10,188 million and consists of:

- perpetual subordinated bonds issued by EDF in January 2013, valued at €758 million. This is the euro-equivalent value of the outstanding residual nominal value (£628.7 million) following the partial redemption in September 2024, for £621.3 million, of an initial £1,250 million tranche issued in January 2013 (see note 2.2.8). Also, on 10 September 2024 EDF announced that it intended to exercise its redemption option for the €1,250 million perpetual subordinated bonds issued in January 2013. As the operation was certain to take place on 29 January 2025, the Company reclassified an amount of €1,250 million from Additional equity to Financial liabilities at 31 December 2024 (see notes 2.2.4 and 32 (4));
- perpetual subordinated bonds issued by EDF in January 2014, valued at €1,402 million. This value takes account of the partial redemption in September 2024, for €498.7 million, of an initial €1,000 million tranche issued in January 2014 (see note 2.2.8);
- perpetual subordinated bonds issued by EDF in December 2019, valued at €498 million;
- perpetual subordinated bonds issued by EDF in September 2020, valued at €2,091 million;
- perpetual subordinated bonds issued by EDF in June 2021, valued at €1,245 million;
- perpetual subordinated bonds issued by EDF in November 2022, valued at €1,000 million;
- perpetual subordinated bonds issued by EDF in June 2023, valued at €1,444 million;
- perpetual subordinated bonds issued by EDF in September 2024, valued at €1,750 million (€1,753 million (see note 2.2.7) less an issue premium of €(3) million).

On 5 July 2024 EDF exercised its redemption option for the €1,250 million hybrid notes issued in October 2018 (see note 2.2.4).

This net amount includes the effects of foreign currency variations, redemption premiums and the related amortisation.

Payments to bearers of perpetual subordinated bonds amounted to €493 million in 2024 (€602 million in 2023). This expense is recorded in "Expenses on long-term financial liabilities after hedging".

Perpetual subordinated bonds (in millions of currency units) at the year-end:

Issue date*	Nominal amount net of redemptions	Currency	Redemption option	Coupon
01/2013	629	GBP	13 years	6.00%
01/2014	501	EUR	12 years	5.00%
01/2014	750	GBP	15 years	5.88%
12/2019	500	EUR	8 years	3.00%
09/2020	850	EUR	6,5 years	2.88%
09/2020	1,250	EUR	10 years	3.38%
06/2021	1,250	EUR	7 years	2.63%
12/2022	1,000	EUR	6 years	7.50%
06/2023	1,500	USD	10 years	9.13%
09/2024	500	EUR	5 years	5.13%
09/2024	650	EUR	8 years	5.63%
09/2024	500	GBP	11 years	7.38%

* *Date funds were received.*

Note 24 Special concession liabilities

ACCOUNTING PRINCIPLES AND METHODS

These liabilities relate to public electricity distribution concessions for the Island Energy Systems (SEI), and hydropower concessions.

SPECIAL PUBLIC ELECTRICITY DISTRIBUTION CONCESSION LIABILITIES

These liabilities represent the contractual obligations specific to the concession rules for public electricity distribution concessions, and comprise the following:

- the concession-granting authority's rights in existing assets (its right to recover all the concession assets), consisting of the value in kind of the facilities (the net book value of assets operated under concessions), less any as yet unamortised financing provided by the operator;
- the concession-granting authority's rights in assets to be replaced (the operator's obligations relating to assets due for replacement).

These non-financial liabilities comprise:

- depreciation recorded on the portion of assets considered to be financed by the concession-granting authority;
- the provision for replacement, exclusively for assets due for replacement before the end of the concession. This is accrued over the asset's useful life, based on the difference between the asset's replacement value for identical capacity and functions, and the original value. The replacement value is adjusted at each year-end based on indexes from official publications, and the impact of the adjustment is spread over the residual useful life of the assets concerned. This provision is included in provisions for expenses.

When assets are replaced, the depreciation recorded on the portion of assets considered to be financed by the grantor, and the provision for replacement established for the relevant asset, are cancelled and transferred to rights in existing assets. Any excess provision is taken to income.

During the concession, the grantor's rights in assets to be replaced are transferred upon the asset's replacement to become the grantor's rights in existing assets, with no outflow of cash to the benefit of the grantor.

SPECIAL HYDROPOWER CONCESSION LIABILITIES

These liabilities comprise:

- the value of assets remitted for nil consideration and contributions received;
- differences arising from revaluations in accordance with French legislation for fixed assets commissioned before 1 January 1959 and before 1 January 1977;
- additional depreciation to industrial depreciation for facilities that are to be returned for nil consideration at the end of the concession but whose useful life extends beyond the concession term.

Following the changes made to the accounting treatment of hydropower concessions at 1 January 2009, the 1959 revaluation reserve was transferred to equity when the assets concerned were retired.

The net revaluation reserve generated by the 1976 revaluation is taken to income over the residual useful life of the assets concerned.

The value of assets remitted for nil consideration and contributions received is transferred to the income statement over the assets' useful lives.

Details of special concession liabilities are as follows:

(in millions of euros)	31/12/2024	31/12/2023
Value in kind of assets	161	138
Revaluation difference	688	710
Additional depreciation	554	491
Rights in hydropower concession assets	**1,403**	**1,339**
Value in kind of assets	2,294	2,218
Unamortised financing by the operator	(1,515)	(1,439)
Amortisation of grantor financing	404	391
Contributions received for concessionary plant assets under construction	6	6
Rights in public distribution concession assets*	**1,189**	**1,176**
TOTAL SPECIAL CONCESSION LIABILITIES	**2,592**	**2,515**

* *Special public distribution concession liabilities concern the Island Energy Systems (SEI) public electricity distribution concessions.*

Note 25 Provisions for risks

ACCOUNTING PRINCIPLES AND METHODS

EDF recognises provisions when it has a present obligation (legal or constructive) arising from a past event, an outflow of resources will probably be required to settle the obligation, and the obligation amount can be estimated reliably.

If it is anticipated that all or part of the expenses covered by a provision will be reimbursed, the reimbursement is recognised under receivables if and only if EDF is reasonably certain of receiving it.

Provisions are determined based on the Company's expectation of the cost necessary to settle the obligation. Estimates are based on management data from the information system, assumptions adopted by the Company, and if necessary experience of similar transactions or operations, based on independent expert reports or contractor quotes. The various assumptions are reviewed for each closing of the accounts.

Other provisions notably concern:

- losses on onerous contracts; these provisions mainly concern LNG operations (a long-term regasification contract with Dunkerque LNG). Losses on such contracts are measured by comparing the costs of fulfilling the contract with the resulting economic benefits, based on market and sales assumptions;
- unrealised foreign exchange losses;
- risks relating to subsidiaries and affiliates;
- tax risks;
- litigation;
- decommissioning costs for fossil-fired and hydropower plants;
- costs of replacing assets operated under public electricity distribution concessions;
- provisions related to environmental schemes (see notes 6 and 17).

In extremely rare cases, specific litigation covered by a provision may be unmentioned in the notes to the financial statements if such disclosure could cause serious prejudice to the Company.

Changes in provisions for risks are as follows:

		Increases		Decreases			
(in millions of euros)	31/12/2023	Operating [2]	Financial	Utilisations [2]	Reversals [2]	Financial	31/12/2024
Provisions for unrealised foreign exchange losses[1]	419	-	104	-	-	(110)	413
Provisions for losses on contracts	470	-	23	(27)	-	-	466
Provisions for other risks	342	88	-	(75)	(29)	-	326
PROVISIONS FOR RISKS	**1,231**	**88**	**127**	**(102)**	**(29)**	**(110)**	**1,205**

(1) Provisions for unrealised foreign exchange losses amount to €413 million at 31 December 2024 (see note 21) and principally concern bonds after hedging (€294 million). The €6 million change in these provisions is included in the financial result (see note 11 (8)).

(2) See note 5.

Note 26 Provisions related to nuclear generation: back-end of the nuclear cycle, plant decommissioning and last cores

ACCOUNTING PRINCIPLES AND METHODS

Decommissioning provisions for power plants in operation are associated with fixed assets.

The discount effect generated at each closing to reflect the passage of time is recorded in financial expenses.

Changes in provisions resulting from a change in discount rates, a change in the disbursement schedule or a change in cost estimate are recorded:

- as an increase or decrease in the corresponding assets, up to the net book value, if the provision was initially covered by balance sheet assets;
- in the income statement in all other cases.

Provisions related to nuclear generation mainly cover the following:

- back-end nuclear cycle expenses: provisions for spent fuel management, for waste removal and conditioning (where relevant), and for long-term radioactive waste management are established in accordance with the obligations and final contributions specific to France;
- costs for decommissioning power plants;
- costs relating to fuel in the reactor when the reactor is shut down (provisions for last cores). These correspond to the cost of the fuel stock in the reactor that is not totally spent at the time of the final reactor shutdown and cannot be reused due to technical and regulatory constraints, the cost of processing for that fuel, and the cost of removal and storage of the resulting waste.

Obligations can vary noticeably depending on France's legislation and regulations, and the technologies and industrial scenarios involved.

The provisions established by EDF for the nuclear generation fleet result principally from the French Law of 28 June 2006 on long-term management of radioactive materials and waste, and the associated implementing provisions concerning secure financing of nuclear expenses.

In compliance with the accounting principles described above:

- EDF books provisions to cover all obligations related to the nuclear facilities it operates;
- EDF also holds dedicated assets for secure financing of long-term obligations (see note 26.6).

The calculation of provisions incorporates a level of risks and uncertainties as appropriate to the operations concerned. It also involves estimates, judgment and uncertainty factors as described in note 1.2.2.

At 31 December 2024 the level of uncertainties was rising due to the specific situations presented below, which are likely to evolve in the short and medium term, particularly: (i) conceptual design studies in 2025 and 2026 concerning new interim spent fuel storage capacities (the ADEC project) in the Back-End of the Future programme (see note 26.1); (ii) recent changes in the regulations for processing paint containing asbestos, and analysis of the potential impact on the decommissioning cost estimate for installations currently in operation (an analysis action plan has begun in 2025 given the complexity of sampling, and the scale and diversity of the surfaces concerned) (see note 26.3).

Additionally, the French government is expected to publish the new official decision on the costs of the Cigéo project in September 2025 (see note 26.2).

Details of changes in provisions for the back-end of the nuclear cycle, decommissioning and last cores are as follows:

(in millions of euros)	31/12/2023	Increases		Decreases		Other changes[1] [2]	31/12/2024
		Operating[1]	Financial[2]	Utilisations	Reversals		
Provisions for spent fuel management	13,876	4,058	573	(1,113)	-	55	17,449
• *amount unrelated to the operating cycle*	*1,760*	*2,678*	*76*	*(36)*	-	*18*	*4,496*
• *amount outside the scope of the Law of 28 June 2006**	*1,219*	-	*61*	*(42)*	-	-	*1,238*
Provisions for long-term radioactive waste management	13,205	869	301	(348)	-	129	14,156
Provisions for the back-end of the nuclear cycle	**27,081**	**4,927**	**874**	**(1,461)**	**-**	**184**	**31,605**
Provisions for the back-end of the nuclear cycle within the scope of the Law of 28 June 2006*	25,862	4,927	813	(1,419)	-	184	30,367
Provisions for the back-end of the nuclear cycle outside the scope of the Law of 28 June 2006*	1,219	-	61	(42)	-	-	1,238
Provisions for nuclear plant decommissioning	18,419	399	753	(274)	-	(76)	19,221
Provisions for last cores	2,720	-	126	-	-	149	2,995
Provisions for decommissioning and last cores	**21,139**	**399**	**879**	**(274)**	**-**	**73**	**22,216**
TOTAL PROVISIONS RELATED TO NUCLEAR GENERATION	**48,220**	**5,326**	**1,753**	**(1,735)**	**-**	**257**	**53,821**
Provisions for the back-end of the nuclear cycle within the scope of the Law of 28 June 2006*	47,001	5,326	1,692	(1,693)	-	257	52,583
Provisions for the back-end of the nuclear cycle outside the scope of the Law of 28 June 2006*	1,219	-	61	(42)	-	-	1,238

* *Scope of application of the Law of 28 June 2006 on the sustainable management of radioactive materials and waste and its application decrees concerning secure financing of nuclear expenses. The provisions that do not fall within the scope of this Law are provisions for the back-end of the nuclear cycle concerning non-EDF installations (see below).*

(1) The change in provisions related to nuclear generation is mainly explained by:

- *an increase of €3,301 million in provisions for spent fuel management due to revision of the industrial scenario for interim spent fuel storage (see note 26.1), recorded as follows: €3,291 million in "Operating increases", corresponding to provisions adjusted via profit and loss (see note 5 (1)), and €10 million in "Other changes", corresponding to the change in provisions backed by assets;*
- *an increase of €428 million in provisions following the first nuclear reaction at the Flamanville 3 power plant, allocated as follows: €235 million to provisions for decommissioning of plants currently in operation, €22 million to provisions for last cores, €73 million to provisions for spent fuel management, and €98 million to provisions for long-term radioactive waste management. These amounts are principally recorded in "Other changes", corresponding to the change in provisions backed by assets;*
- *an increase of €823 million in provisions for long-term radioactive waste management due to revision of storage costs (Cigéo) for high-level and long-lived intermediate-level waste (HLW and ILW-LL) (see note 26.2), recorded as follows: €775 million in "Operating increases", corresponding to provisions adjusted via profit and loss (see note 5 (2)), and €48 million in "Other changes", corresponding to the change in provisions backed by assets.*

(2) There was also a 10 base point increase in the real discount rate (see note 26.5) which led to a €(964) million decrease in provisions, recorded as follows: €(514) million in the "Discount effect", corresponding to provisions adjusted via profit and loss (see note 11 (5)), and €(450) million in "Other changes", corresponding to the decrease in provisions backed by assets (assets associated with provisions and underlying assets).

The discount effect comprises the €2,267 million cost of unwinding the discount, which is recorded in the income statement (see note 11 (5)).

Concerning non-EDF installations:

- EDF, Orano Recyclage and the French Atomic Energy Commission (*Commissariat à l'Energie Atomique* or CEA) signed an agreement in December 2004 which transferred the management and financing of final shutdown, decommissioning and waste recovery and reconditioning for the UP1 reprocessing facility at Marcoule to the CEA. In return, EDF paid the CEA a one-time financial contribution covering its full share of the cost of outstanding operations, while remaining the owner of its final waste and bearing only the transport and storage costs;
- EDF and Orano Recyclage signed two agreements in December 2008 and July 2010 defining the legal and financial terms for the transfer to Orano Recyclage of EDF's contractual obligations regarding its financial contribution to the dismantling of La Hague installations and the recovery and conditioning of waste. In application of those agreements, EDF paid Orano Recyclage a one-time financial contribution covering its full share of the cost of outstanding operations, while remaining the owner of its final waste and bearing only the transport and storage costs.

26.1 Provisions for spent fuel management

Spent fuel processing

EDF's currently adopted strategy with regards to the fuel cycle, in agreement with the French State, is to process spent fuel, recycle the separated plutonium in the form of MOX fuel (Mixed OXide of plutonium and uranium), and recycle the reprocessed uranium.

The nominal quantities to be processed by Orano Recyclage at the request of EDF, totalling approximately 1,100 tonnes per year, are determined based on the quantity of recyclable plutonium in the reactors that are authorised to load MOX fuel (currently, 24 reactors under the authorisation for creation).

Consequently, provisions for spent fuel management (€17,449 million) mainly cover the following services to be provided by Orano Recyclage:

- removal of spent fuel from EDF's generation centres, and its reception and interim storage;
- processing, including conditioning and storage of recyclable matter.

The processing expenses included in these provisions concern spent fuel that can be recycled in existing facilities, including the portion in reactors but not yet irradiated.

Expenses are mainly measured based on forecast physical flows at the closing date, with reference to the contracts with Orano Recyclage which define the terms of application of the framework agreement for the period 2008-2040. These contracts contain price indexes that are revised annually.

With the previous contract due to terminate at the end of 2023, in September 2023 negotiations between EDF and Orano Recyclage achieved convergence, and an agreement was signed on the principles for the next contract covering the period 2024-2026. This led to a €2,216 million increase in provisions for spent fuel management at 31 December 2023 (see note 5 (1)). The agreement took account of changes in the economic conditions underlying the contract, and the requirements expressed by Orano Recyclage regarding the necessary operating costs to enhance its plants' performance.

The new contract for the period 2024-2026, reiterating the principles agreed in September 2023 as stated above, was signed on 1 October 2024, and thus has no significant impact on provisions for spent fuel management in 2024.

Spent fuel storage

The interim storage of spent fuel is a key issue for the back-end of the nuclear cycle. The situation at 31 December 2023 was as follows:

- there was a risk that the pools at La Hague could be saturated by 2030, based particularly on load factor forecasts for interim storage facilities for spent fuel from EDF's generation fleet. To prevent saturation, the long-term storage capacity for spent fuel was to be increased by constructing a first pool in a centralised spent fuel pool facility under EDF's supervision and subsequent operation, to be commissioned in 2034. This first pool was to act as an extension of the reactor pools to ensure continuity of operation by the generation fleet, and was therefore considered as a tangible asset. In the meantime, studies were undertaken of transitional workaround solutions involving densification of the existing pools at Orano's La Hague site, and the supplementary solution of a dry storage facility for spent plutonium (MOX) fuel and reprocessed uranium (RepU). The costs of these studies were covered by provisions;
- there was a need for long-term storage for spent fuel that cannot currently be recycled in industrial facilities that already exist or are under construction: spent plutonium (MOX) fuel and reprocessed uranium (RepU), and the fuel from Creys-Malville until fourth-generation reactors become available. This need was covered by provisions founded on a scenario assuming construction of a second pool in the centralised spent fuel pool facility, to be commissioned in 2047.

The following developments relating to spent fuel management took place during the first half of 2024:

- France's Nuclear Policy Council held a meeting on 26 February 2024. The Council confirmed the major orientations of France's policy for the back-end of the nuclear cycle, which combines reprocessing, reuse of spent fuel and use of a closed nuclear fuel cycle, through extended operating lifetimes and resilience of existing installations, and upgrading of the nuclear fuel cycle facilities at La Hague;
- The ASN Commission called Orano and EDF to a hearing on 11 April 2024. This was an opportunity, in view of the above Nuclear Policy Council meeting, to present a joint report on the existing storage capacities at La Hague, and the projected quantities of spent fuel to be stored. After the hearing, the ASN's statement of 17 April 2024 noted that the risk of storage pool saturation at La Hague had been deferred, while re-emphasising the need to introduce transitional solutions to restore safety margins. The ASN also called for new long-term storage capacities to be implemented by operators as soon as possible, with high-level safety objectives.

The industrial scenario presented to the ASN Commission by EDF on 11 April 2024 thus incorporated the expected easing of the risk of saturation at La Hague's spent fuel pools in the short term (through application of transitional solutions), combined with the prospect of upgrades to installations at La Hague, notably the plan to use a single pool (as opposed to two as originally considered and mentioned above) for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville. The work would be supervised by EDF, in accordance with the ministerial order of 9 December 2022 made in application of Decree 2022-1547 of 9 December 2022. The estimates used for calculations under this scenario are founded on these key assumptions.

At 30 June 2024, this change of industrial scenario led to impairment of capitalised costs for the first pool, amounting to €142 million, and adjustment of the provisions for spent fuel management based on the most recent estimates, as follows:

- regarding the risk of spent fuel pool saturation at La Hague in the short term (between 2030 and 2040), implementation of the transitional solution of pool densification was confirmed and the development studies were finalised, leading to a €311 million increase in provisions at 30 June 2024. The supplementary solution of dry storage was also still under consideration at this stage;
- regarding the need for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville, the provision was adjusted to take account of the new capacity corresponding to a single pool, assuming it will be commissioned as soon as possible, based on revised project costs put forward by EDF in the Conceptual Design phase which was completed in the first quarter of 2024 and incorporated the latest safety and security requirements. These factors led to an increase of €2,657 million at 30 June 2024 in the provision, which is unrelated to the operating cycle as defined by the Law of 2006 and is thus backed by dedicated assets;

- regarding the current spent uranium fuel derived from processing (spent RepU), the new industrial scenario assumes that it will be processed (dilution of the enriched spent RepU) in the existing facilities at La Hague (instead of undergoing long-term interim storage followed by direct storage). The portion of provisions for spent fuel management related to reprocessing was increased by €333 million, and the provisions for long-term radioactive waste management were reduced by €120 million.

In the autumn of 2024, EDF and Orano submitted an industrial plan for future nuclear fuel cycle facilities (the Back-End of the Future programme) at Orano's La Hague site for examination by the French General Directorate for Energy & Climate (*Direction générale de l'énergie et du climat* or DGEC) and the ASN. This plan will include a new spent fuel reprocessing plant, and a MOX fuel fabrication plant. It will be supervised by Orano, and will also comprise a project for new storage capacities (ADEC) that will later be connected to the future reprocessing facilities.

The proposed plan was still under examination by the competent authorities at 31 December 2024. If validated, the ADEC project supervised by Orano would replace the initial storage pool project supervised by EDF.

Orano recently began studies for the Conceptual design phase of its Back-End of the Future programme which comprises the ADEC new storage capacities project. These studies should continue until the end of 2026. The funding arrangements for the programme are not yet finalised.

Given the key information that remains to be clearly defined, the current best estimate of the amount to be covered by the provision for the spent fuel storage obligations is still based on the underlying assumptions updated during the first half of 2024.

In total, provisions for specific storage solutions for spent fuel amount to €504 million for the cost of densification of Orano's pools at La Hague, and €4,496 million for interim storage of spent MOX fuel and Creys-Malville fuel (these fuels cannot be recycled in existing facilities or facilities currently under construction).

Recycling of RepU

In 2018, the Board of Directors approved resumption of reprocessed uranium recycling, which had been suspended in 2013 pending availability of a new industrial schema. The corresponding contracts were signed with the respective suppliers in the second quarter of 2018. The first assemblies were made at the Framatome plant in Romans sur Isère and loaded in 2023 into a 900MW reactor that is already authorised and resumed operation on 4 February 2024. Subject to completion of technical modifications and issuance of the necessary authorisations by the ASN, other 900MW reactors and certain 1,300MW reactors will be loaded with assemblies based on reprocessed uranium by 2027. Since 2021, the provision for storage of reprocessed uranium included in the provisions for spent fuel management (€485 million) has been based on a 50-year operating lifetime for nuclear plants for the series concerned, following the extension of the depreciation period of 1,300MW-series plants from 40 to 50 years.

Audit commissioned by the DGEC and the French Treasury

In accordance with its powers under Article 594-4 of the Environment Code, in early 2024 the DGEC and the French Treasury commissioned an external audit of the valuation of EDF's spent fuel management costs at 31 December 2023. This audit began in the second quarter of 2024 and should be completed in the first quarter of 2025. It is not currently expected to have any significant impacts on the provisions for spent fuel management.

26.2 Provisions for long-term radioactive waste management

Provisions for long-term radioactive waste management concern the following future expenses:

- interim storage, removal and storage of radioactive waste packages resulting from spent fuel processing;
- direct storage, after long-term interim storage where relevant, of spent fuel that cannot be recycled in existing installations: specifically plutonium (MOX) fuel or uranium fuel derived from processing, and fuel from Creys-Malville and Brennilis;
- characterisation, processing, conditioning and interim storage of radioactive waste resulting from decommissioning and certain operating waste, and removal and final storage of this radioactive waste;
- EDF's share of the costs of studies, construction, operation and maintenance, shutdown and surveillance of existing and future storage centres.

The volumes of waste concerned by provisions include existing packages of waste and all waste to be conditioned, resulting in particular from plant decommissioning or spent fuel processing at La Hague (comprising all fuel in reactors at 31 December, irradiated or otherwise). These volumes are regularly reviewed, in keeping with the data declared for the purposes of the national waste inventory undertaken by ANDRA.

The provisions for long-term radioactive waste management break down as follows:

(in millions of euros)	Storage centres concerned	31/12/2024	31/12/2023
Very low-level and low and intermediate-level waste	Very low-level waste: CIRES - Morvilliers (ANDRA) Low and intermediate-level waste: CSA - Soulaines (ANDRA)	3,310	3,176
Long-lived low-level waste	Project under examination: Soulaines (ANDRA)	371	369
Long-lived intermediate-level and high-level waste	Geological storage centre (Cigéo project) / ICEDA conditioning and interim storage facility	10,475	9,660
PROVISIONS FOR LONG-TERM RADIOACTIVE WASTE MANAGEMENT		**14,156**	**13,205**

Very low-level and low and intermediate-level waste

Basis for estimation

Very low-level waste (VLLW) and low and intermediate-level waste (LILW) come from nuclear facilities in operation or in the process of being decommissioned:

- VLLW mainly comes from nuclear plant decommissioning, and generally takes the form of metals (large components, piping, support structures, etc.) or rubble (concrete, earth, etc.). This type of waste is stored at surface level at the Morvilliers storage centre managed by ANDRA, commissioned in 2003;
- LILW (gloves, filters, resins, materials, etc.) is stored at surface level at the Soulaines storage centre managed by ANDRA, commissioned in 1992.

The cost of removing, processing and storing short-lived waste (VLLW and LILW) is assessed on the basis of:

- current contracts with transporters, and ANDRA for operation of the existing storage centres;
- the costs of the plant run by the subsidiary Cyclife France (the Centraco site at Codolet commissioned in 1999) for processing some of this waste that can be melted or incinerated prior to storage in ANDRA's centres;
- an estimate of the cost of a centralised facility for interim storage, segmentation and conditioning of major components such as steam generators.

For the management of VLLW, the regulations (decrees issued by the Ministry for the Ecological Transition) governing recycling of very low-level metallic waste in France were published in the *Journal Officiel* of 15 February 2022. EDF is thus continuing with the development of the Technocentre, a segmentation and fusing facility to process and recycle the very low-level metallic waste resulting from decommissioning of nuclear plants. The target commissioning date is 2031. In line with France's 5th National Plan for Managing Radioactive Matter and Waste, a roadmap setting out the objectives and timetable for the Technocentre project was sent to the DGEC in early 2023. The project was referred to the National Public Debate Commission in mid-January 2024. The public debate began in October 2024 and will end in February 2025.

Developments in 2023

In 2023, the annual review of cost estimates incorporated the most recent assumptions regarding management of radioactive waste. This had no significant impact on provisions. It should be noted that this review took account of the effects of France's Finance Law for 2024, which introduced a general tax on polluting activities in order to encourage recycling of very low-level metallic waste, and reduced the INB tax on storage centres once they are permanently shut down. These steps will modify the storage costs invoiced by ANDRA.

Developments in 2024

In 2024, the annual review of cost estimates incorporated the most recent assumptions regarding management of radioactive waste, particularly assumptions relating to VLLW (based on the current contract with ANDRA). This led to a €56 million increase in provisions.

Long-lived low-level waste

Long-lived low-level waste (LLW-LL) belonging to EDF essentially consists of graphite waste from the ongoing decommissioning of the former UNGG (natural uranium graphite gas-cooled) nuclear plants.

As this waste has a long lifetime but is lower-level than long-lived intermediate-level and high-level waste (ILW-LL and HLW), specific subsurface storage requirements apply under the French Law of 28 June 2006.

Following the initial geological investigations, in July 2015 ANDRA remitted a report on a proposed storage centre for LLW-LL on a site located in the Soulaines region (Aube) in France. This report was submitted to the ASN for its opinion. In compliance with the ASN's opinion 2020-AV-0357 issued on 6 August 2020, and the 5th National Plan for Managing Radioactive Matter and Waste (PNGMDR[1]), in March 2024 ANDRA produced a file presenting the technical and safety options selected for storage of LLW-LL at the Vendeuvre-Soulaines site, leading to consideration of alternative sites for graphite waste storage. The ASN is currently examining the file.

In addition, the studies conducted by EDF to characterise the radiological inventory of this waste suggest that it should be possible to store the graphite from the first decommissioned reactor (Chinon A2) in the existing Aube surface level storage centre, with no need to wait for a specific LLW-LL storage facility.

The provisions for Chinon A2 graphite waste extracted from the reactor up to 2045 are thus currently based on a scenario assuming storage at the Aube centre. For this graphite, the construction of an interim storage facility at Chinon and final storage in a specific LLW-LL repository are treated as risks.

For graphite from other reactors, the provisions cover direct storage in an LLW-LL repository.

High-level and long-lived intermediate-level waste

High-level waste (HLW) and long-lived intermediate-level waste (ILW-LL) essentially comes from processing of spent fuel, and to a lesser extent waste resulting from nuclear plant operation, maintenance and decommissioning (metallic components that have been inside the reactor).

The French Law of 28 June 2006 requires reversible storage in deep geological layers for long-lived medium and high-level waste. This is the aim of the Cigéo project for an industrial geological storage centre.

On 15 January 2016 the Ministry of Ecology, Sustainable Development and Energy issued a ministerial order setting the target cost for the Cigéo storage project at €25 billion under 2011 year-end economic conditions. The cost as defined constitutes an objective to be met by ANDRA, in compliance with safety standards set by the ASN, working in close cooperation with the operators of nuclear installations.

In application of this ministerial order, the cost of the Cigéo project is regularly updated, at least at each key milestone in the course of the project's development (authorisation to create the facility, commissioning, end of the "pilot industrial phase", safety reviews) in accordance with the opinion of the ASN.

ANDRA is to remit an updated file on the costing of Cigéo in April 2025 to the DGEC, the ASN and the competent parliamentary commissions. This will be followed by consultation of stakeholders, including producers of waste, and the State will then define the new "objective cost" of Cigéo by September 2025.

Work on this file is currently in process and several points remain open to discussion. Estimation of the total effects of the various dimensions of the work and the interactions between them will need to be based on an all-round view, which will be finalised in 2025.

EDF has nonetheless updated the Cigéo provision in the 2024 financial statements to take account of information that is sufficiently certain and was not included in the 2016 cost calculation. This update resulted in a €823 million increase in the provision, independently of the rest of the ongoing cost calculations.

(1) *Plan National de Gestion des Matières et des Déchets Radioactifs*. Decree 2022-1547 and the implementation order published in the *Journal Officiel* of 10 December 2022.

The provisions established for storage of HLW and ILW-LL amount to €9,508 million. They are based on the cost of storage, taking account of the waste producers' share, which depends on the volumes and characteristics of the waste, and also preliminary interim storage of radioactive waste resulting from spent fuel processing, removal to the storage site, and direct storage of spent fuel that cannot be recycled in existing installations.

The Cigéo project has passed the following principal milestones since 2016:

On 11 January 2018, the ASN considered that the Cigéo project had reached satisfactory overall technological maturity at the safety options file stage. A detailed design review by a group of independent experts was organised at the request of the DGEC. In late 2020, this group issued a generally favourable opinion on the file presented by ANDRA.

The public inquiry regarding the Cigéo project's public utility was held between 15 September and 23 October 2021. It resulted in a favourable opinion from the inquiry commissioners (along with five recommendations to the project manager), made public on 20 December 2021. The findings of the commission noted that the public enquiry had "attracted a large number of contributions from the public, most of them with extensive supporting arguments" and that Cigéo was "opportune, relevant, and robust".

Prior to the enquiry, a second appraisal of Cigéo's socioeconomic assessment by France's General Secretariat for Investment (SGPI) had resulted in a favourable opinion "both for the overall project and its transport component". It highlighted the fact that "the Cigéo project has strong prudential and insurance value to cope with environmental and health risks".

In an opinion issued on 13 January 2021, the French Environmental Authority emphasised the educational nature of the environmental assessment. It made a series of recommendations, which ANDRA took into account in the public inquiry.

Decree 2022-993 of 7 July 2022 declared Cigéo to be in the public interest and adjusted the Pays Barrois (Meuse) area land use master plan, the Haute-Saulx (Meuse) local inter-municipality urban planning document, and the Gondrecourt-le-Château (Meuse) local urban planning document for compatibility. Decree 2022-992 of 7 July 2022 also included the Cigéo project among the operations of national interest specified in Article R. 102-3 of the French Urban Planning Code.

The application for authorisation to create the Cigéo storage centre was filed on 17 January 2023.

On 22 June 2023 the ASN declared the application admissible and on 27 June 2024 France's Environmental Authority also issued an opinion on the application to create the centre. This meant that technical examination of the application could begin. This involves three meetings of the ASN's Advisory Committee of Experts: the first took place in April 2024, the second in December 2024, and the third is scheduled for mid-2025, with issuance of the ASN opinion expected in November 2025.

The aim is to receive authorisation by the end of 2027.

Under ANDRA's current reference schedule, Cigéo will begin with a pilot industrial phase and the first waste packages will be delivered between 2035 and 2040.

For the specific case of bituminous waste, when examining the safety options file, the ASN required examination of alternatives to the proposal to store bituminous waste at Cigéo with no processing. In September 2018, a group of experts was appointed by the DGEC to draw up a report on current bituminous waste management practices. In September 2019, this group concluded that various options (storage or neutralisation) were in theory feasible, but stressed the importance of continuing the studies in order to identify the most appropriate option. A four-party research programme involving producers and ANDRA is still exploring this question.

Finally, regarding the tax status of Cigéo, Article 127 of France's Finance Law for 2021 modified the tax treatment of the project (from the standard tax regime to a storage tax-based regime), but the associated measures and their potential impact on the level of taxation on the installation still remained to be clarified at 31 December 2024.

ICEDA

The provision established for HLW and ILW-LL also includes €968 million to cover the conditioning and interim storage of ILW-LL, principally at the ICEDA radioactive waste conditioning and storage facility (*Installation de Conditionnement et d'Entreposage des Déchets Activés*).

ICEDA, located at the Bugey plant, is a dedicated facility for the conditioning and interim storage of ILW-LL resulting from operation (other than fuel management) and decommissioning of power plants. The facility was commissioned in 2020 and conditioned its first waste in 2021.

Since 2021, all the radioactive waste from decommissioning operations at Chooz A and the initial operating waste from Fessenheim has been conditioned at the ICEDA facility.

In 2024, the ASN approved a modification to the regulatory characteristics of waste that could be received for conditioning at the ICEDA facility. As a result of this modification, the facility is now authorised to condition 100% of the waste for which it was designed. The conditioning permit corresponding to the new scope is expected in early 2025.

Finally, after the two reactors at the Fessenheim plant were shut down permanently, EDF filed an application to modify the ICEDA's authorisation decree in order to allow the facility to condition waste resulting from the decommissioning of Fessenheim. The amended decree is expected in 2025.

26.3 Provisions for nuclear plant decommissioning

EDF bears full technical and financial responsibility for decommissioning of the basic nuclear facilities (*Installations Nucléaires de Base* or INB) it operates. The final shutdown and decommissioning process is governed by legal provisions and regulations set out in Articles L. 593-20 to L. 593-25 and R. 593-65 to R. 593-74 of the Environment Code. It involves the following operations for each INB:

- a definitive shutdown declaration, to be made at least two years prior to the planned shutdown date: since the Energy Transition Law of 17 August 2015, the final shutdown of the INB, which takes place during its operating phase, is considered separately from its dismantling, as a significant modification of lesser importance (simply requiring a declaration by the operator to the Minister and the ASN);
- a dismantling plan compiled by the operator and sent to the minister in charge of nuclear safety, which after examination by the authorities and a public inquiry, leads to a decree prescribing dismantling that authorises the start of dismantling operations;
- key-stage progress reviews submitted for the ASN's approval, with a safety file specific to the dismantling operations to be performed;
- an internal control process concerning significant modifications introduced by the operator in the case of operations that must be declared to or approved by the ASN;
- finally, once these operations are complete, declassification of the facility, which removes it from the scope of the Laws governing basic nuclear facilities.

The decommissioning scenario adopted by EDF complies with France's Environment Code, which requires as short a period as possible to elapse between final shutdown and dismantling in economically acceptable conditions and in compliance with the principles laid down in Article L. 1333-1 of the Public Health Code (radioprotection) and section II of Article L. 110-1 of the Environment Code (protection of the environment). The intended end-state is industrial use: the sites will be restored to their original condition and will be reusable for industrial purposes.

The ongoing dismantling operations concern plants that were constructed and operated before the nuclear fleet currently in operation, known as "first-generation" plants, the Superphenix plant, the Tricastin Operational Hot Unit (BCOT) and the Irradiated Materials Workshop in Chinon. These operations cover four different technologies: a heavy water reactor (Brennilis), a sodium-cooled fast-neutron reactor (the Superphenix at Creys-Malville), natural uranium graphite gas-cooled (UNGG) reactors (at Chinon, Saint Laurent and Bugey) and a pressurised water reactor (PWR, at Chooz).

For the Fessenheim PWR plant, the dismantling application is currently under examination by the ASN, and the operations completed concern the pre-dismantling phase.

Each of these operations is a first for EDF, and apart from the PWR, they concern reactor technologies for which there is little or no international experience. They therefore require development of new methods and technologies that are riskier than technologies for which feedback already exists. Decommissioning of the PWR is benefiting from past experience (essentially in the US and limited). The Chooz plant also has the specificity of being partly located in a cave: this means it is also a unique operation, generating experience that is not immediately transposable and involves specific challenges.

Based on the ongoing decommissioning operations at permanently shut-down plants (particularly the experience gained from the Chooz PWR), the conceptual studies for the two 900MW reactors at Fessenheim, and the preparatory work for dismantling, it was possible at the end of 2021 to establish a detailed reference estimate of future decommissioning costs for the nuclear fleet currently in operation ("second-generation" plants). However, neither EDF nor any other operator has yet begun a decommissioning programme on a scale comparable to the current PWR fleet, and as a result the estimates include both opportunities and risks, especially associated with the scale effect.

The decommissioning provisions cover future decommissioning expenses as described above (excluding the cost of removing waste from the site and storing it, which is covered by the provisions for long-term waste management).

Details of changes in provisions for nuclear plant decommissioning are as follows:

		Increases		Decreases			
(in millions of euros)	31/12/2023	Operating [1]	Financial	Utilisations [1]	Reversals	Other changes [2]	31/12/2024
Provisions for decommissioning nuclear plants in operation	13,002	-	594	(10)	-	(76)	13,510
Provisions for decommissioning permanently shut-down nuclear plants	5,417	399	159	(264)	-	-	5,711
TOTAL PROVISIONS FOR NUCLEAR PLANT DECOMMISSIONING	**18,419**	**399**	**753**	**(274)**	**-**	**(76)**	**19,221**

(1) Operating increases essentially reflect the consequences of annual cost estimate updates for permanently shut-down plants (principally relating to hazardous material reprocessing and obsolescence, as discussed below), and therefore concern provisions not backed by assets. Decreases for utilisation correspond to decommissioning expenses paid in 2024.

(2) Other changes in provisions for decommissioning nuclear plants in operation principally include the €(298) million effect on provisions backed by assets of the change in real discount rates at 31 December 2024 (see note 26.5), and recognition of the decommissioning provision for Flamanville 3 (€235 million) following the reactor's first nuclear reaction in September 2024.

For nuclear power plants currently in operation (PWR pressurized water reactor plants with 900MW, 1300MW and N4 reactors)

The bases for estimation described in the next two sections concern the 56 nuclear reactors currently in operation (for Flamanville 3, see the section on "Developments in 2024" below).

History of the calculation of provisions and the 2014-2015 Audit commissioned by the DGEC

Until 2013, provisions were estimated based on a 1991 study by the French Ministry of Trade and Industry, which set an estimated benchmark cost for decommissioning expressed in €/MW, confirming the assumptions defined in 1979 by the PEON commission. These estimates were confirmed from 2009 by a detailed study of decommissioning costs conducted by EDF at the representative site of Dampierre (four 900MW units), and the results of that study were corroborated by an intercomparison with the study carried out by consultants La Guardia, based mainly on the Maine Yankee reactor in the United States.

In 2014, the Dampierre study was reviewed by EDF to make sure that the previous calculations were still valid in view of recent developments and experience, both internationally and internally, which called the past estimates into question. For this review, the decommissioning provisions for plants in operation were based on costs resulting from the Dampierre study, in order to incorporate the Company's best estimates and experience from inside and outside France. This change of estimate had no significant impact on the level of provisions at 31 December 2014.

Between June 2014 and July 2015, an audit of decommissioning costs for EDF's nuclear fleet currently in operation was conducted by specialised consulting firms, at the request of the DGEC. On 15 January 2016 the DGEC published a summary of the audit report. It stated that although estimating the cost of decommissioning nuclear reactors is a demanding exercise due to relatively limited past experience, the prospects of changes in techniques and the distant timing of the expenditure, overall, the audit confirmed EDF's estimate of decommissioning costs for its nuclear fleet currently in operation. The DGEC also made a number of recommendations to EDF following this audit.

Revision in 2016 and current basis for estimation

In 2016, EDF revised the decommissioning estimate, in order to incorporate the recommendations resulting from the audit commissioned by the DGEC, and past experience gained from dismantling operations for first-generation reactors (particularly Chooz A).

A detailed analytical approach was used to revise this estimate, identifying all costs for the engineering, construction work, operation and waste processing involved in future decommissioning of reactors currently in operation. This led to figures based on detailed timetables for plant decommissioning. The approach adopted provided a more thorough assessment of costs specific to the first-of-their-kind units, estimated for each series based on transposition coefficients applied to the baseline costs for the initial 900MW unit, and the series and mutualisation effects, as these costs and effects are inherent to the fleet's size and configuration. In 2021, the reference estimate of decommissioning costs for the first 900MW unit was updated based on preliminary studies conducted in preparation for the decommissioning of Fessenheim, and experience gained at the beginning of the pre-dismantling phase.

The natures of the principal series and mutualisation effects used to arrive at the estimate are explained below.

Series effects (effects of work at a first-of-a-kind site on the following sites of the same series) are mainly of two types:

- first, in a fleet using the same technology, many studies do not need to be repeated each time;
- second, in a fleet using the same technology, robots and tooling can be largely reused from one site to another.

Mutualisation effects (effects between units on the same site, whether in operation or being decommissioned) are of several different types:

- some of them relate to the fact that several reactors may share common buildings and facilities on the same site, and these buildings and facilities will not have to be dismantled twice;
- certain costs are not higher when two or four reactors are dismantled on the same site. This is usually the case for surveillance costs, common equipment, and the cost of maintaining safe operating conditions on the site.

Due to mutualisation effects, dismantling a pair of reactors on the same site costs less than dismantling two standalone reactors on two different sites. In France, unlike other countries, there are no single reactors but sites with two or four, and in one case six reactors.

Series and mutualisation effects reduce the estimated decommissioning cost by 9% and 7% respectively compared to an estimate for the PWR fleet currently in operation that ignores these effects. Series and mutualisation effects vary depending on the series: they are greater when there are more units in a series (series effect) and more units on a site (mutualisation effect), leading to a combined effect (series and mutualisation effect) of over 16% for the 900MW series.

In particular, series and mutualisation effects explain why it is not appropriate simply to compare the average dismantling cost per reactor between the French fleet and other countries' nuclear fleets.

Conversely, the estimates only marginally reflect changes in productivity and the learning effect. The DGEC-ordered external audit of the decommissioning cost for the fleet currently in operation considered that this approach resulted in a prudent estimation method.

For reasons of prudence, the estimate also includes an assessment of risks and uncertainties as follows:

- incorporation of uncertainties relating to each "elementary" block of costs, the schedule, series effects, mutualisation effects, transposition coefficients and fleet expenses;
- incorporation of risks, corresponding to the completion risks (which are identifiable and quantifiable, but only contingent). From the 2023 year-end, the financial consequences of these risks are based on valuation of a register of identified risks that incorporates the schedule impact (referring notably to an adapted version of the Fessenheim project risk register), rather than applying a flat-rate increase as previously.

The above method for assessing risks and uncertainties led to an overall margin of some 19.4% for the whole fleet currently in operation (34.1% for the reference Fessenheim cost estimate).

Since its in-depth revision in 2016 this cost estimate has been reviewed annually. The reviews have led to non-significant annual adjustments.

EDF also confirms its analyses through an international intercomparison, taking care to identify and characterise a number of factors that could distort direct comparisons, for example differences in the scope concerned by the cost estimate, or national and regulatory contexts.

Developments in 2023

The annual review of the decommissioning estimate in 2023 took into consideration methodological changes and experience acquired from Fessenheim, principally:

- methodological changes (which were also applied to provisions for decommissioning permanently shut-down power plants and long-term waste management) regarding the assessment of requirements for research and engineering, a first reference to the risk of obsolescence in existing equipment that is needed for dismantling, and the implementation of an analytical method for assessment of scheduling risks that was already applied in 2022 to most decommissioning projects for permanently shut-down power plants;
- inclusion of an assumption that decommissioning of the 900MW series will begin with pairs of reactors (as opposed to the previous assumption of independent start dates for each reactor), following experience gained from preparations for the Fessenheim decommissioning;
- an update to property costs (covering general operation and maintenance of the non-industrial sections of the plants), particularly by reference to the most recent cost figures for the Fessenheim site;
- reference to a register of risks identified in the PWR fleet (instead of the previous practice of assigning standard values to risks), applying the valuation methods used for other plants being decommissioned (based in particular on an adapted version of the Fessenheim project risk register);
- revised extrapolation coefficients (transposition and mutualisation) for operating purchase costs, based on historical data for the currently active fleet.

Overall, the above factors in the annual cost estimate review had a non-significant impact on provisions for decommissioning of nuclear power plants currently in operation.

Developments in 2024

The annual review of the decommissioning estimate for the 56 nuclear reactors currently in operation did not have a significant impact on the provisions.

Based on the estimates of the different types of cost, the cost at completion (in 2024 euros) amounts to approximately €0.67 billion for one reactor at Fessenheim, compared to an average cost of €0.42 billion per unit for the entire PWR fleet when the series and mutualisation effects described above are taken into account.

At Flamanville 3, after the nuclear fuel was loaded into the reactor in May 2024, EDF carried out the first nuclear reaction (started the chain reaction process) on 3 September 2024, once the ASN had given its approval. In the financial statements, this first nuclear reaction led to recognition of provisions for Flamanville 3, amounting to €235 million for decommissioning. The estimate is based on transposition of the reference decommissioning cost for the first 900MW reactor, adapting it to the configuration of Flamanville 3 (which has an operating lifetime of 60 years).

For permanently shut-down nuclear power plants

Decommissioning of shut-down reactors involves pilot operations corresponding to four different technologies, each with clear specificities: a PWR reactor at Chooz A located in a cave, UNGG (natural uranium graphite gas-cooled) reactors at Bugey, Saint-Laurent and Chinon, a heavy water reactor at Brennilis, a sodium-cooled fast neutron reactor at Creys-Malville, and the first-of-a-kind second-generation PWR reactor at Fessenheim.

Basis for estimation

The decommissioning costs are based on estimates that take account of accumulated industrial experience, unforeseeable and regulatory developments, and the latest available figures. They have been revised annually since 2015.

The industrial decommissioning strategy for the UNGG reactors was reviewed in depth in late 2015, leading in particular to a switch from "underwater" to "in-air" dismantling, which involves:

- an essentially remote-controlled dismantling process;
- qualification of tools and the remote operation platform on an "industrial demonstrator", which was inaugurated in 2022;
- dismantling of the initial first-of-a-kind reactor (Chinon A2), and putting the 5 other reactors into a safe storage configuration.

Under this strategy, dismantling operations for the reactor caissons (including the site decontamination and rehabilitation phase) should be completed between 2063 and 2093, depending on the reactors.

Updating the industrial decommissioning scenario for first-generation power plants, particularly UNGG plants, led to a €590 million increase in the provision at 31 December 2015.

From 2016 to 2022

The amendment made in 2015 to the industrial decommissioning strategy for the UNGG reactors was presented to the ASN's commissioners on 29 March 2016, and examined by the ASN until 2019. It was reviewed by international experts, examined by the Institute for Radiation protection and Nuclear Safety IRSN, and was the subject of three hearings before the ASN's commissioners, before the ASN issued two decisions dated 3 March 2020. These decisions and the discussions prior to their adoption by the ASN showed that there was convergence on most major technical questions: the dismantling technique ("in-air"), the usefulness of setting up an industrial demonstrator to develop the tools required for these complex operations, the timetable for dismantling the Chinon A2 reactor, and the need to gain experience from operations on a first reactor.

Regarding the timetable of operations, in draft decisions issued for public consultation in 2019, the ASN asked for this work to be brought forward compared to EDF's proposed schedule, so that dismantling operations on the five reactors after Chinon A2 would begin "no later than 31 December 2055".

In view of this request for a shorter timescale, the nuclear provisions were increased in 2019 by a total €108 million: €77 million for decommissioning provisions for permanently shut-down nuclear power plants and €31 million for provisions for long-term radioactive waste management (for long-lived low-level waste, very low-level and low and intermediate-level waste).

The ASN's decisions concerning dismantling of the UNGG reactors were published in March 2020 and did not contradict the principles of the draft decisions of 2019. Consequently, the nuclear provisions for decommissioning of UNGG plants were not subjected to any particular re-estimation in 2020, and reflect the best estimate of the industrial and technical scenario.

Finally, in accordance with its powers under Article 594-4 of the Environment Code, in June 2020 the DGEC commissioned an external audit of the estimated cost of dismantling operations for EDF's permanently shut-down nuclear facilities (the UNGG plants and management of its long-lived low-level waste, Superphenix and Brennilis), conducted by a consortium of specialist firms. This audit took place from December 2020 to July 2021, and the audit report was posted on the Ministry for the Ecological Transition website in November 2021. Its conclusions (confirming the ASN's observations during its inspection of complex project management, the conclusions of which were released in the first quarter of 2021) highlight "an organisation with a structural focus on execution of dismantling projects", an "annual estimation and revision process [that] is robust, and provides good traceability for the assumptions used and the original data", and "a long-term industrial approach to overcome the small number of technological challenges that remain". Finally, the report states that apart from a non-significant correction (taken into account in the 2021 provisions), "the provisions are coherent with the basic scenarios of the projects and cover the full scope of expenses for the scope audited", and were found to be of "adequate scale" through testing the scale of EDF's expenses and provisions.

In 2022, following the recommendations made by the DGEC-commissioned audit to confirm scheduling risk assessments and the uncertainty levels concerning estimates, an analytical methodology for assessment of scheduling risks and uncertainties (applied to most of decommissioning projects currently in process) and an additional level of uncertainty for estimates "based on expert assessment" (used in provisions for decommissioning and radioactive waste management) were introduced. This led to an increase of €116 million to decommissioning provisions for permanently shut-down nuclear plants.

Developments in 2023

The annual review in 2023 of the cost estimate for decommissioning of permanently shut-down power plants took into consideration methodological changes regarding the assessment of requirements for research and engineering, the risk of obsolescence in existing equipment that is needed for dismantling (such as maintenance and lifting equipment), and the general application of an analytical method for estimating schedule risks and uncertainties that was already applied in 2022 to most current decommissioning projects. These factors led to an €182 million increase in provisions.

It should also be noted that provisions for decommissioning of permanently shut-down power plants were increased by €41 million to reflect property costs (covering general operation and maintenance of the non-industrial sections of the plants), after the estimate for those costs was updated.

Developments in 2024

In 2024, methodological work was undertaken and the two following subjects of general relevance were studied in more detail:

- the treatment of hazardous materials (asbestos, lead, etc): a multi-year action plan was launched to consolidate the inventories of asbestos and lead on the sites, reinforce control of the hazardous materials risk, and assess the additional costs for management of such materials and the potential scheduling impacts. This led to a €229 million increase in provisions (including €70 million for the effect on the Fessenheim decommissioning of recent changes in the regulations on paint containing asbestos).

  From the few cases of paint containing asbestos identified at plants in operation, it is not possible to establish whether the asbestos is localised and confined to one type of equipment in particular, in which case an *ad hoc* treatment would be possible at no significant additional cost, or if its presence is as widespread as in the paint on equipment in certain buildings at Fessenheim. Further tests are necessary to characterise these installations. An action plan will therefore be applied from 2025 to collect the data available in the information system and draw up a characterisation programme, focusing in priority on major painted components that are determinant for the dismantling work, then extending the analysis to other electromechanical equipment. This characterisation programme will take account of the maintenance programme for the fleet currently in operation, and the analysts' capabilities;
- the treatment of obsolescence: a detailed study was conducted following the work done in 2023 on the highest-risk systems. It was based on an analysis of the Saint Laurent A systems, extrapolated to all the permanently shut-down sites, and led to a €108 million increase in provisions.

At 31 December 2024, the gross amounts estimated under year-end economic conditions (amounts still to be spent) and the present value of those amounts are as follows, presented by type of reactor technology:

(in millions of euros)	Costs based on year-end economic conditions	Amounts in provisions at present value
Pressurised water reactor - PWR - Chooz A	334	294
Pressurised water reactor - PWR – Fessenheim [1]	1,161	971
Natural uranium graphite gas-cooled reactors – UNGG - Bugey, Saint-Laurent, Chinon	6,348	3,258
Heavy water reactor - Brennilis	444	381
Sodium-cooled fast neutron reactor – Superphenix at Creys Malville	690	604

(1) Excluding interim storage and processing of steam generators.

Provisions for decommissioning of permanently shut-down nuclear plants also cover dismantling costs for related facilities such as the APEC Fuel Storage Building at Creys-Malville and the BCOT Operational Hot Unit at Tricastin.

Compared to decommissioning costs for the PWR technology, the cost at completion (all costs both settled and remaining) for decommissioning of the other reactors is higher, to different extents depending on their specific characteristics:

- costs are around twice as high for Brennilis (completion cost of approximately €1.1 billion for one reactor) due to its compactness, the fact that the core is encased in concrete and thus difficult to access, the absence of a fuel pool, which complicates remote-controlled segmentation, and the presence of zircaloy (a fire hazard), meaning that segmentation work takes longer and must be more closely supervised;
- costs are around twice as high for UNGG reactors (completion cost of approximately €7.6 billion for six reactors), because they require removal of 20 times more material than a PWR due to their size, and contain graphite which is hard to access and requires special handling such that specific remote-controlled equipment must be developed;
- costs are around four times as high for Superphenix (completion cost of approximately €2.3 billion for one reactor), due to processing of sodium for which elimination is very sensitive, and the size of the facilities, especially the reactor (with a vessel 20 times bigger than the vessel of the 1,300MW PWR).

The following progress has been made on permanently shut-down plants:

- Chooz A: the reactor was shut down in 1991 and nuclear dismantling began in 2007 after the dismantling decree was issued. The final stage of dismantling began in 2016 and involves segmentation, conditioning and removal of reactor vessel internals, to be followed by dismantling of the vessel itself. Difficulties were encountered on the site until 2022 (the Covid crisis, unavailability of the bridge crane), but significant progress was made in 2023 and 2024, including emptying of the pool after segmentation of the reactor vessel internals, segmentation of the primary system pipework before lifting out the reactor vessel, and renovation of the reactor cavern fuel handling machine. Dismantling work on the vessel itself is scheduled to end in 2027.

  Also, a partnership agreement with the French national research agency CNRS was signed on 7 September 2022 for reuse of the caverns for fundamental research on neutrinos
- Fessenheim: the two pressurised water reactors were permanently shut down on 22 February 2020 and 30 June 2020 respectively, in accordance with the Law and before the end of their technical operating lifetime.

  At the end of 2024, progress on the trajectory for decommissioning preparation activities was in line with the projected schedule, and the following operations had taken place:

  > all the spent fuel was removed from the site and sent to La Hague;

  > Full System Decontamination (FSD) was successfully completed on both reactors in June 2023;

  > treatment in Sweden of the upper components of the used steam generators (after their replacement during the operation of Fessenheim units 1 & 2) was completed, and the multilateral agreement was in negotiation with the safety authorities of the countries the lower components will transit through on the way to Sweden (France, Belgium, Germany, the Netherlands and Sweden);

> electromechanical dismantling of the turbine hall, with a view to converting it into a radioactive waste decoupling and transit facility;

Major steps were taken towards obtaining the decree ordering decommissioning operations, which will mark the start of the decommissioning phase: the decommissioning application for Fessenheim was filed with the Minister for the Ecological Transition and the ASN in December 2020, the ASN Advisory Committee held a meeting on 22 June 2023, a public inquiry took place (from 25 March to 30 April 2024) and subsequently the Inquiry Committee and the Prefecture issued favourable opinions.

Under the current schedule, the decommissioning decree for the Fessenheim installations is expected to be issued in mid-2025, and to take effect in early 2026 once the ASN has approved the general operating rules applicable to decommissioning.

- UNGG reactors: these six reactors were shut down between 1973 and 1994 and received their dismantling decrees between 2008 and 2010 (except for Chinon A1 and A2). Defuelling and circuit draining have been completed for all these reactors, and dismantling operations are in process for the conventional and nuclear buildings in the periphery of the "reactor caissons". Following the ASN's decision of 2020, applications for dismantling permits were submitted for all these reactors in December 2022, to obtain new decrees allowing continuation of dismantling operations under an "in-air" strategy (these are expected for the end of 2026 at the earliest). Updated versions of all these applications were sent by EDF in February 2024, in response to requests made by the nuclear safety body MSNR (*Mission de la Sûreté Nucléaire et de la Radioprotection*) in connection with the admissibility assessment. Examination of these applications by the ASN and the IRSN began on 25 November 2024 ahead of a meeting of the ASN Advisory Committee scheduled for March 2026.

  Opening of the top part of the first UNGG reactor caisson – Chinon A2 – is expected in 2034: the initial extractions of vessel internals and graphite blocks are due to start in 2044 and last 14 years. In parallel, the other UNGG sites are finalising work to put the sites into a safe storage configuration (by 2040). A safe storage configuration state means that 80% of surfaces have been dismantled and the reactor caissons are safe while awaiting the full benefit of experience on dismantling the caisson of the Chinon A2 first-of-a-kind unit. Opening of subsequent caissons is scheduled to begin from 2056;

- Superphenix: this plant was shut down in 1998 and received its dismantling decree in 2006. The following key stages have been completed: removal of the fuel to a building located on site (the APEC project), dismantling of the turbine hall, drainage of the circuits, processing and elimination of the sodium used for cooling in all circuits, filling the reactor vessel, opening, and extracting the vessel containment plugs for segmentation. After removal of the reactor vessel containment plugs, installation of the "SCOT" [1] rotating confinement structure and commissioning of the automated workshop, segmentation of the reactor vessel internals began in 2024. In late 2024, the neutron shield support (the first part of the vessel internals) was extracted, segmented and conditioned in waste packages. The second part, the diagrid (the last large-scale component to be removed from inside the vessel) will be extracted for segmentation in the first quarter of 2025. Meanwhile, work inside the reactor building continued: in 2024, dismantling of the vessel head plug was completed, and dismantling work began on the reactor pit and the safety containment vessel.

  The end of the Superphénix reactor decommissioning is scheduled for 2034;

- Brennilis: this plant was shut down in 1985 and received a partial dismantling decree in 2011 allowing dismantling of all installations peripheral to the "reactor block". The following key stages have been completed: defuelling, dismantling of the turbine hall, the fuel building, auxiliary buildings, heat exchangers and the effluent treatment station. On 26 September 2023 the Brennilis plant received its "full dismantling" decree. Its implementation was marked in June 2024 by the ASN's approval of the new general operating rules, and in November 2024 by issuance of the ASN's final authorisation concerning the new water discharge and withdrawal practices allowing work to begin on dismantling the reactor block and demolition of the containment building, with site rehabilitation expected in 2041.

26.4 Provisions for last cores

These provisions cover the future expenses resulting from scrapping fuel that will only be partially irradiated when the reactor is shut down. They are estimated based on:

- the cost of the loss on fuel in the reactor that is not totally spent at the time of final reactor shutdown and cannot be reused due to technical and regulatory constraints ("front-end" expenses);
- the cost of fuel processing, and waste removal and storage operations ("back-end" expenses). These costs are estimated in a similar way to provisions for spent fuel management and long-term radioactive waste management.

These unavoidable costs are components of the cost of nuclear generating unit shutdown and decommissioning. As such, they are fully covered by provisions from the commissioning date and an asset associated with the provision is recognised. In a decision of 11 December 2020, France's Council of State challenged the tax-deductibility of the consequences of immediate recognition of a provision for dismantling of the last core ("front-end" last core expenses). In a ruling of 31 March 2023, the Council of State definitively confirmed that this nuclear provision is not tax-deductible.

In 2023, provisions for last cores were increased by €103 million after the costs of processing operations were updated.

In 2024, provisions for last cores include €22 million for the last core of the Flamanville 3 plant.

26.5 Discount rate, inflation and sensitivity analyses

26.5.1 Calculation of the discount rate and inflation rate

The discount rate is based on an interest rate curve, which comprises a sovereign yield curve constructed on year-end market data for liquid horizons (OAT bond 0-20 year curve) and then converging, using an interpolation curve, towards the very long-term rate UFR (Ultimate Forward Rate) - with yields that become close to the UFR after 50 years – plus a curve of the spread of corporate bonds rated A to BBB. Based on the disbursement outflows expected to meet nuclear obligations, a single equivalent discount rate is deduced by applying the discount rates from the interest rate curve constructed in this way to each flow as appropriate to its maturity. This single discount rate is then applied to the forecast disbursement schedules for the costs of the obligations, to determine the provisions.

(1) Structure de Confinement Tournante.

The UFR was defined by the European Insurance and Occupational Pensions Authority (EIOPA) for very long-term insurance liabilities that will involve disbursements beyond market horizons. The UFR calculated for 2024 (taking into account a 2% inflation rate) is 3.22%. This is used in the calculation methodology, in compliance with the decision by the French authorities, which in the ministerial order of 1 July 2020 amending the order of 21 March 2007 on secure financing of nuclear expenses (see below) changed the formula of the regulatory ceiling for the discount rate, such that it now refers to the UFR instead of the arithmetic 48-month average of the TEC 30-year rate. The UFR is considered more relevant for nuclear provisions in view of the very long-term maturities. The sovereign yield curve at 31 December 2024 indicates rates in a range of [2.3%; 3.6%] ([2.2%; 3%] in 2023) for outflows between 0 and 20 years, [3.4%; 3.6%] ([3%; 3.2%] in 2023) for outflows between 20 and 50 years, and a rate moving towards 3.22% (3.35% in 2023) for outflows after 50 years.

This calculation methodology for the discount rate provides the best assessment of the time value of money with regard to nuclear provisions, which are characterised by very long-term disbursement outflows, well beyond market horizons. This assessment is largely achieved through:

- use of an interest rate curve based on observed year-end market data with liquid horizons, converging over nonliquid horizons towards a very long-term rate with no cycle effect, *i.e.* yield data for all the maturities associated with nuclear provisions;
- use of a very long-term rate (calculated UFR) produced by an independent body and now adopted by the French authorities in setting the formula for the regulatory ceiling, to take account of long trends in yield movements, in coherence with the distant disbursement horizon;
- references to spreads on corporate bonds rated A to BBB by ratings agencies, in order to construct a robust spread curve since there are few AA-rated bonds, particularly on long maturities, whereas most "Investment Grade" bonds are BBB-rated and the great majority of them have longer maturities.

The inflation assumption is based on an inflation curve constructed by reference to inflation-indexed market products and economic forecasts, in long-term coherence with the inflation assumption underlying the UFR (2%).

By this calculation method, and taking account of the high volatility at the end of 2024 in OAT bond rates, which are expected to decrease, and the interest rate volatility in 2025, the discount rate determined is thus 4.5% at 31 December 2024 (4.5% at 31 December 2023), assuming inflation of 1.9% (2.0% at 31 December 2023), *i.e.* a real discount rate of 2.6% at 31 December 2024 (2.5% at 31 December 2023).

The decrease in the inflation rate assumption reflects the lower inflation forecasts in France. A 2% long-term inflation rate is still used given the ECB's target level, consistent with the inflation assumption underlying the UFR.

26.5.2 Regulatory discount rate limit

The discount rate must comply with two regulatory limits. Under Article D. 594-4 of the Environment Code and the ministerial order of 1 July 2020 on secure financing for nuclear expenses (which amended the initial ministerial order of 21 March 2007), it must be lower than:

- a regulatory maximum, expressed in real value, *i.e.* net of inflation; this value is equal to the unrounded value representative of expectations concerning the real long-term interest rate, as used for the calculation of the "real" Ultimate Forward Rate (UFR) applicable at the date concerned published by the European Insurance and Occupational Pensions Authority (EIOPA), plus 150bp;
- and the expected rate of return on assets covering the liability (dedicated assets).

The maximum discount rate calculated by reference to the UFR is 2.72% at 31 December 2024 (2.85% at 31 December 2023).

The real discount rate used in the financial statements at 31 December 2024, calculated by the method presented above, is 2.6%.

26.5.3 Analyses of sensitivity to macro-economic assumptions

Sensitivity to assumptions concerning costs, inflation rate, long-term discount rate, and disbursement schedules can be estimated through comparison of the gross amount estimated under year-end economic conditions with the present value of the amount.

Provisions related to nuclear generation within the scope of the Law of 28 June 2006 (in millions of euros)	31/12/2024 Cost based on year-end economic conditions	31/12/2024 Present value	31/12/2023 Cost based on year-end economic conditions	31/12/2023 Present value
Spent fuel management	24,849	16,211	18,998	12,657
Amount unrelated to the operating cycle	*7,794*	*4,496*	*3,658*	*1,760*
Long-term radioactive waste management	40,405	14,156	38,467	13,205
Back-end nuclear cycle expenses	**65,254**	**30,367**	**57,465**	**25,862**
Decommissioning of nuclear plants in operation	25,154	13,510	23,335	13,002
Decommissioning of shut-down nuclear plants	9,313	5,711	8,832	5,417
Last cores	5,167	2,995	4,668	2,720
Decommissioning and last core expenses	**39,634**	**22,216**	**36,835**	**21,139**
PROVISIONS RELATED TO NUCLEAR GENERATION WITHIN THE SCOPE OF THE LAW OF 28 JUNE 2006*		**52,583**		**47,001**

* *Scope of application of the Law of 28 June 2006 on the sustainable management of radioactive materials and waste and its application decrees concerning secure financing of nuclear expenses. The provisions that do not fall within the scope of this Law are provisions for the back-end of the nuclear cycle concerning non-EDF installations.*

The cumulative disbursements of nuclear expenses (based on gross values at year-end economic conditions) are distributed as follows:

Provisions related to nuclear generation within the scope of the Law of 28 June 2006 (in millions of euros)	2024 Costs based on year-end economic conditions Disbursement expected within 10 years	Disbursement expected after 10 years*	Total
Spent fuel management	12,589	12,260	24,849
Amount unrelated to the operating cycle	*2,977*	*4,817*	*7,794*
Long-term radioactive waste management	6,548	33,857	40,405
Back-end nuclear cycle expenses	**19,137**	**46,117**	**65,254**
Decommissioning of nuclear plants in operation	623	24,531	25,154
Decommissioning of shut-down nuclear plants	3,854	5,459	9,313
Last cores	1,146	4,021	5,167
Decommissioning and last core expenses	**5,623**	**34,011**	**39,634**

* *Over a 20-year and 50-year horizon, 24% and 45% respectively of cumulative disbursements (at year-end economic conditions) will concern long-term radioactive waste management provisions, and 37% and 93% respectively will concern decommissioning provisions.*

For additional information, the table below shows the estimated impact of a +/-20 base point variation in the discount rate on the present value of provisions for the back-end of the nuclear cycle, decommissioning of nuclear plants and last cores:

(in millions of euros)	Amounts in provisions at present value 31/12/2024	Sensitivity to discount rate Balance sheet provision +0,20%	 -0,20%	 Pre-tax net income +0,20%	 -0,20%
Back-end nuclear cycle expenses					
• spent fuel management	17,449	(314)	332	269	(285)
• long-term radioactive waste management	14,156	(712)	795	543	(613)
Decommissioning and last core expenses					
• decommissioning of nuclear plants in operation	13,510	(588)	621		
• decommissioning of permanently shut-down nuclear plants	5,711	(164)	175	164	(175)
• last cores	2,995	(97)	103		
TOTAL	**53,821**	**(1,875)**	**2,026**	**976**	**(1,073)**
Amount covered by dedicated assets	*38,507*	*(1,636)*	*1,777*	*833*	*(924)*

The impact of a +/-10 base point variation in discount rates on the present value of provisions for the back-end of the nuclear cycle, decommissioning and last cores is estimated at €(956)/993 million, including €499/(523) million on the pre-tax net income.

26.6 Dedicated assets

26.6.1 Regulations

Articles L. 594-1 and following of France's Environment Code and their implementing regulations require assets (dedicated assets) to be set aside for secure financing of nuclear plant decommissioning expenses and long-term storage expenses for radioactive waste. These regulations govern the way dedicated assets are built up, and the management and governance of the funds themselves. Dedicated assets are clearly identified and managed separately from the Company's other financial assets and investments. They are also subject to specific monitoring and control by the Board of Directors and the administrative authorities.

The Law requires the realisable value of dedicated assets to be higher than the value of the provisions corresponding to the present value of the long-term nuclear expenses defined in France's Environment Code.

The Decree of 1 July 2020 codified the regulatory obligations concerning dedicated assets in Articles D594-1 and following of the Environment Code, modified by a Decree of 22 November 2023 and complemented by the ministerial order of 21 March 2007 amended by the order of 1 July 2020.

Since the Decree of 1 July 2020, EDF is no longer obliged to add to dedicated assets when the coverage rate of obligations, determined by the ratio of the assets' realisable value to the amount of the provisions concerned, is above 100%, and withdrawals from assets are not authorised unless that rate is above 120%. The decree also set the maximum period for allocating funds to dedicated assets in the event of undercoverage at 5 years, subject to authorisation by the administrative authority.

26.6.2 Strategic allocation and composition of dedicated assets

Given the regulations governing dedicated assets, they form a highly specific category of assets.

Dedicated assets are structured and managed according to a strategic allocation defined by the Board of Directors and reported to the administrative authorities. The strategic allocation is designed to meet the overall objective of long-term coverage of obligations, and determines the structure and management of the portfolio as a whole. It takes into account regulatory constraints concerning the nature and liquidity of the dedicated assets, the financial outlook for the equity and bond markets, and the diversifying contribution of unlisted assets.

Several changes have been made to this strategic allocation in order to pursue the diversification into unlisted assets, particularly in 2010 when the shares in RTE (now held via CTE) were allocated to dedicated assets, and in 2013 when an unlisted asset portfolio (consisting of infrastructures, real estate and debt or equity funds) was set up. This portfolio is managed by EDF SA's "EDF Invest" Division.

The strategic allocation validated by the Board of Directors on 28 June 2024 adjusted the previous allocation approved on 29 June 2018, and the composition of dedicated assets is as follows:

- yield assets (target of 29% of dedicated assets), consisting of infrastructure assets, including the shares of CTE, and real estate property;
- growth assets (target of 41% of dedicated assets), consisting of equity funds investing in listed or unlisted equities;
- fixed-income assets (target of 30% of dedicated assets), consisting of listed bonds or listed bond funds, unlisted debt funds, receivables and cash.

These targets will be reached gradually.

EDF Invest manages yield assets, but through unlisted investment funds it also manages some of the growth and fixed-income assets.

At 31 December 2024 the total realisable value of assets managed by EDF Invest is €10,839 million, including €9,485 million for yield assets.

26.6.3 Growth assets and fixed-income assets

Certain growth and fixed-income assets take the form of bonds held directly by EDF. Others consist of specialised collective investment funds on leading international markets and French general-purpose investment funds (FIVGs), managed by independent asset management companies. They take the form of open-end funds and "reserved" funds located in France, established for the Company.

The listed equity funds consist of international equities (mainly in North America but also in Europe, Asia-Pacific and emerging countries). Listed bonds and listed bond funds consist of sovereign and corporate bonds.

These investments are structured and managed in line with the strategic allocation, which takes into consideration international stock market cycles, for which the statistical inversion generally observed between equity market cycles and bond market cycles – as well as between geographical areas – has led the Company to define a long-term investment policy with appropriate allocation between growth assets and fixed-income assets.

Growth assets also include a small portion of funds invested in unlisted equities, and fixed-income assets also include a small portion of funds invested in unlisted debt. These funds are managed by EDF Invest (see note 26.6.2).

In the course of operational asset monitoring, the Group applies long-term, specific management rules defined and supervised by its governance bodies (maximum investment ratios, volatility analyses and assessment of individual fund manager quality).

26.6.4 Yield assets

The yield assets managed by EDF Invest consist of assets related to investments in infrastructures and real estate, made either directly by EDF Invest or by investment funds under delegated management arrangements.

Yield assets particularly include EDF's investments in CTE, Teréga, Fjord1, Energy Assets Group, Porterbrook, Autostrade per l'Italia, Q-Park, Aéroports de la Côte d'Azur, Madrileña Red de Gas (MRG), Géosel, Orange Concessions, Optimus Tower, Norlys Fiber, Databank, Nam Theun Power Company, companies that own wind and solar power plants (in the United States, Canada, and the United Kingdom) and companies that own real estate assets (Central Sicaf, Ecowest, Clariane & Partenaires Immobilier, Issy Shift, 92 France, LF Memphis, Nordic Logistics, Parcolog Invest, Encore+Bergère).

26.6.5 Valuation of dedicated assets

Dedicated assets are classified in the balance sheet according to their accounting nature: investments, investment securities, and marketable securities.

Details of the portfolio at 31 December 2024 are as follows:

		31/12/2024		31/12/2023	
(in millions of euros)	Notes	Net book value	Realisable value	Net book value	Realisable value
Yield assets		**7,585**	**9,485**	**6,956**	**8,657**
Investments (including CTE) [1]	16.2	7,100	8,993	6,510	8,199
Unlisted equity funds (EDF Invest) [2]	16.5	496	503	443	455
Cash instruments (Derivatives)	18 & 31	(11)	(11)	3	3
Growth assets		**10,482**	**16,633**	**10,319**	**14,036**
Equities - shares in investment funds	16.5	9,783	15,995	9,730	13,392
Unlisted equity funds (EDF Invest) [2]	16.5	698	699	588	589
Cash instruments (Derivatives)	18 & 31	1	(61)	1	55
Fixed-income assets		**13,908**	**14,202**	**13,972**	**14,192**
Bonds	16.5	12,878	13,172	12,277	12,488
Unlisted debt funds (EDF Invest) [2]	16.5	255	260	226	236
Cash portfolio	16.5	364	365	1,095	1,104
Unlisted senior debt funds (EDF Invest) [2]	16.5	395	395	358	363
Cash instruments (Derivatives)	18 & 31	16	10	16	1
TOTAL DEDICATED ASSETS [3]		**31,975**	**40,320**	**31,247**	**36,885**

(1) Including EDF's 50.1% investment in CTE, the company that holds 100% of the shares in RTE. The realisable value of CTE has been determined by an independent assessor, in the same way as for EDF Invest's other assets.

(2) All EDF Invest funds are to be considered together, as their net book value totals €1,844 million at 31 December 2024 (€1,257 million at 31 December 2023) for a realisable value of €1,857 million (€1,280 million at 31 December 2023). As of 31 December 2024, unlisted senior debt funds are now held by EDF Invest.

(3) Limiting the value of certain investments in compliance with Article 16 of Decree 2007-243 concerning calculation of the regulatory realisable value of dedicated assets has no effect at 31 December 2024 or 2023.

Net book value and fair value include unmatured accrued interest.

26.6.6 Coverage of long-term nuclear obligations

At 31 December 2024, by the regulatory calculations provisions are 104.7% covered by dedicated assets. The potential regulatory caps on the realisable value of certain investments set in the Environment Code were not applicable at 31 December 2024.

As the coverage of provisions by dedicated assets was above 100%, EDF had no obligation to add to the dedicated asset portfolio in 2024 and no allocation was made during the year.

At 31 December 2023, by the regulatory calculations provisions were 108.5% covered by dedicated assets (and the regulatory caps were again not applicable).

The long-term nuclear obligations concerned by the regulations for dedicated assets related to nuclear generation are included in EDF's financial statements at the following values:

(in millions of euros)	31/12/2024	31/12/2023
Provisions for spent fuel management – portion unrelated to the operating cycle as defined in the regulations	4,496	1,760
Provisions for long-term radioactive waste management	14,156	13,205
Provisions for nuclear plant decommissioning	19,221	18,419
Provisions for last cores – portion for future costs of long-term radioactive waste management	634	605
PRESENT COST OF LONG-TERM NUCLEAR OBLIGATIONS	**38,507**	**33,989**

26.6.7 Changes in dedicated assets in 2024

Equity market performances were strong for a second successive year in 2024, particularly in the US. Economic growth in the United States was surprisingly vigorous all year long, and the economy was very well oriented generally towards services, and investment in artificial intelligence. The outcome of the American presidential elections had positive effects on the markets in late 2024 (due to expectations of lower taxes and deregulation) despite the potentially unfavourable effects on inflation, and the resulting lack of visibility regarding changes to the Fed's monetary policy. In Europe, conversely, economic growth remained sluggish.

The divergence between Europe and the United States is clearly reflected in the 2024 performances, which were substantially higher in the US. This led to the indexes concentrating more on American equities, the technology sector and certain specific names (the Magnificent Seven).

The listed equities portfolio grew by 21.67% in 2024. In more detail, the net growth in euros was 26.93% on North American equities, 6.58% in Europe, 19.78% in Japan, and 15.08% in emerging countries.

Listed bonds grew by 4.30% in 2024. The portfolio benefited from tactical management of interest rate sensitivity, and good credit performances in general. The sovereign bond portfolio registered a performance of 2.48%, the inflation-indexed bond portfolio 0.37%, the Euro investment grade credit portfolio 5.99%, and the high-yield short-term credit portfolio 5.02%.

EDF Invest continued to extend its portfolio of unlisted assets in 2024, purchasing minority stakes in infrastructures and real estate (logistics, offices), and investing in private equity and private debt funds.

During the first half of 2024, EDF Invest finalised the acquisition of a 50% share in Nordic Logistic (logistics warehouses in Sweden), and the acquisition, as part of a consortium, of a 40% stake in the Norwegian electric ferry operator Fjord1. During the second half of 2024, EDF Invest purchased 50% of Parcolog Invest, a portfolio of logistics warehouses in France, 49% of the shares of a real estate partnership which owns an office building in Paris, and a 40.1% stake in the consortium that has taken over the Austrian telecoms tower operator Optimus Tower.

At 31 December 2024, dedicated assets registered an overall performance of €1,462 million, comprising €879 million in financial result and €583 million in exceptional result. This is principally explained by dividends and interest received (€958 million), reversals of provisions on bonds and investment funds due notably to favourable market trends (€41 million), and gains on sales of investment securities (€583 million).

Note 27 Other provisions for decommissioning

Other provisions for decommissioning principally concern fossil-fired power plants.

The costs of decommissioning fossil-fired power plants are calculated using regularly updated studies based on estimated future costs, measured by reference to the charges recorded on past operations and the most recent estimates for plants still in operation.

The increase over the year is mainly explained by a re-estimation of decommissioning costs incorporating the latest experience gained from recent operations.

Note 28 Provisions for employee benefits

ACCOUNTING PRINCIPLES AND METHODS

In accordance with the statutory regulations for companies in France's electricity and gas sector (IEG), EDF SA's employees are entitled to post-employment benefits (pension plans, retirement indemnities, etc) and other long-term benefits (*e.g.* long-service awards).

CALCULATION AND RECOGNITION OF EMPLOYEE BENEFIT OBLIGATIONS

EDF recognises post-employment benefits granted to personnel as provisions.

Obligations under defined-benefit plans are calculated by the projected unit credit method, which determines the present value of entitlements earned by employees at year-end to post-employment benefits and long-term benefits, taking into consideration the prospects for wage increases and the country's specific economic conditions.

Post-employment benefit obligations are valued mainly using the following methods and assumptions:

- retirement age, determined on the basis of the applicable rules for each plan, and the requirements to qualify for a full pension;
- career-end salary levels, with reference to employee seniority, projected salary levels at the time of retirement based on the expected effects of career advancement, and estimated trends in pension levels;
- forecast numbers of pensioners, determined based on employee turnover rates and mortality data;
- reversion pensions where relevant, taking into account both the life expectancy of the employee and his/her spouse and the marriage rate for IEG sector employees;
- a discount rate that depends on the duration of the obligations, determined at the year-end date by reference to the market yield on high-quality corporate bonds or the rate on government bonds whose duration is coherent with EDF's commitments to employees.

The amount of the provision takes into account the present value of the fund assets that cover these benefits, which is deducted from the benefit obligations.

Any actuarial gain or loss on post-employment benefit obligations in excess of 10% (the "corridor") of the obligations or fund assets, whichever is the highest, is recognised in the income statement progressively over the average residual working life of the Company's employees.

For other long-term benefits, actuarial gains and losses and the full past service cost are directly included in the provision, without application of the "corridor" rule.

The net expense booked during the year for employee benefit obligations includes:

- the current service cost, corresponding to additional benefit entitlements earned during the year;
- the net interest expense, corresponding to interest on obligations net of the expected return on fund assets;
- the income or expense corresponding to the actuarial gains and losses on long-term benefits and amortisation of actuarial gains or losses on post-employment benefits;
- the past service cost, including the income or expense related to amendments or settlements of benefit plans or introduction of new plans.

POST-EMPLOYMENT BENEFIT OBLIGATIONS

Since the financing reform for the IEG benefits system took effect on 1 January 2005, the CNIEG (*Caisse Nationale des IEG*, the sector's specific pension body) has managed not only the special IEG pension system, but also the industrial accident, invalidity and death insurance system for the French electricity and gas sector.

The CNIEG is a social security body governed by private Law, formed by the Law of 9 August 2004. It has legal entity status and reports to the French government, operating under the joint supervision of France's ministers for the Budget, Social Security and Energy.

Under the funding arrangements introduced by the same Law, EDF establishes pension provisions to cover entitlements not funded by France's standard systems (through the CNAV, AGIRC and ARRCO pension funds) to which the IEG system is affiliated, or by the CTA (*Contribution Tarifaire d'Acheminement*) levy on gas and electricity transmission and distribution services.

As a result of the system affiliation mechanism, any change in the standard French pension system (whether favourable or unfavourable to employees) that is not incorporated into the IEG pension system is likely to cause a variation in the amount of the provisions recorded by EDF to cover its obligations.

The IEG pension obligations for which a provision is recorded include:

- specific benefits of employees covered by the IEG statutes in the deregulated or competitive activities;
- specific benefits earned by employees covered by the IEG statutes from 1 January 2005 for the regulated activities (public electricity distribution by SEI) (benefits earned prior to that date are financed by the CTA levy).

CNIEG management expenses payable by EDF for the administration and payment of retired employees' pensions are also included.

In application of France's pension reform Law of 14 April 2023, employees covered by the IEG statutes hired from 1 September 2023 are affiliated to the standard pension system (CNAV, AGIRC and ARRCO). These employees' pensions are funded under the standard French pension rules, but they are still entitled to other IEG statutory benefits (energy at preferential prices, family benefits, etc).

OBLIGATIONS FOR IEG STATUTORY BENEFITS OTHER THAN PENSIONS

All retired employees covered by the IEG statutes, regardless of their pension system, are entitled to other IEG statutory benefits, including:

- benefits in kind (energy): Article 28 of the national IEG personnel statutes entitles retirees receiving an IEG or standard pension to the same benefits in kind as currently active employees covered by the IEG statutes. Consequently, they are granted preferential prices for electricity and natural gas. The obligation relating to supplies of energy to present and past IEG-status employees of EDF and ENGIE corresponds to the probable present value of kWh to be supplied to those employees or their dependants during their retirement, valued on the basis of the unit cost (which mainly depends on the marginal production cost, delivery cost and taxes). It also includes the balancing payment made under the energy exchange agreement with ENGIE: under agreements signed with ENGIE in 1951, EDF supplies electricity to the entire population of current and retired EDF and ENGIE employees, while ENGIE supplies gas to the same population, and EDF pays (or receives) an amount to balance the costs of energy exchanges between the two companies that concern EDF's employees covered by the IEG statutes;
- family benefits and help with the cost of studies: retirees receiving an IEG or standard pension have the same entitlements as current employees covered by the IEG statutes;
- bereavement benefit: this is paid out upon the death of an inactive employee covered by the IEG statutes, regardless of their pension system, to provide financial assistance for the expenses incurred at such a time (Article 24-§3 of the National Statutes). It is paid to the deceased retiree's principal dependants (statutory indemnity equal to three months' pension, subject to a limit) or to a third party that has paid funeral costs (discretionary indemnity equal to the costs incurred).

OBLIGATIONS FOR BENEFITS PAYABLE TO EMPLOYEES COVERED BY THE IEG STATUTES AT THE TIME OF RETIREMENT

All retired employees covered by the IEG statutes, regardless of their pension system, are entitled to the following benefits when they take retirement:

- retirement gratuities: these are paid upon retirement to employees covered by the IEG statutes, regardless of their pension system, or to their dependants if the employee dies before reaching retirement. These obligations are almost totally covered by an insurance policy;
- bonus pre-retirement paid leave: all employees covered by the IEG statutes, regardless of their pension system, who are immediately eligible for an old-age pension and are aged at least 55 at their retirement date are entitled to 18 days of bonus paid leave during the last twelve months of their employment.

OBLIGATIONS FOR BENEFITS AWARDED IN RECOGNITION OF EXPOSURE TO PHYSICALLY ARDUOUS WORK TO EMPLOYEES AFFILIATED TO THE SPECIAL IEG PENSION SYSTEM

The IEG statutes contain early retirement measures for employees affiliated to the special IEG pension system who are exposed to physically arduous work. Employees hired before 1 January 2009 benefit from bonus contribution periods for calculation of their pension, and employees hired after 1 January 2009 are attributed paid leave entitlements through a special "Pension days" time banking system.

OTHER LONG-TERM BENEFIT OBLIGATIONS

These benefits concern employees currently in service, and include:

- annuities following incapacity, invalidity, industrial accident or work-related illness. Like their counterparts in the general national system, IEG employees are entitled to financial support in the event of industrial accident or work-related illness, and invalidity and incapacity annuities and benefits. The obligation is measured as the probable present value of future benefits that will be payable to current beneficiaries, including any possible reversions;
- long-service awards;
- specific benefits for employees who have been in contact with asbestos.

Changes in provisions for employee benefits were as follows:

		Increases		Decreases		
(in millions of euros)	31/12/2023	Operating [1] [4]	Financial [3]	Operating [2] [4]	Financial [5]	31/12/2024
Provisions for post-employment benefits	11,581	358	777	(591)	(397)	11,728
Provisions for long-term benefits	954	108	31	(92)	-	1,001
PROVISIONS FOR EMPLOYEE BENEFITS	**12,535**	**466**	**808**	**(683)**	**(397)**	**12,729**

(1) Including €343 million for the current service cost, €120 million for amortisation of actuarial losses, and €3 million of unvested benefits relating to the past service cost.

(2) Including €(654) million for employers' contributions, €(28) million of actuarial gains and €(1) million of unvested benefits relating to the past service cost.

(3) See note 11.

(4) See note 5.

(5) For the expected return on fund assets.

Details of changes in the provisions:

(in millions of euros)	Obligations	Fund assets	Obligations net of fund assets	Unrecognised past service cost	Unrecognised actuarial gains and losses	Provision in the balance sheet
Balance at 31/12/2023	**23,933**	**(9,780)**	**14,153**	**3**	**(1,621)**	**12,535**
Net expense for 2024	1,151	(397)	754	1	93	848
Change in unrecognised actuarial gains and losses	1,089	(108)	981	-	(981)	-
Benefits paid	(1,085)	431	(654)	-	-	(654)
BALANCE AT 31/12/2024	**25,088**	**(9,854)**	**15,234**	**4**	**(2,509)**	**12,729**

Actuarial gains and losses on obligations amount to €1,089 million for 2024, reflecting:

- the €(409) million change in the inflation rate;
- the €4 million change in social charges, reflecting the change in contribution rates;
- the €1,494 million change in experience adjustments, principally attributable to changes in wages and revaluation of pensions.

Post-employment and long-term employee benefit expenses:

(in millions of euros)	31/12/2024	31/12/2023
Past service cost	343	292
Interest expense (discount effect) [1]	808	914
Expected return on fund assets	(397)	(368)
Amortisation of unrecognised actuarial gains and losses - post-employment benefits	(6)	9
Change in actuarial gains and losses - long-term benefits	99	63
Past service cost - vested benefits [2]	-	232
Past service cost - unvested benefits	1	2
NET EXPENSES FOR POST-EMPLOYMENT BENEFITS AND LONG-TERM BENEFITS	**848**	**1,144**
including:		
Operating expenses [3]	437	598
Financial expenses	411	546

(1) The interest expenses (discount effect) of €808 million are €(106) million lower than at 31 December 2023, as a result of the decrease in the discount rate between 1 January 2023 (3.9%) and 1 January 2024 (3.4%).

(2) The past service cost of €232 million at 31 December 2023 has no equivalent in 2024. It resulted from the French pension reform that took effect in 2023.

(3) In 2024, this amount corresponds to increases of €466 million to operating provisions, net of reversals for actuarial gains and losses (€28 million) and unvested benefits relating to the past service cost (€1 million).

28.1 Provisions for post-employment benefits

Details of these provisions are shown below:

		Increases		Decreases		
(in millions of euros)	31/12/2023	Operating	Financial	Operating	Financial	31/12/2024
Pensions	7,535	210	601	(444)	(379)	7,523
CNIEG expenses	462	6	13	(16)	-	465
Benefits in kind (energy)	2,633	75	115	(99)	-	2,724
Retirement gratuities	100	29	18	(8)	(18)	121
Other benefits	851	38	30	(24)	-	895
PROVISIONS FOR POST-EMPLOYMENT BENEFITS	**11,581**	**358**	**777**	**(591)**	**(397)**	**11,728**

(in millions of euros)	Obligations	Fund assets	Unrecognised past service cost	Unrecognised actuarial gains and losses	Provision in the balance sheet
Pensions	18,235	(9,416)	-	(1,296)	7,523
CNIEG expenses	385	-	-	80	465
Benefits in kind (energy)	4,010	-	-	(1,286)	2,724
Retirement gratuities	532	(423)	3	9	121
Other benefits	925	(15)	1	(16)	895
PROVISIONS FOR POST-EMPLOYMENT BENEFITS AT 31/12/2024	**24,087**	**(9,854)**	**4**	**(2,509)**	**11,728**

(in millions of euros)	Obligations	Fund assets	Unrecognised past service cost	Unrecognised actuarial gains and losses	Provision in the balance sheet
Pensions	17,838	(9,351)	-	(952)	7,535
CNIEG expenses	380	-	-	82	462
Benefits in kind (energy)	3,362	-	-	(729)	2,633
Retirement gratuities	522	(414)	3	(11)	100
Other benefits	877	(15)	-	(11)	851
PROVISIONS FOR POST-EMPLOYMENT BENEFITS AT 31/12/2023	**22,979**	**(9,780)**	**3**	**(1,621)**	**11,581**

28.2 Provisions for other long-term benefits for current employees

The amount of obligations for other long-term benefits awarded to current employees is identical to the corresponding balance sheet provisions. Details are as follows:

		Increases		Decreases	
(in millions of euros)	31/12/2023	Operating	Financial	Operating	31/12/2024
Annuities following work-related accident and illness	805	99	26	(81)	849
Long service awards	132	7	5	(9)	135
Other	17	2	-	(2)	17
PROVISIONS FOR OTHER LONG-TERM BENEFITS FOR CURRENT EMPLOYEES	**954**	**108**	**31**	**(92)**	**1,001**

28.3 Fund assets

Fund assets, managed under an asset/liability model, amount to €9,854 million at 31 December 2024 (€9,780 million at 31 December 2023) and concern the coverage of retirement gratuities and the specific benefits of the special pension system.

The value of fund assets increased during the year, mainly as a result of more favourable trends on the financial markets.

Investments under the contracts concerned break down as follows:

(in millions of euros)	31/12/2024	31/12/2023
TOTAL FUND ASSETS	**9,854**	**9,780**
Assets funding special pension benefits	**9,416**	**9,351**
(%)		
Equities	33%	31%
Monetary bonds	65%	67%
Real estate assets	2%	2%
Assets funding retirement gratuities	**423**	**414**
(%)		
Equities	42%	41%
Monetary bonds	58%	59%
Assets funding other benefits	15	15

28.4 Actuarial assumptions

The principal actuarial assumptions used to calculate post-employment benefits and long-term employee benefits under the IEG system are summarised below:

- the discount rate is 3.40% at 31 December 2024 (3.40% at 31 December 2023);
- the inflation rate is estimated at 1.90% at 31 December 2024 (2.00% at 31 December 2023);
- the average residual period of employment is 19.38 years;
- the staff turnover rate is considered non-significant;
- the "tarif agent" (special energy price for EDF employees) includes changes at 31 December 2024 in taxes based on that tariff;
- the expected return on fund assets covering past specific benefits under the special pension system is 4.15% for 2024 (4.10% for 2023);
- the expected return on fund assets covering retirement gratuities is 4.41% for 2024 (4.27% for 2023).

The discount rate used for employee benefit obligations is determined by applying the yield rate on high-quality corporate bonds of appropriate duration to maturities corresponding to the future disbursements resulting from these obligations. For longer durations, the calculation also takes into consideration data from a wider selection of corporate bonds adjusted for comparability with the high-quality bonds, as the panel of bonds with these durations is limited.

Changes in the economic and market parameters used led EDF to set the nominal discount rate at 3.40% at 31 December 2024 (also 3.40% at 31 December 2023).

The inflation assumption is based on an inflation curve constructed from economic forecasts and inflation-indexed market products.

As a result of changes in the economic and market parameters, the assumed average inflation rate used as the EDF group's benchmark for Euro zone countries is 1.90% at 31 December 2024 (2.00% at 31 December 2023).

The obligations are based on wage increase assumptions that are differentiated by age group and employee category, with an average annual rise of 2.90% including inflation for a projected full career.

Wage law projections from 2024 onwards are based on average wage increases observed in the IEG sector in recent years (adjusted for non-recurring effects).

The mortality table used to calculate obligations is based on the INSEE 2013-2070 generation table (produced by the French statistics office), corrected for differences in mortality between the general French population and the population covered by the IEG regime.

Note 29 Provisions for other expenses

		Increases		Decreases			
(in millions of euros)	31/12/2023	Operating	Exceptional	Utilisations	Reversals	Others	31/12/2024
Provisions for:							
• personnel expenses	52	52	-	(55)	(2)	-	47
• replacement of assets operated under concessions	286	8	-	-	(1)	(3)	290
• other expenses	480	10	31	(142)	(5)	10	384
PROVISIONS FOR OTHER EXPENSES	**818**	**70**	**31**	**(197)**	**(8)**	**7**	**721**

Note 30 Contingent liabilities and assets

ACCOUNTING PRINCIPLES AND METHODS

A contingent liability is:

- a potential obligation arising from past events, which will only be confirmed by the occurrence (or non-occurrence) of one or more uncertain future events that are not completely within the entity's control, or
- a present obligation arising from past events that is not recognised in the financial statements because an outflow of resources representing economic benefits is unlikely to be necessary to extinguish the obligation, or because the amount of the obligation cannot be measured reliably.

A contingent asset is a potential asset arising from past events, whose existence will only be confirmed by the occurrence (or non-occurrence) of one or more uncertain future events that are not completely within the entity's control.

The principal contingent liabilities and assets at 31 December 2024 are the following:

Tax inspections

The French tax authorities questioned the tax-deductibility of certain long-term nuclear liabilities for the years 2012-2021. The Paris Administrative Appeal Court issued a ruling on 5 July 2024 that was identical to the original first-instance ruling on all points: it validated EDF's position for one of the contested provisions, but upheld the tax adjustment for the other.

This decision has no financial impact for EDF, as the Company had already paid €297 million in 2022 in execution of the original ruling (see note 13.2 to the 2022 financial statements). The Company has filed an appeal before the Court of Cassation against the unfavourable part of the new ruling, and the Minister concerned has done the same regarding the part of the ruling that was favourable to the Company.

ARENH dispute – Force majeure

In the crisis caused by the Covid-19 pandemic, some suppliers requested total suspension of their ARENH deliveries, and/or partial suspension to the extent of the decrease in electricity consumption by their customer portfolio during the crisis, citing the *force majeure* clause contained in the master ARENH agreement signed with EDF.

Seven cases concerning the substance of the matter were brought by suppliers, claiming compensation from EDF for the prejudice caused by its allegedly unlawful refusal to apply the *force majeure* clause. The suppliers concerned were Hydroption, Vattenfall, Priméo Energie Grands Comptes and Priméo Energie Solutions, Arcelor Mittal Energy, Plüm Energy et Entreprises et Collectivités, TotalEnergies and Ekwateur.

Of the seven cases, four are now closed, and the three still ongoing concern Hydroption, TotalEnergies and Ekwateur.

On 13 April 2021, the Paris Commercial Court issued a first judgement on the merits in the Hydroption case, ordering EDF to pay the claimant €5.88 million in damages. On 15 October 2021, the Paris Court of Appeal overturned the Commercial Court's judgement, considering that the exemption clause of *force majeure* was not established, and that EDF was not obliged to satisfy a request for suspension of the contract. On 2 December 2021, the Toulon Commercial Court placed Hydroption SAS in liquidation. The liquidator filed an appeal before the Court of Cassation on 19 January 2022. In a ruling of 22 March 2023, the Court of Cassation overturned and cancelled all the terms of the Paris Court of Appeal's verdict, solely on procedural grounds, and sent the case back before that Court. On 24 June 2024, the Paris Court of Appeal cancelled the Commercial Court's judgement and dismissed Hydroption's claims for compensation. On 8 November 2024, the liquidator took the case to the Court of Cassation.

In the cases brought by TotalEnergies and Ekwateur, on 30 November 2021 the Paris Commercial Court issued two judgements on the merits ordering EDF to pay damages of €53.9 million to TotalEnergies and €1.8 million to Ekwateur. EDF appealed against these two judgments. The case is to be heard by the Paris Court of Appeal on 20 March 2025.

Investigations by France's Competition Authority

Since 31 December 2024 France's Competition Authority (the ADLC) has been investigating the EDF group in relation to two separate matters (the Plüm complaint and the Xélan complaint). These proceedings are ongoing.

Labour litigation

EDF is a party in a number of labour lawsuits. EDF considers that none of these lawsuits, individually, is likely to have a significant impact on its financial results or financial position. However, because they relate to situations that could concern a large number of EDF's employees, any increase in such litigations could have a potentially negative impact on EDF's financial position.

Additionally, EDF regularly undergoes inspections by social security bodies such as URSSAF. A URSSAF inspection of the years 2020 to 2022 was completed in 2023. The conclusions of the reassessment received in 2024 are reflected in EDF SA's financial statements at 31 December 2024.

Litigation with E-Pango

On 14 December 2023 the alternative energy supplier E-Pango filed a claim against EDF, RTE and Enedis before the Paris Commercial Court for full compensation of the prejudice allegedly caused by the termination of its Balance Responsible Entity agreement with RTE. Following that termination E-Pango's authorisation to purchase electricity for resale was suspended, and as a result its customers were switched to a fallback contract with EDF as the temporary supplier.

E-Pango considers that its agreement with RTE was wrongfully terminated, and argues that it was a deliberate exclusion strategy by RTE, with the support of Enedis, for the benefit of EDF.

E-Pango is therefore claiming full compensation for its prejudice, valued at approximately €150 million based particularly on the end of its supply business, and the loss of the economic value of its competitive position.

In parallel, E-Pango filed a complaint with France's Competition Authority, which declared in a decision of 7 September 2023 that it was not competent to rule on the unfair practices alleged by E-Pango. E-Pango lodged an appeal against this decision before the Paris Court of Appeal.

The hearing before the Paris Commercial Court took place on 27 May 2024. EDF (like Enedis and RTE) requested postponement of the decision pending the verdict of the Paris Court of Appeal. On 2 July 2024 the Paris Commercial Court issued its ruling ordering postponement of the decision.

Compensation claim by ENGIE

On 13 June 2024 ENGIE brought a claim before the Paris Commercial Court against EDF and its subsidiaries Dalkia, Dalkia Smart Building, Citelum and IZI Confort, seeking reparation for the prejudice allegedly suffered as a result of practices sanctioned by the French Competition Authority in its decision 22-D-06 of 22 February 2022.

EDF firmly disputes the validity of ENGIE's claim. The Commercial Court proceedings are still ongoing.

Consultancy contracts - Criminal investigation

On 28 July 2016, the French Court of Accounts sent the National Financial Prosecutor's Office its report on EDF's procurement policy. The National Financial Prosecutor's Office then opened a preliminary investigation which was conducted by the Economic Crime Unit of the police (*Brigade de répression de la délinquance économique* or BRDE). In October 2023, Henri Proglio, Alain Tchernonog and EDF received summons to appear in court between 21 May and 13 June 2024 on charges of favouritism in the hiring of external consultants (14 consultants). EDF argued that the case is time-barred, and contested the charges.

At the end of the hearing, the Prosecution asked the judge to give Henri Proglio a 2-year prison sentence and a €200,000 fine, and to sentence EDF to a €1 million fine. They did not request the additional penalty of exclusion from public procurement procedures.

In the verdict announced on 30 September 2024, the Paris Court acquitted EDF and all the defendants.

Inframarginal revenue cap in Belgium

In Belgium, the inframarginal revenue cap applicable from 1 August 2022 to 30 June 2023 is currently being challenged before the courts, notably on the grounds that it is unconstitutional and violates international treaties. This revenue cap was introduced as part of the European mechanism for capturing inframarginal rents on electricity production, adopted by the European Union on 6 October 2022 (see note 8). This challenge is currently under examination by the European authorities.

Note 31 Liabilities

(in millions of euros)	Maturity < 1 year	Maturity 1-5 years	Maturity > 5 years	Gross value at 31/12/2024	Gross value at 31/12/2023
Liabilities					
Bonds	2,038	11,474	43,282	56,794	51,414
Borrowings from financial institutions	1,032	7,754	814	9,600	15,143
Other borrowings	3,558	5	-	3,563	8,600
Other financial liabilities:					
• advances on consumption	1	3	25	29	34
• other	3,178	541	1	3,720	5,472
Financial liabilities (see note 32)	**9,807**	**19,777**	**44,122**	**73,706**	**80,663**
Advances and progress payments received[1]	**2,924**	**-**	**-**	**2,924**	**2,520**
Trade payables and related accounts[2]	9,209	-	62	9,271	10,037
Tax and social security liabilities[3]	9,072	-	-	9,072	7,625
Liabilities related to fixed assets and related accounts	2,629	18	-	2,647	2,520
Other liabilities[4]	26,786	-	3,377	30,163	33,536
Operating, investment and other liabilities	**47,696**	**18**	**3,439**	**51,153**	**53,718**
Cash instruments[5]	**2,376**	**461**	**459**	**3,296**	**2,913**
Deferred income[6]	**489**	**1,024**	**1,627**	**3,140**	**3,367**
TOTAL LIABILITIES	**63,292**	**21,280**	**49,647**	**134,219**	**143,181**

(1) Advances and progress payments received principally include monthly standing order payments by EDF's residential and business customers, amounting to €2,168 million at 31 December 2024 (€1,808 million at 31 December 2023).

(2) The decrease in 2024 mainly concerns liabilities payable to EDF Trading, and reflects the decline in volumes purchased, due to the improved level of nuclear power generation (see note 2.1.7).

(3) At 31 December 2024, the increase in tax and social security liabilities is principally correlated with the rise in VAT collected on sales. This item also includes an amount of €1,008 million for the TICFE-CSPE to be collected on energy delivered but not yet billed (compared to €49 million at 31 December 2023), reflecting the gradual application from 1 February 2024 of the TICFE rates of €20.5/MWh for business customers and €21/MWh for residential customers whereas the previous rates applicable from 1 February 2023 were €0.5/MWh and €1/MWh.

(4) Mainly the amount of current accounts, investment and cash pooling agreements with subsidiaries. At 31 December 2024, other liabilities also include an amount of €93 million corresponding to a drawing on a credit line that was transferred to EDF's balance sheet liabilities when all the assets of Arabelle Holding were transferred (see note 2.1.6). At 31 December 2023, other liabilities also included a liability of €2,030 million relating to the compensation for public energy service charges, compared to a receivable of €792 million at 31 December 2024 (see note 18 (2)).

(5) Cash instruments notably include unrealised losses on foreign exchange instruments, and all credit balances for EDF's margin calls on derivatives and transfers of securities under repurchase agreements with banking partners (€1,639 million at 31 December 2024, compared to €1,163 million at 31 December 2023).

(6) Deferred income at 31 December 2024 comprises the partner advances made to EDF under nuclear plant financing plans and the associated long-term contracts, amounting to €2,137 million (€2,089 million in 2023), and the balance of the advance paid to EDF in 2010 under the agreement with the Exeltium consortium. This advance is transferred to the income statement progressively on a straight-line basis over the term of the contract (24 years).

Deferred income also includes the initial payment under the Fessenheim compensation protocol received on 14 December 2020, which is recognised as income in profit and loss as and when the expenses are incurred.

Note 32 Financial liabilities

ACCOUNTING PRINCIPLES AND METHODS

Bond redemption premiums and any issue premiums are amortised in equal portions prorated to the duration of the bond (straight-line method), regardless of the redemption pattern, applying the option allowed by Article 212-10 of the French national chart of accounts.

Commissions and external costs that are paid by EDF upon issuance of borrowings and included in "Deferred charges" are spread on a straight-line basis over the term of the related instruments.

(in millions of euros)	Balance at 31/12/2023	New borrowings	Repayments	Translation adjustments (realised and unrealised)	Other	Balance at 31/12/2024
Bonds *(in euros)*	492	-	-	-	-	492
Bonds *(non-euro)*	14,371	2,645	-	820	-	17,836
Euro-Medium Term Notes (EMTN) *(in euros)*	20,423	3,100	(2,492)	-	-	21,031
Euro-Medium Term Notes (EMTN) *(non-euro)*	16,128	931	(426)	802	-	17,435
Bonds [1]	**51,414**	**6,676**	**(2,918)**	**1,622**	**-**	**56,794**
Long-term loans *(in euros)*	13,457	5,450	(10,895)	-	-	8,012
Long-term loans (non-euro)	1,686	1,531	(1,704)	75	-	1,588
Short-term loans *(in euros)*	-	-	-	-	-	-
Borrowings from financial institutions [2]	**15,143**	**6,981**	**(12,599)**	**75**	**-**	**9,600**
Negotiable debt instruments *(in euros)*	5,049	-	(2,068)	-	-	2,981
Negotiable debt instruments *(non-euro)*	-	3	-	7	-	10
Contractual financial borrowings	3,551	2,943	(5,922)	-	-	572
Other borrowings [3]	**8,600**	**2,946**	**(7,990)**	**7**	**-**	**3,563**
Total borrowings	**75,157**	**16,603**	**(23,507)**	**1,704**	**-**	**69,957**
Advances on consumption	**34**	**-**	**-**	**-**	**(5)**	**29**
Miscellaneous advances	3,557	54	(3,812)	9	2,846	2,654 [4]
Bank overdrafts	799	-	-	-	(740)	59
Deferred bank debits	24	-	-	-	(7)	17
Interest payable	1,092	-	-	-	(102)	990
Other financial liabilities	**5,472**	**54**	**(3,812)**	**9**	**1,997**	**3,720**
TOTAL FINANCIAL LIABILITIES	**80,663**	**16,657**	**(27,319)**	**1,713**	**1,992**	**73,706**

(1) The increase in bonds results mainly from issues of multi-tranche senior bonds totalling €6,676 million (see notes 2.2.1, 2.2.2, 2.2.5, 2.2.6, 2.2.9 and 2.2.10), partly offset by bond redemptions of €(2,918) million and a foreign exchange effect of €1,622 million.

(2) The decrease in these borrowings in 2024 is notably explained by early repayments of drawings on bilateral credit lines amounting to €(12.6) billion, partly offset by new drawings on bilateral credit lines amounting to €7 billion (see note 2.2.3).

(3) The change in other borrowings principally comprises €(2,058) million resulting from redemption of negotiable debt instruments net of issuances (compared to €(5,638) million in 2023), and €(2,979) million resulting from transfers of bonds to several banks under repurchase agreements, which gave rise to a cash outflow.

(4) This amount mainly includes €1,250 million corresponding to the redemption option exercised by EDF on 29 January 2025 for the euro bond issue of January 2013, following reclassification by EDF from "Additional equity" to "Financial liabilities" since the redemption was considered certain (see notes 2.2.4 and 23). It also includes an amount of €820 million (€2,551 million in 2023) of security deposits received as guarantees by EDF which are principally required to complete transactions on the purchase obligation market, €345 million of bonds received as guarantees from a banking partner, with a corresponding entry in marketable securities (see note 19 (2)), and €98 million relating to factoring programmes.

32.1 Breakdown of loans by currency, before and after hedging

(in millions of euros)	Debt structure in balance sheet				Impact of hedging instruments		Debt structure in balance sheet after hedging			
	In non-euro currency	In euros	% of non-euro debt	% of total debt	In non-euro currency	In euros	In non-euro currency	In euros	% of non-euro debt	% of total debt
Total I - Euros		**33,089**		**47%**		**30,846**		**63,935**		**91%**
CAD	1,250	836	2%	1%	(1,250)	(836)	-	-	-	-
CHF	785	834	2%	1%	(785)	(834)	-	-	-	-
GBP	8,534	10,292	28%	15%	(3,549)	(4,280)	4,985	6,012	100%	9%
HKD	2,416	299	1%	-	(2,416)	(299)	-	-	-	-
JPY	205,800	1,262	4%	2%	(205,800)	(1,262)	-	-	-	-
NOK	1,000	85	-	-	(1,000)	(85)	-	-	-	-
USD	24,165	23,260	63%	34%	(24,155)	(23,250)	10	10	-	-
Total II - Non-euro currencies		**36,868**	**100%**	**53%**		**(30,846)**		**6,022**	**100%**	**9%**
TOTAL I+II		**69,957**		**100%**		**-**		**69,957**		**100%**

The nominal value of hedging instruments included in off-balance sheet commitments (see note 34.1) has no effect on loans presented in the balance sheet.

32.2 Breakdown of loans by type of interest rate, before and after hedging

(in millions of euros)	Debt structure in balance sheet			Impact of hedging instruments	Debt structure in balance sheet after hedging		
	Total	% 31/12/2024	% 31/12/2023	Total	Total	% 31/12/2024	% 31/12/2023
Long-term borrowings and EMTN	58,825			(25,803)	33,022		
Short-term borrowings	2,988			-	2,988		
Borrowings at fixed rate	**61,813**	**88%**	**81%**	**(25,803)**	**36,010**	**51%**	**48%**
Long-term borrowings and EMTN	7,579			25,803	33,382		
Short-term borrowings	565			-	565		
Borrowings at floating rate	**8,144**	**12%**	**19%**	**25,803**	**33,947**	**49%**	**52%**
TOTAL	**69,957**	**100%**	**100%**	**-**	**69,957**	**100%**	**100%**

Note 33 Unrealised foreign exchange gains

Unrealised foreign exchange gains at 31 December 2024 amount to €260 million (€310 million at 31 December 2023), of which €137 million concern bonds in pounds sterling that are entirely hedged by cross-currency swaps and €54 million concern bonds in US dollars that are entirely hedged by cross-currency swaps.

Other information

Note 34 Financial instruments

ACCOUNTING PRINCIPLES AND METHODS

DERIVATIVES

EDF uses derivatives in order to minimise the impact of foreign exchange risks and interest rate risks.

These derivatives comprise interest rate and currency derivatives such as futures, forwards, swaps and options traded on the over-the-counter market.

The application at 1 January 2017 of ANC regulation 2015-05 on forward financial instruments and hedging operations led to recognition of unrealised gains on the foreign exchange optimisation portfolio, and the unrealised gain or loss on currency derivatives classified as hedging instruments, in the balance sheet in the revaluation surplus accounts created by the regulation. These accounts are netted with the unrealised foreign exchange gains or losses booked in respect of the hedged items.

Hedging derivatives correct the foreign exchange result or interest income on the corresponding asset or liability. If the foreign exchange risk is fully hedged, no provision is recorded. If it is only partly hedged, a provision is recorded for the entire unhedged portion of the unrealised loss.

For other instruments, when there is no hedging relationship, a provision is recorded for unrealised losses and unrealised gains are not recognised.

Instruments in the portfolio at the year-end are included in off-balance sheet commitments at the nominal value of the contracts.

COMMODITY CONTRACTS

Forward financial instruments on commodities are traded for hedging purposes. Gains and losses on these operations are included in sales or in the cost of energy purchases, symmetrically to the hedged items, in accordance with ANC regulation 2015-05 on forward financial instruments and hedging operations, which has been applicable since 1 January 2017.

Instruments in the portfolio at the year-end are included in off-balance sheet commitments at the quantities to be delivered or received under the contracts.

34.1 Off-balance sheet commitments related to currency, interest rate and commodity derivatives

EDF uses financial instruments to limit the impact of foreign exchange rate risks and interest rate risks.

	31/12/2024		31/12/2023	
(in millions of euros)	To be received (notional)	To be given (notional)	To be received (notional)	To be given (notional)
1 - Interest rate transactions				
Short-term interest rate swaps				
EUR	-	-	-	-
Long-term interest rate swaps				
EUR	27,557	27,557	19,677	19,677
USD	8,416	8,416	5,801	5,801
GBP	6,557	6,557	3,556	3,556
CAD	850	850	341	341
Sub-total	**43,380**	**43,380**	**29,375**	**29,375**
2 - Exchange rate transactions				
Forward transactions and forex options				
EUR	47,517	39,254	48,176	40,688
USD	18,220	22,790	24,546	26,657
GBP	16,446	18,047	12,951	16,481
BRL	716	716	566	566
CNY	660	653	997	991
CHF	525	860	468	713
ILS	372	372	382	382
CAD	361	608	209	412
JPY	255	1,068	188	1,201
PLN	194	236	208	256
MXN	175	175	162	162
AUD	82	219	-	-
SEK	39	112	-	-
NOK	-	7	329	329
Other currencies	256	256	282	387
Long-term currency swaps				
USD	26,396	1,721	21,648	1,871
GBP	18,967	3,990	18,632	2,897
EUR	7,769	49,055	4,294	42,481
JPY	1,560	71	1,235	51
CAD	1,324	-	683	-
CHF	803	-	945	-
HKD	258	-	280	-
NOK	122	-	89	-
ILS	46	46	65	65
PLN	-	57	-	31
Sub-total	**143,063**	**140,313**	**137,335**	**136,621**
3 - Securitisation swaps	**-**	**-**	**-**	**-**
4 - Operations on marketable securities	-	-	-	-
Purchases and sales of stock options	-	-	-	-
TOTAL FINANCIAL OFF-BALANCE SHEET COMMITMENTS	**186,443**	**183,693**	**166,710**	**165,996**
5 - Commodity swaps				
Oil products *(in thousands of barrels)*	4,720	4,720	4,616	4,616
Electricity products *(in TWh)*	57	133	24	38

The amounts shown in the above table are the nominal values of contracts originally in euros or translated into euros using 2024 year-end exchange rates (regardless of whether they are classified as hedges). For commodities, the amounts shown are the nominal hedged volume in the relevant unit of measurement.

34.2 Impacts of financial instrument transactions on net income

(in millions of euros)	2024	2023
Instruments not classified as hedges		
Interest rate instruments*	318	294
Forex instruments	401	161
Instruments classified as hedges		
Interest rate instruments	54	128
Forex instruments	(104)	(42)

** Including interest on swaps.*

34.3 Fair value of derivative financial instruments

The fair value of currency and interest rate swaps was calculated by discounting future cash flows using year-end market exchange and interest rates, over the remaining term of the contracts (market value includes accrued interest).

The book value of derivatives presented at nominal value in off-balance sheet commitments includes accrued interest, equalisation payments and premiums paid or received, plus translation adjustments which are already booked in EDF's accounts. The difference between the resulting book value and market value of these instruments is the unrealised gain or loss.

The market value of derivative financial instruments presented at nominal value in off-balance sheet commitments at 31 December 2024 as calculated by EDF is as follows:

(in millions of euros)	Book value	Fair value
Interest rate hedges		
• Interest rate swaps, caps and floors	114	191
Exchange rate hedges		
• Forward exchange transactions, currency swaps and forex options	171	348
• Cross Currency Swaps	2,282	1,988
Commodity hedges		
• Electricity products	-	143
• Oil products	-	(7)
TOTAL	**2,567**	**2,663**

Note 35 Other off-balance sheet commitments and operations

At 31 December 2024, off-balance sheet commitments related to operations, financing and investments (other than electricity supply commitments and partnership agreements) comprise the following:

	Maturity					
(in millions of euros)	< 1 year	1 - 5 years	5 - 10 years	> 10 years	31/12/2024	31/12/2023
Off-balance sheet commitments given	**20,002**	**24,705**	**13,568**	**13,922**	**72,197**	**59,205**
Operating commitments	7,734	16,979	13,166	12,473	50,352	41,217
• *Fuel and energy purchase commitments*	*3,654*	*11,833*	*10,209*	*10,705*	*36,401*	*31,424*
• *Other operating commitments*	*4,080*	*5,146*	*2,957*	*1,768*	*13,951*	*9,793*
Investment commitments	4,540	3,779	402	24	8,745	7,610
Financing commitments	7,728	3,947	-	1,425	13,100	10,378
Off-balance sheet commitments received	**3,983**	**12,778**	**2,624**	**303**	**19,688**	**16,751**
Operating commitments	1,333	1,584	2,624	303	5,844	2,514
Investment commitments	16	6	-	-	22	46
Financing commitments	2,634	11,188	-	-	13,822	14,191

35.1 Commitments given

In almost all cases, commitments given are reciprocal, and the third parties concerned are under an obligation to supply EDF with assets or services related to operating, investing and financing transactions.

At 31 December 2024, these commitments mature as follows:

	Maturity					
(in millions of euros)	< 1 year	1 - 5 years	5 - 10 years	> 10 years	31/12/2024	31/12/2023
Electricity purchases and related services	1,094	4,619	5,424	8,877	20,014	16,405
Nuclear fuel purchases	2,560	7,214	4,785	1,828	16,387	15,019
Fuel and energy purchase commitments	**3,654**	**11,833**	**10,209**	**10,705**	**36,401**	**31,424**

Electricity purchases and related services

Electricity purchase commitments mainly concern:

- SEI, which have given commitments to purchase electricity generated from bagasse and coal, and electricity generated by the plants of EDF's subsidiary PEI;
- hedging contracts: these are forward purchases, for which the volumes and prices are set in contracts with EDF Trading.

The change over the year is mainly explained by a rise in the volume of purchase commitments at EDF (SEI) resulting from new contracts.

In addition to the obligations reported above and under Article 10 of the Law of 10 February 2000, in mainland France EDF is obliged to purchase, at the producer's request and subject to compliance with certain technical features, the power produced by co-generation plants and renewable energy generation units (wind turbines, small hydro-electric plants, photovoltaic power, etc).

The additional costs generated by this obligation are compensated, after validation by the CRE, by the CSPE compensation for public energy service charges. These purchase obligations total 48TWh for 2024 (50TWh in 2023), including 5TWh for co-generation (5TWh in 2023), 20TWh for wind power (23TWh in 2023), 15TWh for photovoltaic power (14TWh in 2023) and 2TWh for hydropower (2TWh in 2023).

Nuclear fuel purchases

Commitments for purchases of nuclear fuel arise from supply contracts for the nuclear plants intended to cover EDF's needs for uranium and fluoration, enrichment and fuel assembly production services.

35.1.1 Fuel and energy purchase commitments

In the course of its ordinary generation and supply activities, EDF has entered into long-term contracts for purchases of electricity, other energies and commodities and nuclear fuel, for periods of up to 20 years.

35.1.2 Other operating commitments

These are commitments undertaken by EDF when it signs orders relating to operations or contracts in progress, related guarantees, and commitments as lessee under irrevocable operating leases, principally for premises, equipment and vehicles. The corresponding rents are subject to renegotiation at intervals defined in the contracts.

The acquisition of GE Steam Power's nuclear activities on 31 May 2024 (see note 2.1.6) also led EDF SA to make commitments totalling €3,148 million at 31 December 2024 relating to parent company guarantees and bank guarantees given.

Reciprocally, EDF received €3,148 million of commitments from the Arabelle subgroup (see note 35.2.1) which could be activated if a claim is made concerning EDF SA's legal liability.

35.1.3 Investment commitments

Investment commitments essentially comprise commitments for acquisitions of property, plant and equipment.

Until the final investment decision is made for the EPR 2 project, the related off-balance sheet commitments reflect EDF's unavoidable commitments, not the total value of the contracts signed.

35.1.4 Financing commitments

These are financing commitments made by EDF to its subsidiaries. The increase in 2024 principally concerns EDF Energy (€4,365 million) and relates to funding of the HPC project. This is partly offset by the lower commitments made by EDF Renewables to finance its activities (€(1,573) million).

35.2 Commitments received

35.2.1 Operating commitments

These commitments mainly comprise:

- operating lease commitments received as lessor;
- operating guarantees received;
- operating sale commitments, essentially concerning engineering services for the HPC project and the licence agreement between EDF and NUWARD concerning patents and knowhow for the NUWARD SMR project;
- personnel secondment commitments for Edvance;
- commitments received in connection with the acquisition of the Arabelle subgroup, in return for the operating commitments given (see notes 2.1.6 and 35.1.2).

35.2.2 Financing commitments

These commitments correspond to the total value of credit lines available to EDF from various banks.

35.3 Other types of commitment

35.3.1 Electricity supply commitments

In the course of its business, EDF has signed long-term electricity sale contracts, principally:

- long-term contracts with a number of European electricity operators, for a specific plant or for a defined group of plants in the French nuclear generation fleet, corresponding to installed power capacity of 3GW;
- in execution of France's "NOME" Law on organisation of the French electricity market, EDF has a commitment to sell some of the energy generated by its existing nuclear power plants to other suppliers on the French market, until 31 December 2025. This has concerned a maximum volume of up to 120TWh each year since enactment of the Law of 16 August 2022.

35.3.2 Gas purchases and related services

Gas purchase commitments are given by EDF in connection with its expanding gas supply business.

Gas purchases for supply, delivery and storage are mostly undertaken through long-term contracts and forward purchases from EDF Trading.

In 2020, EDF signed a 5-year purchase contract for 0.5 billion m^3 of gas per year from Norway.

In 2014, EDF signed a contract for LNG imports from the United States, for an annual supply of 0.8 million tonnes of LNG (1 billion m^3 of natural gas per year) over a 20-year period starting from May 2020.

In 2020 EDF also signed a 20-year purchase contract for LNG from the United States (1 million tonnes per year, *i.e.* 1.4 billion m^3 of natural gas). Deliveries under this contract are due to begin in 2026.

Under the contract with the Dunkerque LNG methane terminal, EDF also benefits from approximately 61% of the terminal's regasification capacities until 2037, in return for payment of an annual premium of approximately €150 million. A provision for onerous contracts has been recorded in connection with this contract since 2018.

In 2023 EDF signed a purchase contract with Edison for 12.36 billion m^3 of LNG from the United States over the period 2024-2036.

Note 36 Related parties

36.1 Relations with the State

Following the compulsory squeeze-out on 8 June 2023 and the purchase of treasury shares, the French State holds 100% of the capital of EDF at 31 December 2024, and is thus entitled in the same way as any majority shareholder to control decisions that require approval by the shareholders.

In accordance with the legislation applicable to all companies having the French State as their majority shareholder, EDF is subject to certain inspection procedures, in particular economic and financial inspections by the State, audits by the French Court of Auditors (*Cour des Comptes*) or Parliament, and verifications by the French General Finance Inspectorate (*Inspection générale des finances*).

The public service contract between the French State and EDF was signed on 24 October 2005. This contract is intended to form the framework for public service missions assigned to EDF by the lawmaker for an unlimited period. The Law of 9 August 2004 does not stipulate the duration of the contract.

36.2 Relations with ENGIE

Concerning the common service of LPG (liquefied petroleum gas) distribution and supply in the cities of Ajaccio and Bastia in Corsica, following adoption of Article 96 of France's Finance Law for 2022, decree 2023-554 of 30 June 2023 introducing a simplified modification of Corsica's multi-year energy programme stipulated that the Corsican LPG networks would cease operations on 31 December 2038 and set out measures for progressive discontinuation of LPG uses from 2024.

Another decree, 2023-872 of 12 September 2023, defines the terms on which the State will bear part of the costs associated with conversion of the LPG networks to electricity or renewable energies. The tenders for the Ajaccio and Bastia concessions were reissued after failing to find a suitable bidder. Engie is preparing to submit offers, and the concessions should be awarded by the summer of 2025.

These developments have no impact for EDF at this stage, but once the concession renewals are finalised EDF will be required to work on some pilot sectors, to determine the schedule for progressive discontinuation of LPG use over the next 15 years. Ultimately, the prospect of ending LPG distribution operations and converting uses to electricity will need investments to reinforce the electricity distribution networks.

36.3 Relations with public sector entities

EDF's relations with public sector entities mainly concern Orano.

Transactions with Orano concern:

- the front-end of the nuclear fuel cycle (uranium supplies, conversion and enrichment services);
- the back-end of the nuclear fuel cycle (transportation, storage, processing and recycling services for spent fuel).

Front-end of the cycle

Several important agreements exist between EDF and Orano:

- for supplies of natural uranium: Orano Mining contracts;
- for fluoration and enrichment of natural uranium into uranium 235: an Orano Chimie-Enrichissement contract.

Back-end of the cycle

Relations between EDF and Orano Recyclage concerning transportation, processing and recycling of spent fuels are described in note 26.

Note 37 Management compensation

The Company's key management and governance personnel are the Chairman and CEO and the directors. In application of the law, directors representing the employees receive no remuneration for their services.

The total gross compensation (salaries and all types of benefits, excluding employer contributions) paid by the Company to its key management and governance personnel in 2023 and 2024 was as follows:

(in euros)	2024	2023
Luc RÉMONT, Chairman and CEO[1]	450,000	450,000
Directors[2]	700,300[3]	530,163

(1) At its meeting of 15 February 2024 the Board of Directors decided to keep Luc RÉMONT's gross fixed annual compensation at €450,000 for 2024, the same as the gross fixed annual compensation set for the Chairman and CEO for 2023. The Chairman and CEO received no benefits in kind in 2024.

(2) The General Meeting of 11 June 2024 decided, after consulting the report presented by the Board of Directors, to set the 2024 annual budget for directors' remuneration at €675,050 in application of Article L. 225-45 of the French Commercial Code. The General Meeting of 28 June 2023 approved the Board of Directors' proposal to set the 2023 annual budget for directors' fees at €460,000, plus an additional budget of €90,000 for directors' participation in a working group and an ad hoc Board committee.

(3) This amount includes the following amounts of remuneration paid to directors:
-in February 2024, a total of €345,000 corresponding to half of the fixed remuneration for 2023 (second half of 2023) and their share of the annual variable remuneration for 2023;
-and in July 2024, a total of €355,300 corresponding to the remuneration for the first half of 2024, based on the Directors' attendance at meetings during that period, and each Director's specific duties (member or chair of a Committee), and an additional amount of €79,000 for certain directors for their participation in the Corporate Plan working group.

Note 38 Subsequent events

Apart from the specific points reported below and the events mentioned in notes 2.2.4, 3.1, 14, and 30, no event has arisen subsequent to the year-end.

38.1 "Formosa" senior green bond issue (nominal value $500 million)

On 6 January 2025, EDF raised $500 million through a 5-year "Formosa" senior green bond with a floating coupon of SOFR +1.15%.

An amount equal to the net proceeds of this bond issue has been allocated to financing and/or refinancing European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, relating to the operating lifetime extension for existing French nuclear reactors.

This transaction enables EDF to finance its strategy and its aim of contributing to achieving carbon neutrality by 2050. The carbon intensity of nuclear power plants in France is 4gCO_2/kWh.

Settlement and delivery took place on 20 January 2025, the date at which this bond was admitted to trading on the Taipei Exchange and the multilateral trading facility Euro MTF, operated by the Luxembourg Stock Exchange.

38.2 Multi-tranche senior bond issue (nominal value $1.9 billion)

On 6 January 2025, EDF raised $1.9 billion through a senior bond issue comprising three tranches:

- $700 million bond, with 10-year maturity and a 5.750% fixed coupon;
- $800 million bond, with 30-year maturity and a 6.375% fixed coupon;
- $400 million tap offering on the bond issued on 22 April 2024, with initial maturity of 40 years and a 6.000% fixed coupon.

This transaction enables EDF to finance its strategy and its aim of contributing to achieving carbon neutrality by 2050.

Settlement and delivery of these USD bonds took place on 13 January 2025, the date at which they were admitted to trading on the multilateral trading facility Euro MTF, operated by the Luxembourg Stock Exchange.

38.3 Tap offerings on outstanding bonds (€480 million and £100 million)

On 24 January 2025, EDF raised €480 million and £100 million through tap offerings on four outstanding bond issues:

- a €250 million tap offering on the green bonds issued on 5 December 2023 to finance the operating lifetime extension of the nuclear reactors in France, with initial maturity of 3.5 years and a fixed coupon of 3.750%;
- a €100 million tap offering on the bonds issued on 12 October 2022 with initial maturity of 7 years and a fixed coupon of 4.375%;
- a €130 million tap offering on the green bonds issued on 17 June 2024 to finance renewable energy and hydropower projects, with initial maturity of 12 years and a fixed coupon of 4.375%;
- a £100 million tap offering on the bonds issued on 8 November 2024 to finance investments for the construction of the Hinkley Point C project in the United Kingdom, with initial maturity of 40 years and a fixed coupon of 6.500%.

This transaction enables EDF to finance its strategy and its aim of contributing to achieving carbon neutrality by 2050.

Settlement and delivery of these bonds took place on 31 January 2025, the date at which they were admitted to trading.

38.4 Multi-tranche senior green bond issue (nominal value CAD 750 million)

On 30 January 2025, EDF raised CAD 750 million through a senior green bond issue comprising two tranches:

- a CAD 450 million green bond, with 10-year maturity and a 4.573% fixed coupon;
- a CAD 300 million green bond, with 30-year maturity and a 5.231% fixed coupon.

An amount equal to the net proceeds of this CAD Green Bond issue has been allocated to European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, relating to the operating lifetime extension for existing French nuclear reactors.

This transaction enables EDF to finance its strategy and its aim of contributing to achieving carbon neutrality by 2050.

Settlement and delivery of these CAD green bonds took place on 6 February 2025.

6.4 Statutory Auditors' report on the financial statements

For the year ended 31 December 2024

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report includes information specifically required by European regulations or French law, such as information about the appointment of Statutory Auditors. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

Opinion

In compliance with the engagement entrusted to us by your General Meeting, we have audited the accompanying financial statements of Electricité de France SA ("EDF" or "the Company") for the year ended 31 December 2024.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company at 31 December 2024 and of the results of its operations for the year then ended in accordance with French accounting principles.

The audit opinion expressed above is consistent with our report to the Risk and Audit Committee.

Basis for opinion

Audit framework

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under these standards are further described in the "Responsibilities of the Statutory Auditors relating to the audit of the financial statements" section of our report.

Independence

We conducted our audit engagement in compliance with the independence rules provided for in the French Commercial Code (*Code de commerce*) and the French Code of Ethics (*Code de déontologie*) for Statutory Auditors for the period from 1 January 2024 to the date of our report, and, in particular, we did not provide any non-audit services prohibited by Article 5(1) of Regulation (EU) No. 537/2014.

Emphasis of matter

Without qualifying our opinion, we draw your attention to the matters set out in Notes 1.1 and 14 to the parent company financial statements, which discuss the application, from 1 January 2024, of ANC Regulation no. 2023-05 of 10 November 2023 relating to IT solutions and their impact.

Justification of assessments - Key audit matters

In accordance with the requirements of Articles L.821-53 and R.821-180 of the French Commercial Code relating to the justification of our assessments, we inform you of the key audit matters relating to the risks of material misstatement that, in our professional judgement, were the most significant in our audit of the financial statements, as well as how we addressed those risks.

These matters were addressed as part of our audit of the financial statements as a whole, and therefore contributed to the opinion we formed as expressed above. We do not provide a separate opinion on specific items of the financial statements.

Measurement of provisions related to nuclear generation in France - back-end of the nuclear cycle, plant decommissioning and last cores - and dedicated assets

Notes 1.2.2, 16 and 26 to the financial statements

Description of risk

At 31 December 2024, the provisions recorded to cover obligations relating to nuclear power plants for which EDF is the operator in France amounted to €53,821 million, of which €31,605 million related to the back-end of the nuclear cycle (management of spent fuel and radioactive waste) and €22,216 million related to the decommissioning of nuclear power plants and last cores.

Measurement of these provisions depends on the regulatory context which is described in Notes 1.2.2 and 26 to the financial statements. It requires defining technical and financial assumptions and using complex calculation models.

These are updated and the assumptions used in the models are reviewed at least once a year. The assumptions used reflect Management's best estimate at the reporting date of the impacts of the applicable regulations and the implementation of decommissioning, spent fuel management and radioactive waste storage and disposal processes. They also take into account changes in the main financial parameters, i.e., inflation and discounting. As in previous years, changes in provisions also reflect expenses and fuel costs incurred during the year.

How our audit addressed this risk

We analysed the measures for recognizing provisions related to nuclear generation in France. We gained an understanding of the industrial scenarios for decommissioning nuclear power plants and the technical solutions adopted for managing spent fuel and radioactive waste. We assessed the compliance of the methods for determining the provisions with regard to the applicable accounting, legal and regulatory requirements.

We verified the integrity of the calculation models used by the Company and assessed the assumptions used in terms of costs, forecast cash outflows, progress of field work compared to expenses incurred and financial parameters (discount and inflation rates).

We also verified the type of costs used to determine the provisions and assessed the reconciliation of forecast costs and forecast cash outflows were consistent with the industrial scenarios used as well as the available studies and quotes, taking into account changes during the year.

Furthermore, in accordance with the provisions of the French law of 28 June 2006 on the sustainable management of radioactive materials and waste, and its implementing regulations on securing the financing of nuclear liabilities, the Company is required to allocate so-called "dedicated" assets to secure the financing of its long-term obligations. The law stipulates that the realisable value of the dedicated assets must be greater than the value of the provisions corresponding to the discounted cost of the obligations financed by these assets (see Note 26.6 to the financial statements).

Dedicated assets include (i) so-called yield assets, comprising infrastructure assets, including CTE securities and property; (ii) so-called growth assets, comprising listed and unlisted equity funds; and (iii) so-called fixed income assets, comprising listed bonds or listed bond funds, unlisted debt funds, receivables and cash.

Their realisable value was €40,320 million (for a net carrying amount of €31,975 million) at 31 December 2024.

We deemed the measurement of the provisions relating to nuclear generation and of the dedicated assets to be a key audit matter owing to:

- the sensitivity of the assumptions on which the measurement of these provisions is based, particularly in terms of assumptions and industrial scenarios for decommissioning, spent fuel reprocessing and waste storage, the costs, uncertainties and contingencies taken into account, inflation and long-term discount rates, the depreciation period of nuclear power plants in operation and forecast cash outflows; a change in these parameters could lead to a material revision in the amounts provisioned; and
- the negative impacts on the Company's financial position (cash earmarked to increase the amount of dedicated assets) in the event of an increase in nuclear provisions in France, a decrease in the realisable value of dedicated assets or a change in the regulatory coverage rate of nuclear provisions by dedicated assets,

It being specified that the measurement of provisions covers and includes uncertainties related to the fact that certain scenarios and technical solutions have never been implemented.

We also assessed the appropriateness of:

- margins for risk and uncertainties included the provisions to take account of maturity of the project and the degree of control over the decommissioning techniques to be performed, as well as the specific implementation risks identified;
- the series and pooling effects used in the quotes to calculate the cost of decommissioning nuclear power plants in operation, and feedback from the preparation to decommission the reactors at the Fessenheim power plant from 2021 onwards, with a view to taking them into account for other nuclear power plants.

With regard to the inflation and discount rates and the methods used by Management to calculate them, as described in Note 26.5 to the financial statements, we verified their compliance with accounting standards and the regulatory framework applicable since 2020. We reconciled the data used for this purpose with available market data and benchmarks.

With regard to dedicated assets, we reconciled their realisable value shown in Note 26.6.5 to the parent company financial statements with depositary statements, stock market values or, where applicable, valuations carried out by external experts appointed by the Company, and reviewed these valuations with the help of our experts.

Lastly, we verified the reconciliation of data relating to the determination of provisions with the financial statements and the appropriateness of the disclosures provided in the notes to the financial statements, in particular regarding the sensitivity of the measurement of provisions relating to nuclear power generation to changes in macro-economic and technical assumptions (see Note 26.5.3 to the financial statements).

6.

Measurement of equity investments

Notes 1.2.6 and 16 to the financial statements

Description of risk

At 31 December 2024, the net carrying amount of equity investments was €50,338 million. Equity investments are recorded at acquisition cost, including transfer taxes, fees, commissions and legal costs directly related to the acquisition.

As stated in Note 16 to the financial statements, equity investments are measured at the end of each reporting period on the basis of their value in use. When the carrying amount of equity investments is greater than their value in use, an impairment loss is recorded corresponding to the difference.

The value in use is mainly calculated:

- by reference to the value of the entity's consolidated shareholders' equity in the consolidated financial statements;
- where the value of consolidated shareholders' equity is less than the net carrying value of the investments, on the basis of projected discounted future cash flows, calculated using the best information available at the reporting date. For the first few years, the flows correspond to the Budget and then to the Medium-Term Plan (MTP). Beyond the MTP timeframe, cash flows are estimated on the basis of long-term assumptions developed as part of a financial trajectory and scenario process that is updated annually.

Estimating the value in use of equity investments requires significant judgement by Management in selecting valuation methods and the factors to be considered, which may be historical (e.g., shareholders' equity) or forecast (e.g., cash flow assumptions).

How our audit addressed this risk

Our audit procedures mainly consisted in:

- reviewing, on the basis of information provided by Management, the valuation methods used by the Company;
- comparing the data used to perform impairment tests on investments with the accounting data of subsidiaries, where applicable;
- reviewing the methods and assumptions used to determine the value in use of equity investments (shareholders' equity or cash flow assumptions);
- with regard to cash flows, checking that the forecasts are consistent with (i) budget data and the Medium-Term Plan for the first few years and, beyond that, with the long-term assumptions made by the Company; (ii) past performance; and (iii) the expected useful life of the assets;
- verifying the accuracy of the calculation of values in use used by the company;
- assessing the appropriateness of the information provided in Note 16 to the financial statements.

In view of the significant amount represented by equity investments and the judgement required to estimate value in use and the sensitivity of these estimates to changes in the data and assumptions on which they are based, we considered the measurement of equity investments to be a key audit matter.

Specific verifications

In accordance with professional standards applicable in France, we have also performed the specific verifications required by French legal and regulatory provisions.

Information given in the management report and in the other documents provided to the shareholders with respect to the Company's financial position and the financial statements

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the Board of Directors' management report and in the other documents provided to the shareholders with respect to the Company's financial position and the financial statements.

We attest to the fair presentation and the consistency with the financial statements of the information about payment terms referred to in Article D.441-6 of the French Commercial Code.

Report on corporate governance

We attest that the Board of Directors' report on corporate governance sets out the information required by Articles L.225-37-4 and L.22-10-10 of the French Commercial Code.

Other information

In accordance with French law, we have verified that the required information concerning the purchase of investments and controlling interests has been properly disclosed in the management report.

Other verifications and information pursuant to legal and regulatory requirements

Presentation of the financial statements to be included in the annual financial report

In accordance with professional standards applicable to the Statutory Auditors' procedures for annual and consolidated financial statements presented according to the European single electronic reporting format, we have verified that the presentation of the financial statements to be included in the annual financial report referred to in paragraph I of Article L.451-1-2 of the French Monetary and Financial Code (*Code monétaire et financier*) and prepared under the Chairman and Chief Executive Officer's responsibility, complies with this format, as defined by European Delegated Regulation No. 2019/815 of 17 December 2018.

On the basis of our work, we conclude that the presentation of the financial statements to be included in the annual financial report complies, in all material respects, with the European single electronic reporting format.

It is not our responsibility to ensure that the financial statements to be included by the Company in the annual financial report filed with the AMF correspond to those on which we carried out our work.

Appointment of the Statutory Auditors

We were appointed Statutory Auditors of Electricité de France SA by the General Meetings held on 6 June 2005 for KPMG SA and on 28 June 2023 for PricewaterhouseCoopers Audit.

At 31 December 2024, KPMG SA and PricewaterhouseCoopers Audit were in the 20th and 2nd consecutive year of their engagement, respectively.

Responsibilities of Management and those charged with governance for the financial statements

Management is responsible for preparing financial statements giving a true and fair view in accordance with French accounting principles, and for implementing the internal control procedures it deems necessary for the preparation of annual financial statements that are free of material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern, and using the going concern basis of accounting, unless it expects to liquidate the Company or to cease operations.

The Risk and Audit Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risk management systems, as well as, where applicable, any internal audit systems, relating to accounting and financial reporting procedures.

The financial statements were approved by the Board of Directors.

Responsibilities of the Statutory Auditors relating to the audit of the financial statements

Objective and audit approach

Our role is to issue a report on the financial statements. Our objective is to obtain reasonable assurance about whether the financial statements as a whole are free of material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions taken by users on the basis of these financial statements.

As specified in Article L.821-55 of the French Commercial Code, our audit does not include assurance on the viability or quality of the Company's management.

As part of an audit conducted in accordance with professional standards applicable in France, the Statutory Auditors exercise professional judgement throughout the audit. They also:

- identify and assess the risks of material misstatement in the financial statements, whether due to fraud or error, design and perform audit procedures in response to those risks, and obtain audit evidence considered to be sufficient and appropriate to provide a basis for their opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of the internal control procedures relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management and the related disclosures in the notes to the financial statements;
- assess the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of the audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the Statutory Auditors conclude that a material uncertainty exists, they are required to draw attention in the audit report to the related disclosures in the financial statements or, if such disclosures are not provided or are inadequate, to issue a qualified opinion or a disclaimer of opinion;
- evaluate the overall presentation of the financial statements and assess whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.

Report to the Risk and Audit Committee

We submit a report to the Risk and Audit Committee which includes, in particular, a description of the scope of the audit and the audit programme implemented, as well as the results of our audit. We also report any significant deficiencies in internal control that we have identified regarding the accounting and financial reporting procedures.

Our report to the Audit Committee includes the risks of material misstatement that, in our professional judgement, were the most significant for the audit of the financial statements and which constitute the key audit matters that we are required to describe in this report.

We also provide the Risk and Audit Committee with the declaration provided for in Article 6 of Regulation (EU) No. 537/2014, confirming our independence within the meaning of the rules applicable in France, as defined in particular in Articles L.821-27 to L.821-34 of the French Commercial Code and in the French Code of Ethics for Statutory Auditors. Where appropriate, we discuss any risks to our independence and the related safeguard measures with the Audit and Risk Committee.

Paris La Défense and Neuilly-sur-Seine, 20 February 2025

The Statutory Auditors

KPMG SA		**PricewaterhouseCoopers Audit**	
Marie GUILLEMOT	Jacques-François LETHU	Séverine SCHEER	Cédric HAASER

6.5 Dividend policy

6.5.1 Dividends and interim dividends paid in the last three financial years

The amount of dividends and interim dividends paid in the last three financial years was as follows:

Financial year	Number of shares	Dividend per share *(in euros)*	Total dividend paid[1] *(in euros)*	Dividend payment date
2021	3,736,934,708	0.58[2]	1,997,314,793.63[3]	13 June 2022

(1) After deduction of treasury shares.

(2) i.e. €0.638 in 2021 for shares benefiting from the bonus dividend.

(3) Including an interim dividend for 2021 of €947,074,231.20 paid on 2 December 2021, comprising €898,992,407.92 in new shares, €48,081,668.10 in cash and a balancing payment of €155.18. The €1,050,240,562.43 balance of the dividend for 2021, paid on 13 June 2022, comprised €978,699,524.40 in new shares, €71,540,908.35 in cash and a balancing payment of €129.68.

The General Meetings held on 28 June 2023 and 11 June 2024 did not approve any dividend distribution for the 2022 and 2023 financial years.

6.5.2 Dividend policy, bonus dividend

The dividend policy formulated by the Board of Directors takes into account the Group's investment needs, the economic context and any other relevant factor.

Shareholders who have held their shares in registered form for at least two years are entitled to a bonus dividend. The number of shares eligible for the 10% bonus dividend may not exceed 0.5% of the share capital for a single shareholder.

The General Meeting may decide to pay any dividend, interim dividend, distributed reserve or premium, or capital reduction, in the form of Company assets, including financial securities.

6.5.3 Unclaimed dividends

Dividends not claimed within five years of their payment date lapse in favour of the French State.

6.6 Other information

6.6.1 *Table of results for the last five financial years*

	2024	2023	2022	2021	2020
Capital at year end					
Share capital *(in millions of euros)*	2,084	2,084	1,944	1,619	1,550
Capital contributions *(in millions of euros)*					
Number of ordinary shares in existence	4,168,730,082	4,168,730,082	3,887,718,420	3,238,676,748	3,099,923,579
Number of priority dividend shares (with no voting rights) in existence					
Maximum number of future shares to be created					
- by conversion of bonds					
- by exercise of subscription rights					
Operations and results of the year					
(in millions of euros)					
Sales excluding taxes	72,335	90,291	87,129	53,001	44,315
Income before tax, employee profit-sharing, depreciation, amortisation and provisions	23,057	23,182	(22,745)	9,177	8,051
Income tax	1,083	1,831	(147)[2]	1,410	(406)[2]
Employee profit-sharing for the year					
Income after tax, employee profit-sharing, depreciation, amortisation and provisions	9,865	7,710	(30,648)	1,457	222
Dividends				1,997[1]	652
Interim dividends				947	
Earnings per share *(euros/share)*					
Income after tax and employee profit-sharing but before depreciation, amortisation and provisions	5.27	5.12	(5.81)	2.40	2.73
Income after tax, employee profit-sharing, depreciation, amortisation and provisions	2.37	1.85	(7.88)	0.45	0.07
Dividend per share				0.58[1][4]	0.21[3]
Interim dividend per share				0.30	0
Employees					
Average number of employees over the year	64,981	63,186	61,607	62,035	62,462
Total payroll expense for the year *(in millions of euros)*	4,540	4,244	3,981	3,720	3,694
Amounts paid for employee benefits for the year (social security, Company benefit schemes, etc.) *(in millions of euros)*	2,935	2,827	2,634	2,687	2,745

(1) Including interim dividends paid out.
(2) Amount corresponding to tax income.
(3) i.e. €0.231 for shares benefiting from the bonus dividend.
(4) i.e. €0.638 for shares benefiting from the bonus dividend.

6.6.2 *Significant change in the financial or trading position*

Significant events occurring between the last day of the 2024 financial year and the date of the filing of this Universal Registration Document are presented in section 5.2 "Subsequent events until closing of accounts" and note 24 "Subsequent events" to the consolidated financial statements for the financial year ended 31 December 2024. The events which occurred after 20 February 2025, the date at which the Board of Directors approved the financial statements, are presented in section 5.3 "Subsequent events to closing of accounts" of this Universal Registration Document in the case of events which occurred after 20 February 2025.

6.6.3 Information concerning supplier and customer payment periods (Article L. 441-14 and D. 441-6 of the French Commercial Code)

In compliance with France's "LME" Law on modernisation of the economy, as amended by Law 2015-990 promoting economic growth, activity and equal opportunities, EDF publishes the amounts, of payables and receivables (including VAT) due at the end of the financial year. These amounts are broken down by period overdue and presented as a percentage of the total amount of purchases and sales of the financial year (including VAT).

	Article D. 441 I.-1°: invoices due which have been received but not paid at the financial year-end						Article D. 441 I.-2°: invoices due which have been issued but not paid at the financial year-end					
(in millions of euros)	0 days	1 - 30 days	31 -6 0 days	61 -9 0 days	91 days and more	Total (1 day and more)	0 days	1 - 30 days	31- 60 days	61 - 90 days	91 days and more	Total (1 day and more)
(A) Period overdue												
Number of invoices	133,647					5,287	4,766,415					10,020,340
Total amount of invoices concerned (including VAT)	2,978	44	6	3	2	55	2,744	136	76	72	833	1,117
% of the total amount of purchases of the year	4.7	0.1	0	0	0	0.1						
% of total amount of sales of the year (including VAT)							3.2	0.2	0.1	0.1	1.0	1.4
(B) Invoices excluded from (A) relating to payables and receivables in dispute or unrecorded												
Number of invoices excluded						0						0
Total amount of invoices excluded						0						0
(C) Reference payment terms applied (contractual or statutory - Article L. 441-6 or Article L. 43-1 of the French Commercial Code)												
Payment terms used for calculating periods overdue	Legal and contractual deadlines						Legal deadlines					

6.6.4 Amount of inter-company loans granted

In accordance with the provisions of Articles L. 511-6, 3 bis and R. 511-2-1-3 of the French Monetary and Financial Code, the amounts of inter-company loans are as follows:

(in millions of euros)	2024	2023
Company		
EDF International	22,655	18,155
EDF Renewables	8,675	7,114
Enedis	5,028	4,884
Dalkia France	1,750	1,668
EDF Energy	1,651	1,577
EDF Trading	804	2,531
EDF Production Électrique Insulaire	335	415
Arabelle Solutions	215	20
Framatome	212	-
Atmea	168	168
Cyclife Holding	26	28
EDF Luminus	-	80

6.6.5 *Information on existing branches (Article L. 231-1 of the French Commercial Code)*

At 31 December 2024, the Group had 238 secondary establishments registered with the French Trade and Companies Registers stated in the Company's "K-bis" document, and several thousand different offices on French territory which do not meet the independent management criterion for classification as a branch.

EDF's branches[1] outside mainland France are listed below:

- Saint-Barthélemy;
- Saint-Pierre-et-Miquelon;
- Saint-Martin;
- Bahrain;
- Benin;
- Cambodia;
- Cape Verde;
- United Arab Emirates: Abu Dhabi and Dubai;
- Japan;
- Kyrgyzstan;
- Gabon;
- India;
- New Caledonia;
- Qatar;
- Poland;
- Czech Republic.

6.7 Information on allocation of the proceeds of EDF's Green Financing

Since 2013, the Group has issued 12 Green Bonds for a total of around €16 billion, to support its development in low-carbon energies.

After two initial issues chiefly intended to finance the building of new wind and solar power projects of the subsidiary EDF Renewables (€1.4 billion in November 2013 and US$ 1.25 billion in October 2015), the Group expanded its Green Bond Framework to cover financing of renovation and modernisation investments for its hydropower assets in mainland France. The new Framework was first applied to a €1.75 billion issue in October 2016 and then to a ¥26 billion issue in two tranches in January 2017. The Group further extended the scope of its Green Bond Framework in early 2020, opening it up to international hydropower assets, energy efficiency projects and biodiversity conservation projects. Under this broader Framework the Group issued a €2.4 billion Green Bond in September 2020, and a €1.85 billion Green Bond in November 2021[2]. The Group expanded the Framework scope again in July 2022 to include any type of Green Financing, in addition to bonds, and renamed it the Green Financing Framework. This Framework is compatible with the European taxonomy, including the Nuclear Delegated Act which came into force in July 2022. The scope of investments has also been extended to include electricity distribution projects and nuclear generation projects. Under this Framework, EDF completed a €1.25 billion bond issue in October 2022, and a CHF 325 million bond issue in August 2023. In addition, a Green Evergreen REPO contract was signed on 19 July 2023 with BNP for €565 million. In November 2023, EDF issued its first Green Bond, for €1 billion, dedicated to the refinancing of investments to extend the lifespan of existing nuclear reactors in France. In June 2024, EDF issued a Green Bond in three tranches for a total amount of €3 billion. In September 2024, a dual-tranche issue was carried out for a total amount of CHF 310 million and a hybrid Green Bond for €1.150 billion and £500 million was also issued.

In addition, EDF signed bilateral bank loans for a total amount of €6.185 billion in 2024.

Finally, EDF issued green commercial paper in 2024 as part of its Negotiable European Commercial Paper (NeuCP) programme for a maximum amount of €412 million.

The commitments made by EDF in connection with these issues follow the four Green Bond Principles[3] for (i) the use of proceeds, (ii) processes for evaluating and selecting Eligible Projects, (iii) management of proceeds, and (iv) reporting procedures. A detailed description of these commitments can be found in the EDF Green Financing Framework of July 2022, available from the Sustainable Finance page of the Company's website.

This section provides a summary of these commitments and how EDF has fulfilled them as at the end of 2024.

Use of proceeds

EDF has undertaken to allocate the proceeds from its Green Financing issues to finance new investments in certain eligible projects (the "Eligible Projects"):

- construction or acquisition of a portfolio of renewable energy generation projects including wind, solar, hydro, storage, biomass and geothermal power projects;
- investments in existing hydropower facilities, including renovation and heavy maintenance, modernisation and automation, and development of existing facilities (notably including capacity increases);
- energy efficiency projects, including projects to reduce energy consumption, modernise lighting, heating and cooling networks, or create electric vehicle charging stations;
- biodiversity conservation projects, such as actions to mitigate the impact of EDF's activities on biodiversity, site restoration or renaturing, and research and development;

(1) In fiscal terms, this is a list of permanent establishments located outside France.
(2) EDF issued a €1.75 billion Green Bond on 29 November 2021, which was tapped up by €100 million on 6 December 2021.
(3) The Green Bond Principles, updated in June 2018, are voluntary guidelines for the issuance of Green Bonds. They recommend transparency and disclosure and promote integrity in the development of the Green Bond market. For more information, see https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/.

- electricity distribution projects, including investments in the distribution grid connected to the European system, connections of renewable energy producers, infrastructure for the electrification of transport (including electric vehicle charging points) and smart meters;
- nuclear generation projects: investments in new build projects and existing works, including research and development, demonstration and deployment of innovative reactors that generate energy from nuclear processes with minimal fuel cycle waste, and projects authorised by the competent authorities no later than 2045 for the construction and safe operation of power plants or no later than 2040 to extend the lifespan of existing reactors.

The Green Financing Framework allows bond proceeds to be used to finance projects which would not have benefited from Green Financing in the three years before the Green Financing was issued (the look-back clause). Similarly, such proceeds can be used in connection with acquisition of renewable energy project portfolios.

Evaluation and selection of the Eligible Projects financed

Since July 2022 and as part of the Green Financing Framework, each Eligible Project to be financed is assessed on the basis of the criteria of the European taxonomy, in particular the DNSH and minimum safeguard criteria.

Compliance with these criteria is certified by KPMG SA (Statutory Auditor) in accordance with the requirements of the Green Financing Framework.

Only projects meeting these criteria qualify for Green Financing.

Management of proceeds

The proceeds raised are managed according to a strict ring-fencing principle to ensure that they are used exclusively and effectively for financing Eligible Projects.

Once received by EDF's Group Financing and Treasury Division, the proceeds from each issue are invested and tracked in a dedicated sub-portfolio of cash assets until they are allocated to Eligible Projects. The proceeds are invested in priority in short-term cash assets identified as Socially Responsible Investments (SRI).

The Group's entities notify EDF's Treasury Division on an ongoing basis, or at regular intervals, of the proceeds needed to cover investment expenditure for the selected projects. Based on this information, the Cash Management Division adjusts the amounts available in the dedicated cash asset sub-portfolios.

At 31 December 2024, €1,153 million of Green Bond 10 was invested in cash funds pending allocation to electricity distribution projects.

Reporting

Effective use of proceeds

Allocation of proceeds at 31 December 2024	Nominal value at issue	Proceeds allocated at 31/12/2024	Proceeds allocated to Eligible Projects	Number of projects that have benefited from Green Financing	Share of investment amounts financed through Green Financing
Green Bond 1 – November 2013	€1.4 billion	€1.4 billion	*Renewable capacities: €1.4 billion*	13	59%
Green Bond 2 – October 2015	$1.25 billion	$1.25 billion	*Renewable capacities: $1.25 billion*	7	58%
Green Bond 3 – October 2016	€1.75 billion	€1.75 billion	*Renewable capacities: €1,248 million*	10	54%
			Hydropower projects: €502 million	600 operations	100%
Green Bond 4 – January 2017	¥26,000 million	¥26,000 million	*Renewable capacities: ¥14,021 million*	7	15%
			Hydropower projects: ¥11,979 million	207 operations	87%[4]
Green Bond 5 – September 2020	€2.4 billion	€2.6 billion[2]	*Renewable capacities: €2,421 million (including €1,461 million under the look-back clause)*	32 projects[1] + acquisition of 3 portfolios	78%
			Hydropower projects: €110 million	153 operations	100%
			Biodiversity projects led by EDF Hydro: €28 million (including €16 million under the look-back clause)	39 projects	100%
Green Bond 6 – November 2021	€1.85 billion	€1.85 billion	*Renewable capacities: €1.644 billion*	12 projects	53%
			Hydropower projects: €189 million	272	98%
			Biodiversity projects: €23 million	14	
Green Bond 7 – October 2022	€1.25 billion	€1.25 billion	*Electricity distribution projects: €1.25 billion (under the look-back clause)*	Projects detailed in the table below	100%
Green Repo – July 2023	€565 million	€565 million	*Electricity distribution projects: €565 million (under the look-back clause)*	Projects detailed in the table below	100%
Green Bond 8 – August 2023	CHF325 million	CHF325 million	*Electricity distribution projects:* CHF 325 million	Projects detailed in the table below	100%
Green Bond 9 – November 2023	€1 billion	€1 billion	*Projects concerning existing nuclear reactors in France: €1 billion (under the look-back clause)*	Projects detailed in the table below	100%
Green bank loans - 2024	€6,185 million	€6,185 million	*Projects concerning existing nuclear reactors in France: €6,185 million (under the look-back clause)*	Projects detailed in the table below	100%
Green Bond 10 June 2024	€1 billion	€1 billion	*Projects concerning existing nuclear reactors in France: €1 billion (under the look-back clause)*	Projects detailed in the table below	100%
	€1.25 billion	€97 million	*Electricity distribution projects: €1.25 billion (under the look-back clause)*	Projects detailed in the table below	8%
	€750 million	€750 million	*Renewable capacities:* €750 million *(including €727 million under the look-back clause)*	5 projects	39%
Green Bond 11 – September 2024	CHF310 million	CHF310 million	*Renewable capacities: CHF 310 million*	5 projects	57%
Green NeuCP	€412 million	€412 million	*Renewable capacities: €36 million (under the look-back clause)* *Hydropower projects: €371 million (under the look-back clause)*	1 project	100%
			Amount allocated to biodiversity projects: €5 million (under the look-back clause)	Projects detailed in the table below	100%
Hybrid Green Bond 12 – September 2024	€1.15 billion + £500 million	€1.15 billion + £500 million	*Projects concerning existing nuclear reactors in France: €1.7 billion (including €1.3 billion under the look-back clause)*	Projects detailed in the table below	100%

(1) Including EDF Renewables' Big Beau Solar project, which is partly financed by the sustainable securities lending transaction: a €50 million green evergreen REPO contract was signed on 1 October 2021 with BNP to finance the portion of the Big Beau project not covered by financing received from Green Bond *5. It was refinanced by* Green Bond *6.*

(2) The issue premium on Green Bond *5 brought EDF a total of €2,559 million.*

The Eligible Projects selected by EDF Renewables in accordance with the Framework in force and financed by Green Financing are:

Projects	Type and Capacity	Location	Expected year of commissioning	Green Financing
CID Solar	PV Solar, 27MW	US (California)	In service	GB1
Cottonwood	PV Solar, 33MW	US (California)	In service	GB1
Catalan wind farm	Onshore wind, 96MW	France (Pyrénées-Orientales)	In service	GB1
Heartland	Biogas, 20MW	US (Colorado)	In service	GB1
Hereford	Onshore wind, 200MW	US (Texas)	In service	GB1
La Mitis	Onshore wind, 25MW	Canada (Quebec)	In service	GB1
Le Granit	Onshore wind, 25MW	Canada (Quebec)	In service	GB1
Longhorn North	Onshore wind, 200MW	US (Texas)	In service	GB1
Pilot Hill	Onshore wind, 175MW	US (Illinois)	In service	GB1
Rivière du Moulin	Onshore wind, 350MW	Canada (Quebec)	In service	GB1
Spinning Spur 2	Onshore wind, 161MW	US (Texas)	In service	GB1
Spinning Spur 3	Onshore wind, 194MW	US (Texas)	In service	GB1
Roosevelt	Onshore wind, 250MW	US (New Mexico)	In service	GB1 and GB2
Great Western	Onshore wind, 225MW	US (Oklahoma)	In service	GB2
Kelly Creek	Onshore wind, 184MW	US (Illinois)	In service	GB2
Salt Fork	Onshore wind, 174MW	US (Texas)	In service	GB2
Slate Creek	Onshore wind, 150MW	US (Texas)	In service	GB2
Tyler Bluff	Onshore wind, 126MW	US (Texas)	In service	GB2
Red Pine	Onshore wind, 200MW	US (Minnesota)	In service	GB2 and GB3
Bluemex Power 1	PV Solar, 120MW	Mexico (Sonora)	In service	GB3
Copenhagen Wind Farm	Onshore wind, 80MW	US (New York)	In service	GB3
Nicolas Riou	Onshore wind, 112MW	Canada (Quebec)	In service	GB3
Rock Falls	Onshore wind, 154MW	US (Oklahoma)	In service	GB3
Stoneray Power Partners	Onshore wind, 100MW	US (Minnesota)	In service	GB3
Valentine Solar	PV Solar, 135MW	US (California)	In service	GB3
Glaciers Edge	Onshore wind, 203MW	US (Iowa)	In service	GB3
Milligan	Onshore wind, 300MW	US (Nebraska)	In service	GB3, GB4 and GB5
Las Majadas	Onshore wind, 273MW	US (Texas)	In service	GB3, GB4 and GB5
Maverick 1	PV Solar, 180MW	US (California)	In service	GB5
Maverick 4	PV Solar, 132MW	US (California)	In service	GB5
Desert Harvest	PV Solar, 114MW	US (California)	In service	GB5
Desert Harvest 2	PV Solar, 111MW	US (California)	In service	GB5
Coyote	Onshore wind, 242MW	US (Texas)	In service	GB5
Champagne Picardie	Onshore wind, 73MW	France	In service	GB5
Les Taillades	Onshore wind, 27MW	France	In service	GB5

Projects	Type and Capacity	Location	Expected year of commissioning	Green Financing
Pays d'Anglure	Onshore wind, 22MW	France	In service	GB5
Montagne Ardéchoise	Onshore wind, 16MW	France	In service	GB5
Blyth	Offshore wind, 42MW	United Kingdom	In service	GB5
Mashabai Sadeh	PV Solar, 60MW	Israel	In service	GB5
Romney	Onshore wind, 60MW	Canada (Ontario)	In service	GB5
Courant-Nachamps	Onshore wind, 21MW	France	In service	GB5
Demange	Onshore wind, 20MW	France	In service	GB5
Faydunes	Onshore wind, 14MW	France	In service	GB5
Joncels Futuren	Onshore wind, 6MW	France	In service	GB5
Coteaux	Onshore wind, 38MW	France	In service	GB5
Mazurier	Onshore wind, 13MW	France	In service	GB5
Mottenberg	Onshore wind, 15MW	France	In service	GB5
Espiers	Onshore wind, 18MW	France	In service	GB5
Clanlieu	Onshore wind, 13MW	France	In service	GB5
Luxel	Solar project portfolio	France	In service	GB5
NnG	Offshore wind, 450MW	United Kingdom	In service	GB5
Atlantic Offshore	Offshore wind, up to 2.3GW	US (New Jersey)	In service	GB5
Gorzyca	Onshore wind, 24MW	Poland	In service	GB5
Parnowo	Onshore wind, 12.5MW	Poland	In service	GB5
Ustka	Onshore wind, 28.6MW	Poland	In service	GB5
Roussac	Onshore wind, 16.5MW	France	In service	GB5
Big Beau	Solar, 166MW	United States	In service	GB5
King Creek 1	Onshore wind, 184.4MW	US (Texas)	In service	GB6
King Creek 2	Onshore wind, 209MW	US (Texas)	In service	GB6
Arrow Canyon	Solar and storage, 364.8MW	US (Nevada)	In service	GB6
Fox Squirrel	Solar, 751MW	US (Ohio)	In service	GB6, GB11
Ottmarsheim	Solar power 15.6MW	France	In service	GB6
Habsheim	Solar power 30MW	France	In service	GB6
Pays de Caux	Onshore wind power 13MW	France	In service	GB6
OUPIA 2 Repowering	Onshore wind power 20.7MW	France	In service	GB6
Desert Quarzite	Solar power - Battery 527MW	US (California)	01.2025	GB6, GB10
Serra do serido 2	Onshore wind power 238MW	Brazil	In service	GB6, GB10
Serra das almas	Onshore wind power 261MW	Brazil	2025	GB6, GB10, NeuCP
Cypress I	Solar power 200MW	France	In service	GB6
Milagro	Solar power 183MW	US (California)	2025	GB10, GB11
Morris Ridge	Solar power 230.5MW	US (California)	In service	GB10
Merles	Onshore wind power 14.4MW	France	2025	GB11
Baignes	Onshore wind power 25.2MW	France	In service	GB11
Niedervisse	Onshore wind power 17MW	France	2025	GB11

The Eligible Projects selected by Luminus in accordance with the Framework in force and financed by Green Financing are:

Projects	Type and Capacity	Location	Expected year of commissioning	Green Financing
Geel-West	Onshore wind, 11MW	Belgium	In service	GB4
Villers 4	Onshore wind, 45MW	Belgium	In service	GB4
Turnhout	Onshore wind, 12MW	Belgium	In service	GB4
Monsin	Hydropower, 18MW	Belgium	In service	GB4
Tinlot	Onshore wind, 10MW	Belgium	In service	GB5
Lommel	Onshore wind, 17MW	Belgium	In service	GB5

The Eligible Projects selected by EDF Solutions Solaires in accordance with the Framework in force and financed by Green Financing are::

Projects	Type and Capacity	Location	Expected year of commissioning	Green Financing
ITER	PV solar canopy, 2MW	France	In service	GB5
Bugey RTE	PV solar canopy, 4MW	France	In service	GB5

The Eligible Projects under the Green Bond Framework selected by EDF Hydro (excluding biodiversity projects, which are presented further below) for financing through the Green Bonds issued in October 2016, January 2017 and September 2020 are:

Projects	Number of operations by type	Capacity (in GW)	Amount (in millions of euros)
Renovation and heavy maintenance	586	9.6	342
Modernisation and automation	309	15.9	80
Development of existing facilities	33	1.2	277
TOTAL (EXCL. DUPLICATION)	**928**	**17.1**	**699**

The Eligible Projects under the Green Bond Framework selected by EDF Hydro (excluding biodiversity projects, which are presented further below) for financing through the Green Bond issued in November 2021 are:

Projects	Number of operations by type	Capacity (in GW)	Amount (in millions of euros)
Renovation and heavy maintenance	249	11.4	164
Modernisation and automation	15	2.3	17
Development of existing facilities	8	0.5	8
TOTAL (EXCL. DUPLICATION)	**272**	**11.9**	**189**

The Eligible Projects under the Green Bond Framework selected by EDF Hydro (excluding biodiversity projects, which are presented further below) for financing through the NeuCP issued in 2024 are:

Projects	Number of operations by type	Capacity (in GW)	Amount (in millions of euros)
Renovation and heavy maintenance	879	18.7	349
Modernisation and automation	10	1.1	3
Development of existing facilities	13	0.3	19
TOTAL (EXCL. DUPLICATION)	**902**	**18.7**	**371**

Impact of financed Eligible Projects

The tables below show the main impacts of projects that have received Green Financing:

- For renewable energy generation and biodiversity conservation projects:
  - the electricity generation capacity built for each project,
  - the additional electricity generation expected from each project,
  - the avoided CO_2 emissions expected as a result of injecting this additional power into the electricity networks;
- For distribution network projects:
  - the number of kilometres of lines installed,
  - the number of charging infrastructure connections,
  - the number of new meters installed, and
  - the renewable energy capacity connected.

Renewable energy generation projects:

These impacts are presented in aggregate: the gross values correspond to the aggregate impact of every project that has received Green Financing, while the net values correspond to the total impact of each Eligible Project weighted by the share of project investment financed through the Green Financing concerned.

		Total capacity of projects financed at 31 December 2024 (in MW)		**Expected output** (in TWh/year)		**Expected avoided CO_2 emissions** (in Mt/year)	
		Gross[1]	**Net**[2]	**Gross**[1]	**Net**[2]	**Gross**[1]	**Net**[2]
Green Bond 1 – November 2013		1,529	976	6.0	4.1	2.21	1.55
Green Bond 2 – October 2015		1,107	815	4.6	3.3	2.53	1.83
Green Bond 3 – October 2016	EDF Renewables	1,450	962	5.3	3.5	2.42	1.61
	EDF Hydro	903	903	0.2[3]	0.2[3]	0.01[3]	0.01[3]
Green Bond 4 – January 2017	EDF Renewables + Luminus	137	86	0.4	0.26	0.17	0.12
	EDF Hydro + Luminus	142	133	0.1	0.05	0.01	0.01
Green Bond 5 – September 2020	EDF Renewables + EDF ENR + Luminus	1,762	1,412	4.7[4]	3.6[4]	1.86[4]	1.35[4]
	EDF Hydro	123	123	0.03	0.03	0.001	0.001
Green Bond 6 – October 2021	EDF Renewables	2,787	1,487	6.5	3.1	1.93	1.1
	EDF Hydro	430	422	0.02	0.02	0.001	0.001
NeuCP - 2024	EDF Renewables	261	33	0.49	0.12	0.08	0.02
	EDF Hydro	19	19	0.03	0.03	0	0
Green Bond 10 – June 2024	EDF Renewables	1,439	583	3.83	1.51	0.91	0.42
Green Bond 11 – September 2024	EDF Renewables	288	235	0.55	0.31	0.18	0.09
TOTAL		**12,375**	**8,187**	**32.2**	**19.9**	**10.17**	**6.63**

(1) Sum of the gross impacts of each project that received financing from the Green Financing concerned.

(2) Sum of the impacts of each project, weighted by the share of project investment financed by the Green Financing concerned.

(3) Only the expected additional output from development investments, including half of the expected additional output of the Romanche-Gavet project.

(4) Excluding acquisitions.

Biodiversity conservation projects:

The impacts presented above are established on the basis of the following methodological principles:

- capacity of the projects financed: installed capacity after construction of each Eligible Project as defined in the project's investment plan and updated as appropriate during the construction phase or at project commissioning;
- expected output: the "P50" generation forecasts as stated when the investment decision is made for each Eligible Project;
- avoided CO_2 emissions: the average emission factor per kilowatt-hour for the electricity system is estimated on the basis of the electricity system's energy mix and the life cycle analysis (LCA) emission factors for each generation technology. A project's emission factor corresponds directly to the LCA emission factor for its generation technology. The energy mixes are those published by the United States Environmental Protection Agency (EPA, eGRID 2018) for large power networks in the United States, Statistics Canada (2019) for the networks and provinces of Canada, and the International Energy Agency (IEA 2019) for other countries. The LCA emission factors for each technology correspond to the median values established by the Intergovernmental Panel on Climate Change (IPCC) as published in its 5th assessment report (2014). The detailed methodology is available on request from the EDF group's head office. It is important to note that (i) no single standard exists that defines a methodology for calculating avoided CO_2 emissions, and (ii) the expected output, and therefore the avoided CO_2 emissions, are estimated forecasts and not outturn data.

Biodiversity

The table below presents the main monitoring indicators for biodiversity projects that have received Green Financing. All of these projects have been led by EDF Hydro.

Year(s)	Amount financed (in millions of euros)	Category	Project type	Number of projects considered[1]	Indicator	Indicator value
2017 - 2019 (financed under the look-back clause)	16	a. Projects and/or facilities that integrate a mitigation hierarchy ("avoid-mitigate-offset" principles) intended to mitigate the impact of the Group's activities on biodiversity	Bringing reserved flows into compliance[2]	7	Number of protected wildlife species benefiting from the project	6
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	22		16
		b. Site restoration and/or renaturing	Renaturing/ restoration including Ecosystem Services	1	Area concerned (ha)	190
			Decommissioning of facilities	1	Number of protected wildlife species benefiting from the project	3
2020	12	a. Projects and/or facilities that integrate a mitigation hierarchy ("avoid-mitigate-offset" principles) intended to mitigate the impact of the Group's activities on biodiversity	Bringing reserved flows into compliance[2]	4	Number of protected wildlife species benefiting from the project	6
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	17		17
			Biodiversity partnerships	7	Number of species targeted by the partnerships	20
		b. Site restoration and/or renaturing	Decommissioning of facilities	1	Number of protected wildlife species benefiting from the project	3
2021	11	a. Projects and/or facilities that integrate a mitigation hierarchy ("avoid-mitigate-offset" principles) intended to mitigate the impact of the Group's activities on biodiversity	Bringing reserved flows into compliance[2]	1	Number of protected wildlife species benefiting from the project	5
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	7		11
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	17		17

Year(s)	Amount financed (in millions of euros)	Category	Project type	Number of projects considered[1]	Indicator	Indicator value
2022	12	a. Projects and/or facilities that integrate a mitigation hierarchy ("avoid-mitigate-offset" principles) intended to mitigate the impact of the Group's activities on biodiversity	Bringing reserved flows into compliance[2]	1	Number of protected wildlife species benefiting from the project	5
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	4		8
			Voluntary ecological monitoring	1	Number of species inventoried	96[3]
			Management plan (grubbing)	1	Area concerned (ha)	340
		b. Site restoration and/or renaturing	Decommissioning of facilities	2	Number of protected wildlife species benefiting from the project	5
2024 (look-back financing of 2023 and 2022 projects)	5	a. Projects and/or facilities that integrate a mitigation hierarchy ("avoid-mitigate-offset" principles) intended to mitigate the impact of the Group's activities on biodiversity	Bringing reserved flows into compliance[2]	1	Number of protected wildlife species benefiting from the project	4
			Ecological continuity (sediments, fish, semi-aquatic mammals)[2]	8		10
		b. Site restoration and/or renaturing	Renaturing/ restoration including Ecosystem services	1	Area concerned (ha)	11
			Decommissioning of facilities	1	Number of protected wildlife species benefiting from the project	57

(1) 19 projects are included in both the look-back and 2020 impact reporting.

(2) One project at the Esterre dam has elements of reserved flow compliance and ecological continuity; it is therefore included in the calculation of the indicators for both types of project.

Operations to protect ecological continuity mainly consist of installing "fish passes", devices attached to dams to allow fish to move up and down water levels unharmed; they also concern improvements to the water intake structures (installation of fine-mesh grids) so that fish can continue to swim along the natural bed of the watercourse without being swept away towards the turbines.

Renaturing/restoration and ecological offsetting operations are linked: both are long-term operations, following the commissioning in 2020 of the new Gavet facility (90MW) in Isère in the French Alps. As the construction of that facility, after implementation of all avoidance measures, entailed disturbance or destruction of the habitat of certain protected species, EDF has begun renaturing of the affected areas, and is implementing offsetting through biodiversity conservation management in the Île Falcon and Pont de Gavet sectors, covering an area of 57 hectares. Management of these areas, along with scientific monitoring of satisfactory progress on the renaturing, will last for 15 years until 2033.

The impacts presented above are established under the following methodological principles:

- **the "*number of protected wildlife species benefiting from the project*"** indicator is established based on the target species lists for the structures covered by the project execution files or waterways classification decrees, and the analysis of EDF's expert naturalists. As these operations mainly concern aquatic environments, only aquatic and semi-aquatic species are counted, although these projects generally benefit a wider range of animal and plant species. If a species benefits from several projects, it is only counted once;
- **the "*number of species targeted by the partnerships*"** indicator refers to species named in partnership agreements or activity reports (families of species are therefore not counted). Biodiversity partnerships cover a wide range of activities, from raising awareness to land management or carrying out nature inventories or ecological status diagnoses;
- **the "*area concerned*"** indicator is measured in hectares (ha) and corresponds to the surface area covered by site renaturing or restoration projects.

Electricity distribution projects:

		Project sub-category	Impact indicator	Total
Green Bond 7 – October 2022	Enedis 2021 and H1 2022 operating indicators	Infrastructure for the electrification of transport (including charging stations)	Number of electric vehicle charging infrastructure connections[1]	11,938
		Connections of renewable energy producers	Installed capacity connected to the grid (MW)	5,181
			Number of installations connected	100,444
		Investments in the distribution grid connected to the European system	New lines installed (km)	2,950
			including: lines buried in application of the climate risk plan (km)	*1,350*
		Smart Meters	Number of new meters installed	5,488,000
Green Repo – July 2023	Enedis H2 2022 operating indicators	Infrastructure for the electrification of transport (including charging stations)	Number of electric vehicle charging infrastructure connections[1]	8,987
		Connections of renewable energy producers	Installed capacity connected to the grid (MW)	2,061
			Number of installations connected	58,410
		Investments in the distribution grid connected to the European system	New lines installed (km)	1,015
			including: lines buried in application of the climate risk plan (km)	*416*
		Smart Meters	Number of new meters installed	614,000
Green Bond 8 – August 2023	Enedis H1 2023 operating indicators	Infrastructure for the electrification of transport (including charging stations)	Number of electric vehicle charging infrastructure connections[1]	7,719
		Connections of renewable energy producers	Installed capacity connected to the grid (MW)	1,976
			Number of installations connected	89,589
		Investments in the distribution grid connected to the European system	New lines installed (km)	920
			including: lines buried in application of the climate risk plan (km)	*320*
		Smart Meters	Number of new meters installed	592,000
Green Bond *11* – June 2024	Enedis H2 2023 operating indicators	Infrastructure for the electrification of transport (including charging stations)	Number of electric vehicle charging infrastructure connections[1]	3,482
		Connections of renewable energy producers	Installed capacity connected to the grid (MW)	3,201
			Number of installations connected	116,315
		Investments in the distribution grid connected to the European system	New lines installed (km)	1,022
			including: lines buried in application of the climate risk plan (km)	*422*
		Smart Meters	Number of new meters installed	543,000

(1) Each with one or more downstream charging points.

(2) Data for the period, not prorated to the amount of the Green Financing proceeds allocated.

EDF does not report on the amount of CO_2 emissions avoided for CapEx on network activity benefiting from Green Financing, given their small quantity.

Projects concerning existing nuclear reactors in France, for extension of their lifespan:

EDF states in its Universal Registration Documents that it spent €4,456 million in CapEx for electricity generation from nuclear energy in existing facilities as an environmentally sustainable activity (aligned with the European taxonomy) in 2022, €4,992 million in 2023 and €4,962 million in 2024.

Of this CapEx, €1 billion was refinanced through Green Bond 9, €6,185 million through bank loans, €1 billion through Green Bond 10 and €1.15 billion and £500 million through Green Bond 12.

Although reactors for which the operating lifespan is extended in a given year will generate electricity for a further ten years from the following year, all of the Capex for electricity generation from nuclear energy in existing facilities is necessary to keep the reactors in operation over that period.

All these factors are taken into account in the calculation of each year's emission-avoiding power generation relating to CapEx for operations that are directly associated with the extension of the reactors' operating lifespan and refinanced through Green Financing.

The avoided emissions are calculated based on the average carbon intensity of European electricity generation (including France). The expected avoided CO_2 emissions are as follows:

		Expected avoided CO_2 emissions (in Mt/year)
Green Bond 9 – November 2023	EDF	1.82
Bank loans - 2024	EDF	2.66
Green Bond 10 – June 2024	EDF	0.51
Green Bond 12 – September 2024	EDF	1.05

Attestation of one of the Statutory Auditors on the information related to the allocation, as at December 31st, 2024, of proceeds raised in 2024 in accordance with the Green Financing Framework from July 2022

This is a free translation into English of the attestation of one of the Statutory Auditors on the information related to the allocation, as at December 31st, 2024, of proceeds raised in 2024 in accordance with the Green Financing Framework from July 2022 issued in French and it is provided solely for the convenience of English-speaking users.

Year-ended December 31st, 2024

To the Chairman and Chief Executive Officer,

In our capacity as Statutory Auditor of Electricité de France S.A. (hereinafter "**EDF**" or the "**entity**"), and in accordance with your request, we have prepared this attestation on the information related to the allocation, as at December 31st, 2024, of proceeds raised through financing operations (the "**Green Financing**") performed by EDF in 2024 and presented in the document "Information on allocation of the proceeds of EDF's green financing (the "**Document**"), attached to this attestation.

The Green Financing comprises:

- the bilateral green bank loans signed in May 2024 for a total amount of €. 6.185 billion;
- the issuance of a green bond in three tranches in June 2024 for a total amount of €. 3 billion;
- the issuance of a dual-tranche green bond in September 2024 for a total amount of CHF. 310 million;
- the issuance of a hybrid green bond in three tranches for a total amount of €. 1.150 billion and £. 500 million;
- the issuance of green commercial paper in 2024 for a maximum amount of €. 412 million.

This Document, including the information related to the entity's Green Financing, prepared in accordance with the terms and conditions of the issuance agreement, especially the *Green Financing Framework* dated July 2022 (the "**Framework**"), is intended for holders of Green Financing. This Document shows the "Informations", id est the proceeds allocated to capital expenditures (the "**Allocated Proceeds**") to eligible projects as defined in the **Framework** (the "**Eligible Projects**"), as at December 31st, 2024 as well as the portion of non-allocated proceeds as at December 31st, 2024.

This Document was prepared under your responsibility. The methods and eligibility criteria used to identify the Allocated Proceeds to Eligible Projects are disclosed in the Framework.

It is our responsibility to express an opinion on:

- the compliance, in all material respects, of the selected projects with the eligibility criteria specified in the Framework,
- the consistency of the amount of proceeds allocated to Eligible Projects with accounting and underlying accounting data, as at December 31st 2024,
- the compliance, in all material respects, of the non-allocated proceeds as at December 31, 2024 with the criteria specified in the Framework,
- the consistency of the amount of non-allocated proceeds with accounting and underlying accounting data, as at December 31st 2024,
- the compliance, in all material respects, of the computation of avoided CO_2 emissions thanks to the Allocated Proceeds to Eligible Projects in 2024 with the methodology for calculating avoided CO_2 emissions, according to the EDF calculation applicable for 2024.

However, it is not our responsibility to:

- call into question the eligibility criteria specified in the Framework, which were validated in the Second Party Opinion by Cicero Shades of Green prior to the issuance, and, in particular, to give an interpretation of the terms and conditions of the Framework,
- express an opinion on the use of proceeds allocated to Eligible Projects once they have been allocated,
- express an opinion on the indicators of impact provided in the Document except for the compliance of the computation of avoided CO_2 emissions with the methodology implemented by EDF.

Our assignment, which did not constitute an audit or a review, was performed in accordance with the *doctrine professionnelle de la Compagnie nationale des commissaires aux comptes*. Our work included:

- identifying and conducting several interviews with the persons responsible for the collect of the Information, with the Directions in charge of overseeing the collect of the Information and, where appropriate, with those responsible for internal control and risk management procedures,
- assessing the suitability of the procedures used by the Entity to report the Information with respect to their relevance, completeness, reliability, neutrality and understandability,
- verifying the existence of internal control and risk management procedures implemented by the entity,
- examining the processes used for data collection, compilation, processing and control, particularly the procedures relating to the allocation of proceeds as at December 31st, 2024 and to the proceeds not yet allocated as at December 31st 2024 and reconciling those data to the Information,
- verifying the compliance, in all material respects, of the Eligible Projects with the eligibility criteria, as specified in the Framework,
- verifying that the amounts of Eligible Projects are consistent with the accounting and the underlying accounting data as at December 31st, 2024,
- verifying that the amount of proceeds allocated to Eligible Projects is less than or equal to the amount of these projects on December 31st, 2024,
- verifying the compliance, in all material respects, of the investment of the unallocated proceeds, with the criteria specified in the Framework,
- verifying that the amounts of the unallocated proceeds are consistent with the accounting and the underlying accounting data as at December 31st, 2024,

- verifying the compliance, in all material respects, of the computation of avoided CO_2 emissions thanks to the Allocated Proceeds to Eligible Projects in 2024 with EDF methodology for calculating avoided CO_2 emissions.

Our work was carried out by an independent and multidisciplinary team including specialists in sustainable development and corporate social responsibility.

Based on our work, we have no comments regarding:

- the compliance, in all material respects, of the Eligible Projects with the eligibility criteria specified in the Framework; and
- the consistency of the amount of Allocated Proceeds allocated to Eligible Projects as at December 31st, 2024 with the accounting and the underlying accounting data.

This attestation has been prepared for you in connection with the context mentioned in the first paragraph and it may not be used, disclosed or referred to for any other purpose.

In our capacity as Statutory Auditor of EDF, our responsibility to the entity is defined by French law and we do not accept any extension of our responsibility beyond that specified by French law. We shall not be liable to any third parties, including holders of Green Financing, and we are not party to the Green Financing contracts. We shall not be held liable for the execution of those contracts or for any resulting damages, loss, cost or expense.

This attestation is governed by French law. All disputes, claims, or disagreements arising from our engagement letter or this attestation fall under the exclusive jurisdiction of the French courts. Both parties irrevocably forego their right to oppose any case brought before the French courts, or to argue that the case has been brought before a court that lacks jurisdiction, or that the French courts do not have jurisdiction.

This attestation has been prepared within the context described above and may not be used, distributed or referred to for any other purpose.

Paris la Défense, March 13, 2025

KPMG S.A.

Quentin Henaux
Partner

Jacques-François Lethu
Partner

7.

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7.1 General information about the Company

7.1.1 Company name, registered office address and telephone number, and website

The name of the Company is "Électricité de France". The Company may also be legally designated by the acronym "EDF".

The Company's registered office is at 22-30 Avenue de Wagram, 75008 Paris (France).

The telephone number is +33 (0) 1 40 42 22 22.

The website is www.edf.fr. The information on the Company's website does not form an integral part of this Universal Registration Document unless it is incorporated by reference.

7.1.2 Trade and Companies Registry

The Company is registered with the Paris Trade and Companies Registry under number 552 081 317. Its APE code is 3511Z.

7.1.3 Date of incorporation and term of the Company

EDF was incorporated pursuant to French Law 46-628 of 8 April 1946 as a French public industrial and commercial establishment (*établissement public industriel et commercial* – EPIC). It was converted into a French public limited company (*société anonyme*) by the Law of 9 August 2004 and the Application Decree of 17 November 2004.

The Company was incorporated for a term of 99 years as from 19 November 2004, unless it is dissolved before that date or its term is extended.

7.1.4 Legal form and applicable legislation

Since 20 November 2004, EDF has been a French public limited company (*société anonyme*) with a Board of Directors. It is governed by the laws and regulations applicable to commercial companies, subject to the specific provisions applicable to it, which are mainly contained in the French Energy Code and Order 2014-948 of 20 August 2014 on the governance and capital transactions of companies with public shareholding, and in its articles of association.

7.1.5 Litigation

This section describes the main legal proceedings other than those covered in note 21 "Contingent assets and liabilities" to the 2024 consolidated financial statements (see section 6.1 "Consolidated financial statements at 31 December 2024"), and any material developments in those proceedings that have occurred between the date of approval of the financial statements and the filing date of this document.

To the Company's knowledge, there are no administrative, legal or arbitration proceedings including any pending or threatened proceedings of which the Company is aware that could have, or have in the past 12 months had, a material impact on the financial situation or profitability of the Company and/or the Group other than those described below and those described in the consolidated financial statements at 31 December 2024.

CRE/REMIT investigation

On 14 December 2017, the French Energy Regulation Commission (CRE) launched an investigation to determine whether EDF and its subsidiaries EDF Trading Limited and EDFT Markets Limited were guilty of engaging in practices between 1 January 2017 and 30 June 2018 that could constitute breaches of the provisions of Regulation (EU) 1227/2011 of 25 October 2011 on wholesale energy market integrity and transparency ("REMIT"). By a letter dated 14 April 2023, the CRE informed EDF that it had referred the matter to its Dispute Settlement and Sanctions Committee (CoRDiS). This action does not prejudge the outcome of the proceedings.

Appeals by NGOs and associations against administrative authorisations for generation plants

A certain number of authorisations and permits (ASN decisions, prefectoral decisions, decrees, orders, etc.) related to the Group's generation plants are the subject of litigation, mainly initiated by environmental associations.

Dispute over the additional 20TWh of electricity made available to alternative suppliers at the price of €46.20/MWh for the period April-December 2022

On 13 January 2022, the French Government announced exceptional measures to limit the increase in electricity prices for consumers in 2022. These measures included EDF making an additional volume of 20TWh available to eligible suppliers over the period 1 April to 31 December 2022 at the price of €46.20/MWh.

The terms of implementation of this measure were defined in a decree of 11 March 2022 and four ministerial orders.

As the overall measure generated very significant prejudice for the Company, in May 2022 EDF made a request to the State for withdrawal of the decree of 11 March 2022 and the associated orders. As the State did not reply within 2 months, on 9 August 2022 EDF filed an appeal against the decree and orders before the Council of State, on the grounds that the State had exceeded its powers. In a decision issued on 3 February 2023, the Council of State rejected EDF's appeal.

In parallel, EDF sent the Prime Minister a preliminary claim for compensation for the prejudice resulting from introduction of this government measure, estimated at €8.34 billion at 30 June 2022. The State did not reply within 2 months, indicating an implicit rejection, and on 27 October 2022 EDF filed a claim before the Paris Administrative Court for full reparation by the State for the prejudices borne as a result of the government measure. These proceedings are continuing.

Framatome

Arbitration proceedings are in progress between Framatome SAS and Eskom Holding SOC Limited (Eskom) in connection with the contract to replace the steam generators of units 1 and 2 at the Koeberg power plant in South Africa. The dispute particularly concerns the consequences for Framatome and its subcontractors of the postponed replacement of the steam generators due to delays attributable to Eskom.

Complaints concerning EDF suppliers

In April 2023, EDF was informed that the Public Prosecutor of the Court of Avesnes-sur-Helpe was opening a preliminary investigation into the actions of the company Aciérie et Fonderie de la Haute Sambre (a specialist manufacturer of industrial foundry parts), notably due to a suspicion of falsified data or undeclared activities in its Berlaimont plant.

In addition, following an inspection carried out by the French Nuclear Safety Authority on 8 and 9 February 2024, Hachette & Driout issued a press release reporting several irregularities, identified in the context of internal audits, concerning parts manufactured for the nuclear industry.

Some of EDF's subcontractors and suppliers have used these two companies to make parts intended for EDF (components, equipment or parts of equipment) for existing nuclear fleet installations or for the construction of new installations.

In this context, EDF carries out analyses in order to identify potential irregularities and assess the associated consequences with regard to the accessible elements.

In parallel with the ongoing analyses, EDF filed two complaints, one on 24 January 2024 and another on 29 July 2024.

EDF has also asked all contract holders to exercise particular vigilance in execution of their contracts.

7.1.6 EDF, a State-owned company with a public service mission

7.1.6.1 A State-owned company

As a company wholly owned by the French State (see section 7.2.9 "Provisions in the law or articles of association preventing a change in the Company's current control"), EDF is subject to the provisions of Order 2014-948 of 20 August 2014 on the governance and capital transactions of companies with public shareholding and its Application Decree 2014-949 of the same date.

In accordance with the laws applicable to all companies in which the French State is a majority shareholder, EDF may have to undergo certain State audit procedures, particularly by an economic and financial inspection team, pursuant to Decree 55-733 of 26 May 1955 on State economic and financial supervision, and Decree 53-707 of 9 August 1953 on State supervision of national public companies and certain organisations with an economic or social purpose.

EDF is also subject to the audit procedures performed by the French Court of Auditors (*Cour des Comptes*) and Parliament. In addition to the audit performed by the Statutory Auditors, the accounts and management of the Company and, where applicable, of its directly-held majority-owned subsidiaries, fall under the supervision of the French Court of Auditors, in accordance with Articles L. 111-4 and L. 133-1 of the French Financial Jurisdictions Code.

The sale of shares by the French State or dilution of the State's shareholding in EDF's capital is subject to a special procedure pursuant to Order 2014-948 of 20 August 2014 mentioned above.

As a buyer, EDF is subject to French public procurement rules.

7.1.6.2 Public service in France

Statutory definition of public service in France

Articles L. 121-1 and following of the French Energy Code define the framework for the public electricity service.

Public service missions

Articles L. 121-1 and following of the French Energy Code state that the public electricity service must fulfil the missions of balanced development of France's electricity supply, development and operation of public electricity networks, and supplying electricity at the regulated sales tariffs.

Balanced development of the electricity supply

The mission of ensuring balanced development of the electricity supply, which is defined in Article L. 121-3 of the French Energy Code, is intended to achieve the objectives defined in the multi-year energy programme (*Programmation pluriannuelle de l'énergie* - PPE). The PPE is laid down by decree and sets out priority courses of action for the public authorities regarding the management of all forms of energy in mainland France. It must be compatible with the greenhouse gas emission reduction targets set out in the carbon budget and low carbon strategy defined in Decree 2020-457 of 21 April 2020.

The PPE sets quantitative objectives, and a maximum budget guide for the public funds to be allocated by the French State and its public institutions in order to attain them. This budget may be broken down by objective and industry sector.

The French Energy and Climate Law, which was adopted on 8 November 2019, created a planning law for energy and the climate (*Loi de programmation sur l'énergie et le climat* - LPEC) which will set the main objectives of the PPE and the national low carbon strategy (*Stratégie nationale bas carbone* - SNBC). These three documents will form the French Energy and Climate Strategy. The LPEC was due to be adopted in 2024 but no draft law was presented by the Government.

Decree 2020-456 of 21 April 2020 set the PPE for the periods 2019-2023 and 2024-2028. In the absence of an adopted LPEC, a PPE 3 (covering the period 2024-2033) will be adopted by decree in early 2025.

As the law requires, EDF has a Strategic Business Plan presenting the actions the Company is committed to implementing to meet the objectives of security of supply and electricity generation diversification that were defined in the first PPE period.

The Energy and Climate Law of 8 November 2019 specifies the procedure concerning the Strategic Business Plan. This plan must cover both PPE periods, be publicly disclosed with the exception of trade secrets, and present the support measures put in place for employees affected by nuclear or thermal power plant closures. If the Strategic Business Plan is incompatible with the PPE, the law provides for issuance of a formal warning, followed if necessary by sanctions.

The mission of balanced development of the French electricity supply also involves guaranteeing supply to areas that are not interconnected with mainland France (Corsica and France's overseas *départements* and regions, as well as some islands in Brittany). Corsica, Guadeloupe, French Guiana, Martinique, Mayotte, Reunion Island, and Saint-Pierre-et-Miquelon each have their own specific PPE. For other areas that are not interconnected with France's mainland network, except for Saint-Martin and Saint-Barthélemy, a special section is appended to the PPE for mainland France.

As a power producer, EDF contributes to the accomplishment of this mission alongside the other producers.

Development and operation of the public transmission and distribution networks

The mission of developing and operating the public electricity transmission and distribution networks, which is defined in Article L. 121-4 of the French Energy Code, consists in:

- providing a rational and environmentally respectful electricity distribution service in France through the public transmission and distribution networks, and interconnections with neighbouring countries;
- providing non-discriminatory connection and access to the public transmission and distribution networks.

The public network operators designated by French law are in charge of this mission, which is carried out in mainland France in compliance with the rules of management independence: RTE for transmission, Enedis and local distribution companies for distribution, and EDF in zones that are not interconnected with the French mainland network.

Mission of supplying electricity

The public service mission of supplying electricity, which is defined in Article L. 121-5 of the French Energy Code, consists in ensuring that electricity is supplied throughout France to customers eligible for the country's regulated electricity sales tariffs.

This mission is legally the responsibility of EDF and the local distribution companies.

The conditions for customers to benefit from regulated electricity sales tariffs are defined in Articles L. 337-7 and following of the French Energy Code.

The public service mission of supplying electricity may also consist in supplying emergency electricity, as defined in Articles R. 333-17 to R. 333-29 of the French Energy Code, to customers who are connected to public networks but whose supplier is in default or has had its authorisation withdrawn or suspended. While awaiting organisation of the calls for bids planned to implement the permanent arrangements for emergency power supply, in November 2021 the French State designated transitional "suppliers of last resort" (EDF in the zones served by RTE and Enedis, and the local distribution companies in the areas they serve, with the option of transferring this duty to EDF for non-residential customers).

Social cohesion

Article L. 121-5 of the French Energy Code stipulates that the supply of electricity at regulated tariffs must contribute to social cohesion, particularly through national equalisation of tariffs.

Article L. 115-3 of the French Social Action and Families Code prohibits electricity suppliers from cutting off the electricity supply to individuals' or families' main homes during the winter period (1 November to 31 March) due to unpaid bills, including through contract termination. Nevertheless, in certain cases electricity suppliers may reduce the power supplied, except for customers who benefit from "energy vouchers". These vouchers are a special means of payment that households experiencing financial difficulties can use to cover part of their energy consumption expenses (electricity, gas, fuel oil, etc.) or expenditure incurred to improve their home's energy efficiency.

In its capacity as an electricity supplier, EDF is required to maintain the electricity supply in the conditions laid down by the above article and by Decree 2008-780 of 13 August 2008 on the procedure applicable in the event of unpaid electricity, gas, heating or water bills.

Public Service Contract

On 24 October 2005, the French State and EDF signed a Public Service Contract pursuant to Article L. 121-46 of the French Energy Code. This contract, which details the commitments undertaken by EDF and the French State and specifies the rules governing the financial remuneration for service commitments, remains in force until a new contract is signed, as provided for in the contract itself.

EDF's commitments

EDF's public service commitments include:

- supplying electricity to customers who choose regulated-tariff contracts;
- generating electricity, including implementation of the energy policy and maintaining safe and environmentally-friendly electricity production;
- providing public support for renewable energies, paid by EDF Obligation d'Achat through purchase obligation contracts and additional remuneration for electricity generated by installations falling within the scope of the relevant schemes;
- contributing to the safety of the electricity system: EDF undertakes to enter into several contracts with RTE concerning optimisation of work on production facilities and the availability of the plants required to maintain network balance.

Network operators' commitments

Through the Public Service Contract, Enedis and RTE in their capacity as network operators have made commitments concerning management of the public electricity transmission and distribution networks, and electricity system safety. These commitments are financed by the TURPE tariffs for transmission and distribution network access.

The network operators' commitments primarily concern network safety, supply quality, third party safety and preservation of the environment – four areas where customers' and local authorities' expectations are especially high.

7.2 Incorporation documents and articles of association

In this Universal Registration Document, any reference to the articles of association means the Company's articles of association as approved by Decree 2004-1224 of 17 November 2004 adopted under Law 2004-803 of 9 August 2004 on the public electricity and gas service and electricity and gas companies (the "Law of 9 August 2004"), which have subsequently been amended.

7.2.1 Corporate purpose and raison d'être

In compliance with the laws referred to in Article 2 of its articles of association, EDF's purpose both in and outside France is:

- to carry out the production, transmission, distribution, supply and trading of electricity, and electricity imports and exports;
- to carry out the public service missions assigned to EDF by the laws and regulations, particularly the French Energy Code and Article L. 2224-31 of the French Local Authorities Code, and also by the concession agreements; especially the mission of developing and operating public electricity networks and supplying energy at regulated tariffs, supplying emergency electricity to producers and customers to compensate for unforeseen supply failures, and supplying electricity to eligible customers who cannot find a supplier, while contributing to balanced development of the electricity supply by reaching the goals defined in the multi-year generation investments programme defined by the Minister for Energy;
- more generally, to engage in any industrial, commercial or service activity, including energy-related research and engineering activities, for all customer categories;
- to enhance the value of all the movable and real estate property assets it holds or uses;
- to create, acquire, rent or lease under a business lease all movable property, real estate property, businesses and clientele, to lease, install and operate all establishments, businesses and clientele, plants and workshops relating to any of the above purposes;
- to obtain, acquire, operate or sell all processes and patents concerning activities related to any of the above purposes;
- to take part directly or indirectly in all transactions that may relate to any of the above purposes, by forming new companies, by contributing, subscribing or purchasing securities or shares, acquiring ownership interests, or through mergers, partnerships or in any other way whatsoever;
- and more generally, to engage in all industrial, commercial, or financial transactions concerning movable or real estate property that are directly or indirectly related, in whole or in part, to any of the above purposes, any similar or related purposes, or any purposes that may favour or develop the Company's business.

EDF's *raison d'être* is: "To build a Net Zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development".

7.2.2 Financial year

The Company's financial year lasts 12 months, starting on 1 January and ending on 31 December of each year.

7.2.3 Statutory distribution of profits

The distributable profit consists of the net profit for the financial year, less prior losses carried forward and the various deductions provided for by the law or the articles of association, plus any retained earnings.

The General Meeting may decide to distribute amounts taken from the reserves at its disposal, but must expressly state the reserve items from which the distribution is made.

After approving the financial statements and confirming the existence of distributable amounts (which include the distributable profit and any amounts payable out of reserves as mentioned above), the General Meeting may decide to distribute all or some of such amounts to the shareholders in the form of a dividend, or allocate them to reserves or retained earnings. The Board of Directors may also distribute interim dividends prior to approval of the financial statements, in the conditions laid down by law.

The General Meeting may allow shareholders the choice of receiving all or some of the dividend or interim dividend in the form of a cash payment or in shares (scrip dividend). Moreover, the General Meeting may decide to pay any dividend, interim dividend, distributed reserve or premium, or capital reduction, in the form of Company assets, including financial securities.

Any shareholder who can prove at the financial year-end that they have held shares in registered form for at least two years, and still hold such shares on the payment date of the dividend distributed for that financial year, is entitled to a bonus dividend on their registered shares, equal to 10% of the dividend paid for the other shares, including scrip dividends. The number of shares eligible for the 10% bonus dividend may not exceed 0.5% of the share capital at the previous year-end for any single shareholder (see section 6.5.2 "Dividend policy, bonus dividend").

The terms governing the payment of dividends decided by the General Meeting, and the dividend rights date of shares distributed, are fixed by the General Meeting or, failing this, by the Board of Directors, in accordance with the law. If the amount of non-cash dividends to which a shareholder is entitled does not correspond to a whole number of shares, the said number will be rounded down to the next whole number and a balancing cash payment made to the shareholder or, if requested by the General Meeting, rounded up to the next whole number, with the difference being paid in cash by the relevant shareholder.

7.2.4 Rights attached to shares

Each share entitles its holder to a portion of the Company's profit and corporate assets that is proportional to the percentage of the capital that the share represents. Moreover, each share confers a voting right and the right to be represented at General Meetings in accordance with the conditions and restrictions defined in the laws, regulations and articles of association.

As at the filing date of this Universal Registration Document, EDF has only issued one class of shares.

Ownership of one share automatically entails acceptance of the articles of association and decisions adopted by General Meetings.

Shareholders are only liable for losses within the limit of their contributions.

Shares must be in registered form. They give rise to a registration in an account opened by the Company in the name of each shareholder under the terms and conditions provided for by the applicable laws and regulations.

7.2.5 Sale and transfer of shares

Shares can be traded without restriction, subject to compliance with the laws and regulations. They are registered in an account and are passed on by transfer from one account to another.

7.2.6 Changes to the articles of association, the capital and voting rights

All changes to the articles of association, the capital or the voting rights attached to the shares that make up the capital are subject to the requirements of the law, as the articles of association contain no specific provisions regarding such matters.

7.2.7 Governance and management bodies

The membership and functioning of the governance and management bodies are detailed in chapter 4 "Corporate governance" (see sections 4.2 "Members and functioning of the Board of Directors" and 4.3 "Executive Management").

7.2.8 General Meetings

7.2.8.1 Convening notices for meetings

General Meetings are convened by the Board of Directors or, alternatively, by the Statutory Auditors or any person empowered to do so. Meetings are held at the registered office or any other place stated in the convening notice.

7.2.8.2 Participation in meetings and exercise of voting rights

General Meetings may be held by videoconference or any means of telecommunications in which the shareholders can be identified. The type of telecommunications and conditions for their use are specified in Articles R. 225-97 to R. 225-99 of the French Commercial Code. When they are used, shareholders who participate in the meeting by such means are deemed to be legally present for the calculation of the quorum and majority.

All shareholders may participate in General Meetings. They may choose one of the following three methods of participation: attending the General Meeting in person, giving a proxy to the Chairman of the General Meeting or to any individual or legal entity of their choice (Article L. 225-106 of the French Commercial Code), or casting their vote remotely.

All shareholders may grant a proxy to any individual or legal entity of their choice to represent them at a General Meeting. Proxies, and any proxy revocations, must be made in writing and notified to the Company. Proxies may be revoked in the same forms as for designation of the proxy holder, including by electronic means where relevant.

7.2.9 Provisions in the law or articles of association preventing a change in the Company's current control

Pursuant to Article L. 111-67 of the French Energy Code and EDF's articles of association, changes in the share capital cannot result in the French State's shareholding falling below the statutory 100% threshold. The State's shareholding may be reduced, in proportions below a limit set by decree, by the share capital held by the Company's employees and by former employees who are members of the Company's group savings plan.

With the exception of the above, no other provision specifically aims to prevent or delay the takeover of the Company by a third party.

7.3 Information about the capital and share ownership

7.3.1 Share capital: amount and changes

Details of the Company's share capital as at the filing date of this Universal Registration Document are as follows:

Number of shares issued	4,168,730,082
Par value	€0.50 per share
Type of shares issued	ordinary shares
Total share capital	€2,084,365,041
Treasury shares	0

The share capital issued by the Company has been paid up in full. The Company has not issued or authorised any preference shares.

The capital transactions over the last three financial years have been as follows:

Date of the transaction	**Nature of the transaction**	**Shares created/ cancelled** *(number of shares)*	**Nominal amount of the transaction** *(in euros)*	**Amount of share capital after the transaction** *(in euros)*	**Shares forming the capital after the transaction** *(number of shares)*
17/03/2022	Capital increase with maintenance of the shareholders' preferential subscription right	498,257,960	249,128,980	1,868,467,354	3,736,934,708
21/06/2022	Capital increase – Payment of the balance of the dividend for the financial year ended 31 December 2021	131,545,635	65,772,817.50	1,934,240,171.50	3,868,480,343
25/07/2022	Capital increase reserved for employees	18,100,741	9,050,370.50	1,943,290,542	3,886,581,084
16/12/2022	Capital increase by conversion of 882,340 green bonds convertible and/or exchangeable into new or existing shares of the Company ("Green OCEANEs")	1,137,336	568,668	1,943,859,210	3,887,718,420
27/02/2023	Capital increase by conversion of 201 Green OCEANEs	259	129.50	1,943,859,339.50	3,887,718,679
13/03/2023	Capital increase by conversion of 87,831,655 Green OCEANEs	113,215,003	56,607,501.50	2,000,466,841	4,000,933,682
25/05/2023	Capital increase by conversion of 130,784,645 Green OCEANEs	168,581,407	84,290,703.50	2,084,757,544.50	4,169,515,089
21/06/2023	Capital increase by conversion of 130,784,645 Green OCEANEs	103,504	51,752	2,084,809,296.50	4,169,618,593
31/07/2023	Capital reduction by cancellation of treasury shares	888,511	444,255.50	2,084,365,041	4,168,730,082

7.3.2 Treasury shares and share buyback programmes

None.

7.3.3 Capital authorised but not issued

None.

7.3.4 Other equity securities

On 8 September 2020, EDF launched an issue of senior unsecured Green Bonds convertible into and/or exchangeable for new and/or existing shares (Green OCEANEs) maturing on 14 September 2024. These bonds were sold through a public offering exclusively for qualified investors as defined by Article 2 (e) of EU Regulation 2017/1129 of 14 June 2017, under the "bookbuilding" procedure developed by professional practice, in France and outside France except in the United States of America, Australia and Japan (as allowed by Article L. 411-2, 1° of the French Monetary and Financial Code), for a maximum nominal amount of approximately €2.4 billion and a gross annual negative return of -1.68%.

On 14 September, 219,579,139 Green OCEANEs were issued under ISIN code FR0013534518 with a par value of €10.93 and an issue price of €11.70, i.e. 107% of the par value. These bonds did not bear interest. The French State subscribed 87,831,655 Green OCEANEs, representing 40% of the issue and a nominal amount of €960 million.

The Company decided that if the holders of Green OCEANEs exercised their option to convert and/or exchange these bonds into ordinary shares of the Company, the Green OCEANEs would be converted and the Company would issue new ordinary shares. On the date of the issue, the conversion ratio was 1 Green OCEANE for 1 ordinary share. Adjustment of this ratio was possible in accordance with the terms of the issue agreement (see below).

An amount equal to the net proceeds of the issue will be allocated, directly or indirectly, to financing and/or refinancing all or some of the new or existing Eligible Projects as defined in EDF's Green Bond Framework. The existing eligible projects that may be refinanced through this issue with a maximum "look-back" period of 3 years preceding the year of the bond issue represent approximately €1.5 billion, in compliance with EDF's Green Bond Framework.

This issue also had the potential to contribute to reinforcing the Company's equity in the event that the holders of Green OCEANEs exercised their conversion option, resulting in the issue of new shares in the Company.

Assuming an issue for a nominal amount of €2,399,999,989.27 represented by 219,579,139 bonds with a par value of €10.93 each, based on the initial conversion ratio, the potential dilution would be approximately 7.1% of the Company's share capital if the right to shares were exercised for all those bonds and the Company decided to honour that right entirely through the issue of new shares [1].

In 2021, as a result of a dividend distribution of €0.21 per share, in accordance with the provisions of the issue agreement, the conversion/exchange ratio was increased to 1.018 EDF shares per Green OCEANE. Subsequently, following the distribution of an interim dividend of €0.30 per share, the conversion/exchange ratio was increased to 1.042 EDF shares per Green OCEANE with effect from 2 December 2021.

In 2022, following the capital increase of 7 April 2022, the conversion/exchange ratio was increased to 1.087 EDF share per Green OCEANE. Then, at the time of the dividend payment for the year 2021, the conversion/exchange ratio was increased to 1.124 EDF shares per Green OCEANE from 13 June 2022. Finally, as a result of the simplified tender offer initiated by the French State on 23 November 2022, the conversion/exchange ratio was increased to 1.289 EDF shares per Green OCEANE.

At 31 December 2022, 882,340 Green OCEANEs had been converted into new shares over the period from 24 November to 31 December 2022, resulting in the creation of 1,137,336 shares. These transactions increased the share capital by €0.57 million due to payment being made entirely in new shares, and generated a bond-for-share conversion premium of €9.08 million.

At 31 December 2023, 218,696,799 Green OCEANEs had been converted into new shares over the period from 26 January to 13 June 2023, resulting in the creation of 281,900,173 shares. These transactions increased the share capital by €140.9 million due to payment being made entirely in new shares, and generated a bond-for-share conversion premium of €2.249 billion.

All of the Green OCEANEs have now been converted.

7.3.5 Non-equity securities

Bonds at 31 December 2024

At 31 December 2024, the amount of bonds in the balance sheet was €54,116 million (see section 6.1, note 18.3.2.1 "Changes in loans and other financial liabilities", and note 18.3.2.2 "Principal borrowings of the Group" to the consolidated financial statements for the financial year ended 31 December 2024, which also provide details of the Group's main borrowings, including EMTNs and other bonds). At 31 December 2024, the amount of perpetual subordinated bonds recognised in equity was €10,047 million (see section 6.1, note 14.3 "Perpetual subordinated bonds" to the consolidated financial statements for the financial year ended 31 December 2024).

Euro Medium-Term Notes (EMTN) programme

On 18 April 1996, EDF set up a programme to issue debt securities in the form of Euro Medium-Term Notes (the "EMTN" programme). This programme has been regularly renewed since that date.

On 11 June 2024, EDF launched a €3.0 billion senior green bond issue comprising three tranches:

- a €1 billion bond with 7-year maturity and a fixed coupon of 4.125%, the net proceeds of which will be used to finance and/or refinance the operating lifespan extension of existing nuclear reactors in France;

(1) See section 6.8 of the 2020 URD, presenting the report of the Board of Directors and the Statutory Auditors on this bond issue.

- a €750 million bond issue with 12-year maturity and a fixed coupon of 4.375%, the net proceeds of which will be used to finance and/or refinance renewable energy projects and hydropower projects;
- a €1.25 billion bond issue with 20-year maturity and a fixed coupon of 4.750%, the net proceeds of which will be used to finance and/or refinance investments in electricity distribution, particularly for adaptation of the network to the needs of the energy transition.

On 26 June 2024, EDF issued a €100 million bond with 10-year maturity, indexed to inflation with a fixed real coupon of 1.874%.

On 21 August 2024, EDF also launched a senior green bond issue of CHF 310 million comprising two tranches:

- a CHF 155 million bond issue with 5-year maturity and a fixed coupon of 1.5650%;
- a CHF 155 million bond issue with 8-year maturity and a fixed coupon of 1.7425%.

The net proceeds of the green bonds will be allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, in renewable energy projects and hydropower projects.

On 10 September 2024, EDF launched a multi-currency hybrid green bond issue in three tranches, the net proceeds of which will be allocated to the financing and/or refinancing of European taxonomy-aligned investments, as defined in EDF's Green Financing Framework, relating to the operating lifespan extension of existing nuclear reactors in France:

- a €500 million bond issue with a fixed coupon of 5.125% and a redemption option including a first-call option for the Company after 5.25 years, in 2029;
- a €650 million bond issue with a fixed coupon of 5.625% and a redemption option including a first-call option for the Company after 8 years, in 2032;
- a £500 million bond issue with a 7.375% fixed coupon and a redemption option including a first-call option for the Company after 11 years, in 2035.

On 10 September 2024, EDF also launched a redemption offer for €498.7 million of a hybrid bond issue denominated in euros with an initial amount of €1.0 billion for which EDF's first-call option date was 22 January 2026, and for £621.3 million of a hybrid bond issue denominated in pounds sterling with an initial amount of £1.25 billion for which EDF's first-call option date was 29 January 2026.

On 31 October 2024, EDF issued a £500 million senior bond with 40-year maturity and a fixed coupon of 6.500%.

On 29 January 2025, EDF exercised its early redemption option on the hybrid bonds issued on 29 January 2013 for a nominal amount of €1.250 billion.

Bond activity other than the EMTN programme

On 15 April 2024, EDF raised US$ 2.050 billion through three tranches of senior bonds:

- a US$ 650 million bond issue with 5-year maturity and a fixed coupon of 5.650%;
- a US$ 650 million bond issue with 10-year maturity and a fixed coupon of 5.950%;
- a US$ 750 million bond issue with 40-year maturity and a fixed coupon of 6.000%.

On 13 May 2024, EDF raised CAD750 million through two tranches of senior bonds:

- a CAD 350 million bond issue with 10-year maturity and a fixed coupon of 5.379%;
- a CAD 400 million bond issue with 30-year maturity and a fixed coupon of 5.777%.

On 18 October 2024, EDF raised ¥35.8 billion, corresponding to approximately €220 million, through two senior tranches issued on the Japanese market ("Samurai bonds"):

- a ¥28.3 billion bond issue with 3-year maturity and a fixed coupon of 1.172%;
- a ¥7.5 billion bond issue with 5-year maturity and a fixed coupon of 1.423%.

In the two previous financial years, 2022 and 2023

On 5 October 2022, EDF also launched a senior bond issue in three tranches, for a nominal amount of €3 billion consisting of:

- a €750 million bond issue with maturity of 4 years and 3 months and a fixed coupon of 3.875%;
- a €1 billion bond issue with 7-year maturity and a fixed coupon of 4.375%;
- a €1.25 billion green bond issue with a 12-year maturity and a fixed coupon of 4.75%; the net proceeds of these green bonds will be allocated to financing and/or refinancing all or some of the investments in electricity distribution, as defined in EDF's Green Financing Framework published in July 2022[1].

On 30 November 2022, EDF launched a €1 billion issue of undated hybrid bonds with a 7.5% coupon and a 6-year redemption option at the Company's discretion.

On 19 January 2023, EDF launched a multi-currency senior bond issue in four tranches:

- a €1 billion bond issue with 9-year maturity and a fixed coupon of 4.25%;
- a €1 billion bond issue with 20-year maturity and a fixed coupon of 4.625%;
- a £450 million bond issue with 12-year maturity and a fixed coupon of 5.50%;
- a £500 million bond issue with 30-year maturity and a fixed coupon of 5.625%.

On 28 March 2023, EDF carried out a £99 million bond issue fungible with the £500 million 30-year bond issued on 19 January 2023.

On 17 May 2023, EDF raised US$ 3 billion and CAD 500 million through five tranches of senior bonds:

- a US$ 1 billion bond issue with 5-year maturity and a fixed coupon of 5.700%;
- a US$ 1 billion bond issue with 10-year maturity and a fixed coupon of 6.250%;
- a US$1 billion bond issue with 30-year maturity and a fixed coupon of 6.900%;

(1) On the website www.edf.fr.

- a CAD 300 million bond with 7-year maturity and a fixed coupon of 5.993%;
- a CAD 200 million bond with 30-year maturity and a fixed coupon of 6.492%.

On 8 June 2023, EDF launched a US$ 1.5 billion hybrid bond issue with an initial coupon of 9.125% and a redemption option including a first-call option for the Company after 10 years, in 2033.

On 22 June 2023, EDF raised ¥33 billion, corresponding to approximately €213 million, through four senior bonds issued on the Japanese market ("Samurai bonds"):

- a ¥25.3 billion bond issue with 5-year maturity and a fixed coupon of 1.059%;
- a ¥2.2 billion bond issue with 7-year maturity and a fixed coupon of 1.355%;
- a ¥4.4 billion bond issue with 10-year maturity and a fixed coupon of 1.695%;
- a ¥1.1 billion bond issue with 20-year maturity and a fixed coupon of 2.328%.

On 7 July 2023, EDF launched a redemption offer for US$ 904 million of a series of US dollar-denominated hybrid bonds with an initial amount of US$1.5 billion and a first early redemption date at EDF's discretion of 22 January 2024. The principal amount of the bonds still outstanding following settlement of this offer was redeemed on 22 January 2024 after EDF exercised its early redemption option for this series, for the total of US$ 595.641 million.

On 21 August 2023, EDF also launched a senior green bond issue of CHF 325 million in two tranches:

- a CHF 200 million bond issue with 4-year maturity and a fixed coupon of 2.30%;
- a CHF 125 million bond with 8-year maturity and a fixed coupon of 2.55%.

An amount equal to the net proceeds of these green bonds will be allocated to financing and/or refinancing all or some of the investments in electricity distribution, particularly investments for adaptation of the network to the needs of the energy transition.

On 28 November 2023, EDF launched a €1 billion senior green bond issue with maturity of 3 years and 6 months and a coupon of 3.75%. This was the first green bond issue of which the full amount will be allocated to the existing French nuclear fleet.

7.3.6 *Information about the capital of every member of the Group that is subject to a conditional or unconditional agreement*

Commitments to sell shares in subsidiaries are described in notes 3.1.1 "Changes in the scope of consolidation" and 3.2 "Assets held for sale and related liabilities" to the 2024 consolidated financial statements (see section 6.1 "Consolidated financial statements at 31 December 2024"). They mainly concern Edison's activities, particularly its gas storage business, earn-outs on the sale of its E&P operations, and the sale of its stake in Elpedison.

With the exception of the commitments to purchase or sell securities and any other commitments described in chapter 1 "The Group, its strategy and its activities", EDF has not made any promises to purchase or sell that would result in acquisition or disposal of all or some of the share capital of the Company or of any of its subsidiaries, as defined in Article L. 233-1 of the French Commercial Code.

7.3.7 *Pledges of Company shares*

To the Company's knowledge, none of the Company's ordinary shares that make up its share capital have been pledged.

7.3.8 Ownership of the Company's capital and voting rights

EDF's ownership structure for the past three financial years is shown below as at 31 December of each year:

	At 31/12/2024		At 31/12/2023		At 31/12/2022	
	Number of shares	% of capital	Number of shares	% of capital	Number of shares	% of capital
State	4,168,730,082	100.00	4,168,730,082	100.00	3,460,481,557[1]	89.01
Institutional and private investors	n/a	n/a	n/a	n/a	364,680,320	9.38
Employee shareholdings	n/a	n/a	n/a	n/a	61,668,032[2]	1.59
Treasury shares	n/a	n/a	n/a	n/a	888,511	0.02
TOTAL	**4,168,730,082**	**100**	**4,168,730,082**	**100**	**3,887,718,420**	**100**

(1) The French State's shareholding in EDF includes the EDF shares held by Bpifrance.

(2) This number includes 57,796,177 shares (representing 1.49% of the share capital) based on the definition of employee shareholding given by Article L. 225-102 of the French Commercial Code (shares held by employees and former employees of EDF through the "Actions EDF", "EDF Classique" and "EDF ORS" mutual funds of the EDF group savings plan). It also includes almost 3.872 million shares, or 0.10% of the capital, held by employees or former employees as directly or administered registered shares with no lock-in periods or for which the lock-in periods have expired.

With regard to the theoretical voting rights exercisable at General Meetings, at 31 December 2024, the French State held 100% of said rights.

7.3.9 Agreements whose implementation could lead to a change of control

To EDF's knowledge, there are no agreements whose implementation could lead to a change in the Company's control at a later date.

Furthermore, in accordance with Article L. 111-67 of the French Energy Code, EDF's share capital is wholly owned by the French State[1].

7.3.10 Relations with investors

EDF's Investor Relations team is now part of the Impact Division in the Performance Impact Investment and Finance Department. It establishes permanent dialogue with the financial markets, in compliance with regulations. The objective is for the market to have the information needed to assess the Company's value over time, by explaining its strategy, its development model and its environment.

The Group publishes numerous communication materials about its strategy, business model, financial and non-financial performance, and outlook, and the various events that impact its operations. In addition, the Investor Relations team is engaged in discussions with the market throughout the year at physical and virtual meetings, conferences and roadshows, particularly ahead of forthcoming bond issues.

The purpose of this dialogue with the financial markets is to maintain a consistent and faithful image of the EDF group among analysts and investors, particularly so they are able to assess the Group's operating, financial and non-financial performance, as well as its development prospects.

In 2024, when the Group's half-year financial results were published, the Chairman and Chief Executive Officer gave a presentation at a press conference, and a conference call was held during which the Chief Financial Officer answered questions from investors and financial analysts.

(1) The State's shareholding may be reduced, in proportions below a limit set by decree, by the share capital held by the Company's employees and by former employees who are members of the Company's group savings plan.

7.4 Transactions with related parties

7.4.1 Transactions with related parties

Details of the Company's transactions during the 2024 financial year with related parties as defined by IFRS are provided in note 23 "Related parties" to the 2024 consolidated financial statements (see section 6.1 "Consolidated financial statements at 31 December 2024").

That note describes:

- relations with the French State;
- relations with Engie;
- relations with Orano and other public sector entities;
- the main transactions with associated entities included in the scope of consolidation.

Information on regulated agreements and commitments referred to in Article L. 225-38 of the French Commercial Code is provided in the Statutory Auditors' special report reproduced below in section 7.4.2 "Statutory Auditors' special report on related party agreements".

7.4.2 Statutory Auditors' special report on related party agreements

(Shareholders' Meeting for the approval of the financial statements for the year ended 31 December 2024)

This is a free translation into English of the Statutory Auditors' special report on related party agreements issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of Electricité de France, we hereby report to you on related party agreements.

It is our responsibility to report to shareholders, based on the information provided to us, on the main terms and conditions of agreements that have been disclosed to us or that we may have identified as part of our engagement, as well as the reasons given as to why they are beneficial for the Company, without commenting on their relevance or substance or identifying any undisclosed agreements. Under the provisions of Article R.225-31 of the French Commercial Code (*Code de commerce*), it is the responsibility of the shareholders to determine whether the agreements are appropriate and should be approved.

Where applicable, it is also our responsibility to provide shareholders with the information required by Article R.225-31 of the French Commercial Code in relation to the implementation during the year of agreements already approved by the Shareholders' Meeting.

We performed the procedures that we deemed necessary in accordance with professional standards applicable in France to such engagements. These procedures consisted in verifying that the information given to us is consistent with the underlying documents.

AGREEMENTS TO BE SUBMITTED FOR THE APPROVAL OF THE SHAREHOLDERS' MEETING

Agreements authorised and entered into during the year

In accordance with Article L.225-40 of the French Commercial Code, we were informed of the following agreement that was entered into during the year and authorised in advance by the Board of Directors.

1. Sale of a class B preference share in GEAST by the French State to EDF

Persons concerned: the French State, represented on the Board of Directors by Alexis Zajdenweber, sole shareholder of EDF.

Nature, purpose and terms: the purpose of the sale agreement is for the French State to sell one class B preference share in GEAST to EDF for a total price of one euro.

The sale followed the completion of EDF's acquisition of GE Vernova's Steam Power nuclear activities on 31 May 2024 (the "Acquisition"). The share was sold on 2 July 2024, subject to a ministerial order from the Minister for the Economy and Finance authorising the Acquisition.

At its meeting on 28 June 2024, your Board of Directors gave its prior authorisation for EDF to sign the sale agreement, considering that the transaction would enable EDF to wholly own GEAST and simplify its governance, and that it was therefore in EDF's interest to conclude said sale agreement and to carry out said sale on completion of the Acquisition.

AGREEMENTS ALREADY APPROVED BY THE SHAREHOLDERS' MEETING

Agreements approved in prior years that were implemented during the year

In accordance with Article R.225-30 of the French Commercial Code, we were informed of the following agreements, approved by the Shareholders' Meeting in prior years, which remained in force during the year.

1. Settlement agreement relating to compensation paid by the French State for the closure of the Fessenheim nuclear power plant

Persons concerned: the French State, represented on the Board of Directors by Martin Vial and, from 23 September 2022, by Alexis Zajdenweber, a shareholder owning more than 10% of EDF's voting rights.

Nature, purpose and conditions: the purpose of the settlement agreement is to determine the damages and the terms and conditions for calculating the compensation to be paid by the French State to EDF in connection with the early closure of the Fessenheim nuclear power plant. The conclusion of this settlement agreement, signed on 27 September 2019, was authorised by the Board of Directors at its meetings of 4 April and 20 September 2019.

This agreement was amended on 25 July 2022, as mentioned in paragraph 1 of the third part of this report (Agreements authorised and entered into in prior years which may not be approved by the Shareholders' Meeting).

The compensation breaks down as follows:

- Initial payments corresponding to the plant's anticipated closure costs. In this respect, EDF received compensation of €370 million on 14 December 2020. This compensation is recognised in the income statement in operating subsidies at same the rate as that of the anticipated closure costs, representing €36 million in the year ended 31 December 2024.
- Subsequent payments corresponding to lost income that would have been generated by future production volumes up until 2041, based on Fessenheim's previous output figures and calculated "*ex-post*" on the basis of nuclear power sale prices, particularly observed market prices. This second category of compensation had no impact on the year ended 31 December 2024.

2. Sale agreement between EDF, Areva SA and Areva NP for the acquisition of 75.5% of the capital of New NP (now called Framatome) and other agreements signed by EDF as part of the sale by Areva SA of its entire interest in New NP (now called Framatome)

Persons concerned: the French State, represented on the Board of Directors by Martin Vial and, from 23 September 2022, by Alexis Zajdenweber, a shareholder owning more than 10% of EDF and Areva SA's voting rights.

Nature, purpose and conditions: in connection with the acquisitions carried out by EDF for New NP, EDF entered into the following agreements:

(i) a sale agreement between EDF, Areva SA and Areva NP for the acquisition of 75.5% of New NP (now called Framatome), which is wholly-owned by Areva NP, a subsidiary of Areva SA. The final acquisition agreement covering 75.5% of Framatome's capital, was authorised by your Board of Directors on 14 December 2017 and signed on 22 December 2017. The acquisition was carried out on 31 December 2017 for €1,868 million, excluding acquisition costs;

(ii) the other agreements signed by EDF as part of the aforementioned sale, previously authorised by your Board of Directors on 23 June 2017 and 14 December 2017, i.e.:

- the final sale agreement signed by EDF on 14 December 2017 for the acquisition of 19.5% of the Framatome shares by MHI from Areva SA and Areva NP, under financial conditions similar to those of EDF;
- the final sale agreement signed by EDF on 14 December 2017 for the acquisition of 5% of the Framatome shares by Assystem from Areva SA and Areva NP, under financial conditions similar to those of EDF.

As mentioned in our special report dated 13 March 2023 for the Shareholders' Meeting held to approve the financial statements for the year ended 31 December 2022, EDF repaid €34 million to Framatome and €13 million to MHI and Assystem in proportion to their investment in Framatome, i.e., €10 million and €3 million respectively. In 2024, no payments impacting EDF's cash position were made.

AGREEMENTS AUTHORIZED AND ENTERED INTO IN PRIOR YEARS BUT NOT APPROVED BY THE SHAREHOLDERS' MEETING

We draw your attention to the following agreements authorised and entered into in prior years, which were included in our special report on related party agreements relating to the 2023 financial year and which were not approved by the Shareholders' Meeting called to approve the financial statements for previous years.

1. Shareholders' agreement between EDF, on the one hand, and Caisse des Dépôts et Consignation and CNP Assurances on the other hand, regarding Coentreprise de Transport d'Electricité – CTE, parent company of RTE

Persons concerned: the French State, represented on the Board of Directors by Martin Vial and, from 23 September 2022, by Alexis Zajdenweber, a shareholder owning more than 10% of EDF SA's voting rights and having a representative on the Board of Directors of CNP Assurances.

Nature, purpose and conditions: this agreement, signed on 14 December 2016 and implemented on 31 March 2017 between EDF, Caisse des Dépôts et Consignation and CNP Assurances enabled the acquisition by the latter two of an indirect interest of 49.9% in the capital of RTE, via CTE, and the set-up of the terms and conditions of a long-term partnership to encourage RTE's development, notably by the conclusion of a shareholders' agreement.

This shareholders' agreement remained in force during the 2024 financial year.

2. Agreement entered into between the French State, EDF, Caisse des Dépôts, CNP Assurances and CTE on the governance of CTE and RTE

Persons concerned: the French State, represented on the Board of Directors by Martin Vial and, from 23 September 2022, by Alexis Zajdenweber, a shareholder owning more than 10% of the voting rights of EDF, a stakeholder in the agreement, and having a representative on the Board of Directors of CNP Assurances.

Nature, purpose and conditions: the purpose of this agreement entered into between EDF, Caisse des Dépôts and CNP Assurances, CTE and the French State, is to set forth the commitment of the French State to limit its representatives to two on the Supervisory Board of RTE.

This agreement remained in force for the year ended 31 December 2024.

AGREEMENTS AUTHORISED AND ENTERED INTO IN PRIOR YEARS WHICH MAY NOT BE APPROVED BY THE SHAREHOLDERS' MEETING

We draw your attention to the following agreements authorized and entered into in prior years, which were included in the special report on regulated agreements for the 2022 financial year and which could not be legally approved by the Shareholders' Meeting called to approve the financial statements for the 2022 financial year, as the French State is the company's sole shareholder.

1. Amendment to the settlement agreement relating to the compensation paid to EDF by the French State due to the early closure of the Fessenheim nuclear power plant

Persons concerned: the French State, represented on the Board of Directors by Martin Vial (at the time of authorisation by the Board of Directors) and, from 23 September 2022, by Alexis Zajdenweber, a shareholder owning more than 10% of EDF's voting rights.

Nature, purpose and conditions: as mentioned in paragraph 1 of the second part of this report (Agreements already approved by the Shareholders' Meeting), a settlement agreement relating to the compensation to be paid by the French State to EDF in connection with the early closure of the Fessenheim nuclear power plant (the "Settlement Agreement") was signed on 27 September 2019.

At the request of the French State, the decision was made to add certain modifications, by way of an amendment signed on 25 July 2022, to the Settlement Agreement in order to specify the practical terms and conditions of its application and provide better budget predictability for the French State without challenging the principles and balance defined by the Settlement Agreement.

Your Board of Directors, meeting on 15 December 2021, previously authorized the signing of this amendment to the Settlement Agreement, considering that it was in EDF's best interest to sign it since the modifications to the Settlement Agreement were negotiated by EDF in its best interests and did not challenge the clauses already approved in the Agreement.

This agreement remained in force for the year ended 31 December 2024.

2. Agreements concluded by EDF as part of the planned acquisition of General Electric's Steam Power nuclear activities

On 10 February 2022, EDF and General Electric Company (GE) signed a MOU for the planned acquisition by EDF of GE's "Steam Power" ("GE Steam Power") nuclear activities (excluding service activities conducted in America).

Your Board of Directors meeting of 3 November 2022 previously authorised the following agreements as part of the signing by EDF of the acquisition agreement involving GE Steam Power's activities on 4 November 2022 (the "Acquisition Agreement").

These agreements remained in force during the 2024 financial year.

2.1 Adherence by EDF to the agreement signed between General Electric Company and the French State on 10 February 2022

Persons concerned: the French State, represented on the Board of Directors from 23 September 2022 by Alexis Zajdenweber, a shareholder with over 10% of EDF's voting rights.

Nature, purpose and conditions: at the same time as the signing of the aforementioned MOU, GE and the French State signed, on 10 February 2022, an agreement (the "Agreement"), the purpose of which is to provide for (i) the cancellation, as described below in paragraphs 2.2, 2.3 and 2.4 of this report, of two framework agreements and related licensing agreements entered into in 2014 during the acquisition by GE of all the Power & Grid activities of Alstom; and (ii) the commitments made by the French State as shareholder of GEAST as part of the acquisition by EDF of GE Steam Power's nuclear activities.

At the same time as the signing of the Acquisition Agreement and pursuant to its clauses, EDF adhered to the Agreement by signing it on 4 November 2022 with General Electric Company, and the French State, without any financial expense for EDF.

Your Board of Directors considered that it was in EDF's interest to adhere to the Agreement as its adhesion was linked to the signing by EDF of the Acquisition Agreement.

2.2 Agreement for the cancellation of the framework agreement guaranteeing the sustainability of the existing nuclear facilities, concluded during General Electric's acquisition of all of Alstom's Power & Grid activities

Persons concerned: the French State, represented on the Board of Directors as of 23 September 2022 by Alexis Zajdenweber, a shareholder with over 10% of EDF's voting rights.

Nature, purpose and conditions: the purpose of this cancellation agreement is to cancel the framework agreement which was entered into between EDF, GE, Alstom SA and the French State on 4 November 2014, involving commitments to supply services to the current nuclear facilities of the EDF Group to guarantee the sustainability of nuclear facilities in operation, as part of the acquisition in 2014 by GE of all of Alstom's Power & Grid business.

This cancellation agreement, which was signed by EDF on 4 November 2022 with General Electric Company, the French State and GEAST, is at no expense to EDF.

Your Board of Directors considered that it was in EDF's interest to sign the cancellation agreement as its conclusion was linked to the signing by EDF of the Acquisition Agreement, the framework agreement to be cancelled during the completion of this acquisition becoming no longer applicable.

2.3 Agreement for the cancellation of the framework agreement on new nuclear projects signed during General Electric's acquisition of all of Alstom's Power & Grid activities

Persons concerned: the French State represented on the Board of Directors by Alexis Zajdenweber, a shareholder with over 10% of EDF's voting rights and Jean-Bernard Lévy, the Chairman and CEO of EDF (until 23 November 2022) and Chairman of the Framatome Supervisory Board (until 25 November 2022).

Nature, purpose and conditions: the purpose of this cancellation agreement is to cancel the framework agreement which was entered into between EDF, Areva NP (Framatome assuming the rights of Areva NP in 2017), GE, Alstom SA and the French State on 4 November 2014 involving the commitments relating to the offer discounts based on Arabelle technology for new nuclear projects, as part of the acquisition in 2014 by GE of all the Power & Grid activities of Alstom.

This cancellation agreement, which was signed by EDF on 4 November 2022 with General Electric Company, the French State, Framatome and GEAST, is at no expense to EDF or Framatome.

Your Board of Directors considered that it was in EDF's interest to sign the cancellation agreement as its conclusion was linked to the signing by EDF of the Acquisition Agreement, the framework agreement to be cancelled during the completion of this acquisition becoming no longer applicable.

2.4 Agreement for the cancellation of the licensing agreements concluded during the acquisition by General Electric of all of Alstom's Power & Grid activities

Persons concerned: the French State represented on the Board of Directors by Alexis Zajdenweber, a shareholder with over 10% of EDF's voting rights and a 100% shareholder of SPVPI, and Jean-Bernard Lévy, Chairman and CEO of EDF (until 23 November 2022) and Chairman of the Framatome Supervisory Board (until 25 November 2022).

Nature, purpose and conditions: the purpose of this cancellation agreement is to cancel the following licensing agreements related to the framework agreements concluded in 2014 during the acquisition by GE of all of Alstom's Power & Grid activities:

- licensing agreement on SPV intellectual property rights for current EDF facilities, concluded between Alstom Technologie AG, SOGEPA, GE, Alstom SA and EDF, and
- Licensing agreement on SPV intellectual property rights for new nuclear projects, entered into between Alstom Technologie AG, SOGEPA, GE, Alstom SA, EDF and Areva NP (Framatome assuming the rights of Areva NP in 2017).

This cancellation agreement, which was signed by EDF on 4 November 2022 with General Electric Technology GmbH, General Electric Company, Framatome, SPVPI and GEAST, is at no expense to EDF or Framatome.

Your Board of Directors considered that it was in EDF's interest to sign the cancellation agreement as its conclusion was linked to the signing by EDF of the Acquisition Agreement, the licensing agreements to be cancelled during the completion of this acquisition becoming no longer applicable.

Neuilly-sur-Seine and Paris-La Défense, 14 March 2025

The Statutory Auditors

PricewaterhouseCoopers Audit		**KPMG SA**	
Cédric HAASER	Séverine SCHEER	Marie GUILLEMOT	Jacques-François LETHU

7.5 Material contracts

In addition to the regulated agreements included in the Statutory Auditors' special report and agreements described in this Universal Registration Document in Chapter 1 "The Group, its strategy and its activities", Chapter 5 "Financial performance and outlook" and the notes to the consolidated financial statements contained in section 6.1 "Consolidated financial statements at 31 December 2024", the Group's material contracts concluded during the last three financial years, other than those entered into in the normal course of business, are as follows:

7.5.1 Material contracts entered into in 2024

The material contracts entered into in 2024 by the Group, other than in the normal course of business, are the following:

- a purchase agreement to acquire a 5% minority stake in the capital of Framatome from Assystem (25 January 2024);
- a purchase agreement for EDF to acquire GE Steam Power's activities relating to the conventional islands of nuclear power plants (with the exception of service activities in the Americas), executed following the final agreement signed on 4 November 2022 and fulfilment of all the conditions precedent (31 May 2024);
- a purchase agreement for the EDF group subsidiary Framatome to acquire 100% of Allentis (4 November 2024).

7.5.2 Material contracts entered into in 2023

The material contracts entered into in 2023 by the Group, other than in the normal course of business, were the following:

- an agreement for EDF Renouvelables France to sell 49% of the capital of three project companies operating wind farms in France (with installed capacity of 160MW) to the Spanish company PonteGadea Inversiones SL (27 December 2023);
- a purchase agreement for Framatome to acquire a majority stake and Naval Group to acquire a minority stake in the capital of Jeumont Electric, together representing 100% of the capital and voting rights, from Altawest (6 October 2023).

7.5.3 Material contracts entered into in 2022

The material contracts entered into in 2022 by the Group, other than in the normal course of business, are the following:

- an agreement for EDF Trading Limited, a wholly-owned subsidiary of EDF, to sell 100% of the share capital of EDF Energy Services LLC (EDFES), the retail business of EDF Trading North America, to BP (12 September 2022);
- an agreement to sell EDF's stake in the Sloe CCGT plant (870MW) in the Netherlands to EPH, a Czech power producer and grid operator (27 September 2022);
- an agreement for Imtech, a subsidiary of Dalkia and EDF Energy, to acquire SPIE UK (27 October 2022);
- a purchase agreement for EDF to acquire GE Steam Power's activities relating to the conventional islands of nuclear power plants (4 November 2022);
- an agreement for Imtech, a subsidiary of Dalkia and EDF Energy, to sell 100% of the capital of the Irish subsidiary Suir Engineering Ltd. to the British equity fund Duke Street (11 November 2022).

8.

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8.1 Person responsible for the Universal Registration Document and Certification

8.1.1 Person responsible for the Universal Registration Document

Luc Rémont, Chairman and Chief Executive Officer of EDF.

8.1.2 Certification by the person responsible for the 2024 Universal Registration Document containing the annual financial report

I certify that, to the best of my knowledge, the information contained in this Universal Registration Document accurately reflects the facts and contains no omission likely to affect its meaning.

I certify that, to the best of my knowledge, the annual and consolidated financial statements were prepared in accordance with the applicable accounting standards and give a true and fair view of the assets and liabilities, the financial position and the profits or losses of the issuer and all the companies included in the scope of consolidation, and that the management report included in this document presents a true and fair view of the changes in the issuer's results and financial position, and those of all the companies included in the scope of consolidation, as well as a description of the main risks and uncertainties which they are exposed to, and that it was prepared in accordance with the applicable sustainability disclosure standards.

Luc Rémont

Chairman and Chief Executive Officer of EDF

8.2 Auditors - Statutory Auditors

KPMG SA

Tour EQHO, 2, avenue Gambetta, CS 60055, 92066 Paris-La Défense Cedex, represented by Marie Guillemot and Jacques François Lethu.

PricewaterhouseCoopers Audit

63, rue de Villiers, 92200 Neuilly-sur-Seine, represented by Séverine Scheer and Cédric Haaser.

KPMG SA, Principal Statutory Auditor, saw its appointment renewed by decision of the Ordinary General Meeting of 28 June 2023 for a period of six financial years, expiring at the end of the Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2028.

PricewaterhouseCoopers Audit SAS, Principal Statutory Auditor, was appointed by decision of the Ordinary General Meeting of 28 June 2023 for a period of six financial years, expiring at the end of the Ordinary General Meeting called to approve the financial statements for the financial year ending 31 December 2028.

These Statutory Auditors consequently certified the financial statements reproduced in this Universal Registration Document.

8.3 Publicly available documents – LEI number

The Company's press releases, annual Universal Registration Documents including historical financial information about the Company, and any related updates filed with the French Financial Markets Authority (AMF), are available from the Company's website: www.edf.fr. A copy may also be obtained at the Company's registered office at 22-30, avenue de Wagram, 75382 Paris Cedex 08 (France).

EDF's LEI (Legal Entity Identifier) number is 549300X3UK4GG3FNMO06.

All of the regulated information published by the Company in application of Articles 221-1 and following of the General Regulations of the AMF is available on the Company's web site[1].

The Company has imposed a 15-calendar-day embargo ("quiet period") prior to announcement of the annual, half-yearly and quarterly results during which no new information regarding EDF's business and results may be issued to financial analysts and investors, so as to prevent the release of incomplete financial information that could lead the recipients to anticipate EDF's results prior to their official publication.

In application of Article 19 of Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017, the following information is incorporated by reference in this Universal Registration Document:

- the main items required by Annexes 1 and 2 of Commission Delegated Regulation (EU) 2019/980 of 14 March 2019;
- the information that constitutes the annual financial report required by Articles L. 451-1-2 of the French Monetary and Financial Code and 222-3 of the General Regulations of the AMF;
- the information making up the management report of the Board of Directors required by the French Commercial Code, including in particular the sustainability statement and the report on corporate governance;
- the EDF group's 2023 Universal Registration Document (2023 URD) filed with the AMF on 4 April 2024, under reference D. 24-0238;
- the EDF group's 2022 Universal Registration Document (2022 URD) filed with the AMF on 21 March 2023, under reference D.23-0122;
- the EDF group's consolidated financial statements (under international accounting standards) for the financial year ended 31 December 2023, and the Statutory Auditors' report on those financial statements, as presented in chapter 6 of the EDF group's 2023 URD;
- the EDF group's consolidated financial statements (under international accounting standards) for the financial year ended 31 December 2022, and the Statutory Auditors' report on those financial statements, as presented in chapter 6 of the EDF group's 2022 URD;
- the review of the EDF group's financial position and results for the financial year ended 31 December 2023, as presented in chapter 5 of the 2023 URD;
- the review of the EDF group's financial position and results for the financial year ended 31 December 2022, as presented in chapter 5 of the 2022 URD.

(1) www.edf.fr.

8.4 Cross-reference tables

8.4.1 Cross-reference table with Annexes I and II of Regulation (EC) 2019/980

The Cross-reference table below identifies the location of the information required by Annexes 1 and 2 of Commission Delegated Regulation (EC) 2019/980 of 14 March 2019 in the plan of this Universal Registration Document:

Annexes 1 and 2 of Delegated Regulation (EC) 2019/980 of 14 March 2019	URD paragraphs
1. Persons responsible, information from third parties, experts' report and approval by the competent authority	
1.1 Identity of the persons responsible	8.1.1
1.2 Certification by the persons responsible	8.1.2
1.3 Name, address, qualifications and potential interests of persons acting as experts	n/a
1.4 Certification of third-party information	n/a
1.5 Declaration without prior approval of the competent authority	Page 3
2. Statutory Auditors	
2.1 Identity of the Statutory Auditors	8.2
2.2 Previous changes	n/a
3. Description of significant risks	**Chapter 2**
4. Information about the issuer	
4.1 Legal and commercial name of the issuer	7.1.1
4.2 Location, registration number and LEI of the issuer	7.1.2 and 8.3
4.3 Date of incorporation and length of life of the issuer	7.1.3
4.4 Registered office and legal form of the issuer, legislation governing the activities, country of origin, address and telephone number of the registered office, website with a disclaimer	7.1.1 and 7.1.4
5. Business overview	
5.1 Main activities	
5.1.1 Nature of the operations	1.4
5.1.2 Important new products and services	n/a
5.2 Major markets	1.4
5.3 Key events in the development of the activities	1.4, 5.1.2 and 5.1.3
5.4 Strategy and objectives	1.3
5.5 Dependency of the issuer on patents, licenses, contracts and manufacturing processes	1.5
5.6 Competitive position declaration	2.11
5.7 Investments	
5.7.1 Major investments made	1.1, 5.1.4.2 and 6.1 (note 10.6)
5.7.2 Principal ongoing or future investments of the issuer for which the latter's management bodies have already made firm commitments and adopted financing methods	6.1 (note 10.3)
5.7.3 Joint ventures and commitments in which the issuer holds a significant proportion of the share capital	6.1 (note 12)
5.7.4 Environmental issues	Chapter 3
6. Organisational structure	
6.1 Brief description of the Group	1.2.1 and 1.2.2
6.2 List of significant subsidiaries	1.2.1
7. Operating and financial review	
7.1 Financial position	
7.1.1 Changes in results and financial position including key performance indicators of a financial and, where applicable, non-financial nature	Chapters 3, 5 and 6
7.1.2 Forecasts for future development and research and development activities	1.3 and 1.5
7.2 Operating results	
7.2.1 Important factors, unusual or infrequent events or new developments	1.2.3, 5.1.2 and 5.1.3
7.2.2 Explanation of material changes in net sales or revenues	5.1.4
8. Cash and capital resources	
8.1 Capital Information	7.3 and 6.1 (note 14)

Annexes 1 and 2 of Delegated Regulation (EC) 2019/980 of 14 March 2019	URD paragraphs
8.2 Cash flows	6.1 (notes 10.4, 10.6 and 13.1)
8.3 Financing needs and structure	6.1 (note 18.3)
8.4 Restrictions on the use of capital resources	n/a
8.5 Expected sources of financing	n/a
9. Regulatory environment	
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11.2 Declaration outlining key forecasting assumptions	n/a
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18.3.1 Independent audit of historical annual financial information	6.2
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8.4.2 *Cross-reference table with the management report*

This Universal Registration Document includes the elements of the Board of Directors' management report for the 2024 financial year as required by Articles L. 232-1 II and L. 22-10-35 of the French Commercial Code. The management report is composed of the sections of this Universal Registration Document identified in the table below:

Required information	Relevant articles of law	URD paragraphs
1. Situation and activity of the Group	-	-
1.1 Situation of the Company during the past financial year and an objective and exhaustive analysis of the development of the business, results and financial situation of the Company and the Group, in particular its debt situation, in relation to the volume and complexity of the business	L. 232-1, II, 1°, L. 232-1, I and II, L. 233-6 and L. 233-26 of the French Commercial Code	Chapter 5
1.2 Key indicators of financial performance	L. 232-1, II, 4° of the French Commercial Code	1.1 and 5
1.3 Key indicators of financial and non-financial performance relevant to the particular business of the Company and the Group, including information relating to environmental and employee-related matters	L. 232-1, II, 4° of the French Commercial Code	Chapter 3
1.4 Key events arising between the end of the financial year and the date the management report	L. 232-1, II, 1° and L. 233-26 of the French Commercial Code	5.2 and 5.3
1.5 Identity of the main shareholders and holders of voting rights at General Meetings and changes during the financial year	L. 233-13 of the French Commercial Code	7.3.8
1.6 Existing branches	L. 232-1, II, 3° of the French Commercial Code	6.6.5

Required information	Relevant articles of law	URD paragraphs
1.7 Acquisition of significant equity holdings in companies having their registered office on the French territory	L. 233-6-1 of the French Commercial Code	1.2.1 and 6.1 (note 3)
1.8 Disposal of cross-shareholdings	L. 233-29, L. 233-30 and R. 233-19 of the French Commercial Code	n/a
1.9 Foreseeable development and future prospects of the situation of the Company and the Group	L. 232-1, II and L. 233-26 of the French Commercial Code	5.1.6
1.10 Research and development activities	L. 232-1, II and L. 233-26 of the French Commercial Code	1.5
1.11 Table showing the Company's results over each of the last five financial years	R. 225-102 of the French Commercial Code	6.6.1
1.12 Information concerning supplier and customer payment periods	L. 441-14 and D. 441-6 of the French Commercial Code	6.6.3
1.13 Amount of intercompany loans granted and statement from the Statutory Auditor	L. 511-6, 3 bis and R. 511-2-1-3 of the French Monetary and Financial Code	6.6.4
2. Internal control and risk management		
2.1 Description of the main risks faced by the Company	L. 232-1, II, 5° of the French Commercial Code	2.2
2.2. Information on the financial risks related to the effects of climate change and the measures that the Company is taking to reduce them by implementing a low-carbon strategy in all components of its activity	L. 232-6-3 of the French Commercial Code	2.2.5
2.3 Main characteristics of the internal control and risk management procedures implemented by the Company and the Group relating to the preparation and processing of accounting and financial information	L. 22-10-10 7° of the French Commercial Code	2.1
2.4 Information on the objectives and policy regarding the hedging of each main category of transactions and on the exposure to price, credit, liquidity and treasury risks, including the use of financial instruments	L. 232-1, II, 6° of the French Commercial Code	5.1.7
2.5 Anti-corruption provisions	"Sapin II" Law 2016-1691 of 9 December 2016	3.4.4
2.6 Vigilance plan and reporting on its effective implementation	L. 225-102-4 of the French Commercial Code	3.6
3. Report on Corporate governance		**See Cross-reference table 8.4.3**
4. Share ownership and capital		
4.1 Structure, changes in the Company's capital and crossing of thresholds	L. 233-13 of the French Commercial Code	7.3
4.2 Acquisition and disposal by the Company of its own shares	L. 225-211 of the French Commercial Code	7.3.2
4.3 Overview of employee share ownership on the last day of the financial year (proportion of capital represented)	L. 225-102, 1 of the French Commercial Code	7.3.8
4.4 References to potential adjustments for the securities giving access to the share capital in the case of share repurchases or financial operations	R. 228-90 and R. 228-91 of the French Commercial Code	n/a
4.5 Information on operations made on the Company's shares by managers and related persons transactions	L. 621-18-2 of the French Monetary and Financial Code	n/a
4.6 Amount of dividend paid out over the past three financial years	243 *bis* of the French General Tax Code	6.5.1
5. Sustainability statement		**Chapter 3**
6. Other information		
6.1 Additional tax information	223 *quater* and 223 *quinquies of* the French General Tax Code	n/a
6.2 Injunctions or fines as a result of anti-competitive practices	L. 464-2 of the French Commercial Code	n/a

8.4.3 Cross-reference table with information in the EDF Board of Directors' report on corporate governance

This Universal Registration Document includes the elements of the Company's Board of Directors' report required by Article L. 225-37 of the French Commercial Code. The Board of Directors' report on corporate governance is composed of the sections of this Universal Registration Document identified in the table below and is included in the management report in a section on "Corporate governance":

Corporate Government/Corporate Officers Sections including information contained in the report on corporate governance	Relevant articles of law	URD paragraphs
Information on remuneration		4.5
Information on governance		
3.1 List of all appointments and positions held in all companies by each corporate officer during the financial year	L. 225-37-4, 1° of the French Commercial Code	4.2.1
3.2 Agreements concluded between a manager or a major shareholder and a subsidiary	L. 225-37-4, 2° of the French Commercial Code	7.4.2 and 6.1 (notes 12 and 23)
3.3 Summary table of the outstanding delegations given by the Shareholders' Meeting to perform capital increases	L. 225-37-4, 3° of the French Commercial Code	7.3.3
3.4 Method of Executive Management	L. 225-37-4, 4° of the French Commercial Code	4.3
3.5 Membership, conditions for the preparation and organisation of the Board of Directors' work	L. 22-10-10, 1° of the French Commercial Code	4.2
3.6 Principle of balanced representation of women and men on the Board of Directors	L. 22-10-10, 2° of the French Commercial Code	4.2.1
3.7 Limits placed by the Board on the powers of the Chief Executive Officer	L. 22-10-10, 3° of the French Commercial Code	4.2.2
3.8 Reference to the Corporate Governance Code and implementation of the comply or explain principle	L. 22-10-10, 4° of the French Commercial Code	4.1
3.9 Specific procedures relating to the participation of shareholders in the Shareholders' Meeting	L. 22-10-10, 5° of the French Commercial Code	7.2.8.2
3.10 Evaluation procedure for current agreements – Implementation	L. 22-10-10, 6° of the French Commercial Code	n/a
3.11 Information likely to have an impact in the event of a takeover bid or exchange offer	L. 22-10-11 of the French Commercial Code	n/a

8.4.4 Cross-reference table with the annual financial report

This Universal Registration Document includes the annual financial report for the 2024 financial year, prepared in application of Articles L. 451-1-2 of the French Monetary and Financial Code and Article 222-3 of the General Regulations of the AMF. The annual financial report is composed of the sections of the Universal Registration Document identified in the table below:

Topics	URD paragraphs
1. EDF annual financial statements	6.3
2. EDF group consolidated financial statements	6.1
3. Management report (minimum disclosures as defined by Article 222-3 of the General Regulations of the AMF)	8.4.2
4. Statement by the persons responsible for the annual financial report	8.1.2
5. Statutory Auditors' reports on the EDF's financial statements and the consolidated financial statements	6.2 and 6.4

8.5 Glossary

Adjustment Mechanism	A mechanism created by RTE on 1 April 2003, providing power reserves that can be mobilised in the event of an imbalance between supply and demand.
ANDRA	France's National agency for radioactive waste management. A public industrial and commercial establishment, created following the Law of 30 December 1991, which is responsible for the long-term management of radioactive waste.
ASN / ASNR	French Nuclear Safety Authority (Autorité de sûreté nucléaire) / French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de radioprotection). Since the entry into force on 1 January 2025 of title 1 of Law no. 2024-450 of 21 May 2024 (art. 20), the activities of ASN and IRSN were grouped within a new authority, the French Nuclear Safety and Radiation Protection Authority (ASNR), an independent administrative authority. For a detailed description of its missions, please refer to section 1.4.1.1.2.1.
Balance responsible entity	An entity with which RTE signs a contract to finance shortfalls between the forecast and actual consumption and production of a portfolio of users sharing risks under the supervision of the balance responsible entity, which plays a role of insurer, exploiting the effects between over- and under-supply.
Becquerel (Bq)	International legal unit for measuring radioactivity. One becquerel (Bq) is equal to one disintegration per second. This is such a low unit of radioactivity that multiples are used: the MBq (megabecquerel or million becquerels) and the GBq (gigabecquerel or billion becquerels).
Biogas	Gas produced by the fermentation of organic animal or plant matter.
Biomass	Biomass-based technologies mainly consist of burning certain types of waste, particularly from the timber and farming industries, or forestry wood waste, to produce heat or electricity.
Cogeneration	A technique for combined heat and power generation. The advantage of cogeneration is that it captures the heat produced by the fuel, whereas in traditional electricity generation this heat is lost, thus enabling a single facility to meet the needs of industrial and local authority customers which require both heating (hot water or steam) and electricity. This system improves the energy efficiency of the generation process and reduces fuel use by an average 20%.
Combined-Cycle Gas	A technology for generating electricity in a natural gas-fired plant. A combined cycle is made up of one or more combustion turbines and a steam turbine, giving an improved yield. The natural gas is routed to the combustion turbine, which generates electricity and very hot exhaust gases. The heat from these exhaust gases is recovered by a boiler, producing steam which is recovered by the steam turbine to generate electricity.
Congestion	A situation in which an interconnection between national transmission grids cannot absorb all of the physical flows resulting from international exchanges demanded by market operators, due to a shortage of capacity in the interconnection and/or the national transmission grids involved.
CRE	France's Energy Regulation Commission. See section 1.4.2.1.1.
Distribution network	Downstream of the transmission network, medium- and low-voltage distribution networks serve end-users (private individuals, local authorities, SMEs, SMIs, etc.).
Electricity supply	Electricity demand concerns four types of consumption: • "baseload" supply is the electricity generated and consumed throughout the year; • "semi-baseload" supply is the electricity generated and consumed over the winter period; • "peakload" supply corresponds to periods of the year with heavy electricity generation or supply; • "lace" supply is a complement to "baseload" supply.
Enriched reprocessed uranium	To be used in a reactor, reprocessed uranium (RepU) must be re-enriched even though it contains more fissile uranium than in its natural state. It is therefore called enriched reprocessed uranium.
Enriched uranium	Uranium whose isotope 235 content (its only fissile material) has been increased from its low natural level (0.7%) to approximately 4% in order to be used as pressurised water reactor fuel.
Enrichment	Process to increase the fissile content of an element. In its natural state, uranium is 0.7% uranium 235 (fissile) and 99.3% uranium 238 (non-fissile). For efficient use in a pressurised water reactor, it is enriched with uranium 235, raising the U-235 content to around 4%.
EPR	The latest-generation ("Gen 3") European Pressurised water Reactor currently under construction. It is the result of Franco-German cooperation and offers advanced safety, environmental and technical performance.
European green taxonomy	Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council with the technical review criteria for determining under which conditions an economic activity can be considered to contribute substantially to climate change mitigation or adaptation and whether that economic activity does not cause significant harm to any of the other environmental objectives.
Fluorination (conversion)	Also called "conversion", fluorination is a process that purifies uranium compounds and transforms them into uranium hexafluoride (UF_6), which can then be enriched using current techniques.

Fuel Assembly	The nuclear fuel used for EDF's PWRs takes the form of an assembly, made up of an array of 264 fuel rods bound together by a rigid structure of tubes and grids. Each fuel rod consists of a water-tight zirconium tube in which pellets of the uranium oxide constituting the fuel are stacked. The assemblies are loaded side by side into the reactor vessel–for example, 205 assemblies are required for a 1,500MW reactor and make up the core of the reactor. During operation, these assemblies are crossed from bottom to top by primary water which heats on contact with them and carries this energy to the steam generators.
Fuel Cycle	The nuclear fuel cycle encompasses all industrial operations in and outside France which contribute to supplying fuel to generate energy in a reactor, then to unloading and processing it. See section 1.4.1.1.2.3.
Greenhouse Gases (GHG)	Gases that retain a portion of the solar radiation in the atmosphere. The increase in emissions of these gases due to human activity (man-made emissions) is causing an increase in the earth's average temperature and plays an important role in climate change. The Kyoto Protocol covers the seven following principal greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF_6) and, since 2013, nitrogen trifluoride (NF_3).
Hydrogen	The conversion of natural gas into hydrogen generates CO_2 hence the name of "grey" hydrogen. This form of hydrogen is used on a large scale, particularly in the chemical industry to produce ammonia and fertilisers. "Blue" hydrogen is obtained when the emitted CO_2 is captured and then reused or stored. "Green" hydrogen is produced from renewable energy sources. The electricity generated by wind turbines, solar panels or hydropower plants is transformed with water through an electrolysis process. No greenhouse gases are emitted. Hydrogen can be stored in large quantities and then converted back into electricity.
Hydropower generation potential	Maximum energy that the hydropower facilities could generate, at maximum authorised capacity of the facility, under normal hydraulicity conditions. However, the output of hydropower facilities varies, sometimes markedly, from one year to the next depending on hydraulicity (rainfall and snowfall). In dry years, the generation potential index may show a difference of 20% or more from the normal level.
IAEA	International Atomic Energy Agency based in Vienna (Austria).
INB	Basic nuclear installation.
Interconnection	Electricity transmission infrastructure that makes exchanges of energy possible between different countries, by connecting the transmission network of one country to the network of a neighbouring country.
Interim storage	Interim storage is an intermediate stage of the process of managing nuclear waste. It involves placing waste packages in a facility that will keep them from contact with humans and the environment for a given period of time, with the intention of retrieving them subsequently for final storage (possibly after further management). Interim storage facilities are designed, built and managed by the producers of waste (EDF, Orano and the CEA) and are located close to the places where the waste is conditioned.
IRSN	The French Radiation protection and Nuclear Safety Institute. The IRSN is the public expert in research and assessment concerning nuclear and radiological risks.
LDC	French Local Distribution Companies. LDCs sell and deliver electricity to end users located in their exclusive service area.
Liquefied Natural Gas (LNG)	Natural gas turned into liquid form by reducing its temperature to -162°C, which reduces its volume by a factor of 600.
Load shedding	Voluntary reduction by a customer of their power capacity, in exchange for compensation. Load shedding is "distributed" when it is due to the aggregation of action by small consumption sites.
Man-sievert	A unit expressing the collective equivalent dose. One man-sievert is the collective dose from exposure of 1,000 men to 1 mSv (millisievert).
Microgrid	Microgrids are small power grids designed to provide a reliable supply of electricity to a small number of consumers. They combine multiple local and distributed generation facilities, consumption facilities, energy storage facilities and tools for demand supervision and management. They can be connected directly to a distribution network, or operate separately from the network (islanding).
Metering	A system for recording the volumes of electricity transmitted or distributed (power, frequency, active and reactive energy) at a given network connection point.
MW – MWh	The megawatt-hour (MWh) is the unit of energy generated by a facility. It is equal to the facility's power, expressed in megawatts (MW), multiplied by the duration of operation in hours. 1MW = 1,000 kilowatts = 1 million watts 1MWh = energy produced during 1 hour at power of 1MW = 1 megawatt-hour 1GW = 1,000MW = 1 billion watts 1TW = 1,000GW
MWh cumac (MWHc)	The MWh cumac (or MWHc) is the unit of measurement for energy savings certificates. It corresponds to the cumulative energy savings discounted over the duration of the operations.

Non-interconnected zones	Parts of France which are not connected (by power lines) to France's mainland network (Corsica and overseas départements and regions).
Nuclear safety	Nuclear safety covers all of the technical, organisational and human measures to prevent the risks and limit the effects of accidents, which are taken at every stage of the nuclear power plant lifecycle (from design to operation and finally to decommissioning).
Nuclear unit	Electrical generation unit consisting of a nuclear steam supply system and a turbo-generator. A nuclear unit essentially consists of its reactor type and the power of its turbo-generator. EDF's nuclear plants include two or four units, and occasionally six.
Plant availability	The available portion of the theoretical maximum power (considering technical unavailability only). The availability coefficient (Kd) is defined as the ratio of actual annual generation capacity (or annual generation potential) and the theoretical maximum generation capacity, (i.e. installed capacity × 8,760 hours). The Kd is calculated solely on the basis of technical non-availability, i.e. scheduled shutdowns, unplanned outages and testing periods, and characterises a plant's industrial performance.
Plutonium (Pu)	Chemical element with the atomic number 94 (number of protons) and no naturally occurring isotopes (elements whose atoms possess the same number of electrons and protons – thus the same chemical properties – but a different number of neutrons). Plutonium 239, a fissile isotope, is produced in nuclear reactors from uranium 238.
Radiation protection	Various ionising radiation sources exist at a power plant: the fuel itself, neutron flux-activated equipment (particularly equipment close to the core, such as the vessel or vessel head), and particles from corrosion of the reactor's primary circuit that are carried by the primary fluid. A person's level of exposure is quantified by the dose equivalent in sieverts (Sv). The sum of dose equivalents, called "collective dosimetry" and expressed in man-sieverts, is used as an indicator of the dose received by all participating persons. Mobilisation of plant workers has resulted in continuously improving performances regarding the protection of employees against the effects of ionising radiation.
Radioactive Waste	The nuclear power industry produces decarbonised electricity, but generates radioactive waste. Short-lived waste accounts for over 90% of the total volume, but contains only 0.1% of the total waste radioactivity. This waste is therefore separated into two sub-categories depending on its level of radioactivity: very low-level waste (VLLW) and low-level waste (LLW). Long-lived intermediate and high-level waste (ILW-LL and HLW-LL) is produced in low quantities (less than 10% of the total volume) but contains almost all of the waste radioactivity (99.9%).
Renewable energies	Energies that can be generated without destroying the initial resource. They include hydropower, wind power, solar power, marine energy (produced by waves and sea currents), geothermal energy (derived from the heat given off by the earth's magma), and biomass energy (bioenergy) (derived from recently living matter, particularly wood and organic waste). Energy produced by incinerating household or industrial waste is also often considered as a renewable energy.
Reprocessing	Reprocessing of spent fuel from a reactor to separate materials that can be recycled (uranium and plutonium) from final waste.
RepU (reprocessed uranium)	Reprocessed uranium (RepU), i.e. uranium derived from spent fuel reprocessing, differs from natural uranium as it contains slightly more uranium 235 and other uranium isotopes. It is recyclable, and RepU fuel assemblies are often used for reactor refuelling.
Scopes 1, 2 and 3	Every year, EDF draws up a GHG report (for Scopes 1, 2 and 3) covering the Group, with the emissions calculated under the principles of the GHG Protocol Corporate Standard: • Scope 1 covers the direct emissions generated by EDF's assets: CO_2, CH_4 and N_2O emissions by thermal power and heat generation plants, consumption of fossil fuels for heating occupied premises, fuel consumption by the fleet of vehicles and machinery, fugitive emissions from hydropower plant reservoirs, fugitive emissions of SF6 and refrigerating fluids; • Scope 2 covers the indirect emissions corresponding to losses from the electricity networks of EDF's electricity distribution companies and energy purchases for EDF's own needs: electricity consumption by tertiary buildings and datacentres, consumption by heating and chilled water networks for EDF's own use; • Scope 3, which comprises 15 categories (GHG Protocol), covers the other indirect emissions generated by EDF's suppliers (purchases of goods and services, upstream fuel-related emissions including nuclear fuels, leased assets, downstream freight transport of by-products), and by EDF's customers (upstream emissions and combustion of gas purchased for resale to end customers, production of electricity and heat purchased for resale to end customers) or at EDF's facilities (instalments of emissions relating to the manufacture of fixed assets, emissions by non-consolidated investments, upstream emissions and network losses relating to electricity transmission and distribution, upstream emissions and network losses relating to electricity, heat and cold consumption for EDF's own use, waste management, employee travel, etc.).
Series	In the nuclear power industry, a series of plants means a set of nuclear plants with identical generation capacity. EDF's PWR model relates to three series: the 900MW series (32 units currently in operation of approximately 900MW each), the 1,300MW series (20 units) and the 1,450MW series (4 units).
Smart city	The smart city is a new concept in urban development. The aim is to improve city-dwellers' quality of life by making cities more adaptive and efficient thanks to new technologies using an ecosystem of objects and services. The scope of this new way of managing cities includes public infrastructure (buildings, street furniture, home automation, etc.), networks (water, electricity, gas, telecoms), transport (public transport, smart roads and cars, carpooling, "soft" mobility - by bike, on foot, etc.), e-services and e-administrations.
Smart charging	Smart charging is an umbrella term for all technologies aimed at optimising the charging or discharging of an electric vehicle through efficient, flexible and economical management of the vehicle's recharging power.
SMR	Small modular reactors (SMRs) are small-scale power plants comprising one or more reactors with unit capacity of less than 300MW. This low capacity means it is possible to scale down certain systems and standardise design, thus shortening construction time and improving competitiveness.

STEP	Pumped-storage hydropower plant. A power plant with two reservoirs at different elevations, connected by pumps which transfer water from the lower reservoir, once it has passed through the turbines, back to the upper reservoir.
Storage (of nuclear fuel)	Storage consists of placing the radioactive waste packages in a facility that ensures their final management, i.e. under conditions that ensure safety and control of risks over time (e.g. CSA, ANDRA Aube storage facility).
System services	System services are services provided to users (electricity consumers or producers) through joint action by the electricity transmission network operator RTE and the producers. They are intended to regulate frequency and voltage, in order to maintain the balance between electricity consumption and generation at all times. They are created by RTE using elementary contributions from producers, i.e. primary and secondary reserves made available to RTE. RTE remunerates the producers for these auxiliary services before reinvoicing the services via the network access tariff under the rules defined by the Union for the Coordination of Transmission of Electricity (UCTE).
Therms (th)	One therm (th) is equivalent to 1,163kWh or 4,186 million joules.
Transmission network	The network through which electricity is transmitted at high and very high voltages from the generating sites to the distribution networks or industrial sites directly connected to it. It comprises the main transmission system and interconnectors (400kV and 225kV) and the regional subtransmission networks (225kV, 150kV, 90kV and 63kV).
Uranium	In its natural state, uranium is a mix containing three main isotopes (elements whose atoms have the same number of electrons and protons, thus the same chemical properties, but a different number of neutrons): • 99.3% uranium 238 (fertile); • 0.7% uranium 235 (fertile). Uranium 235 is the only natural fissile isotope, a quality which explains its use as an energy source.
Vitrification	A process that immobilises concentrated solutions of highly radioactive waste in a glass structure by mixing it with glass paste at high temperatures.

In this Universal Registration Document (URD), unless otherwise indicated, the terms "Company" and "EDF" refer to the company Électricité de France SA and the terms "EDF group" and "Group" refer to EDF and its subsidiaries and associates. In addition to the information contained in this Universal Registration Document, the reader is invited to carefully consider the risk factors described in chapter 2 "Risk and control framework". These risks, or one of these risks, could negatively impact the Group's business, position, financial results or outlook. Furthermore, other risks not yet identified or considered as non material by the Group, could also have a negative impact, and investors could consequently lose all or part of their investment in the Company.

This Universal Registration Document also contains information relating to the markets in which the EDF group operates. This information has been taken from surveys carried out by external sources. Given the rapid changes affecting the energy sector in France and throughout the world, it is possible that this information could prove to be erroneous or no longer up-to-date on the filing date of this Document or thereafter. The Group's activities may therefore evolve in a manner different to that described in this document, and the statements or information presented in this document may prove to be erroneous. The forward-looking statements in this document, specifically in section 1.3 "Group strategy and objectives" and section 5.1.6 "Financial outlook", are based on assumptions and estimates that could change or be impacted by risks, uncertainties (linked, in particular, to the economic, financial, competitive, regulatory and climatic environment) and other factors that may cause the future income, performance and achievements of the Group to differ significantly from the objectives expressed and suggested. These factors may include changes in the economic and commercial environment, in the regulations, and in the factors set forth in chapter 2 "Risk and control framework".

In application of European and French legislation, RTE and Enedis, which are regulated subsidiaries, managed in compliance with the rules of management independence within the meaning of the provisions of the French Energy Code, responsible respectively for the transmission and distribution of electricity within the EDF group, cannot communicate some of the information they collect in the course of their activities to other Group entities, including its management. Similarly, certain data specific to generation and marketing activities cannot be communicated to the entities in charge of transmission and distribution. This Universal Registration Document has been prepared by the EDF group in compliance with these rules. For the sake of clarity, the rest of the document mentions RTE and Enedis without systematically specifying that they are independent subsidiaries within the meaning of the provisions of the French Energy Code. A glossary of the main technical terms can be found at the end of this Universal Registration Document.

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