

Springwell Solar Farm

Compulsory Acquisition Information Funding Statement Tracked

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Springwell Energyfarm Ltd

APFP Regulation 5(2)(h)

Planning Act 2008

Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009

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1. Introduction

1.1. Introduction

- 1.1.1. This Funding Statement has been prepared by Springwell Energyfarm Limited (the **Applicant**). It forms part of the DCO Application (the **DCO Application**) for a development consent order (**DCO**) that has been submitted to the Secretary of State for Energy Security and Net Zero (the **Secretary of State**) under section 37 of the Planning Act 2008.

1.2. The Proposed Development

- 1.2.1. Springwell Solar Farm is a proposed solar farm which will generate renewable energy for exporting to the National Grid (the **Proposed Development**).
- 1.2.2. It will comprise of the construction, operation, maintenance and decommissioning of a solar photovoltaic (**PV**) electricity generating facility and Battery Energy Storage System (the **BESS**) with a total capacity exceeding 50 MW. The Proposed Development will have export connection into a new National Grid substation at Navenby (the **National Grid Navenby Substation**).
- 1.2.3. The area subject to the DCO Application (the **Order Limits**) where the Proposed Development will be carried out is shown as the **Order Limits** [EN010149/APP/2.1] [APP-005].
- 1.2.4. A summary of the description of the Proposed Development can be found in Section 3.1 of the **ES Volume 1, Chapter 3: Proposed Development Description** [EN010149/APP/6.1] [APP-043]. The terminology used in this document is defined in **ES Volume 1, Chapter 00: the Glossary** [EN010149/APP/6.1] [APP-040].
- 1.2.5. The Proposed Development qualifies as a Nationally Significant Infrastructure Project (**NSIP**) and will require a DCO to be granted from the Secretary of State, due to its generating capacity exceeding 50 MW.

1.3. Purpose and structure of this document

- 1.3.1. This Statement has been produced pursuant to Regulation 5(2)(h) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the **APFP Regulations**) and the Department of Communities and Local Government guidance 'Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land' (September 2013).
- 1.3.2. This Statement is required because the DCO sought for the Proposed Development would authorise the compulsory acquisition of land or interests in land. This gives rise to the requirement under Regulation 5(2)(h) of the APFP

Regulations for the Applicant to provide a statement indicating how the DCO containing these powers is proposed to be funded.

1.3.3. This Statement is one of a number of documents accompanying the DCO Application submitted to the Secretary of State. It should be read in conjunction with the rest of the documents comprising the DCO Application, particularly the **Statement of Reasons [EN010149/APP/4.1] [APP-015]**.

~~1.3.3.~~ **1.3.4.** This document has been updated at Deadline 1 to revise Appendix A, to reflect the correct shareholding % of Luminous Energy Group Ltd. The document references have not been updated from the original submission. Please refer to the Guide to the Application [EN010149/APP/1.2] for the list of current versions of documents.

2. Funding

2.1. Corporate structure

- 2.1.1. The Applicant for the DCO Application, Springwell Energyfarm Limited (company number 13484004), is registered in England and Wales. The majority shareholder of the Applicant, with 62.5% ownership, is EDF Renewables UK (**EDFR**), a company registered in England and Wales under company number 06456689.
- 2.1.2. The other shareholder of the Applicant, with 37.5% ownership, is Luminous Energy Group Limited (**Luminous Energy**). This is a company registered in England and Wales under company number 08416646.
- 2.1.3. EDFR (and the wider EDF Group) has more than 25 years' worth of experience in delivering renewable energy projects in more than 20 countries around the world. EDF Renouvelables (part of the EDF Group) has gross installed capacity of 21.2GW across wind, solar and storage, net installed capacity of 12.8GW and 6.0GW gross currently under construction. The EDF Renouvelables' portfolio amounts a gross capacity of 101 GW at the end of 2023.
- 2.1.4. Luminous Energy is an established UK-based renewable energy developer with projects in the UK, US, Chile and Australia. Luminous Energy is a leading player in the market, having delivered 1GW of projects globally and with the company's core values of providing people around the world with affordable, renewable energy remaining firmly at the heart of the business.
- 2.1.5. A detailed ownership structure diagram is shown in the organogram at **Appendix A**.

2.2. Estimated cost of the Proposed Development

- 2.2.1. The current cost estimate of the Proposed Development is approximately £650m - £750m.
- 2.2.2. This estimate has been arrived at by including construction costs, preparation costs, supervision costs, land acquisition costs (including compensation payable in respect of any compulsory acquisition), equipment purchase, installation, commissioning and power export.
- 2.2.3. The estimate also includes an allowance for inflation and project contingencies.

2.3. Funding for the Proposed Development

- 2.3.1. The Proposed Development may be funded on balance sheet or by leveraging debt from reputable lenders. We have provided the latest financial statements for EDFR, being the majority shareholder of the Applicant. These show the financial robustness of EDFR which is ultimately supported by its parent EDF

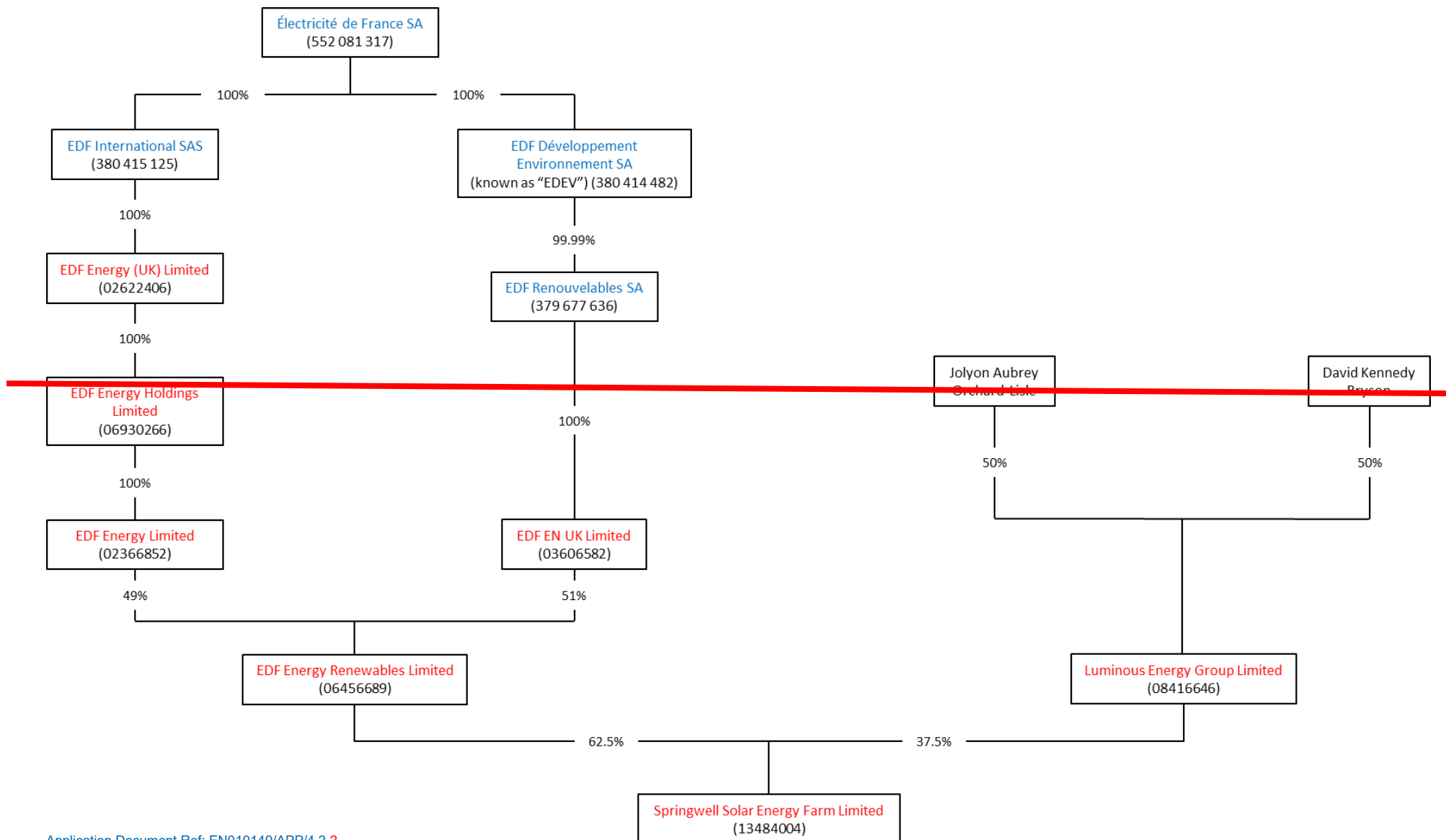
SA. Combined cash and cash equivalents as at 30 June 2024 of the EDF Group were €9,238m, as shown in **Appendix B – Financial statements of EDFR and EDF**. This is approximately over £7,734m.

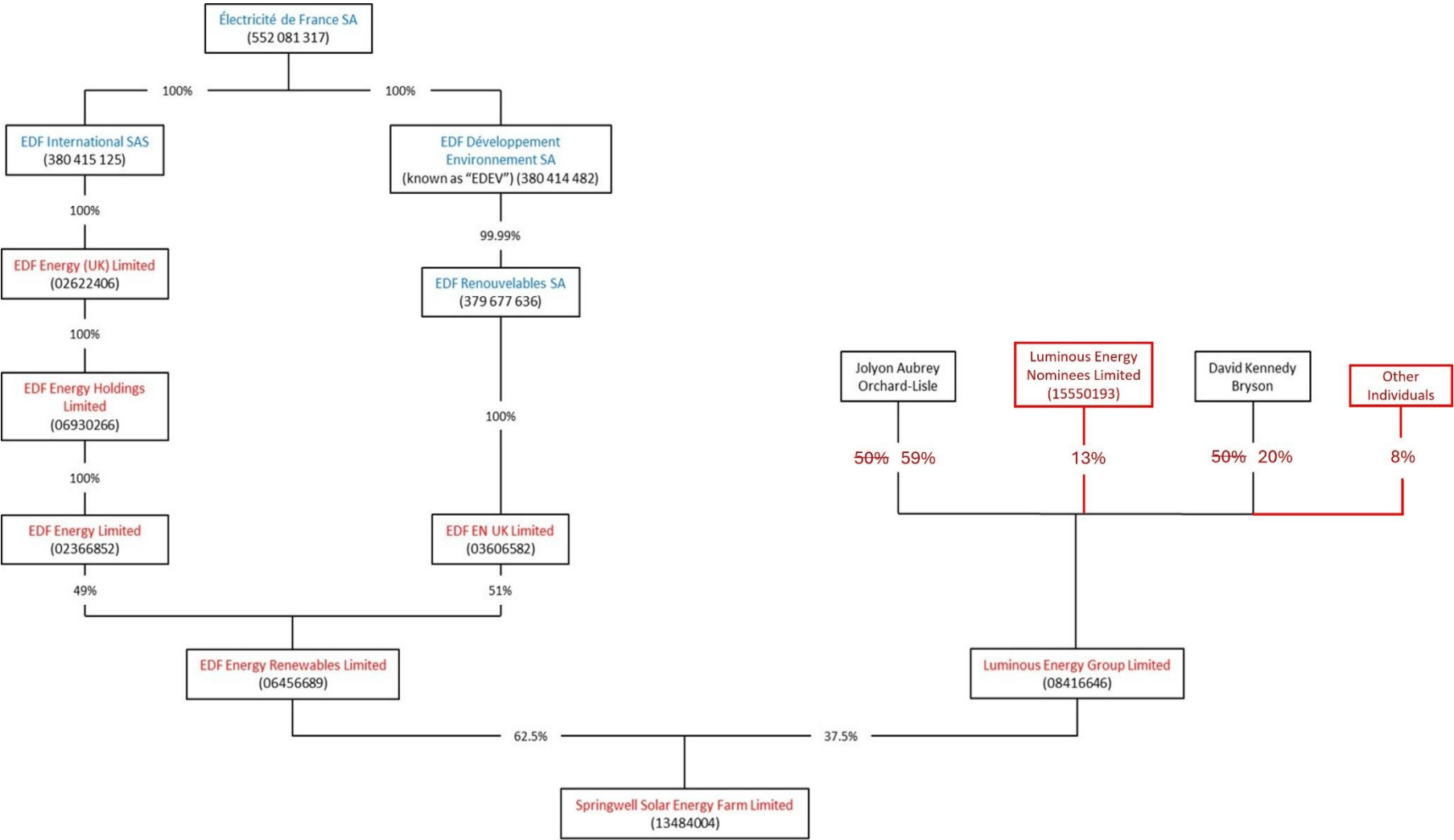
- 2.3.2. Once the DCO for the Proposed Development is granted the final investment decision would be made by the Applicant. Following a final investment decision, the owners will commit funding to the Applicant for financing of the construction phase of the Proposed Development in accordance with their respective obligations under the shareholders agreement entered into by them.
- 2.3.3. As can be seen from the above, the Applicant, through its owners, has sufficient funds to finance the estimated cost of the Proposed Development.
- 2.3.4. The Applicant has appointed a number of professional advisors in connection with the development of the Proposed Development, including solicitors, project managers and technical consultants, all of whom have extensive experience of working with projects similar to the Proposed Development. The Applicant is confident that the Proposed Development is commercially viable through its own detailed analysis and having taken the advice of these professional advisors.

2.4. Land acquisition and blight

- 2.4.1. The delivery of the Proposed Development requires the acquisition of land or rights (including the creation of rights and the imposition of restrictions) in, under, over land, and the temporary possession of land.
- 2.4.2. As set out in the **Statement of Reasons [EN010149/APP/4.1]** [\[APP-015\]](#), the Applicant has already secured an option agreement over the majority of the site and is negotiating a variation based on changes to the Proposed Development since signing the option agreement. The Applicant also has agreed Heads of Terms and is finalising an option and lease agreement, for the remainder area of the site. However, compulsory acquisition powers are required to ensure that the Proposed Development can proceed without impediment.
- 2.4.3. The current cost estimate of the Proposed Development is £650m - £750m. As mentioned above, this includes an amount to cover the compensation payable in respect of any compulsory acquisition included in the DCO and required for the Proposed Development.
- 2.4.4. Should any claims for blight arise because of the DCO Application, the Applicant, has sufficient funds to meet the cost of acquiring these interests at whatever stage they are served. However, the Applicant has not identified any interests which it considers could be eligible to serve a blight notice.

Appendix A – Springwell Energyfarm Limited Organogram





Appendix B – Financial statements of EDFR and EDF SA



French Société anonyme
with share capital of 2 084 365 041 euros
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75382 Paris cedex 08
552 081 317 RCS Paris

EDF group

HALF-YEAR FINANCIAL REPORT

AT 30 JUNE 2024

At its meeting of 25 July 2024, EDF's Board of Directors approved this Half-year financial report and the condensed consolidated financial statements for the half-year ended 30 June 2024 included in it.

This report contains information relating to the markets in which the EDF group is present. This information has been taken from surveys carried out by external sources. Considering the very rapid changes that characterise the energy sector in France and worldwide, it is possible that this information could turn out to be mistaken or outdated. Developments in the Group's activities could consequently differ from those described in this Half-year financial report and the declarations and information presented in this report could prove to be erroneous.

The forward-looking statements contained in this Half-year financial report, particularly in section 6 of the Management Report, "Financial Outlook", are based on assumptions and estimates that could evolve or be modified due to risks, uncertainties (relating notably to the economic, financial, competition, regulatory, and climate environment), or other factors that could cause the future results, performances and achievements of the Group to differ significantly from the objectives expressed and suggested here. These factors may include changes in the economic and business environment and in regulations, and the factors discussed in section 2 of the EDF group's 2023 Universal Registration Document, "Risk factors and control framework".

Pursuant to European and French legislation, the entities responsible for the transmission and distribution of electricity within the EDF group are not allowed to communicate certain information collected in the course of their activities to other Group entities, including the Group's Management. Similarly, certain data specific to generation and supply activities cannot be communicated to the entities responsible for transmission and distribution. This Half-year financial report has been prepared by the EDF group in compliance with these rules.

CONTENTS OF THE HALF-YEAR FINANCIAL REPORT

- 1. CERTIFICATION BY THE PERSON RESPONSIBLE FOR THE 2024 HALF-YEAR FINANCIAL REPORT**
- 2. HALF-YEAR MANAGEMENT REPORT AT 30 JUNE 2024**
- 3. STATUTORY AUDITORS' REVIEW REPORT ON THE FIRST HALF-YEAR FINANCIAL INFORMATION FOR 2024 (1 JANUARY TO 30 JUNE 2024)**
- 4. CONDENSED CONSOLIDATED HALF-YEAR FINANCIAL STATEMENTS AT 30 JUNE 2024**

CERTIFICATION BY THE PERSON RESPONSIBLE FOR THE 2024 HALF-YEAR FINANCIAL REPORT

I certify that, to the best of my knowledge, the condensed consolidated half-year financial statements at 30 June 2024 are prepared in accordance with the applicable accounting standards and give a true and fair view of the assets and liabilities, financial position and net income of the company and of all the companies included in the scope of consolidation, and that the attached Half-year management report presents a true and fair view of the important events of the first six months of the financial year and their impact on the financial statements, the main related party transactions, and a description of the principal risks and uncertainties for the remaining six months of the financial year.

Paris, 25 July 2024

A solid black rectangular box used to redact the signature of the Chairman and Chief Executive Officer.

Chairman and Chief Executive Officer of EDF

HALF-YEAR MANAGEMENT REPORT AT 30 JUNE 2024

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1 SIGNIFICANT EVENTS AND KEY FIGURES

Building the electricity system of the future

EDF is rolling out “**Ambitions 2035**”, a strategic plan for the company’s development, performance and transformation with 4 pillars: helping customers to reduce their carbon footprint, producing more low-carbon electricity, expanding the networks to address the challenges of the energy transition, and developing flexibility solutions to meet electricity system requirements.

To seize the opportunities offered by the energy transition, **EDF is investing in skills for tomorrow** and plans a large-scale recruitment drive over the next 10 years - starting with nearly 20,000 new hires in France in 2024 including 9,500 work-study trainees and interns, promoting a good gender balance and diversity and bringing young people into the workforce. Meanwhile, the EDF foundation has defined its new mission for the next 5 years to support the ecological and social transition, with a focus on education, training, and environmentally responsible citizenship.

Helping customers to reduce their carbon footprint:

- **Success of new market offers in the new business policy:** letters of intent representing more than 10TWh a year have already been signed with industrial partners¹ and nearly 2,200 contracts with 4 and 5-year horizons have been signed with firms of all sizes, covering close to 13TWh for 2028 and 7TWh for 2029.
- **Residential customer portfolio growth** in the G4 countries²: up by 370,000 customers.
- **Decarbonising uses:** 12% increase in the number of electric vehicle charging points installed or managed. Dalkia has developed the first very high temperature heat pump for industrial clients, with 1,000 tonnes a year lower CO₂ emissions (installed in the Wepa Greenfield paper plant).
- **Self-consumption:** 73% increase in solar panels on rooftops and car park canopies installed by EDF ENR’s B2B activity.

Producing more low-carbon electricity:

- **Electricity output constantly available on demand was up by 12% to 259TWh.** With its **94% carbon-free electricity output, EDF has one of the lowest carbon intensities in the world at 29 gCO₂/kWh** (and 3 gCO₂/kWh in mainland France), 27% lower than in the first-half 2023.
- **In France, the 19.4TWh increase in nuclear power output to 177.4TWh** reflects a good operational performance whereas the first half of 2023 was affected by stress corrosion repairs and industrial action: 2024 has seen better-controlled shutdowns, resulting in higher fleet availability.
- **Estimated nuclear power output in France is expected to be in the upper end of the 315-345TWh range for 2024** and is confirmed in the 335-365TWh range for 2025 and 2026³.
- The **9.9TWh increase in hydropower output**⁴ to 31.1TWh is explained by high availability and better hydrological conditions.
- The **13.1% increase in wind and solar power output to 15.5TWh** is largely due to new installed capacities which brought the total to 24.8GW gross (including ~500 MW for the Fécamp offshore wind farm). The portfolio of wind and solar projects also grew by 13% to 111GW gross (including the contract won for the Hydrom project in Oman (4.5GW and 2.5GW of storage).
- EDF has signed €5.8 billion of **green bank loans** dedicated to financing the lifetime extension of existing French nuclear reactors, and successfully issued a multi-tranche €3 billion **green bond** (to fund nuclear, renewables and network activities).
- **EDF is mobilised for success in its nuclear projects:**
 - **Flamanville 3:** fuel loading was completed in May 2024; reactor divergence is imminent and connection to the French grid is expected a few weeks afterwards.
 - **New nuclear projects in the United Kingdom:**
 - **Hinkley Point C:** the first 3 steam generators have been delivered.

¹ Nuclear generation allocation contracts

² France, UK, Italy, Belgium. Excluding B2B customers, and customers of Électricité de Strasbourg and the French island activities.

³ Estimated nuclear generation by the plants currently in operation (excluding Flamanville 3).

⁴ After deduction of pumped-storage consumption, hydropower output totals 27.1TWh in H1 2024 vs. 18.4TWh in H1 2023.

- **Sizewell C:** the Office for Nuclear Regulation has granted the Nuclear Site Licence required to continue the project. Framatome has signed contracts with Sizewell C for the nuclear heat production systems, the instrumentation and control system and fuel supply.
- **EPR 2:** a new milestone was reached: the maturity of the design was validated with the support of a committee of experts from industry and government departments. Also, all environmental authorisations needed to install the 2 reactors at the Penly site have been issued.
- **Nuward SMR:** the project has moved to a design based on proven technological building blocks.
- **Arabelle Solutions:** acquisition of GE Steam Power's nuclear activities for nuclear plant conventional islands, including turbine generator sets¹.

Expanding the networks to address to the challenges of the energy transition:

- The networks are contributing to the energy transition: connections of renewable energy facilities by Enedis² were up by 33%.
- Investments by Enedis, EDF SEI (Island Energy Systems) and Electricité de Strasbourg increased by 9%, essentially due to the higher number of connections and the energy transition.
- For a larger, more reliable power supply between Sardinia, Corsica and Tuscany, replacement of the electricity connector has begun.

Developing flexibility solutions to meet electricity system requirements, via:

- **Decarbonisation of flexible thermal plants:**
 - Tests of 2 combustion turbines running on sustainable HVO bioliquid³ rather than fuel oil at Vaires-sur-Marne in France conclusively show that flexible, dispatchable generation can be made carbon-free.
 - The liquid biomass power plant Ricanto (130 MW in Corsica), to replace the Vazzio thermal plant, has received administrative clearance.
- A 35% increase in the number of smart electric vehicle charging stations in operation.
- Growth in B2C load-shedding contracts (+68% of customers).

¹ See the press release of 31 May 2024.

² Enedis is an independent subsidiary of EDF under the French Energy Code.

³ Recycled hydrotreated vegetable oil.

Group key figures for the first half of 2024

The figures presented in this document are taken from the EDF group's condensed consolidated half-year financial statements at 30 June 2024.

The good results reported by the Group were driven by a good operational performance. There was a substantial 19.4TWh increase in nuclear generation output in France (compared to the first half of 2023) in a context of falling prices and lower volatility, whereas the first half of 2023 was still marked by the stress corrosion phenomenon which reduced nuclear plant availability, and extensive purchases on the markets at very high prices. Net financial debt has been stabilised thanks to these results.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)	Organic variation (%)
Sales	60,200	75,499	(15,299)	-20.3	-20.7
Operating profit before depreciation and amortisation (EBITDA)	18,688	16,106	2,582	16.0	15.7
Operating profit (EBIT)	9,646	8,614	1,032	12.0	11.3
Income before taxes of consolidated companies	9,633	7,084	2,549	36.0	35.1
EDF net income (Group share of net income)	7,039	5,808	1,231	21.2	20.3
Net income excluding non-recurring items ⁽¹⁾	8,354	6,267	2,087	33.3	32.5
Group cash flow ⁽²⁾	1,853	(1,589)	3,442	n.a.	n.a.
Net financial debt ⁽³⁾	54,246	64,796	(10,550)	-16.3	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 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 (see section "Net income excluding non-recurring items").

⁽²⁾ Group cash flow is not an aggregate defined by IFRS as a measure of financial performance and is not comparable with indicators of the same name reported by other companies. It is equal to the operating cash flow after asset disposals, income taxes paid, net financial expenses disbursed, net allocations to dedicated assets, and dividends paid in cash (see section 4).

⁽³⁾ Net financial debt is not defined in the accounting standards and is not directly visible in the Group's consolidated balance sheet (see section 4).

2 ECONOMIC ENVIRONMENT

2.1 Market prices for electricity and the principal energy sources

Spot electricity prices in Europe ¹

	France	United Kingdom	Italy	Belgium
Average baseload price for H1 2024 (€/MWh)	47.0	56.2	93.3	60.8
Variation in average H1 baseload prices, 2024/2023	- 57.7 %	- 42.4 %	- 32.2 %	- 44.7 %
Average peakload H1 price for 2024 (€/MWh)	50.1	n.d.	100.2	65.1
Variation in average H1 peakload prices, 2024/2023	- 58.9 %	n.d.	- 32.4 %	- 45.8 %

n.d. : data in euros unavailable from the stock market website

In **France**, spot electricity prices stood at an average €47.0/MWh (baseload) and €50.1/MWh (peakload) in the first half of 2024, down by €63.9/MWh and €71.6/MWh respectively year-on-year. These price levels are mainly explained by the decrease in commodity prices, especially for gas, and an increase in electricity output in France compared to first-half 2023, producing more nuclear power (+12% vs. H1 2023), wind power (+7% vs. H1 2023) and solar power (+5% vs. H1 2023) as overall consumption stagnated. Lower use of thermal power plants (-41% vs. H1 2023), which are more costly, was an important factor in the spot price downturn. The increase in electricity output was driven by particularly high levels of hydropower generation (+35% vs. H1 2023), due to very favourable hydrological conditions.

RTE carried out maintenance work on France's national electricity network from 5 March, and this limited interconnection capacities during the half-year with neighbouring countries to the east (Central Europe, Switzerland and Italy), and restricted spot price convergence between France and the countries concerned. French prices were already often lower, as renewable energy was high in relation to national consumption, and the unavailability of interconnections at certain points in the period reinforced the differential.

Despite these limitations, France was a net exporter in the first half of 2024 (+42.9TWh; +24.7 TWh vs. H1 2023²), with exports up by 136%. Electricity output rose to 265.7TWh (+10% vs. H1 2023) while demand declined slightly to a total 223.8TWh and this led to an increase in exports (+45% vs. H1 2023) and a decrease in imports (-54% vs. H1 2023). Exports were principally to the Central West Europe zone (15.6TWh), the United Kingdom (11.9TWh²), Italy (11.0TWh²) and Switzerland (9.1TWh²). Imports were principally from Spain (5.1TWh²).

French spot prices were zero or negative for 347 hours during the first half of 2024 (8% of the time), compared to 67 hours in first-half 2023. These prices are mainly explained by low consumption combined with high wind and solar power output, particularly in the middle of the day. In the second quarter of 2024, use of the French nuclear fleet decreased substantially through modulation, which is when nuclear power plants reduce their intraday power output if residual demand is low. Residual demand is demand that concerns dispatchable generation facilities, i.e. total national demand less renewable energy generation. For example, on 12 May 2024, the French nuclear power fleet adjusted its capacity from 36.4GW to 22.6GW³ and the lowest hourly spot price in the whole half-year, -€87.3/MWh, was recorded at 2pm the same day.

These episodes of negative or zero prices were observed in several European countries: Germany, for example, registered 265 hours during the first half of 2024. Other European countries also benefited from a commodity price downturn that has driven spot prices down all over Europe in 2024.

¹ **France:** average previous day EPEXSPOT price;
Belgium: average previous day Belpex price;
United Kingdom: average previous day Nordpool price;
Italy: average previous day GME price.

² Source: RTE at 17 July 2024.

³ Source: RTE

Forward electricity prices in Europe¹

	France	United Kingdom	Italy	Belgium
Average forward baseload price under the 2025 annual contract for H1 2024 (€/MWh)	77.7	89.6	100.7	83.9
Variation in average H1 forward baseload price under the annual contracts, 2024/2023	- 59.0%	- 43.4%	- 35.7%	- 39.1%
Forward baseload price under the 2025 annual contract at 28 June 2024 (€/MWh)	74.7	98.7	110.9	88.2
Average forward peakload price under the 2025 annual contract for H1 2024 (€/MWh)	91.2	101.5	108.8	n.a
Variation in average H1 forward peakload price under the annual contracts, 2024/2023	- 69.6%	- 52.5%	- 39.4%	n.a
Forward peakload price under the 2025 annual contract at 28 June 2024 (€/MWh)	90.8	110.6	115.7	n.a

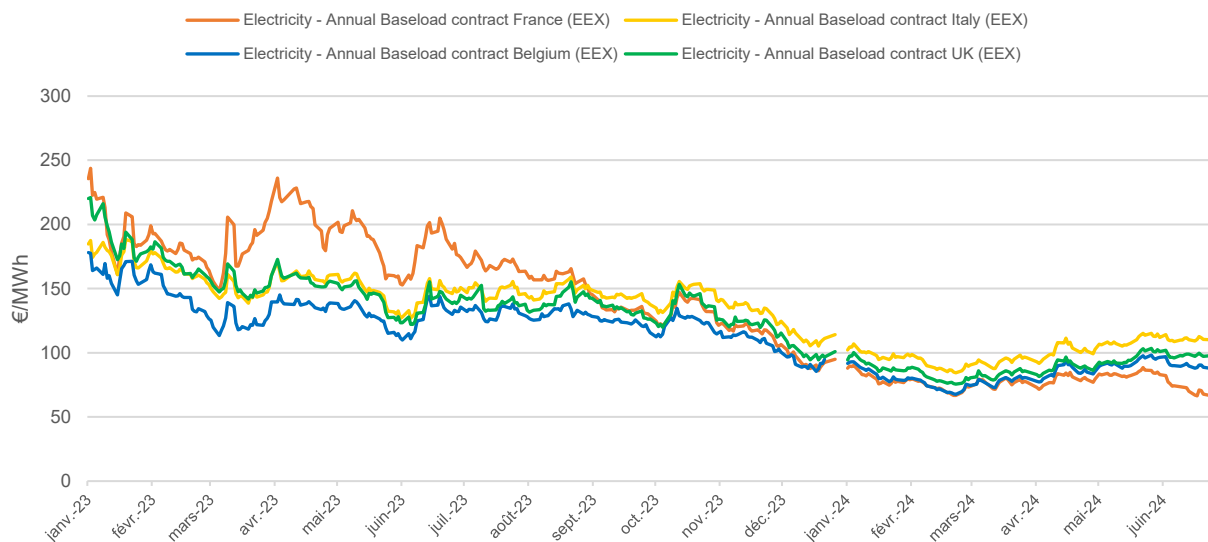
n.a. : not applicable

Average forward prices for baseload and peakload electricity under annual contracts were down all over Europe, principally due to loosening of the commodity markets (gas, coal and CO₂), and in France more particularly to a deflating risk premium compared to the first half of 2023.

In **France**, the average annual contract baseload price for next-year delivery was €77.7/MWh for the first half of 2024, 59.0% lower than in the first half of 2023. The market responded to several factors throughout the period: a downward trend in gas and coal prices, demand that stabilised below pre-Covid levels, and the rise of nuclear power output. Expectations of good nuclear plant availability in France also contributed to the decrease in forward prices. These significant price downturns, which were more pronounced in France than other European countries, are also explained by the spread of the general easing observed on the spot market, which registered many hours of negative or zero prices, particularly in the second quarter of 2024. As a result, the 2025 annual contract price followed the same pattern as the 2024 price computed on the basis of real spot prices for the first half-year and the remaining forward prices to the end of the year. Consumption remained low in France compared to generation levels as the summer months approached: the excess electricity output made substantial exports possible to neighbouring countries.

The differential between French and German annual contract prices widened for all horizons, with French prices below German prices. This trend was more visible on summer products, whereas the differential for winter products remained close to zero.

Principal forward electricity prices in Europe (baseload year ahead), in €/MWh



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

CO₂ emission allowance prices

The price of CO₂ emission allowances for delivery in December Y stood at an average €65.7/t for the first half of 2024 (down by 23.2% or -€19.8/t vs. H1 2023). This price showed high volatility and was relatively low throughout the period compared to 2023: certificates traded within a range of €52.2/t and €77.4/t, whereas in the first half of 2023 the price never fell below €66.4/t.

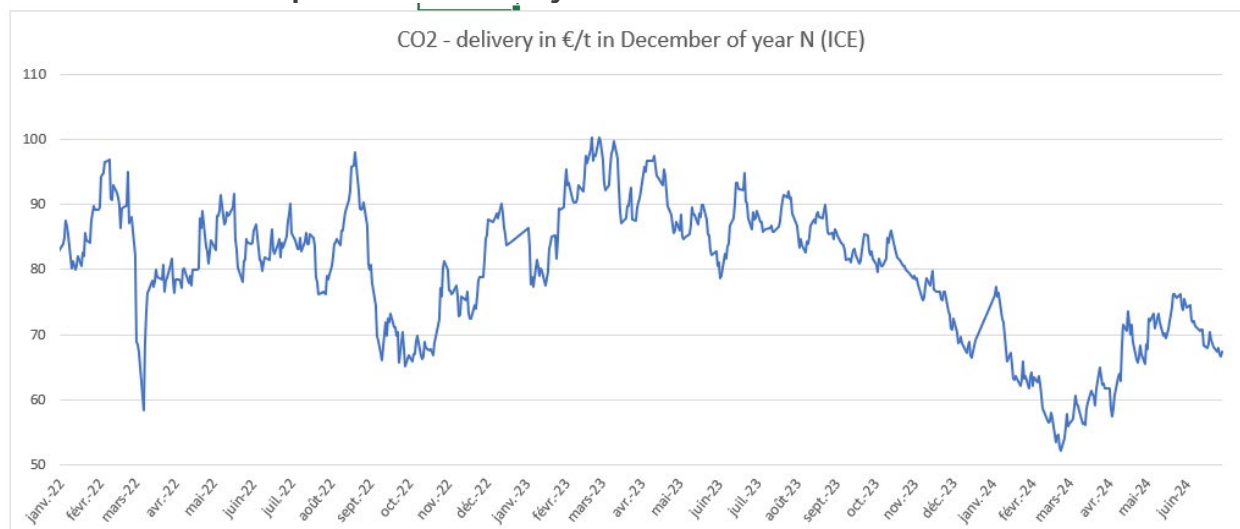
January and February were marked by a downward trend in CO₂ emission certificate prices, continuing the dynamic observed in the second half of 2023, attributable to fundamentals but also to positions taken by speculators. Market fundamentals were conducive to the decline in prices: the mild temperatures of the winter, together with high hydropower stocks, limited the use of CO₂-producing generation assets. Also, after the European Union announced at the start of the year that the number of EU Allowances in circulation would be regulated, speculators chose to defer their purchases of EUAs in the hope that prices would fall.

An upturn was observed at the end of February, mainly in response to rising gas prices over the period and the reduction in speculative short positions. Until the end of May, the effect on prices was amplified by the small number of auctions held due to the many bank holidays in May, which reduced the supply.

Prices began to decline again in June through a combination two effects:

- i) the results of the European parliament elections, which favoured political parties with less ambitious climate policies,
- ii) and the approach of the 30 June deadline for distribution by EU member states of free emission allowances to authorised installations.

CO₂ emission allowance prices in €/t for next-year deliveries in December⁽¹⁾



Fossil fuel prices ⁽²⁾

	Coal (US\$/t)	Oil (US\$/bbl)	Natural gas (€/MWhg)
Average price for H1 2024	109.3	83.4	32.8
Average H1 price variation, 2024/2023	- 18.2%	+ 4.3%	- 38.4%
Highest price in H1 2024	128.0	91.2	38.6
Lowest price in H1 2024	89.2	75.9	26.6
Price at 28 June 2024	114.0	86.4	37.4
Price at 30 June 2023	122.9	74.9	51.2

The **annual gas contract price** for next-year delivery at the French PEG hub was an average €32.8/MWh for the first half of 2024, substantially lower than in the equivalent period of 2023 (-38.4% or -€20.4/MWh vs. H1 2023). Forward gas prices moved downwards in the first months of 2024 before recovering slightly, but did not match the levels observed in the first half of 2023. These prices were pushed up by factors such as fears over supplies, and down by the effects of reassuring

¹ Average ICE prices for the annual contract, Phase IV (2021-2030).

² **Coal**: average ICE prices for delivery in Europe (CIF ARA) for the next calendar year (US\$/t);

Oil: ICE price for Brent crude oil barrel (front month) (US\$/bbl);

Natural gas: average Powernext price (PEG Nord - €/MWh).

fundamentals in Europe. Slightly above-normal temperatures, continuing energy-sufficient behavior, high nuclear and renewable power output and significant water flow for hydropower led to a decline in gas consumption, and lower withdrawals from stocks, especially in the winter months of this half-year. As a result of the relatively mild winter, gas stocks were at a record high as winter ended, and remained above past averages despite additions in the spring being slower than usual. European gas storage sites were 77% full at 30 June, a comfortable position in view of the European target of 85% by 1 November. The first six months of 2024 were nevertheless marked by geopolitical tensions, a series of unscheduled gas plant outages, and growing competition for LNG between Europe and Asia, sending prices upwards from early March 2024.

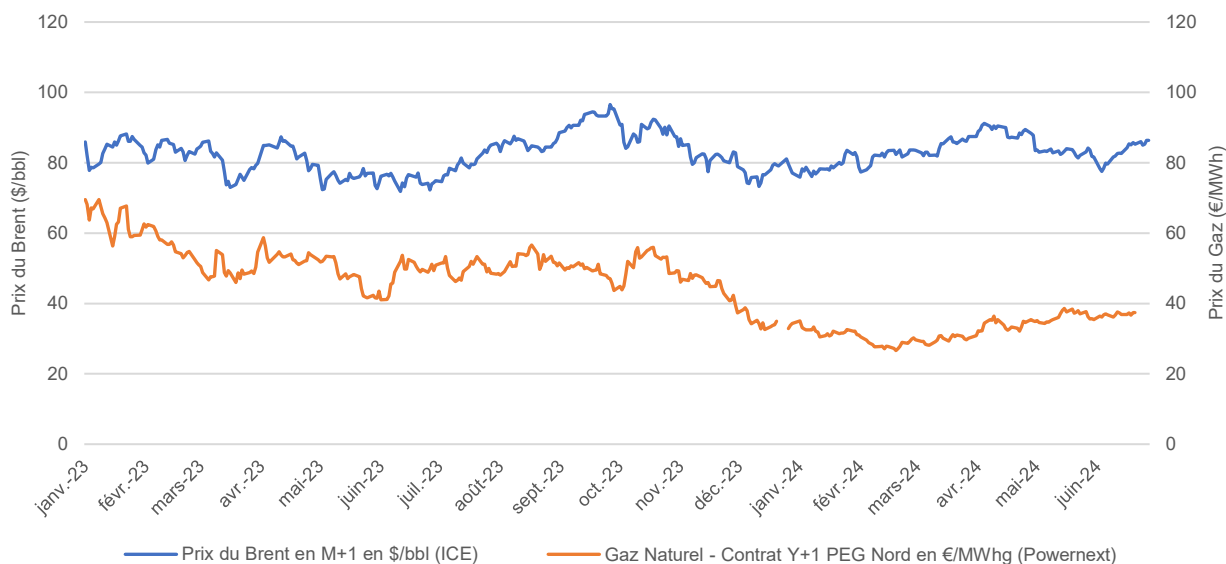
Coal prices for next-year delivery in Europe stood at an average \$109.3/t in the first half of 2024, well below the first half of 2023 (-18.2% or +\$24.3/t vs. H1 2023). Overall, though, the annual contract price rose over the period, but without reaching the levels observed in first-half 2023, since prices followed a downward trend throughout the year 2023. Coal prices in first-half 2024 were sustained by high demand in Asia, and rose in response to various events: prices increased in late March when the Baltimore bridge collapsed, affecting activity at the United States' second-largest coal export hub. In Europe, price rises were restrained by the record levels of European gas and coal stocks at the end of the winter, resulting particularly from the low use of thermal plants. During the first quarter of the year coal prices in Europe were competitive compared to coal exporting countries like the United States and Colombia, and coal was re-exported from European ports to other destinations. As demand for coal remained low in Europe and the low prices encouraged consumers to use European stocks rather than imports, the volume of coal imports at 30 June was the lowest for two years, at 4.6 Mt.

Oil prices stood at an average \$83.4/bbl for the first half of 2024 (+4.3% or +\$3.5/bbl vs. H1 2023). Prices were caught between macroeconomic considerations and sluggish worldwide demand on one hand, and ongoing geopolitical risks in the Middle East and Europe on the other. All these factors resulted in a two-stage price dynamic over the half-year :

- Until mid-April, geopolitical risks drove oil prices upwards. Due to political tensions in the Red Sea, cargo ships sailed around the Cape of Good Hope instead of through the Suez Canal to avoid attack by Houthi rebels, thus taking a much longer route. In Europe, the market responded to fears of reduced production in Russia following Ukrainian drone attacks on several Russian oil refineries in March 2024
- Despite the persistent geopolitical tensions and OPEC cuts to oil production, oil prices fell back from mid-April onwards. This was caused by disappointing Chinese economic indicators and concerns about US inflation in a high interest-rate environment. High American oil stocks and moderate worldwide demand combined with robust production by non-OPEC countries also drove prices downwards.

Natural gas and oil prices

Brent (M+1) prices in \$/bbl (ICE) and PEG Nord natural gas (Y+1) prices in €/MWhg (Powernext)



2.2 Consumption of electricity and natural gas

Consumption of electricity and gas in mainland France

Gross electricity consumption in France in the first half of 2024 was down by -2.4TWh (-1.1%) compared to the first half of 2023 (NB: figures for May and June are provisional).

After correction for the three principal variable effects, representing a total volume of 3.0TWh (the relatively mild winter: +4.6TWh, the leap year effect: -1.4TWh, load shedding: -0.2TWh), consumption for the first half of the year shows a slight year-on-year increase.

Gas consumption in France during the first half of 2024 was down by 20.5TWh (-9.4%) compared to the first half of 2023, despite the period's additional day (29 February). The main drivers of this decrease were the relatively mild winter months, the continuing high wholesale prices, and lower industrial consumption.

Consumption of electricity and gas in the United Kingdom

Electricity consumption in the UK (unadjusted for weather effects) was around 0.1% lower in the first half of 2024 than the first half of 2023, while **gas consumption** was 0.7% higher, in a period of falling energy prices for consumers.

Consumption of electricity and gas in Italy

Electricity consumption in Italy in the first half of 2024 totalled 151.6TWh, up slightly (+ 1.1%) from the first half of 2023. This increase is explained by a recovery in consumer demand, particularly from industrial users, as market prices decreased thanks to the better hydrological conditions in 2024 than 2023.

Consumption of natural gas in Italy in the first half-year declined by 6.5% year-on-year, due to better management of network losses and the decrease in electricity market prices, which reduced the electricity generation plants' demand for gas.

2.3 Sales tariffs for electricity and natural gas

In **France**, In a decision of 18 January 2024, the CRE proposed an average increase (excluding taxes) of 0.18% in the "blue" tariffs for residential customers, and an average decrease of 3.55% in the "blue" tariffs for non-residential customers from 1 February 2024. This proposal was followed by the tariff decision of 29 January 2024. Another decision of 25 January 2024 set out the excise duty rates on electricity applicable from 1 February 2024 to 31 January 2025. These steps had the combined effect of increasing the "blue" tariffs (including taxes) by an average 9.5% for residential customers, and 5.7% for non-residential customers.

On 15 July 2024 the CRE stated in a press release that France's minister for energy had informed the CRE that he did not intend to publish the CRE's tariff change decisions for 1 August 2024 in the *Journal officiel*, and would make use of his right to a 2-month deferral during which he can request new decisions on changes to the TURPE 6 tariff. Consequently, the CRE stated that the proposed tariff changes will not be applied at 1 August 2024.

In the **United Kingdom**, an Energy Price Cap on the variable electricity and gas tariffs (Standard Variable Tariff – SVT) for residential consumers was first introduced on 1 January 2019. Following the significant increase in supply costs caused by the rise in energy prices from September 2021, the British energy market regulator Ofgem decided in 2022 that this price cap, which was initially revised every 6 months, would be revised every 3 months from January 2023 to better reflect the costs, risks and uncertainties faced by power suppliers.

In line with market price movements, the Energy Price Cap was raised by 5% on 1 January 2024 (to £1,928 a year) then reduced by 12% during the second quarter of the year to £1,690 a year for a residential electricity and gas customer (with standard consumption). The reduction continued with a further downward adjustment of 8% on 1 July 2024, bringing the cap to £1,568 a year.

These levels are well below the Energy Price Cap levels of the first half of 2023, when it reached its peak (£4,279 a year during the first quarter of 2023).

Given that particularly high level, in 2023 the British government also set up an Energy Price Guarantee setting a maximum amount for households' electricity and gas bills. This mechanism has not been activated since 1 July 2023. In parallel, the British government introduced a one-off £400 rebate on energy bills (the Energy Bill Support Scheme), which was given to all households between 1 October 2022 and 31 March 2023.

A similar mechanism to the Energy Price Guarantee, the Energy Bill Relief Scheme, was also introduced for business customers from 1 October 2022. It was later replaced by the Energy Bills Discount Scheme which ran from 1 April 2023 until 31 March 2024.

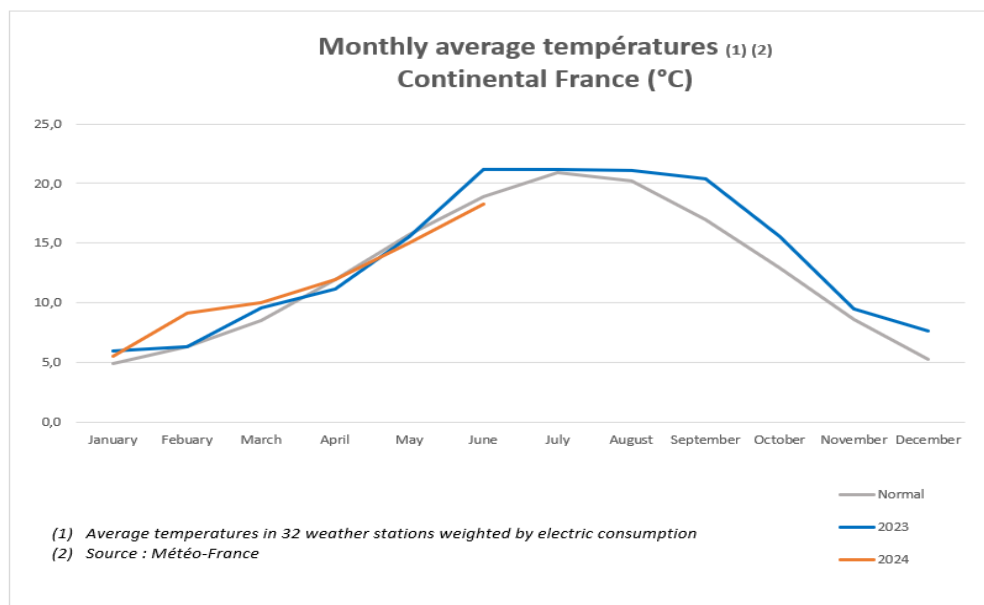
In **Italy**, the average PUN TWA (Time Weighted Average Single National Price) electricity tariff for the first half of 2024 was €93.4/MWh, down by 42.9% compared to the first half of 2023 (€136.3/MWh). This decrease is explained by the

better hydrological conditions in 2024 than 2023. The spot price for gas saw a 34% year-on-year decrease to €0.33/smc³¹ as a result of lower demand.

2.4 Weather conditions: temperatures and hydrological conditions

Temperatures in France

The first half of 2024 was generally warm (temperatures were an average +0.6° above normal), like the first half of 2023. Considered by quarter, however, there was a more noticeable contrast. The first quarter of the year was substantially milder in 2024 than 2023, with February particularly registering much higher temperatures than normal (+2.7°C); however, the second quarter was comparatively cooler in 2024, principally in June when temperatures were 2.9°C lower than June 2023.

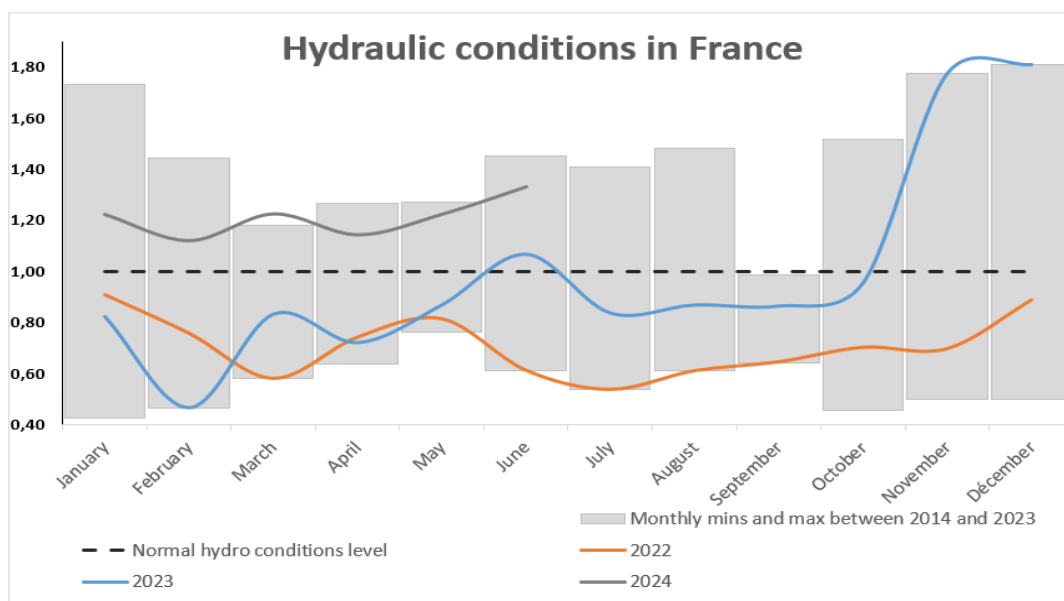


Rainfall, snow cover, and hydrological conditions in France

The first half of 2024 saw heavy rainfall across the whole of the EDF's upstream water sources, in contrast to the drought of first-half 2023. There was a significant shortfall of snow cover in the Pyrenees throughout the half-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 flow coefficients in the first half of 2024 were above the historical average (for the period 1986 to 2023): EDF's cumulative index stood at 1.22, compared to 0.83 for the first half of 2023. Hydropower stocks thus stood at 84.2% of full capacity at 30 June 2024, 9.5 points above the historical average.

¹ €0.01/smc³ = 1 €/MWh



* Weekly monitoring of French reservoir levels by the EDF group's statistical observatory (Miréor project) as far as the coast

3 SIGNIFICANT EVENTS

In addition to the highlights given in section 1, details of significant events during the first half of 2024 are presented in note 2 to the condensed consolidated half-year financial statements at 30 June 2024, "Summary of Significant Events."

3.1 Regulatory environment

Details of changes in regulations are provided in notes 5.1.1, 5.3 and 9 to the condensed consolidated half-year financial statements at 30 June 2024.

3.2 Corporate governance

At EDF's General and Extraordinary Shareholder's Meeting of 11 June 2024, following the proposal by the Board of Directors which had met on 10 June 2024, the shareholders appointed [REDACTED] as an independent director of EDF, replacing [REDACTED], who had expressed her wish to resign after the said General Meeting. [REDACTED] was appointed for a three-year term of office, to terminate at the end of the General Shareholder's Meeting held to approve the financial statements for the year ended 31 December 2026.

4 BUSINESS IN THE FIRST HALF YEAR OF 2024

4.1 Scope of consolidation

Details of changes in the scope of consolidation during the first half of 2024 are given in note 3 to the condensed consolidated half-year financial statements at 30 June 2024, "Scope of consolidation".

A major event of the half-year was the acquisition of the activities of GE Vernova relating to the conventional islands of nuclear plants (formerly GE Steam Power) on 31 May 2024, following the signature of a binding agreement on 4 November 2022 with General Electric and fulfilment of all the required conditions.

This subgroup is fully consolidated under the name Arabelle Solutions, in the new "Industry and Services" segment. This segment comprises industrial activities relating to equipment manufacturing and provision of services for the nuclear activities of Framatome and Arabelle Solutions.

The acquired entity's operations between the acquisition date and the closing date are non-material in the Group's income statement

4.2 Results for the first half of 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.

<i>(in millions of euros)</i>	H1 2024	H1 2023
Sales	60,200	75,499
Fuel and energy purchases	(27,857)	(48,899)
Other external purchases ⁽¹⁾	(4,701)	(4,117)
Personnel expenses	(8,360)	(8,201)
Taxes other than income taxes	(3,062)	(2,714)
Other operating income and expenses	2,468	4,538
Operating profit before depreciation and amortisation (EBITDA)	18,688	16,106
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	696	(276)
Net depreciation and amortisation ⁽²⁾	(5,772)	(5,472)
(Impairment)/reversals	(276)	(48)
Other income and expenses	(3,690)	(1,696)
Operating profit (EBIT)	9,646	8,614
Cost of gross financial indebtedness	(2,026)	(1,857)
Discount effect	(1,288)	(1,977)
Other financial income and expenses	3,301	2,304
Financial result	(13)	(1,530)
Income before taxes of consolidated companies	9,633	7,084
Income taxes	(2,466)	(1,323)
Share in net income of associates and joint ventures	178	142
CONSOLIDATED NET INCOME	7,345	5,903
EDF net income	7,039	5,808
Net income attributable to non-controlling interests	306	95

(1) Other external expenses are reported net of capitalised production.

4.3 Sales

Consolidated sales amounted to €60,200 million in the first half of 2024, down by €15,299 million (-20.3%) from the first half of 2023. After elimination of exchange rate effects and changes in the scope of consolidation, sales for the first half-year were down by €(15,620) million or -20.7%, mainly as a result of movements in electricity and gas prices.

Change in Group sales by segment

The following table shows sales by segment, excluding inter-segment eliminations :

(in millions of euros)	H1 2024	H1 2023	Variation	Variation (%)	Organic variation (%)
France - Generation and supply ⁽¹⁾	26,244	34,622	(8,378)	-24.2	-24.2
France - Regulated activities ⁽²⁾	10,467	9,978	489	4.9	4.9
EDF Renewables	1,020	985	35	3.6	3.4
Dalkia	2,943	3,411	(468)	-13.7	-12.6
Industry and Services	2,191	1,959	232	11.8	10.1
United Kingdom	9,048	12,140	(3,092)	-25.5	-28.1
Italy	7,168	9,543	(2,375)	-24.9	-24.8
Other international	2,307	3,099	(792)	-25.6	-26.0
Other activities	2,730	4,655	(1,925)	-41.4	-41.4
Inter-segment eliminations	(3,918)	(4,893)	975	-19.9	-19.9
GROUP SALES	60,200	75,499	(15,299)	-20.3	-20.7

(1) Generation, supply and optimisation in mainland France, plus sales of engineering, services and consulting.

(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). Enedis is an independent EDF subsidiary as defined in the French Energy Code.

France – Generation and supply

Sales by the **France – Generation and supply** segment amounted to €26,244 million in the first half of 2024, a year-on-year organic decrease of €8,378 million (-24.2%).

On the downstream market, declining electricity market prices brought the amounts invoiced to final customers¹ down by €3,579 million. Also, the French State's tariff cap introduced in late 2022 ended on 1 February 2024 for electricity and 1 July 2023 for gas, and only the electricity buffer and super-buffer compensation mechanisms remained in force. As a result, the compensation received under these mechanisms totalled €1,426 million for the first half of 2024, -€5,768 million less than in the first half of 2023. This compensation is included in Other operating income and expenses (with an impact on EBITDA). The total decrease in revenues from the customer portfolio was -€9,253 million

The milder weather in 2024 had a negative impact of €-436 million.

Income from ARENH scheme sales to alternative suppliers was down by €71 million in line with the lower volumes delivered.

Resales of electricity subject to purchase obligations were down by -€3,789 million due to a high price effect in the first half of 2023 (the effect on EBITDA was neutral because net expenses relating to purchase obligations are compensated by the CSPE mechanism).

Capacity auction sales had a negative impact of -€88 million.

Gas sales had a negative impact of -€210 million, driven by a downturn in prices which was partly offset by higher sales volumes.

Finally, sales by the energy aggregation subsidiaries were down by -€518 million (with a limited impact on EBITDA).

¹ Segment de marché qui comprend les Entreprises Locales de Distribution et qui exclut les opérateurs étrangers.

Electricity generation

In France, the 19.4TWh year-on-year increase in nuclear power output to 177.4TWh reflects a good operational performance whereas the first half of 2023 was affected by stress corrosion repairs (to date, 50 of the 56 reactors have been controlled and treated) and industrial action: 2024 has seen better-controlled shutdowns, resulting in higher fleet availability

The 9.1TWh year-on-year increase in hydropower output in France¹, which stood at 28.5TWh for the first half of 2024, is attributable to better hydrological conditions (see section 2.4 “Weather conditions: temperatures and hydrological conditions”).

Finally, as a result of lower spreads, thermal power plants were used to produce 1.5TWh, 2.4TWh less than in the first half of 2023.

Sales volumes to final customers decreased by -2.2TWh (excluding weather effects), while unit consumption was stable year-on-year. The impact of weather effects is estimated at -2.7TWh, as the first half of 2024 was milder than the first half of 2023.

EDF was a net seller on the wholesale markets to the extent of 39.7TWh, and was also a net seller in the first half of 2023 to the extent of 8.7TWh.

France – Regulated activities

Sales by the **France – Regulated activities** segment in the first half of 2024 amounted to €10,467 million, an organic increase of +€489 million (+4.9%) compared to the first half of 2023.

Sales by Enedis² were up by €488 million, essentially due to a favourable price effect (+€595 million) driven mainly by changes in TURPE 6 tariff indexation.

EDF Renewable

EDF Renewables' sales totalled €1,020 million, an organic increase of €33 million (+3.4%) compared to the first half of 2023 driven by the generation performance of plants currently in operation. The volume of energy output contributing to Group sales was 12.4TWh for first-half 2024, up by 9.7% year on year. The positive impact of new facilities commissioned in 2023 and 2024 was mitigated by unfavourable wind and sunshine conditions and the decrease in prices.

Dalkia

Sales by **Dalkia** amounted to €2,943 million for the first half of 2024, an organic year-on-year decrease of €429 million (-12.6%). This change principally resulted from the 44% drop in gas prices and ad hoc disposals of generation assets on the market during the first half of 2023, which had no equivalent in the first half of 2024.

Industry and Services

The **Industry and Services** segment consists of the Framatome subgroup and GE Vernova's nuclear activities, which were acquired on 31 May 2024.

Framatome's sales amounted to €2,191 million in the first half of 2024, an organic increase of €197 million (+10.1%) from 30 June 2023.

United Kingdom

The **United Kingdom** registered sales of €9,048 million, an organic decrease of €3,415 million (-28.1%) compared to the first half of 2023. This increase is mainly explained by the impact over the past year of rising energy prices on regulated tariffs for gas and electricity sales to customers.

Italy

Sales in **Italy** totalled €7,168 million in the first half of 2024, an organic year-on-year decrease of €2,363 million (-24.8%), in a period of generally falling market prices.

Other international

The **Other international** segment principally covers operations in Belgium, the United States, Brazil and Asia (China, Vietnam and Laos). Sales by this segment amounted to €2,307 million in the first half of 2024, an organic decrease of €805 million (-26.0%) from the first half of 2023.

In **Belgium**³, sales decreased in organic terms by €842 million (-32.0%) compared to first-half 2023, as a result of lower

¹ Hydropower output excluding the island activities, before deduction of pumped-storage volumes. Total cumulative hydropower production after deduction of pumped-storage hydropower was 24.5TWh in the first half of 2024 (16.6TWh in the first half of 2023).

² Enedis est une filiale indépendante d'EDF au sens des dispositions du code de l'énergie.

³ Luminus and EDF Belgium

sales prices for electricity and gas.

Sales in **Brazil** registered an organic increase of €6 million (+1.8%).

Other activities

Other activities comprise, among other entities, EDF Trading and the gas activities.

Sales by this segment amounted to €2,730 million in the first half of 2024, an organic decrease of €1,925 million (-41.4%) compared to the first half of 2023.

Sales by the **gas activities** amounted to €1,480 million, an organic decrease of €831 million year-on-year (-36.0%), explained by a decline in prices on the wholesale gas market over the last two years.

EDF Trading's sales totalled €1,130 million, €1,103 lower than in the first half of 2023 (-49.4%) as market conditions returned to normal. This is a better performance than in 2021 and earlier years, reflecting the robustness and diversification of EDF Trading's business activities.

4.4 EBITDA

The €2,582 million increase in EBITDA to €18,688 million is explained by a good operational performance, leading to an increase in nuclear and hydropower output in France despite a rapid market price downturn has already begun. Services and renewables activities in the rest of Europe also contributed to this rise in EBITDA.

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's EBITDA showed an organic increase of +€2,530 million (+15.7%).

In the second half of the year, the declining market prices will result in a significantly lower H2 EBITDA in 2024 than in 2023.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)	Organic variation (%)
Sales	60,200	75,499	(15,299)	-20.3	-20.7
Fuel and energy purchases	(27,857)	(48,899)	21,042	-43.0	-43.5
Other external expenses	(4,701)	(4,117)	(584)	14.2	13.6
Personnel expenses	(8,360)	(8,201)	(159)	1.9	1.6
Taxes other than income taxes	(3,062)	(2,714)	(348)	12.8	12.7
Other operating income and expenses	2,468	4,538	(2,070)	-45.6	-45.8
EBITDA	18,688	16,106	2,582	16.0	15.7

n.a. : not applicable

Analysis of Group EBITDA

The Group's **fuel and energy purchases** amounted to €27,857 million in the first half of 2024, an organic decrease of €21,269 million (-43.5%) compared to the first half of 2023.

- In the **France - Generation and supply** segment, fuel and energy purchases were down by €11,472 million due to the significantly lower volumes of energy purchased as nuclear and hydropower output improved.
- In the **France - Regulated activities** segment, there was an organic decrease of €1,408 million in fuel and energy purchases, driven by a decline in the price of forward energy purchases to cover network losses.
- In **Italy**, fuel and energy purchases showed an organic decline of €2,629 million due to lower prices.
- In the **United Kingdom**, the organic decrease of €3,626 million (-41.1%) in fuel and energy purchases principally reflects the impact of falling market prices.

The Group's **other external expenses** amounted to €4,701 million in the first half of 2024, an organic increase of €560 million (+13.6%) compared to the first half of 2023. This notably reflected purchases connected with the growth of service activities, and nuclear fleet maintenance activities.

The Group's **personnel expenses** for the first half of 2024 totalled €8,360 million, an organic increase of €135 million (+1.6%) essentially driven by pay measures and workforce growth across all segments.

Taxes other than income taxes amounted to €3,062 million for the first half of 2024, an organic increase of €345 million (+12.7%) compared to the first half of 2023.

- In the **France – Generation and supply** segment, the €116 million (+6.7%) 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 €389 million (+648%) in taxes mainly reflects the introduction of the Electricity Generation Levy on revenues from nuclear generation.

Other operating income and expenses generated net income of €2,468 million in the first half of 2024, an organic decrease of €2,079 million compared to the first half of 2023.

- In the **France – Generation and supply** segment, the €1,827 million organic decrease essentially resulted from the lower CSPE compensation, since the tariff cap mechanism ended in February 2024. The effect of this discontinuation was offset by an increase in support for purchase obligations.
- In the **France – Regulated activities** segment, the organic decrease of €116 million (-15.0%) is largely explained by penalties payable to customers for power cuts during storms at the end of 2023 in France, and a higher level of asset retirements
- **EDF Renewables** registered an organic increase of €93 million (+58.9%) in other operating income and expenses, primarily driven by share swap transactions in Brazil.

Change in consolidated EBITDA by segment

(in millions of euros)	H1 2024	H1 2023	Variation	Variation (%)	Organic variation (%)
France - Generation and supply	10,311	8,641	1,670	19.3	19.3
France - Regulated activities	2,822	1,176	1,646	140.0	140.0
EDF Renewables	574	433	141	32.6	32.6
Dalkia	230	220	10	4.5	5.0
Industry and Services	101	110	(9)	-8.2	-5.5
United Kingdom	1,989	2,266	(277)	-12.2	-15.2
Italy	993	828	165	19.9	21.5
Other international	455	508	(53)	-10.4	-10.8
Other activities	1,213	1,924	(711)	-37.0	-37.0
GROUP EBITDA	18,688	16,106	2,582	16.0	15.7

n.a. : not applicable

France – Generation and supply

The increase in EBITDA is explained by higher output of nuclear power and hydropower, which had a favourable effect estimated at €1.5 billion and €0.8 billion respectively.

The decline in sale prices had an estimated impact of -€8.1 billion. This effect is largely explained by the change in the average forward market prices in the past 2 years: €178/MWh in H1 2024 vs. €218/MWh in H1 2023, and in the ARENH cropping price: €102/MWh in 2024 vs. €410/MWh in 2023.

Falling market prices affecting purchases in a context of higher the nuclear output had a positive effect estimated at €7.8 billion; this effect should be very limited in the second half of the year.

France – Regulated activities¹

The increase in EBITDA is principally explained by a positive price effect estimated at €1.9 billion, caused by purchases to cover network losses made at lower market prices than in 2023 (€1.3 billion) and changes in the TURPE network access tariff⁽²⁾ (€0.5 billion).

The 0.6TWh decline in volumes distributed excluding weather effects had a limited impact on EBITDA.

¹ Regulated activities including Enedis, ÉS and EDF's island activities

² Indexed adjustment to the TURPE 6 distribution tariff: +6.51% at 1 August 2023.

EDF Renewables

At EDF Renewables, EBITDA for generation progressed due to 9.7% growth in volume output following the commissioning of new plants, despite less favourable wind and sunshine conditions in France, and a downturn in prices. The rise in EBITDA is also explained by portfolio rotation, notably involving sales of plants in the United States and Brazil.

Dalkia

At Dalkia, the rise in EBITDA is attributable to the business performance, particularly in energy efficiency services and decarbonisation in France. However, sales of electricity from cogeneration plants were down compared to the first half of 2023.

Industry and Services

The **Industry and Services** segment consists of the Framatome subgroup and GE Vernova's nuclear activities, which were acquired on 31 May 2024.

New nuclear projects in France and the United Kingdom explain the increase in EBITDA.

Order intake amounts to approximately €15.2 billion at 30 June 2024, well above end 2023, largely due to new nuclear projects in France and the United Kingdom, particularly the Sizewell C project.

Together with TechnicAtome, Framatome acquired Vanatome (Daher Valves) which specialises in the design, production and qualification of a wide range of valves for the nuclear and defence sectors.

United Kingdom

The decrease in EBITDA is explained in particular by lower margins in the domestic and small business customer segments, as the first half of 2023 benefited from an exceptional recovery of some of the costs incurred during the energy crisis.

Operational performance was strong for the generation business, with a limited -0.1TWh downturn in nuclear power output to 18.1TWh despite unplanned outages at Heysham 1 and Hartlepool. The impact of these outages was largely offset by optimisation of scheduled outages and higher realised nuclear prices.

Italy

The increase in EBITDA in the electricity generation business was driven by the growth in renewables activities, especially arise in hydropower thanks to exceptionally good hydrological conditions.

The gas business has benefited from good optimisation performances on the portfolio of long-term gas contracts.

In the sales activities, customer portfolio growth explains the improvement in EBITDA.

Other international

The lower EBITDA in **Belgium**¹, is essentially explained by falling prices, despite better nuclear power output (+11%), even though results for the year 2023 were affected by the Chooz power plant shutdown and higher hydropower output (+32%). Also, cost increases for nuclear waste were reinvoiced in 2023, and this had no equivalent in 2024.

In **Brazil**, EBITDA was down slightly due to the -4% indexed adjustment to the *Power Purchase Agreement* attached to EDF's Norte Fluminense plant in November 2023, despite an increase in revenues from system services.

Other activities

The €271 million increase in EBITDA for the **gas activities** is explained by improved margins on the Group's gas storage and sale assets, despite the lower level of business at the Dunkirk terminal.

EDF Trading's EBITDA decreased by €981 million in a context of falling prices and volatility on the wholesale markets.

¹ Luminus and EDF Belgium

4.5 EBIT

The Group's consolidated **EBIT** for the first half of 2024 amounted to €9,646 million, up by €1,032 million (organic increase of €977 million) compared to the first half of 2023.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)
EBITDA	18,688	16,106	2,582	16.0
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	696	(276)	972	n.a.
Net depreciation and amortisation *	(5,772)	(5,472)	(300)	5.5
(Impairment)/reversals	(276)	(48)	(228)	n.a.
Other income and expenses	(3,690)	(1,696)	(1,994)	n.a.
EBIT	9,646	8,614	1,032	12.0

n.a. : not applicable

** Including net increases to provisions for replacement of concession assets.*

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 significantly by €972 million, mainly due to the settlement in 2023 of trading positions taken in 2022 despite the context of falling prices and volatility on the commodity markets.

(Impairment)/reversals

Impairment recognised in the first half of 2024 amounted to €276 million and principally concerned assets related to Nuward, the EDF Group's Small Modular Reactor (SMR) development project. Following engineering and market analysis work during the first half-year, Nuward has decided to switch to a new design orientation using proven technological building blocks, which is more appropriate to market conditions.

Other income and expenses

Other income and expenses generated a net expense of €3,690 million in the first half of 2024, a year-on-year increase of €1,994 million.

This change is principally due to additional allocations to provisions for spent fuel management in France recognised in the France – Generation and supply segment, and impairment of capitalised expenses (€(3,203) million) following revision of the scenario for spent fuel storage. In Italy, an additional provision of €(379) million was booked in connection with the environmental agreement with ENI.

4.6 Financial result

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)
Cost of gross financial indebtedness	(2,026)	(1,857)	(169)	9.1
Discount effect	(1,288)	(1,977)	689	-34.9
Other financial income and expenses	3,301	2,304	997	43.3
FINANCIAL RESULT	(13)	(1,530)	1,517	-99.2

The financial result is an expense of €13 million, a clear €1,517 million improvement compared to the first half of 2023, driven by:

- A good performance by the dedicated asset portfolio, which achieved a return of 5.5% (as in first-half 2023) thanks to favourable developments on the financial markets, particularly the equity markets, contributing to a €997 million improvement in other financial income and expenses;
- A €689 million decrease in the cost of unwinding the discount, principally relating to the 0.10% increase in the real discount rate applied for nuclear provisions in France in 2024 whereas the rate was stable in the first half of 2023;
- A €169 million increase in the cost of gross financial debt, moderated by active management of debt in a context of rising interest rates.

The financial result excluding non-recurring items, particularly the change in fair value of the dedicated asset portfolio, is €(1,678) million compared to €(2,937) million in the first half of 2023, an improvement of €1,259 million.

4.7 Income taxes

The income tax expense amounts to €2,466 million at 30 June 2024, corresponding to an effective tax rate of 25.6% (compared to €1,323 million at 30 June 2023, corresponding to an effective tax rate of 18.7%).

The €(1,143) million change in the tax expense is principally explained by the €2,549 million increase in the Group's pre-tax income, which generated additional tax of €(658) million.

It also reflects the fact that no major new deferred tax asset was recognised during the first half of 2024, whereas at 31 December 2023, the deferred tax asset on the French tax group's 2022 loss was recognised in full (€6,103 million). At 30 June 2023, that deferred tax asset was partially recognised (€385 million). At 30 June 2024, there was nothing to call into question the full recognition of the deferred tax asset over a 10-year horizon.

After elimination of non-recurring items (principally changes in unrealised gains and losses on the financial asset portfolio and commodities), the effective tax rate is 25.0% at 30 June 2024, compared to 18.9% at 30 June 2023.

4.8 Net income

Net income excluding non-recurring items amounts to €8,354 million. The €2,087 million increase primarily reflects the significant growth in EBITDA, less the tax expense.

The Group's net income is €7,039 million, up by nearly €1,231 million year-on-year. Apart from the substantial increase in net income excluding non-recurring items, the principal items after tax contributing to this increase are:

- €2,376 million resulting from the new forecast cost estimate for spent fuel storage in France;
- €(360) million of net changes in the fair value of debt and equity instruments;
- €(729) million of net changes in the fair value of energy and commodity derivatives;
- the €422 million change in impairment losses and financial depreciation;
- the €761 million provision in 2023 relating to renegotiation of an amendment to the processing and recycling agreement with Orano, which has no equivalent in 2024.

5 NET FINANCIAL DEBT, CASH FLOWS AND INVESTMENTS

Changes in net financial debt are shown in the table below.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)
EBITDA	18,688	16,106	2,582	16.0
Cancellation of non-monetary items included in EBITDA	(1,045)	2,011	(3,056)	n.a.
Cash EBITDA	17,643	18,117	(474)	-2.6
.Change in working capital	(706)	(8,020)	7,314	-91.2
Net investments ⁽¹⁾	(11,055)	(9,141)	(1,914)	20.9
Other items including dividends received from associates and joint ventures	(1)	38	(39)	n.a.
Operating cash flow ⁽²⁾	5,881	994	4,887	x 4.92
Asset disposals	-	(3)	3	100
Income taxes paid	(2,094)	(1,125)	(969)	86.1
Net financial expenses disbursed	(1,327)	(1,083)	(244)	22.5
Dedicated assets	129	118	11	9.3
Dividends paid in cash	(736)	(490)	(246)	50.2
Group cash flow ⁽³⁾	1,853	(1,589)	3,442	n.a.
Issues of hybrid notes	-	1,377	(1,377)	-100
Redemption of hybrid notes	(1,250)	(1,371)	121	-8.8
Other monetary changes	(190)	(137)	(53)	38.7
(Increase)/decrease in net indebtedness, excluding the impact of changes in exchange rate	413	(1,720)	2,133	n.a.
Effect of change in exchange rates	(184)	(176)	(8)	4.5
Effect of other non-monetary changes	(94)	1,600	(1,694)	n.a.
(Increase)/decrease in net indebtedness of continuing operations	135	(296)	431	n.a.
(Increase)/decrease in net indebtedness of discontinued operations	-	-	-	-
Net indebtedness at beginning of period	54,381	64,500	(10,119)	-15.7
NET INDEBTEDNESS AT END OF PERIOD	54,246	64,796	,(10,550)	-16.3

n.a. not applicable

- (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 disposals.
- (2) Operating cash flow is not an aggregate defined by IFRS as a measure of financial performance and is not directly comparable with indicators of the same name reported by other companies. This indicator, also known as Funds From Operations (FFO), comprises net cash flow from operating activities, changes in working capital after adjustment where relevant for the impact of non-recurring effects, net investments (excluding the Group's disposals), and other items, including dividends received from associates and joint ventures.
- (3) Group cash flow is not an aggregate defined by IFRS as a measure of financial performance and is not directly comparable with indicators of the same name reported by other companies. It is equal to the operating cash flow defined in note (2) less asset disposals, income taxes paid, net financial expenses disbursed, net allocations to dedicated assets, and dividends paid in cash.

5.1 Net financial debt

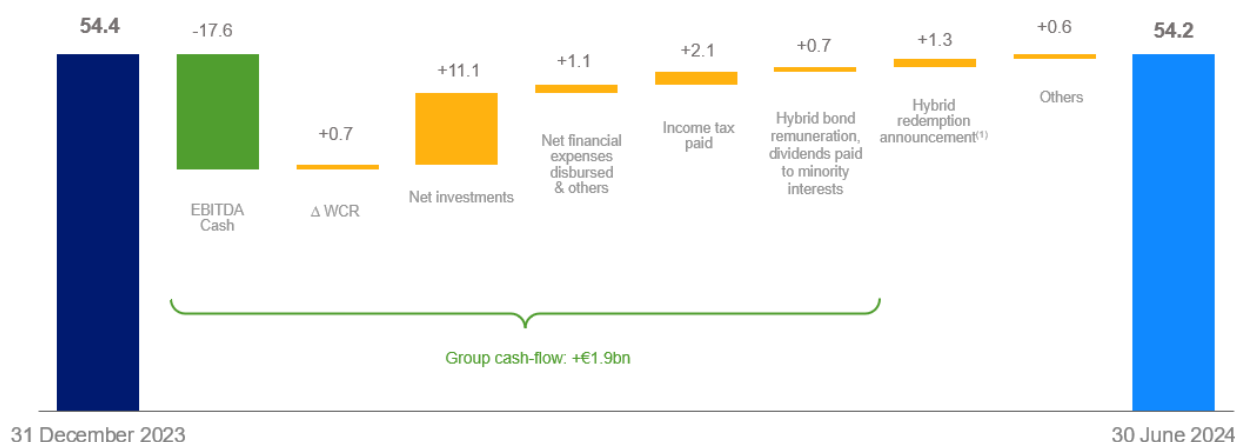
Net financial debt comprises total loans and financial liabilities, less cash and cash equivalents and liquid assets. Liquid assets are financial assets consisting of funds or securities with initial maturity of over three months that are readily convertible into cash and are managed according to a liquidity-oriented policy.

Net financial debt stands at €54,246 million, stable compared to end-2023. The favourable impact of the positive cash flow was almost fully absorbed by the announcement that the hybrid bond issued in October 2018 for a nominal amount of €1,250 million⁽¹⁾ would be redeemed and its equity content replaced by the capital increase resulting from the conversion of the Oceane bond in 2023.

The bond issues during the first half of 2024, totalling around €5.5 billion, the lower level of short-term debt, and early repayments of bank loans lengthened the maturity of the Group's financial debt to 12.1 years at 30 June 2024 (versus 11 years at 31 December 2023), and made it possible to control financing costs in a time of rising interest rates.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)
Loans and other financial liabilities	86,372	93,717	(7,345)	-7.8
Derivatives used to hedge liabilities	(1,381)	(1,445)	64	-4.4
Cash and cash equivalents	(9,238)	(8,074)	(1,164)	14.4
Debt and equity securities - liquid assets	(21,478)	(19,314)	(2,164)	11.2
Net indebtedness of assets held for sale	(29)	(88)	59	-67.0
NET FINANCIAL DEBT	54,246	64,796	(10,550)	-16.3

In billions of euros



⁽¹⁾ Announcement of redemption on 05/07/2024 of the Hybrid bond issued in October 2018 for a nominal amount of €1,250M, and its equity content replaced by the capital increase resulting of conversion of the Oceane bond in 2023.

5.2 Group cash flow

Group cash flow for the first half of 2024 amounted to €1.9 billion compared to €(1.6) billion in the first half of 2023. This is explained by a cash EBITDA of €17.6 billion, generated by a good operational performance despite falling market prices. Working capital rose by €0.7 billion, comprising:

- €3.8 billion resulting essentially from the higher CSPE receivable, as lower market prices led to higher support for renewable energy producers,
- €(3.8) billion due to the effect of the price downturn on trade receivables in France.

The impact of optimization/trading activity is neutral.

¹ See the press release of 5 June 2024 announcing a hybrid note redemption which took place on 5 July 2024: this announcement led to reclassification of the bond from equity to other financial liabilities at 30 June 2024.

This cash flow funded net investments of €11.1 billion, €1.9 billion more than in the first half of 2023 due notably to new nuclear projects including Hinkley Point C, network development and reinforcement, and nuclear fleet maintenance. The acquisition of the nuclear activities of GE Steam Power (Arabelle Solutions) and Assystem's 5% stake in Framatome also had a €0.9 billion effect on the rise in investments.

Net investments

Net investments (excluding asset disposals) amounted to €11,055 million in the first half of 2024, a year-on-year increase of €1,914 million.

<i>(in millions of euros)</i>	H1 2024	H1 2023	Variation	Variation (%)
France - Generation and supply	4,615	3,185	1,430	45%
France - Regulated activities	2,721	2,489	232	9%
EDF Renewables	1,075	1,300	(225)	-17%
Dalkia	107	93	14	15%
Industry and Services	(113)	116	(229)	-197%
United Kingdom	2,222	1,803	419	23%
Italy	213	167	46	28%
Other international	164	(24)	188	-783%
Other activities	51	12	39	325%
NET INVESTMENTS	11,055	9,141	1,914	21%

Net investments by the **France - Generation and supply** segment were up by €1,430 million, principally as a result of the acquisition of GE Steam Power's nuclear activities, the purchase of Assystem's stake in Framatome, and progress on the EPR 2 project.

Net investments by the **France - Regulated activities** segment were up by €232 million, largely due to the higher volume of connection work.

In the **United Kingdom**, the €419 million rise in net investments reflects the significant progress on the Hinkley Point C project.

EDF Renewables' net investments were down by €225 million, particularly as it had fewer projects in development in Brazil, North America, China, France and the United Kingdom.

In **Italy**, net investments increased by €46 million and mainly concerned the renewables business.

The increase in net investments by the **Other International** segment principally relates to new developments in Asia and North America.

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").

In general, the cash flows relating to dedicated assets comprise:

- allocations to reach full coverage of obligations;
- 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;
- exceptional withdrawals proposed to the governance bodies in charge of managing dedicated assets when the value of the portfolio exceeds the amount of the obligations to be financed; such withdrawals must be validated by these bodies.

The net €129 million change in dedicated assets at 30 June 2024 corresponds to the second and third of these categories.

Dividends paid in cash

Cash dividends paid by EDF during the first half of 2024 amounted to €736 million, comprising:

- payments made to holders of perpetual subordinated bonds (the "hybrid note" issues) totalling €307 million;
- dividends paid by Group subsidiaries to their minority shareholders, amounting to €429 million.

5.3 Other non-monetary changes

The **foreign exchange effect** had an unfavourable impact of €(184) million on the Group's net financial debt, caused mainly by the rise of the US dollar and pound sterling against the euro¹.

Other non-monetary changes had an effect of €(94) million in the first half of 2024, compared to €1,600 million in the first half of 2023. They mainly concern new leases (IFRS 16) and accrued interest on financial liabilities. In 2023 these changes also concerned the conversion of OCEANE bonds into shares by the French State.

6 FINANCIAL OUTLOOK

Outlook for 2024

- **EBITDA** is expected to be down from 2023 due to the rapid drop in market prices
- **Nuclear power output in France** is expected to be in the upper end of the 315-345TWh range²

2026 targets³

- Net financial debt / EBITDA: $\leq 2.5x$
- Adjusted economic debt / Adjusted EBITDA⁴: $\leq 4x$

¹ The pound sterling rose by 2.68% against the Euro, from €1.1507/£1 at 31 December 2023 to €1.1815/£1 at 30 June 2024.

The US dollar rose by 3.22% against the Euro, from €0.9050/\$1 at 31 December 2023 to €0.9341/\$1 at 30 June 2024.

² Estimated nuclear generation by the plants currently in operation (excluding Flamanville 3).

³ Based on scope and exchange rates as at 1 January 2024 and assuming French nuclear output by the plants currently in operation (excluding Flamanville 3) of 315-345TWh in 2024 and 335-365TWh in 2025 and 2026.

⁴ Applying constant S&P ratio methodology.

7 MANAGEMENT AND CONTROL OF MARKET RISKS

7.1 Management and control of financial risks

This section sets forth 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.

An independent unit in the Group's Risk Division, the Financial Risks Control Department (*Département Contrôle des Risques Financiers et Investissements* – CRFI), is in charge of financial risk control at Group level, mainly by ensuring correct application of the principles of the strategic financial management framework. It also has the task of carrying out a second-level check of the risk of counterparty default (methodology and organisation) for EDF entities and operationally controlled Group subsidiaries (excluding Enedis), and a first-level check of financing activities by EDF SA's trading room. The CRFI Department also carries out a second-level check of management activities concerning the dedicated asset portfolio.

The CRFI Department issues daily and weekly monitoring reports of risk indicators relevant to activities in EDF SA's trading room.

Regular internal audits are carried out to ensure controls are actually applied and are effective.

Liquidity position and management of liquidity risk

Liquidity position

The Group's liquidities at 30 June 2024, consisting of liquid assets, cash and cash equivalents, totalled €30,717 million and available credit lines amounted to €13,641 million.

At 30 June 2024, the Group's loans and other financial liabilities maturing within one year totalled €18,824 million and included €3,801 million relating to bonds, including accrued interest not yet due. This amount also comprises the negative cash position (including €1,101 million for margin calls on derivatives and repurchase agreements) and the liability relating to lease obligations. The associated requirements may when necessary be funded by the Group's liquidities and available credit lines, and other short-term resources mentioned below.

No Group company was in default on any external financing at 30 June 2024.

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, undertaking the following issues:

On 15 April 2024, a 3-tranche senior bond issue with nominal value of €2.1 billion:

- a US\$650 million bond with 5-year maturity, and a fixed coupon of 5.650%;
- a US\$650 million bond with 10-year maturity, and a fixed coupon of 5.950%;
- a US\$750 million bond with 40-year maturity, and a fixed coupon of 6.000%.

On 13 May 2024, a 2-tranche senior bond issue with nominal value of CAD 750 million:

- a CAD 350 million bond with 10-year maturity, and a fixed coupon of 5.3749%,
- a CAD 400 million bond with 30-year maturity, and a fixed coupon of 5.777%.

On 13 May 2024, the Group signed green bank loans for a total of approximately €5.8 billion, dedicated to financing of the existing nuclear power plant fleet.

On 11 June 2024, a 3-tranche senior green bond issue with nominal value of €3 billion:

- a €1 billion bond with 7-year maturity, and a fixed coupon of 4.125%;
- a €750 million bond with 12-year maturity, and a fixed coupon of 4.375%;
- a €1.25 billion bond with 20-year maturity, and a fixed coupon of 4.750%.

On 5 June 2024 EDF announced that it intended to exercise its option to redeem the hybrid notes issued on 4 October 2018 for a nominal amount of €1,250 million euros (ISIN FR0013367612). These notes were redeemed on 5 July 2024.

Finally, EDF made early repayments of some of its bank loans in the first half of 2024 totalling approximately €4.3 billion.

At 30 June 2024, the residual maturities of financial liabilities (including interest) are as follows¹ :

30 June 2024		Hedging instruments ⁽¹⁾		Guarantees given for borrowings
		Interest rate swaps	Currency swaps	
(in millions of euros)	Liabilities			
< 1 year	22,054	143	(291)	71
1 - 5 years	32,954	(186)	(1,220)	740
> 5 years	86,660	29	(3,708)	464
TOTAL	141,668	(14)	(5,219)	1,275
- repayment of the nominal value	86,372			
- interest expenses	55,296			

(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;
- transfer of bond liabilities to banking counterparties under cash repurchase agreements.

At 30 June 2024, the amount of the Group's commercial paper outstanding was €3,703 million for NEU CP, and US\$100 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, sterling and Swiss franc issues;
- and domestic markets used for stand-alone issues in US dollars (144A bonds), yen (Samurai bonds) and Canadian dollars (Maple bonds).

At 30 June 2024, EDF SA had a total amount of €12,894 million in available credit facilities (syndicated credit and bilateral lines):

- a syndicated credit line of €4 billion that expires in December 2025. No drawings had been made on this syndicated credit line at 30 June 2024;
- a syndicated social credit facility of €1.5 billion that expires in December 2026. No drawings had been made on this facility at 30 June 2024;
- bilateral credit lines representing an available amount of €7,394 million, with expiry dates extending to July 2027.

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 30 June 2024, for a total amount of €2,675 million.

Edison also has a credit line with the European Investment Bank with an available amount of €110 million at 30 June 2024.

¹ Valuation based on exchange rates and interest rates at June 30, 2024.

Credit rating

The long-term and short-term ratings attributed to EDF group entities at 30 June 2024 by the three financial ratings agencies Standard & Poor's, Moody's and Fitch Ratings are presented below. On 5 June 2024 Standard & Poor's revised the outlook for all these entities from "stable" to "positive", in view of the return to high nuclear generation capacities and the very good operating results for the year 2023.

Company	Agency	Long-term rating	Short-term rating
EDF	Standard & Poor's	BBB/ positive outlook	A-2
	Moody's	Baa1/ stable outlook	P-2
	Fitch Ratings	BBB+/ stable outlook	F2
EDF Trading	Moody's	Baa3/ stable outlook	n. a.
EDF Energy	Standard & Poor's	BB-/ positive outlook	B
	Moody's	Baa3/ stable outlook	n. a.
	Fitch Ratings	BBB-/ stable outlook	n. a.
Edison	Standard & Poor's	BBB/positive outlook	A-2
	Moody's	Baa3/ stable outlook	n. a.

n. a. = not applicable.

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.

As a result of the financing and foreign exchange risk hedging policy, the Group's gross debt at 30 June 2024 breaks down as follows by currency after hedging :

GROSS DEBT STRUCTURE AT 30 JUNE 2024, BY CURRENCY BEFORE AND AFTER HEDGING

30 June 2024 (in millions of euros)	Initial debt structure	Impact of hedging instruments ⁽¹⁾	Debt structure after hedges	% of debt
Borrowings in euros (EUR)	49,506	24,894	74,400	86.1%
Borrowings in US dollars (USD)	22,068	(20,368)	1,700	2.0%
Borrowings in pounds sterling (GBP)	9,782	(1,290)	8,492	9.8%
Borrowings in other currencies	5,016	(3,236)	1,780	2.1%
TOTAL DEBT	86,372	0	86,372	100%

(1) Hedges of liabilities and net foreign investments.

The table below presents the impact for equity of a variation in exchange rates on the Group's gross debt at 30 June 2024:

FOREIGN EXCHANGE RISK SENSITIVITY OF THE GROUP'S GROSS DEBT

30 June 2024 <i>(in millions of euros)</i>	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)	74,400		74,400
Borrowings in US dollars (USD)	1,700	170	1,870
Borrowings in pounds sterling (GBP)	8,492	849	9,341
Borrowings in other currencies	1,780	178	1,958
TOTAL DEBT	86,372	1,197	87,569

Due to the 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.

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 profile 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 30 June 2024 comprised 54% at fixed rates and 46% at floating rates.

A 1% uniform annual rise in interest rates would generate an approximate €397 million increase in financial expenses at 30 June 2024 based on gross floating-rate debt after hedging.

The average cost of Group debt (weighted interest rate on outstanding amounts) was 4.21% at 30 June 2024.

STRUCTURE AND INTEREST RATE SENSITIVITY OF GROUP DEBT

30 June 2024 <i>(in millions of euros)</i>	Initial debt structure	Impact of hedging instruments	Debt structure after hedging	Impact on income of a 1% variation in interest rates
Fixed rate	70,130	(23,464)	46,666	54%
Floating rate	16,242	23,464	39,706	46%
TOTAL	86,372	0	86,372	100%

The Group's interest rate risk notably relates to the value of the Group's long-term nuclear obligations (see note 14 to the condensed consolidated half-year financial statements at 30 June 2024) and its pension and other specific employee benefit obligations (see note 15 to the condensed consolidated half-year financial statements at 30 June 2024). All these obligations are adjusted to present value using discount rates that depend on interest rates for various time horizons. The interest rate risk also relates to debt securities held for management of the dedicated assets set aside to cover these obligations.

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 30 June 2024, representing an amount of €3.2 billion.

At 30 June 2024, the EDF Energy employees' pension scheme EDFG (EDF Group) holds an allocation to equities and equity funds (excluding diversified growth funds) that represents an exposure of 5.7%, or an amount of £328 million.

Coverage of EDF's nuclear obligations

Analysis of the equity risk associated with coverage of EDF's nuclear obligations is presented below in the section entitled "Management of financial risk on EDF SA's dedicated asset portfolio".

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 14.3 to the condensed consolidated half-year financial statements at 30 June 2024, "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.

Thanks to the good performance by dedicated assets over the first half of the year (5.5%), nuclear provisions are 106.5% covered by dedicated assets at 30 June 2024 despite the impact of the change of industrial scenario for spent fuel storage on the provisions to be covered. This coverage rate is down by a moderate 2% from 31 December 2023 and still significantly higher than the 100% coverage required by the regulations. Consequently, despite the forecast impact of decommissioning provisions to be established for Flamanville 3 after the first reactor divergence expected in 2024, unless market conditions deteriorate, the coverage rate should remain above 100% at the end of 2024.

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 to improve the risk/return profile. 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.

¹ An internal committee and permanent body for evaluation, consultation and operational decision-making for dedicated asset management.

CONTENT AND PERFORMANCE OF EDF'S DEDICATED ASSET PORTFOLIO

At 30 June 2024, the total value of the dedicated asset portfolio was €38,570 million compared to €36,885 million at 31 December 2023. Changes in dedicated assets in the first half of 2024, and details of their realisable value and book value, are described in note 14.2 to the condensed consolidated half-year financial statements at 30 June 2024.

(in millions of euros)	30/06/2024			31/12/2023		
	Share of portfolio	Stock market or realisable value	Performance for H1 2024	Share of portfolio	Stock market or realisable value	Performance for 2023
Yield assets	23.9%	9,204	2.4%	23.4%	8,657	2.9%
Growth assets	40.7%	15,706	12.6%	38.1%	14,036	17.5%
Fixed-income assets	35.4%	13,660	0.4%	38.5%	14,192	7.9%
TOTAL DEDICATED ASSETS	100.0%	38,570	5.5%	100%	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 €15,074 million at 30 June 2024 and their volatility at the same date was 10.57% based on 52 weekly performances, compared to 11.36% at 31 December 2023. Applying this volatility to the value of listed equity assets at 30 June 2024, the Group estimates the annual volatility of the equities portion of dedicated assets at €1,593 million.

At 30 June 2024, the sensitivity of the listed bonds (€12,878 million) was 5.49, i.e. a uniform 100 base point rise in interest rates would result in a €707 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 4.7% at 30 June 2024 (see note 14 to the condensed consolidated half-year financial statements at that date).

The average annualised performance of dedicated assets since 2004, the year when their value first exceeded €1 billion, was 6.0% at 30 June 2024.

Currently valid dispensations and prescriptions granted by the administrative authority, in application of articles D.594-6 and D.594-7 of the Environment Code

The ministerial authorisation of 31 May 2018 allowing EDF, subject to conditions, to increase the portion of unlisted assets (excluding CTE and real estate assets) in its dedicated assets from 10% to 15% is no longer relevant following the decree of 22 November 2023 which updated the rules for investing in dedicated assets and removed the specific restrictions applicable to shares in CTE.

Management of counterparty/credit risk

Counterparty risk represents the potential loss the EDF group would sustain in the event of future default by its counterparty. The Group has a counterparty risk management policy which applies to EDF and all operationally controlled subsidiaries. This policy sets out the governance arrangements for organisation of counterparty risk management and monitoring, including quarterly consolidation of the Group's exposures. The Financial Risks Control (CRFI) department closely monitors Group counterparties (daily review of alerts, special cautionary measures for certain counterparties).

The table below gives details, by credit rating category, of the EDF group's consolidated exposure to counterparty risk. At 31 March 2024, 91% 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.

	Good credit rating	Poor credit rating	No internal rating	Total
At 31/12/2023	91%	8%	1%	100%
At 31/03/2024	91%	8%	1%	100%

The exposure to counterparty risk by nature of activity is distributed as follows:

	Purchases	Insurance	Distribution and sales	Cash and asset management	Fuel purchases and energy trading	Total
At 31/12/2023	10.4%	0.4%	13.2%	61.8%	14.2%	100%
At 31/03/2024	10.5%	0.4%	12.9%	63.5%	12.7%	100%

Exposures in the energy trading activities are concentrated in EDF Trading. Each counterparty of this subsidiary is assigned a limit that depends on its financial robustness. A range of methods are used to reduce counterparty risk at EDF Trading, primarily position netting agreements, cash-collateral agreements and arrangement of guarantees with banks or affiliates.

For counterparties dealing with EDF's trading room, the Financial Risks Control (CRFI) department has drawn up a framework specifying counterparty authorisation procedures and the methodology for calculating the assigned limits. The level of exposure can be consulted in real time and is systematically monitored on a daily basis. The suitability of limits is reviewed without delay in the event of an alert or unfavourable development affecting a counterparty. Only banking, sovereign and corporate counterparties with good credit ratings are authorised, for limited amounts and maturities.

7.2 Management and control of energy market risks

Energy market risk policy

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.

Organisation of risk control and general risk hedging principle

The process for controlling energy market risks for entities operationally controlled by the Group is based on:

- a governance and market risk exposure measurement system, clearly separating management and risk control responsibilities;
- an express delegation to each entity, defining the hedging strategies and establishing the associated risk limits. This

enables the Executive Committee to set out and monitor an annual Group risk profile consistent with the financial objectives, and thus direct operational management of energy market risks over market horizons (generally three years).

The basic principle for hedging is:

- netting of upstream/downstream positions; sales to final customers are hedged by internal sales whenever possible;
- gradual closing of most positions before the end of the budget year, based on a predefined hedging trajectory¹ that captures an average price, potentially with overweighting of year N-1 in view of liquidity constraints on the forward markets.

The energy 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.

The control procedures are regularly evaluated and audited.

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 (the accounting classifications of the hedges used are described in note 18.7 to the 2023 consolidated financial statements, "Derivatives and Hedge accounting"). 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 the ARENH system, generation plant availability, and customers' consumption).

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 trades on organised or OTC markets in derivatives such as futures, forwards, swaps and options (regardless of the accounting classification applied at Group level). Its 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 limits). 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 ⁽²⁾.

Specific Capital at Risk (CaR) limits are also used in certain areas (operations on illiquid markets, long-term contracts and structured contracts) where VaR is difficult to apply. The stop-loss limit stipulates the acceptable risk for the trading business, setting a maximum level of loss in relation to the trading margin over a rolling three-month period. If these limits are exceeded, EDF Trading's Board of Directors takes appropriate action, which may include closing certain positions.

In the first half of 2024, EDF Trading's commitment on the markets was subject to a VaR limit of €57 million, a CaR limit for long-term contracts and a CaR limit for operations on illiquid markets of €250 million each, and a stop-loss limit of €180 million.

¹ The risk management frameworks, which are approved annually by the Group for each entity with exposure to energy market risks, may include acceleration or deceleration plans allowing departures from these trajectories if predefined price thresholds are exceeded. Since these plans do not comply with the general principle of gradual hedging, they can only be applied under strict conditions.

² EDF Trading estimates the VaR by a "Monte Carlo" method, which is based on volatilities and historical correlations measured using observed market prices over the 40 most recent business days. The VaR limit applies to the total EDF Trading portfolio.

8 TRANSACTIONS WITH RELATED PARTIES

The types of transaction undertaken with related parties are detailed in note 3.3 to the condensed consolidated half-year financial statements at 30 June 2024, “Related parties”.

9 SUBSEQUENT EVENTS

Subsequent events are described in note 20 to the condensed consolidated half-year financial statements at 30 June 2024.

ELECTRICITE DE FRANCE

**Statutory Auditors' Review Report
on the Half-year Financial Information**

(For the period from January 1, 2024 to June 30, 2024)

PricewaterhouseCoopers Audit
63, rue de Villiers
92208 Neuilly-sur-Seine Cedex
France

KPMG SA
Tour EQHO - 2, avenue Gambetta
92066 Paris la Défense Cedex
France

This is a free translation into English of the statutory auditors' review report on the half-year financial information issued in French and is provided solely for the convenience of English-speaking users. This report includes information relating to the specific verification of information given in the Group's half-year management report. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

Statutory Auditors' Review Report on the Half-year Financial Information

(For the period from January 1, 2024 to June 30, 2024)

To the sole Shareholder
ELECTRICITE DE France S.A.
22 AV DE WAGRAM
75382 PARIS CEDEX 08

In compliance with the assignment entrusted to us by your General Meeting and in accordance with the requirements of article L. 451-1-2 III of the French Monetary and Financial Code ("Code monétaire et financier"), we hereby report to you on:

- the review of the accompanying condensed half-year consolidated financial statements of ELECTRICITE DE FRANCE S.A., for the period from January 1, 2024 to June 30, 2024,
- the verification of the information presented in the half-year management report.

These condensed half-year consolidated financial statements are the responsibility of the Board of Directors. Our role is to express a conclusion on these financial statements based on our review.

I. Conclusion on the financial statements

We conducted our review in accordance with professional standards applicable in France.

A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with professional standards applicable in France and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Based on our review, nothing has come to our attention that causes us to believe that the accompanying condensed half-year consolidated financial statements are not prepared, in all material respects, in accordance with IAS 34 - standard of the IFRSs as adopted by the European Union applicable to interim financial information.

II. Specific verification

We have also verified the information presented in the half-year management report on the condensed half-year consolidated financial statements subject to our review. We have no matters to report as to its fair presentation and consistency with the condensed half-year consolidated financial statements.

Neuilly-sur-Seine and Paris La Défense, on July 25, 2024

The Statutory Auditors

PricewaterhouseCoopers Audit

KPMG SA

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**CONDENSED CONSOLIDATED
HALF-YEAR FINANCIAL STATEMENTS
AT 30 JUNE 2024**

Consolidated income statement

(in millions of euros)	Notes	H1 2024	H1 2023
Sales	5.1	60,200	75,499
Fuel and energy purchases	5.2	(27,857)	(48,899)
Other external expenses ⁽¹⁾		(4,701)	(4,117)
Personnel expenses		(8,360)	(8,201)
Taxes other than income taxes	5.3	(3,062)	(2,714)
Other operating income and expenses	5.4	2,468	4,538
Operating profit before depreciation and amortisation	5	18,688	16,106
Net changes in fair value on energy and commodity derivatives, excluding trading activities	6	696	(276)
Net depreciation and amortisation		(5,772)	(5,472)
(Impairment)/reversals	10.3	(276)	(48)
Other income and expenses	7	(3,690)	(1,696)
Operating profit		9,646	8,614
Cost of gross financial indebtedness	8.1	(2,026)	(1,857)
Discount effect	8.2	(1,288)	(1,977)
Other financial income and expenses	8.3	3,301	2,304
Financial result	8	(13)	(1,530)
Income before taxes of consolidated companies		9,633	7,084
Income taxes	9	(2,466)	(1,323)
Share in net income of associates and joint ventures	11	178	142
Net income of discontinued operations		-	-
CONSOLIDATED NET INCOME		7,345	5,903
EDF net income		7,039	5,808
EDF net income – continuing operations		7,039	5,808
EDF net income – discontinued operations		-	-
Net income attributable to non-controlling interests		306	95
Net income attributable to non-controlling interests – continuing operations		306	95
Net income attributable to non-controlling interests – discontinued operations		-	-

(1) Other external expenses are reported net of capitalised production costs.

Consolidated statement of comprehensive income

(in millions of euros)	Notes	H1 2024			H1 2023		
		EDF's share	Non-controlling interests	Total	EDF's share	Non-controlling interests	Total
Consolidated net income		7,039	306	7,345	5,808	95	5,903
Fair value of cash flow hedges							
Fair value of cash flow hedges - gross change	17.5	1,497	(7)	1,490	6,552	42	6,594
Fair value of cash flow hedges - tax effects		(385)	1	(384)	(1,692)	(35)	(1,727)
Fair value of net investment hedges							
Fair value of net investment hedges - gross change	17.5	(407)	-	(407)	(341)	-	(341)
Fair value of net investment hedges - tax effects		13	-	13	147	-	147
Change in fair value of debt instruments							
Gross change in fair value of debt instruments	17.1.2	79	-	79	279	-	279
Related tax effect		(20)	-	(20)	(72)	-	(72)
Fair value of hedging costs (foreign currency basis spread)							
Fair value of hedging costs (foreign currency basis spread) - gross change	17.5	31	-	31	(17)	-	(17)
Fair value of hedging costs (foreign currency basis spread) - tax effects		(8)	-	(8)	-	-	-
Translation adjustments – controlled entities		727	264	991	746	355	1,101
Share in net income of associates and joint ventures – items that can be recycled to profit and loss		113	1	114	(132)	-	(132)
Gains and losses recorded in equity with recycling		1,640	259	1,899	5,470	362	5,832
Change in fair value of equity instruments							
Gross change in fair value of equity instruments	17.1.2	2	-	2	3	-	3
Related tax effect		-	-	-	-	-	-
Change in actuarial gains and losses on post-employment benefits							
Gross change in actuarial gains and losses on post-employment benefits ⁽¹⁾	15.1.2	529	52	581	499	(64)	435
Related tax effect ⁽¹⁾		(140)	(15)	(155)	58	16	74
Share in net income of associates and joint ventures – items that cannot be recycled to profit and loss		17	-	17	18	-	18
Gains and losses recorded in equity with no recycling		408	37	445	578	(48)	530
Total gains and losses recorded in equity		2,048	296	2,344	6,048	314	6,362
CONSOLIDATED COMPREHENSIVE INCOME		9,087	602	9,689	11,856	409	12,265
<i>Comprehensive income of continuing operations</i>		<i>9,087</i>	<i>602</i>	<i>9,689</i>	<i>11,856</i>	<i>409</i>	<i>12,265</i>
<i>Comprehensive income of discontinued operations</i>		<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

Consolidated balance sheet

ASSETS

(in millions of euros)	Notes	30/06/2024	31/12/2023
Goodwill	10.1	9,007	7,895
Other intangible assets	10.1	11,903	11,300
Property, plant and equipment used in generation and other tangible assets, including right-of-use assets	10.2	105,668	100,587
Property, plant and equipment operated under French public electricity distribution concessions	10	67,188	66,128
Property, plant and equipment operated under concessions other than French public electricity distribution concessions	10	6,522	6,544
Investments in associates and joint ventures	11	9,448	9,037
Non-current financial assets	17.1	50,889	48,327
Other non-current receivables	12.3	2,231	2,110
Deferred tax assets	9	5,948	7,403
Non-current assets		268,804	259,331
Inventories		18,293	18,092
Trade receivables	12.2	20,314	26,833
Current financial assets	17.1	33,797	39,442
Current tax assets		861	669
Other current receivables	12.3	9,476	9,074
Cash and cash equivalents		9,238	10,775
Current assets		91,979	104,885
Assets classified as held for sale	3.2	554	596
TOTAL ASSETS		361,337	364,812

EQUITY AND LIABILITIES

(in millions of euros)	Notes	30/06/2024	31/12/2023
Capital	13	2,084	2,084
EDF net income and consolidated reserves		57,061	50,084
Equity (EDF share)		59,145	52,168
Equity (non-controlling interests)	13.4	13,787	11,951
Total equity	13	72,932	64,119
Provisions related to nuclear generation – back-end of the nuclear cycle, plant decommissioning and last cores	14	63,291	60,206
Provisions for employee benefits	15	15,606	15,895
Other provisions	16	5,719	4,878
Non-current provisions		84,616	80,979
Special French public electricity distribution concession liabilities		50,357	50,010
Non-current financial liabilities	17.2	69,845	69,724
Other non-current liabilities	12.5	5,873	5,685
Deferred tax liabilities		782	978
Non-current liabilities		211,473	207,376
Current provisions	14, 15 and 16	7,773	7,294
Trade payables	12.4	16,240	19,687
Current financial liabilities	17.2	28,911	38,103
Current tax liabilities		870	1,111
Other current liabilities	12.5	23,010	26,975
Current liabilities		76,804	93,170
Liabilities classified as held for sale	3.2	128	147
TOTAL EQUITY AND LIABILITIES		361,337	364,812

Consolidated cash flow statement

(in millions of euros)	Notes	H1 2024	H1 2023
Operating activities:			
Consolidated net income		7,345	5,903
Net income of discontinued operations		-	-
Net income of continuing operations		7,345	5,903
Impairment/(reversals)		276	45
Accumulated depreciation and amortisation, provisions and changes in fair value		6,707	9,389
Financial income and expenses		759	1,096
Dividends received from associates and joint ventures		83	384
Capital gains/losses		184	157
Income taxes		2,466	1,322
Share in net income of associates and joint ventures		(178)	(141)
Change in working capital	12.1	(706)	(8,020)
Net cash flow from operations		16,936	10,135
Net financial expenses disbursed		(1,327)	(1,083)
Income taxes paid		(2,094)	(1,125)
Net cash flow from continuing operating activities		13,515	7,927
Net cash flow from operating activities relating to discontinued operations		-	-
Net cash flow from operating activities		13,515	7,927
Investing activities:			
Acquisitions of equity investments, net of cash acquired		(503)	33
Disposals of equity investments, net of cash transferred		109	62
Investments in intangible assets and property, plant and equipment ⁽¹⁾		(11,421)	(10,052)
Net proceeds from sale of intangible assets and property, plant and equipment		66	79
Changes in financial assets		(1,577)	(1,070)
Net cash flow from continuing investing activities		(13,326)	(10,948)
Net cash flow from investing activities relating to discontinued operations		-	-
Net cash flow from investing activities		(13,326)	(10,948)
Financing activities:			
EDF capital increase		-	-
Transactions with non-controlling interests ⁽²⁾		991	862
Dividends paid by parent company	13.2	-	-
Dividends paid to non-controlling interests		(429)	(190)
Cash flows with shareholders		562	672
Issuance of borrowings	17.2.2.1	13,777	9,465
Repayment of borrowings	17.2.2.1	(16,144)	(10,498)
Issuance of perpetual subordinated bonds	13.3	-	1,377
Redemptions of perpetual subordinated bonds	13.3	-	(820)
Remunerations paid to bearers of perpetual subordinated bonds	13.3	(307)	(300)
Funding contributions received for assets operated under concessions and investment subsidies		192	101
Other cash flows from financing activities		(2,482)	(675)
Net cash flow from continuing financing activities		(1,920)	(3)
Net cash flow from financing activities relating to discontinued operations		-	-
Net cash flow from financing activities		(1,920)	(3)
Net cash flow from continuing operations		(1,731)	(3,024)
Net cash flow from discontinued operations		-	-
Net increase/(decrease) in cash and cash equivalents		(1,731)	(3,024)
CASH AND CASH EQUIVALENTS - OPENING BALANCE		10,775	10,948
Net increase/(decrease) in cash and cash equivalents		(1,731)	(3,024)
Currency fluctuations		97	36
Financial income on cash and cash equivalents		156	96
Other non-monetary changes		(59)	18
CASH AND CASH EQUIVALENTS - CLOSING BALANCE		9,238	8,074

(1) Investments in intangible assets and property, plant and equipment comprise €(9,663) million of acquisitions of property, plant and equipment (€(8,578) million in 2023), €(1,151) million of acquisitions of intangible assets (€(868) million in 2023) and €(606) million change in payables to suppliers of fixed assets (€(606) million in 2023).

(2) In 2024, these transactions notably include a €1,086 million capital injection by the British government into the Sizewell C project and the purchase of Assystem's minority interests in Framatome for €(205) million. In 2023, they included an amount of €776 million corresponding to capital injections by CGN into NNB Holding (HPC) and by the British government into NNB Holding (SZC) Ltd.

Change in consolidated equity

Details of the change in equity between 1 January and 30 June 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 AT 31/12/2023	2,084	-	(19)	(1,732)	51,835	52,168	11,951	64,119
Gains and losses recorded in equity	-	-	833	807	408	2,048	296	2,344
Net income	-	-	-	-	7,039	7,039	306	7,345
Consolidated comprehensive income	-	-	833	807	7,447	9,087	602	9,689
Remuneration on perpetual subordinated bonds	-	-	-	-	(307)	(307)	-	(307)
Issuance/redemption of perpetual subordinated bonds	-	-	-	-	(1,243)	(1,243)	-	(1,243)
Dividends paid	-	-	-	-	-	-	(450)	(450)
Other changes ⁽³⁾	-	-	-	-	(560)	(560)	1,684	1,124
EQUITY AT 30/06/2024	2,084	-	814	(925)	57,172	59,145	13,787	72,932

(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, and 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 (attributable to non-controlling interests) notably include, in the United Kingdom, a €1,225 million capital injection by the British government into the Sizewell C project.

Details of the change in equity between 1 January and 30 June 2023 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 AT 31/12/2022	1,944	(7)	(175)	(7,451)	40,029	34,340	12,272	46,612
Gains and losses recorded in equity	-	-	616	4,843	592	6,051	314	6,365
Net income	-	-	-	-	5,808	5,808	95	5,903
Consolidated comprehensive income	-	-	616	4,843	6,400	11,859	409	12,268
Remuneration on perpetual subordinated bonds	-	-	-	-	(300)	(300)	-	(300)
Issuance/redemption of perpetual subordinated bonds and OCEANE bonds	141	-	-	-	2,258	2,399	-	2,399
Dividends paid	-	-	-	-	-	-	(209)	(209)
Other changes ⁽³⁾	-	-	-	(1)	(344)	(345)	1,240	895
EQUITY AT 30/06/2023	2,085	(7)	441	(2,609)	48,043	47,953	13,712	61,665

(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, and amounts recycled to profit and loss in respect of terminated contracts and debt instruments transferred.

(2) Fair value changes recorded in OCI with no recycling are presented in this column.

(3) In the first half of 2023, "Other changes" in equity (non-controlling interests) include the capital increases funded by CGN for NNB Holding (HPC) Ltd. (€525 million) and by the UK Government for NNB Holding (SZC) Ltd. (€251 million).

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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 condensed consolidated financial statements (hereafter called "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 half-year ended 30 June 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 30 June 2024 were prepared under the responsibility of the Board of Directors and approved by the Directors at the Board meeting held on 25 July 2024.

Note 1 Group accounting policies

1.1 Declaration of conformity and group accounting policies

Pursuant to European regulation 16/06/2002 of 19 July 2002 on the adoption of international accounting standards, the EDF group's consolidated financial statements at 30 June 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 30 June 2024. These international standards are IAS (International Accounting Standards), IFRS (International Financial Reporting Standards), and SIC and IFRIC interpretations.

The consolidated half-year financial statements comply with standard IAS 34 "Interim financial reporting". They do not therefore include all the information required for full annual financial statements and are to be read in conjunction with the consolidated financial statements at 31 December 2023.

The Group's consolidated financial statements are presented in millions of euros⁽¹⁾.

Apart from changes in accounting standards, detailed in note 1.2, and the valuation methods specific to interim financial reporting described in note 1.4, the accounting principles and valuation methods are identical to those applied and described in note 1.3 and in individual notes to the consolidated financial statements at 31 December 2023.

1.2 Changes in accounting standards

1.2.1 Amendments to IAS 7 "Statement of Cash Flows" and IFRS 7 "Financial Instruments" - Supplier Finance Arrangements

In 2023 the IASB published amendments to IAS 7 and IFRS 7 defining the quantitative and qualitative disclosures required about supplier finance arrangements, to assess how such arrangements affect the entity's liabilities and cash flows, and its exposure to liquidity risk.

Application of these amendments has no material impact on the Group's financial statements at 30 June 2024.

1.2.2 Amendments to IAS 1 "Presentation of financial statements" - Classification of liabilities as current or non-current liabilities with covenants

Application of the following amendments has no material impact on the Group's financial statements at 30 June 2024, as the disclosures presented already complied with the principles of these amendments:

- 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 which must be respected after the closing date do not affect the classification of a liability as current or non-current at that date. This amendment also aims to improve disclosures on long-term liabilities containing covenants.

(1) 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.

1.3 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, considering positive and negative contingencies existing at the closing date. 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 financial and energy market volatility, the parameters used to prepare estimates are based on macro-economic assumptions appropriate to the very long-term cycle of Group assets.

The Group's main estimates and judgments are described in note 1.3.4 to the consolidated financial statements at 31 December 2023.

1.4 Valuation methods: specific to interim financial statements

1.4.1 Employee benefits

The amount of the obligation corresponding to post-employment benefits and other long-term benefits at 30 June is calculated by projecting the prior year obligation over one half-year, taking into account the benefits paid out and the changes in fund assets, adjusted due to plan modifications where relevant.

In the event of amendment, curtailment or settlement during the accounting period, the actuarial assumptions and the amount of the obligation are updated at the date of the change. The current service cost and the net interest expense on defined benefits are adjusted accordingly from that date.

In all other situations, the actuarial assumptions used to calculate employee benefits for interim financial statements differ from those used for the previous annual financial statements if significant developments arise for certain parameters (for example the discount rate) (see note 15.2).

1.4.2 Income taxes

For interim financial statements, the income tax expense is calculated by applying the estimated annual average current-year tax rate to the pre-tax income for the period, for each entity or tax group. This calculation takes account of the seasonal nature of non-recurring operations with a significant impact on the income tax expense.

Note 2 Summary of significant events

The main significant events and transactions for the Group in the first half of 2024 were the following:

- **Nuclear developments:**

- Flamanville EPR: Following issuance on 8 May 2024 of the French Nuclear Safety Authority (ASN) authorisation of the commissioning of the Flamanville EPR, EDF teams loaded 241 nuclear fuel assemblies into the reactor vessel between 8 and 15 May (see the Group press release of 8 May 2024 and note 10.2).
- Sizewell C: In April 2024 the UK's Office for Nuclear Regulation granted the Nuclear Site Licence required to start building the Sizewell plant. Work has begun on making certain equipment, and preliminary site work prior to the start of construction is under way (see note 10.2).

- **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 in a ceremony attended by national authorities and key stakeholders in the energy sector. This 480 MW 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 an installed capacity of 480 MWp (see the EDF Renewables press release of 18 July 2024).

- **Financing operations:**

The Group undertook several bond issues during the first half of 2024 totalling €5,536 million, including €3,000 million of green bonds (see note 17.2.2), and on 5 June 2024 it announced its intention to exercise its option to redeem on 5 July 2024 the €1,250 million euros tranche of hybrid notes issued on 4 October 2018 (see note 13.3).

- **Acquisitions and disposals:**

EDF completed the acquisition of GE Steam Power's nuclear activities on 31 May 2024 (see the Group press release of 31 May 2024 and note 3.1.2).

- **Strategic plan:**

The Group has presented its strategic plan, "Ambitions 2035", to the Board of Directors: the objective is to build the electricity system of the future to serve our 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.

Note 3 Scope of consolidation

3.1 Changes in the scope of consolidation

3.1.1 Changes in the scope of consolidation in the first half of 2024

The following main changes took place in the Group's scope of consolidation during the first half of 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%;
- acquisition on 31 January 2024 of a 50% share in Nordic Logistic (logistics 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).

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.

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) 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. GE Vernova's steam turbines can be installed in European pressurized 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.

The activities acquired are exercised in France and internationally, and made sales of US\$790 million in 2023, 40% of which were to the EDF group (approximately 50% in 2022). This investment is fully consolidated in the Group's consolidated financial statements as of 31 May 2024, in the new "Industry and Services" segment which consists of the Framatome subgroup and GE Vernova's nuclear activities. These nuclear activities employ a total 3,300 people and will be headed by Arabelle Solutions, a fully-owned EDF subsidiary. They are carried out through 22 legal entities, mostly located in France, the United Kingdom and India.

The provisional purchase price is €917 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 acquired entity's operations between the acquisition date and the closing date are non-material in the Group's income statement.

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)	Acquisition Balance sheet	EQUITY AND LIABILITIES (in millions of euros)	Acquisition Balance sheet
Property, plant and equipment and intangible assets	166	Equity	(38)
Financial assets and other non-current assets	68	Non-current provisions	99
Deferred tax assets	36	Financial liabilities and other non-current liabilities ⁽¹⁾	195
Non-current assets	270	Deferred tax liabilities	1
Inventories	156	Non-current liabilities	295
Trade receivables	185	Current provisions	40
Financial assets and other current assets	387	Trade payables	219
Current tax assets	23	Financial liabilities and other non-current liabilities ⁽¹⁾	808
Cash and cash equivalents	309	Current tax liabilities	6
Current assets	1,060	Current liabilities	1,073
TOTAL ASSETS	1,330	TOTAL EQUITY AND LIABILITIES	1,330

⁽¹⁾ Including €830 million of deferred income on long-term contracts (current portion: €668 million).

The provisional goodwill amounts to €955 million, corresponding to the estimated future economic benefits expected from the operation.

Fair value measurement of the identifiable assets and liabilities is currently in progress. Consequently, the figures reported for the operation at 30 June 2024 are provisional and the Group has 12 months to finalise the valuations.

The provisional goodwill is calculated as follows:

(in millions of euros)	
Net assets acquired	(38)
Provisional purchase price	917
PROVISIONAL GOODWILL	955

3.2 Assets held for sale and related liabilities

At 30 June 2024, assets held for sale and related liabilities mainly comprise the ongoing Edison's gas storage assets in Italy (Stoccaggio).

On 4 June 2024, Snam SpA submitted a binding purchase offer for 100% of Stoccaggio (see the Edison press release of 4 June 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, assets held for sale and related liabilities are shown below:

(in millions of euros)	30/06/2024	31/12/2023
ASSETS HELD FOR SALE	554	596
Property, plant and equipment and intangible assets	400	440
Other current assets ⁽¹⁾	154	156
LIABILITIES RELATED TO ASSETS HELD FOR SALE	128	147
Provisions and other non-current liabilities	107	137
Other current liabilities ⁽¹⁾	21	10

(1) Other current assets and liabilities comprise components of working capital.

3.3 Related parties

There have been no significant changes since 31 December 2023 in the types of transaction undertaken with related parties. In particular, the Group has significant ongoing relationships with public-sector enterprises, primarily with the Orano Group for the supply, transport and reprocessing of nuclear fuel.

Note 4 Segment reporting

Segment reporting presentation complies with IFRS 8 “Operating segments”.

Segment reporting is determined before inter-segment eliminations and where applicable takes account of the effects on profit and loss of asset and liability revaluations due to business combinations, in accordance with IFRS 3.

As of 30 June 2024, following the Group's acquisition of Arabelle Solutions on 31 May 2024 (see note 3.1.2), the “Framatome” segment is renamed “Industry and Services”. This segment comprises industrial activities relating to equipment manufacturing and provision of services for the nuclear activities of Framatome and of Arabelle Solutions.

4.1.1 At 30 June 2024

(in millions of euros)	France – Generation and Supply	France – Regulated activities	Industry and Services ⁽¹⁾	United Kingdom	Italy	Other international	EDF Renewables	Dalkia	Other activities ⁽²⁾	Inter- segment eliminations	Total
Income statement:											
External sales	24,647	10,450	1,009	9,035	7,159	2,146	683	2,597	2,474	-	60,200
Inter-segment sales	1,597	17	1,182	13	9	161	337	346	256	(3,918)	-
TOTAL SALES	26,244	10,467	2,191	9,048	7,168	2,307	1,020	2,943	2,730	(3,918)	60,200
OTHER EXTERNAL EXPENSES AND PERSONNEL EXPENSES	(4,828)	(2,629)	(1,752)	(931)	(707)	(503)	(617)	(1,720)	(195)	821	(13,061)
OPERATING PROFIT BEFORE DEPRECIATION AND AMORTISATION	10,311	2,822	325	1,989	993	455	574	230	1,213	(224)	18,688
OPERATING PROFIT	4,541	961	159	1,548	337	322	235	21	1,746	(224)	9,646
Balance sheet:											
GOODWILL	135	223	2,452	5,049	143	55	198	630	122	-	9,007
INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT	64,445	72,367	3,157	26,163	5,653	2,462	14,134	2,452	448	-	191,281
INVESTMENTS IN INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT	3,787	2,792	148	3,127	222	233	958	137	17	-	11,421
TOTAL ASSETS	214,144	73,844	6,309	18,576	3,450	19,099	15,358	5,012	5,545	-	361,337
LOANS AND OTHER FINANCIAL LIABILITIES	96,051	6,722	362	7,486	2,094	21,182	12,795	2,049	1,067	(63,436)	86,372

(1) The “Industry and Services” segment comprises the activities of Framatome and Arabelle Solutions sub-groups. Arabelle Solutions’ operations between the acquisition date and the closing date are non-material in the Group’s income statement (see note 3.1.2).

(2) Sales by the “Other activities” segment include the €1,130 million trading margin realised by EDF Trading.

4.1.2 At 30 June 2023

(in millions of euros)	France – Generation and Supply	France – Regulated activities	Framatome	United Kingdom	Italy	Other international	EDF Renewables	Dalkia	Other activities ⁽¹⁾	Inter- segment eliminations	Total
Income statement:											
External sales	32,104	9,948	955	12,112	9,541	2,856	698	3,023	4,262	-	75,499
Inter-segment sales	2,518	30	1,004	28	2	243	287	388	393	(4,893)	-
TOTAL SALES	34,622	9,978	1,959	12,140	9,543	3,099	985	3,411	4,655	(4,893)	75,499
OTHER EXTERNAL EXPENSES AND PERSONNEL EXPENSES	(4,426)	(2,488)	(1,572)	(822)	(630)	(445)	(630)	(1,670)	(329)	694	(12,318)
OPERATING PROFIT BEFORE DEPRECIATION AND AMORTISATION	8,641	1,176	307	2,266	828	508	433	220	1,924	(197)	16,106
OPERATING PROFIT	5,451	(595)	144	1,893	302	(5)	88	5	1,528	(197)	8,614
Balance sheet:											
GOODWILL	132	223	1,450	6,758	155	50	187	620	142	-	9,717
INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT	62,066	69,818	2,891	30,786	5,906	2,244	12,372	2,316	464	-	188,863
INVESTMENTS IN INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT	3,180	2,562	122	2,580	158	155	1,173	111	11	-	10,052
TOTAL ASSETS	208,630	70,567	5,121	30,133	4,040	14,777	13,926	4,833	17,754	-	369,780
LOANS AND OTHER FINANCIAL LIABILITIES	100,132	5,162	256	7,705	1,828	17,704	10,748	1,992	2,790	(54,600)	93,717

(1) Sales by the “Other activities” segment include the €2,233 million trading margin realised by EDF Trading.

Note 5 Operating profit before depreciation and amortisation

(in millions of euros)	Notes	H1 2024	H1 2023
Sales	5.1	60,200	75,499
Fuel and energy purchases	5.2	(27,857)	(48,899)
External services		(9,018)	(7,866)
Other purchases (excluding external services, fuel and energy)		(2,216)	(2,117)
Change in inventories and capitalised production		6,390	5,736
(Increase)/decrease in provisions on other external expenses		143	130
Other external expenses		(4,701)	(4,117)
Personnel expenses		(8,360)	(8,201)
Taxes other than income taxes	5.3	(3,062)	(2,714)
Other operating income and expenses	5.4	2,468	4,538
OPERATING PROFIT BEFORE DEPRECIATION AND AMORTISATION		18,688	16,106

The Group's consolidated operating profit before depreciation and amortisation for the first half of 2024 amounts to €18,688 million, up by €2,582 million (+16%) compared to the first half of 2023.

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's EBITDA showed an organic increase of €2,530 million, mainly concerning the following segments:

- In the **France – Generation and Supply** segment, the organic increase of €1,670 million in the operating profit before depreciation and amortisation is mainly explained by higher output of nuclear power (+19.4TWh) and hydropower (+7.9TWh) in the first half of 2024 compared to the first half of 2023. The consequences of this increase are partly counterbalanced by unfavourable price effects, as market prices decreased and average regulated sales tariffs for electricity remained stable.
- In the **France – Regulated activities** segment, the organic increase of €1,646 million in operating profit before depreciation and amortisation is mainly due to Enedis, whose purchases to compensate for 2024 network losses contractualised in 2023 were made in a period of falling market prices.
- Operating profit before depreciation and amortisation in the **Other activities** segment showed an organic decrease of €(711) million, principally due to the lower trading margin on European markets as the commodity markets returned to normal.
- Finally, in the **United Kingdom** segment, the organic decrease of €(344) million in operating profit before depreciation and amortisation was caused in particular by lower margins on supply to medium-sized and large businesses due to a decrease in short-term market prices, which was partly offset by higher realised sale prices for nuclear electricity than in the first half of 2023.

5.1 Sales

5.1.1 Regulatory changes in France

The regulatory framework for France's regulated electricity sales tariffs, the network access tariffs, the *Accès Régulé à l'Énergie Nucléaire Historique* and the capacity mechanism is described in note 5.1 to the consolidated financial statements at 31 December 2023.

Regulated electricity sales tariffs in France – "Blue" tariffs

Under Law 2024-330 of 11 April 2024, the 36kVA power limit for subscribing regulated-tariff electricity is to be withdrawn from 1 February 2025. This change does not affect the other eligibility criteria.

Tariff changes

In accordance with article L. 337-4 of the French Energy Code, the French Energy Regulatory Commission "CRE" (*Commission de Régulation de l'Énergie*) 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 revenues between the first half-years of 2023 and 2024 is affected by the following tariff changes:

Date of the CRE proposal	Increase in "blue" residential customer tariffs (inc. taxes / excl. taxes)	Increase in "blue" non- residential customer tariffs (inc. taxes/excl. taxes)	Date of the tariff decision	Date of application
07/07/2022	No change	No change	28/07/2022	01/08/2022
19/01/2023	15% / 20%	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

In a decision of 18 January 2024, the CRE proposed an average increase (excluding taxes) of 0.18% in the "blue" tariffs for residential customers, and an average decrease of 3.55% in the "blue" tariffs for non-residential customers from 1 February 2024. This proposal was followed by the tariff decision of 29 January 2024. Another decision of 25 January 2024 set out the excise duty rates on electricity applicable from 1 February 2024 to 31 January 2025. These steps had the combined effect of increasing the "blue" tariffs (including taxes) by an average 9.5% for residential customers, and 5.7% for non-residential customers.

As the CRE stated in a press release of 15 July 2024 that there would be no adjustment of the TURPE 6 tariff on 1 August 2024, the regulated sales tariffs for electricity remain unchanged.

On 1 February 2023, the French government decided to prolong the tariff cap, limiting the increase in regulated electricity sales tariffs to 15% (including taxes) above the tariffs in force since 1 February 2022 for all categories of eligible consumers. It then decided to scale back the mechanism from 1 August 2023, raising the regulated electricity sales tariffs at that date by 10% (including taxes) compared to the tariffs in force since 1 February 2023. This tariff cap ended on 1 February 2024.

"Electricity buffer" mechanism

Section IX of article 181 of France's Finance Law adopted on 30 December 2022 for 2023 introduced an "electricity buffer" mechanism to help businesses and local authorities that were not eligible for the national tariff cap to cope with the increase in their contracted electricity prices in 2023. This support is applicable to very small businesses with subscribed power above 36kVA, small and medium businesses, and local authorities.

Decree 2022-1774 of 31 December 2022 defined the terms for application of the electricity buffer: eligible customers would benefit from a 50% reduction in the price of volumes consumed over a given month (up to a maximum of 90% of regular levels based on their past consumption), calculated as the difference between the average price of the variable component of their contract for 2023, excluding taxes and the TURPE charge, and the reference price of €180/MWh. The reduction was capped at €320/MWh.

Decree 2023-61 of 3 February 2023 amending decree 2022-1774 of 31 December 2022 changed the parameters of the electricity buffer for very small business sites with subscribed power of over 36kVA where the average variable price component per MWh excluding taxes and TURPE charge under their 2023 power supply contract was above an annual average of €280/MWh. In such cases the price reduction applied to 100% of the volume consumed, and was calculated as the difference between the average price of the variable component of their contract and the reference price of €230/MWh (instead of €180/MWh), with a cap of €1,500/MWh (instead of €320/MWh).

Decrees 2023-1421 and 2023-1422 of 30 December 2023 then defined the application rules for the electricity buffer for 2024: eligible customers benefit 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 regular levels based on 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 of €250/MWh for 2024 (€230/MWh for very small businesses).

For the first half of 2024, the electricity tariff cap gave rise to compensation of €1,698 million, reduced by an amount of €(272) million payable under the electricity buffer mechanism. As the gas tariff cap ended on 1 July 2023, no related subsidy is recognised at 30 June 2024 (see note 5.4).

"TURPE" Network access tariffs

The costs borne by the network operators Enedis and RTE for management of the public electricity distribution and transmission networks are covered by the "TURPE" tariffs for using the networks, as stipulated in Articles L. 341 - 2 and following of the French Energy Code, provided they are in line with the costs of an efficient network operator.

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), after the Higher Energy Council (*Conseil supérieur de l'énergie*) gave its approval. These tariffs apply 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.

On 15 July 2024 the CRE stated in a press release that France's minister for energy had informed the CRE that he did not intend to publish the CRE's tariff change decisions for 1 August 2024 in the *Journal officiel*, and would make use of his right to a 2-month deferral during which he can request new decisions on changes to the TURPE 6 tariff. Consequently, the CRE stated that the proposed tariff changes will not be applied at 1 August 2024.

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.

Accès régulé à l'énergie nucléaire historique (ARENH)

General description of the scheme

In 2023, the CRE notified EDF of three suspensions to ARENH deliveries. In two cases this was due to decisions by the CRE's Dispute Resolution and Enforcement Committee (CoRDIS), and in the third case it followed a failure to pay price supplements due on deliveries made during 2022. These suspensions concerned a total 5.2MW of electricity during 2023. No suspensions to ARENH deliveries were notified during the first half of 2024.

For the ARENH allocations for 2024 determined by the CRE's decision n°2023-330 of 26 October 2023, as required by the Energy Code (article R.336-14 of the Energy Code modified by decree n°2022-1380 of 29 October 2022), the CRE has defined the method for allocating ARENH volumes if applications exceed the maximum total volume allowed for 2024. It has also laid down criteria for assessing ARENH applications (verification methods, and where relevant correction procedures for ARENH applications from alternative suppliers).

The decision states 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 ARENH price supplement (CP2) paid by alternative suppliers whose ARENH applications are excessive in view of their actual sales volumes. These changes are likely to make the penalty for such disproportionate applications more dissuasive.

Finally, 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).

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 will no longer be 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.

Post-ARENH market framework

On 22 November 2023, the French government began a consultation to determine proposed measures to give electricity consumers in France protection, stability and billing predictability once the ARENH scheme ends on 31 December 2025.

Following this public consultation, a proposed law on energy sovereignty was presented by the government on 9 January 2024. It presents a framework conducive to development of medium and long-term contracts (wholesale products, retail offerings and industrial partnerships). It also includes a new levy of a portion of nuclear revenues made in high-price situations, for redistribution to consumers by the State. These measures are not yet enshrined in law.

Capacity mechanism

For the delivery year 2025, six auctions have been held, with the following results: €25.5/kW in October 2023, €25.0/kW in November 2023, €9.37/kW in December 2023, €20.01/kW in March 2024, €19.99/kW in April 2024 and €15.00/kW in June 2024. For the delivery year 2026, an auction was held in April 2024 with the following result: €15.54/kW.

5.1.2 Sales

Sales are comprised of:

(in millions of euros)	H1 2024	H1 2023
Sales of energy and energy-related services	56,181	70,325
energy ⁽¹⁾	44,514	59,346
energy-related services (including delivery ⁽²⁾)	11,667	10,979
Other sales of goods and services	2,889	2,941
Trading	1,130	2,233
SALES	60,200	75,499

(1) Sales of energy include €2,048 million of sales related to optimisation operations on the wholesale gas and electricity markets in the first half of 2024 (€3,157 million in the first half of 2023). These operations are carried out by certain Group entities to balance supply and demand, in compliance with the group's risk management policy. At 30 June 2024, the principal operating segments with a net short position in euros on the markets are Italy (electricity) and Dalkia (electricity).

(2) Delivery services included in this item concern the distribution network operators Enedis, Electricité de Strasbourg and EDF SA for non-interconnected zones. However, delivery services concerning EDF Energy and Edison are included in Sales of energy, 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 included in "Transmission and delivery expenses" in note 5.2.

After elimination of foreign exchange effects and changes in the scope of consolidation, the Group's sales for the first half of 2024 were down by €(15.6) billion or (20.7)%, mainly as a result of movements in electricity and gas prices.

Sales by the **France – Generation and supply** segment showed an organic decline of €(7.5) billion or (23.2)% compared to the first half of 2023, primarily explained by the lower sales prices to customers on market-price offerings due to the decline in market prices. This downturn is also attributable to unfavourable energy market price effects on purchase obligations (with a neutral effect on operating profit before depreciation and amortisation, due to the CSPE compensation mechanism for expenses related to purchase obligations).

Sales by the **France – Regulated activities** segment increased by €502 million (+5%) compared to the first half of 2023, principally as a result of higher delivery tariffs (TURPE).

Sales by the **United Kingdom** segment showed an organic decline of €(3.4) billion or (28.1)% compared to the first half of 2023. This decrease is principally attributable to the impact of falling energy prices on sales tariffs to customers, despite an increase in realised prices for nuclear power.

The organic decline in sales by the **Italy** segment reached €(2.4) billion or (24.8)% compared to the first half of 2023. The decrease essentially concerned the gas business (€(1,526) million) and is explained by falling prices, partly offset by higher sales volumes. The electricity business registered a decrease of €(830) million attributable to falling prices.

5.2 Fuel and energy purchases

Fuel and energy purchases comprise:

(in millions of euros)	H1 2024	H1 2023
Fuel purchases used – power generation ⁽¹⁾	(8,005)	(11,794)
Energy purchases ⁽¹⁾	(15,090)	(32,727)
Transmission and delivery expenses	(4,732)	(4,219)
Gain/loss on hedge accounting	113	(218)
(Increase)/decrease in provisions related to nuclear fuels and energy purchases	(143)	59
FUEL AND ENERGY PURCHASES	(27,857)	(48,899)

(1) At 30 June 2024, fuel and energy purchases used include respectively €103 million and €4.171 million for optimisation operations on the wholesale gas and electricity markets (respectively €1,500 million and €18,507 million in the first half of 2023). At 30 June 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). At 30 June 2023, the same segments were concerned.

"Fuel purchases" used include costs relating to raw materials for energy generation (gas, nuclear fuels and fissile 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 down by €(21.3) billion compared to the first half of 2023, principally in the **France-Generation and Supply** segment (€(11.5) billion, essentially for electricity purchases), the **United Kingdom** segment (€(3.6) billion, essentially for gas and electricity purchases) and the **Italy** segment (€(2.6) billion, essentially for gas purchases).

The decrease in France was mainly driven by lower net purchases on the wholesale markets, in line with the better availability of nuclear and hydropower plants, and a decline in prices.

5.3 Taxes other than income taxes

These taxes comprise:

(in millions of euros)	H1 2024	H1 2023
Payroll taxes	(202)	(187)
Energy taxes	(1,302)	(1,275)
Other non-income taxes	(1,558)	(1,252)
TAXES OTHER THAN INCOME TAXES	(3,062)	(2,714)

After elimination of foreign exchange effects and changes in the scope of consolidation, taxes other than income taxes showed an increase of €(345) million or 12.7%. This notably reflects the effect of the United Kingdom's Electricity Generator Levy which reached €(387) million in the first half of 2024 and had no equivalent in the first half of 2023, and higher local taxes in the **France-Generation and supply** segment (€(116) million), offset by the absence of tax due under the inframarginal revenue cap mechanism, which was not renewed in Belgium in the **Other international** segment (effect of €154 million, recorded in "Other non-income taxes").

The EU Inframarginal revenue cap on electricity production

This inframarginal revenue cap regulation is described in note 5.4 to the consolidated financial statements at 31 December 2023. It has been extended for 2024 in France, with minor amendments to the thresholds for application and the calculation methods.

Consequently, in the EDF Group in **France**, the inframarginal revenue cap concerns EDF SA (no tax due under this regulation at 30 June 2024 due to tax loss carryforwards) and the French entities of EDF Renewables (€6.1 million at 30 June 2024) and Dalkia (€0.3 million at 30 June 2024) for their renewable energy and cogeneration output.

The **United Kingdom** introduced a 45% tax on revenues in excess of £75/MWh tax from electricity generation (the Electricity Generator Levy) applicable from 1 January 2023. This tax, which has a similar objective to the inframarginal revenue cap, is payable by entities producing electricity from renewable and nuclear sources but does not apply to gas-fired power plants. It is scheduled to apply until 30 March 2028 and generated a (non tax-deductible) expense of €387 million for EDF Energy in the first half of 2024.

5.4 Other operating income and expenses

(in millions of euros)	H1 2024	H1 2023
Operating subsidies (including CSPE)	4,185	5,769
Net income on deconsolidation	132	68
Gains on disposal of fixed assets	(84)	(112)
Net increase/decrease in provisions on current assets	(100)	(306)
Net increase in provisions for operating contingencies and losses	13	19
Other items	(1,678)	(900)
OTHER OPERATING INCOME AND EXPENSES	2,468	4,538

Operating subsidies mainly include the contribution received or receivable by EDF to cover public energy service charges for 2024, reflected in the financial statements through recognition of income of €4,035 million at 30 June 2024 (€5,551 million at 30 June 2023). The laws and regulations governing the CSPE (*Contribution au service public de l'énergie* - Contribution to the Public Energy Service) mechanism are described in note 5.5.1 to the consolidated financial statements at 31 December 2023. This mechanism has several components.

At 30 June 2024, the compensation for purchase obligations is recognised as income of €1,524 million (compared to an expense of €2,694 million at 30 June 2023) because the public service charges to be covered for purchase obligations were negative in 2023 due to very high market prices which exceeded the price guaranteed by the State. The CSPE compensation in 2024 includes an amount of €1,426 million to cover losses of income caused by support schemes for final customers. €1,698 million was received in compensation for the electricity tariff cap, which ended on 31 January 2024, reduced by an amount of €(272) million payable under the electricity buffer mechanism. As the gas tariff cap was discontinued in July 2023, no subsidy under that mechanism is recognised at 30 June 2024.

The income generated by the CSPE mechanism at 30 June 2024 gives rise to recognition of a corresponding item in "Other receivables" (see note 12.3).

Other operating income and expenses also include smaller expenses related to energy savings certificates, losses on non-recoverable operating receivables, royalties related to French hydropower concessions, additional remuneration paid to producers of renewable energy in France, and income and expenses associated with the closure of the two Fessenheim reactors (see note 5.5.4 to the consolidated financial statements at 31 December 2023).

At 30 June 2023, the compensation system for purchase obligations gave rise to an expense of €2,694 million. Conversely, the compensation for public service charges included an amount of €7,194 million for the sales revenue shortfall caused by support schemes for final customers. The electricity tariff cap gave rise to compensation of €6,458 million and the electricity buffer gave rise to compensation of €642 million, while the compensation for the gas tariff cap amounted to €94 million.

At 30 June 2023, other operating income and expenses included a provision of €2,749 million for the cost in the second half of 2022 of the specific additional 20TWh ARENH scheme, introduced by the decree of 11 March 2022 and its implementing orders. The related laws and regulations placed EDF under a concurrent obligation to buy and sell electricity with predetermined volumes and prices for the period from April to December 2022: sales of 19.5TWh of ARENH volumes to eligible suppliers at the price of €46.2/MWh, and purchases of 19.5TWh from the same eligible suppliers at the price of €256.98/MWh.

Note 6 Net changes in fair value on energy and commodity derivatives, excluding trading activities

(in millions of euros)

H1 2024

H1 2023

NET CHANGES IN FAIR VALUE ON ENERGY AND COMMODITY DERIVATIVES, EXCLUDING TRADING ACTIVITIES	696	(276)
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Net changes in fair value on Energy and Commodity derivatives, excluding trading activities, increased from €(276) million in the first half of 2023 to €696 million in the first half of 2024, mainly as a result of lower price volatility in 2024 as market prices for commodities continued the decrease that began in the first half of 2023.

Note 7 Other income and expenses

Other income and expenses amount to €(3,690) million for the first half of 2024. They principally comprise:

- increases to provisions for spent fuel management in France and impairment of capitalised costs due to revision of the scenario for spent fuel storage costs, totalling €(3,203) million (see note 14.1);
- an increase of €(379) million in provisions following the environmental agreement with ENI (see note 16.3.2);
- exceptional additional costs relating to repairs of the main secondary circuit welds at the Flamanville 3 EPR, totalling €(81) million (these are defined by IAS 16.22 as abnormal costs and cannot be included in the cost of assets in progress).

In the first half of 2023, other income and expenses amounted to €(1,696) million. They principally comprised:

- an exceptional additional allocation of €(1,026) million to provisions for contingencies and losses in the view of negotiations in progress with Orano Recyclage concerning the principles of future amendments for the period 2024-2026. The resulting agreement was signed in September 2023 (see note 15.1.1 to the consolidated financial statements at 31 December 2023);
- an increase of €(354) million in provisions following the interim agreement between Engie and the Belgian government on the transfer of all obligations concerning nuclear waste to the Belgian government;
- exceptional additional costs relating to repairs of the main secondary circuit welds at the Flamanville 3 EPR, totalling €(226) million.

Note 8 Financial result

8.1 Cost of gross financial indebtedness

The cost of gross financial indebtedness was €(2,026) million at 30 June 2024 compared to €(1,857) million at 30 June 2023. This increase is mainly explained by a rise in interest on bond liabilities.

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 employee benefits.

Details of the final discount effect are as follows:

(in millions of euros)	H1 2024	H1 2023
Provisions for long-term and post-employment employee benefits ⁽¹⁾	(608)	(664)
Provisions for the back-end of the nuclear cycle, decommissioning and last cores ⁽²⁾	(640)	(1,291)
Other provisions and advances	(40)	(22)
DISCOUNT EFFECT	(1,288)	(1,977)

(1) See note 15.1.2.

(2) Including the effect of discounting the receivable corresponding to amounts reimbursable by the NLF (see note 17.1.3).

The decrease in the discount expense on provisions for long-term and post-employment employee benefits in the first half of 2024 is explained by the lower real discount rate applicable at 1 January 2024 (in France: 3.4%, against 3.9% at 1 January 2023), partly offset by a higher volume of commitments at 1 January 2024.

The decrease in the discount expense on nuclear provisions in the first half of 2024 results mainly from a rate effect of €491 million due to the 0.1% rise in the real discount rate (2.6% at 30 June 2024 against 2.5% at 30 June 2023), and the €216 million impact of the adjustment to economic conditions in June 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)	H1 2024	H1 2023
Gains/(losses) on financial assets	484	412
Changes in financial instruments carried at fair value through profit and loss	2,027	1,333
Other	790	559
OTHER FINANCIAL INCOME AND EXPENSES	3,301	2,304

Gains and losses on financial assets consist of income on cash and cash equivalents, income and expenses on debt and equity securities, and income and expenses on other financial assets.

At 30 June 2024, changes in the fair value of financial instruments include €1,837 million concerning dedicated assets (see note 14.2.1). Other items include €(86) million of gains and losses on sales of debt securities carried at fair value through OCI with recycling (€(63)) million of which concern dedicated assets).

At 30 June 2023, changes in the fair value of financial instruments included €1,392 million concerning dedicated assets (see note 14.2.1). Other items included €(136) million of gains and losses on sales of debt securities carried at fair value through OCI with recycling (€(60)) million of which concerned dedicated assets).

Note 9 Income taxes

The income tax expense amounts to €2,466 million at 30 June 2024, corresponding to an effective tax rate of 25.6% (compared to an income tax expense of €1,323 million at 30 June 2023, corresponding to an effective tax rate of 18.7%).

The €(1,143) million change notably reflects the €2,549 million increase in the Group's pre-tax income, generating additional tax of €(658) million. It is also explained by the fact that no major new deferred tax asset was recognised during the first half of 2024, as the deferred tax asset on the French tax group's 2022 loss was recognised in full at 31 December 2023 (€6,103 million). At 30 June 2024, no event called into question the full recognition of this deferred tax asset over a 10-year horizon.

After elimination of non-recurring items (principally changes in unrealised gains and losses on the financial asset portfolio and commodities), the effective current tax rate is 25.0% at 30 June 2024, compared to 18.9% at 30 June 2023.

"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.

The Group finalised its "Pillar Two" evaluation work during the first half of 2024, and concluded that these rules will not have any significant impact on profit and loss in the consolidated financial statements.

Note 10 Property, plant and equipment and intangible assets

Details of property, plant and equipment and intangible assets are as follows:

(in millions of euros)	Notes	30/06/2024	31/12/2023
Goodwill	10.1	9,007	7,895
Other intangible assets	10.1	11,903	11,300
Property, plant and equipment used in generation and other tangible assets, including right-of-use assets	10.2	105,668	100,587
<i>including right-of-use assets</i>		4,171	4,173
Property, plant and equipment operated under French public electricity distribution concessions		67,188	66,128
Property, plant and equipment operated under concessions other than French electricity distribution concessions		6,522	6,544
TOTAL PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS		200,288	192,454

10.1 Goodwill and other intangible assets

(in millions of euros)	31/12/2023	Increases	Decreases	Translation adjustments	Changes in scope	Other movements	30/06/2024
Goodwill	11,832	1,006	-	218	-	(1)	13,055
Other intangible assets	20,905	2,107	(688)	60	20	2	22,406
<i>including assets in progress</i>	2,600	625	(1)	1	6	4	3,235
GROSS VALUE	32,737	3,113	(688)	278	20	1	35,461
Goodwill	(3,937)	-	(20)	(83)	-	(8)	(4,048)
Other intangible assets	(9,605)	(927)	28	(38)	9	30	(10,503)
<i>including assets in progress</i>	(14)	(105)	-	-	-	-	(119)
DEPRECIATION AND IMPAIRMENT	(13,542)	(927)	8	(121)	9	22	(14,551)
NET VALUE	19,195	2,186	(680)	157	29	23	20,910

Goodwill

At 30 June 2024, goodwill primarily relates to EDF Energy (€5,049 million) and Framatome (€1,497 million). The increase is essentially attributable to acquisition of the Arabelle Solutions subgroup, which led to recognition of provisional goodwill of €955 million (see note 3.1.2).

Other intangible assets

Other intangible assets in progress at 30 June 2024 essentially comprise €1,933 million for studies concerning the EPR 2 including capitalised interim interest of €161 million (€1,651 million at 31 December 2023, including capitalised interim interest of €125 million).

The change during the first half of 2024 is also explained by purchases of green certificates amounting to €956 million.

Impairment of €(230) million was recognised in connection with Nuward (Small modular reactors) at 30 June 2024 (see note 10.3).

New nuclear reactors in France: the EPR 2 project

The EPR 2 project concerns a new pressurised water nuclear reactor that meets the objectives for third-generation reactor safety. Its aim is to incorporate design, construction and commissioning experience acquired from EPR reactors and the nuclear reactors currently in operation.

The EPR 2 will offer a superior operating performance in terms of power (1,650MW compared to 1450MW for the most powerful current reactor), output, availability and manoeuvrability.

On 10 February 2022, the French President announced the launch of a programme to construct 6 EPR 2 reactors by 2035, and begin studies for an additional 8 EPR 2 reactors by 2050. He also observed that it was necessary to aim to have the first new reactor commissioned by 2035, and declared that these new EPR 2 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) (see the press release by the French President's Office of 19 July 2023).

While awaiting a final investment decision 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 on the EPR 2 project during the first half of 2024: the launch of production of primary components was approved (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. The Gravelines and Bugey projects are also in active preparation. The public debate concerning Gravelines will be held in autumn 2024. The Bugey project has been submitted to France's National Public Debate Commission (CNDP), which has also decided to hold a debate, possibly in the first half of 2025. Work on the competitiveness plan, the technical maturity review and programme consolidation also continued during the first half of 2024. Consolidation of the completion cost and the competitiveness plan is in process. A financial audit by the State will take place in the second half of 2024.

At 30 June 2024, the EPR 2 project consists of €1,933 million of intangible assets and €132 million of tangible assets.

NUWARD, France's Small Modular Reactor (SMR) project

The Basic Design phase 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 has been 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. The EDF group is continuing its strategy of developing a 3rd-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 authorised 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 12.5.4).

In view of these factors, the Group recognised impairment on the amounts capitalised to date for this project which now amount to €(230) million net of subsidies (see note 10.3).

10.2 Property, plant and equipment

(in millions of euros)	31/12/2023	Increases	Commissioning	Decreases	Translation adjustments	Changes in the scope of consolidation	Other movements	30/06/2024
Land and buildings	14,561	15	149	(36)	24	46	5	14,764
Nuclear power plants	82,796	7	1,552	(589)	265	-	(7)	84,024
Fossil-fired & hydropower plants	17,878	20	513	(34)	50	-	-	18,427
Other installations, plant, machinery, equipment & other	25,955	48	742	(192)	98	360	59	27,070
Right-of-use assets	7,157	452	-	-	27	55	(536)	7,155
Assets in progress	58,041	7,720	(2,956)	(166)	852	23	(317)	63,197
GROSS VALUE	206,388	8,262	-	(1,017)	1,316	484	(796)	214,637
Land and buildings	(8,768)	(195)	-	31	(14)	-	1	(8,945)
Nuclear power plants	(56,818)	(1,874)	-	538	(179)	-	(335)	(58,668)
Fossil-fired & hydropower plants	(13,007)	(243)	-	33	(42)	-	(2)	(13,261)
Other installations, plant, machinery, equipment & other	(12,918)	(731)	-	187	(69)	25	547	(12,959)
Right-of-use assets	(2,984)	(387)	-	-	(6)	1	392	(2,984)
Assets in progress	(11,306)	-	-	7	(304)	-	(549)	(12,152)
DEPRECIATION AND IMPAIRMENT	(105,801)	(3,430)	-	796	(614)	26	54	(108,969)
NET VALUE	100,587	4,832	-	(221)	702	510	(742)	105,668

The change in the net value of property, plant and equipment over the first half of 2024 amounts to €5,081 million, of which €4,310 million relates to assets in progress and €771 million to assets commissioned and in operation.

Assets in progress

At 30 June 2024, the net value of assets in progress (property, plant and equipment used in generation and other tangible assets) is €51,045 million, mainly comprising:

- Assets for Hinkley Point C amounting to €18,672 million, including capitalised interim interest of €2,185 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 €(12,016) million at 30 June 2024, unchanged from 31 December 2023 (excluding foreign exchange effects);
- Assets for the Flamanville 3 EPR amounting to €15,699 million, including capitalised interim interest of €3,471 million (€15,485 million and €3,471 million respectively at 31 December 2023);
- Studies concerning Sizewell C amounting to €2,288 million (€1,483 million at 31 December 2023).

The €5,156 million increase in the gross value of these assets during the first half of 2024 comprises:

- €3,338 million concerning the major projects in the United Kingdom: €2,588 million for Hinkley Point C and €750 million for Sizewell C;
- €1,638 million concerning the major projects in France, including €1,063 million for the *Grand Carénage* industrial refurbishment programme and €214 million for Flamanville 3;
- €852 million of translation adjustments including €826 million due to the pound sterling's rise against the euro;
- €(2,956) million concerning new installations commissioned during the period: €(1,700) million in France, essentially relating to nuclear power plants, and €(520) million in Italy, relating to thermal and hydropower generation facilities.

Assets in operation

The gross value at 30 June 2024 of property, plant and equipment in operation is €151,440 million. The increase of €3,093 million is explained by:

- €461 million resulting from changes in the scope of consolidation, essentially at EDF Renewables (principally relating to the Pirapora solar plant in Brazil (€440 million));
- €464 million of translation adjustments, including €379 million due to the pound sterling's rise against the euro;
- €(479) million mainly resulting from contractual adjustments to right-of-use assets associated with leases, presented in Other movements;
- €2,956 million reflecting the commissioning of new facilities during the period.

Flamanville 3 EPR

The Flamanville project saw the following developments during the first half of 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 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. The reactor should then be coupled to the electricity grid in summer 2024 once it has reached 400MW power, and the power escalation will continue in successive stages over the autumn until 100% nominal power is reached. Each stage of the power escalation requires prior approval from the ASN.

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 in mid-2025 at the end of the reactor's first operating cycle.

The construction cost (excluding interim interest) is stated in the consolidated financial statements at 30 June 2024 at €12,552 million and the completion cost is unchanged at €13.2 billion in 2015 euros.

This amount includes the following items:

- pre-operating expenses and other property, plant and equipment related to the project, totalling €1,071 million;
- an inventory of spare parts and capitalised amounts totalling €788 million for related projects (notably the initial comprehensive inspection and North Area development).

Hinkley Point C

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 and several scenarios have been analysed:

- The first scenario around which the project is organised is targeting Reactor 1 becoming operational in 2029. This schedule is based on a target productivity for the electromechanical work, based on achievement of action plans that are currently in preparation.
- A second scenario (base case), which sees Reactor 1 operational in 2030, assumes certain risks inherent in the ramp-up of the electromechanical work and the testing schedule do materialise;
- Finally, given the complexity of the project, an unfavourable scenario could lead to a start of electricity production from Reactor 1 in 2031.

In the first two scenarios, the costs of completing the project are estimated at between £31 billion and £34 billion in 2015 values depending on the variants. The additional cost in the event of the unfavourable scenario is estimated at around £1 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 cost revision.

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).

Work for the construction and operation of two EPRs at the Hinkley Point site (in the United Kingdom) continued during the first half of 2024, particularly with the following advances:

- Three steam generators were delivered to the site;
- Three key milestones were reached: the concrete base of the reactor pool was poured, installation of the heat exchangers for the diesel generator systems began, and the level 5 external pump house walls were erected;
- The teams are preparing to install the reactor vessel in September 2024, in line with the schedule.

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. EDF has financed the project alone since then.

At 30 June 2024, EDF's share in HPC is 70.5%, with CGN owning the remaining 29.5%.

Sizewell C

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 saw the following developments during the first half of 2024:

- In May 2024 the Office for Nuclear Regulation granted the Nuclear Site Licence required to start building the plant;
- 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;
- The Sizewell C project company purchased the principal site land from EDF Energy during the first half of 2024, and on-site construction work has officially started.

The financing terms of the construction are being discussed with the UK Government. In September 2023, an equity raise process was launched by the UK Government to seek additional funding for construction from private investors.

The decision to build the plant will depend on the Final Investment Decision (FID).

EDF's commitment to fund the project until the FID is issued is subject to a limit which was reached in late 2023. While awaiting the FID, the project was funded in full by the UK government during the first half of 2024, reinforcing its position as majority shareholder. At 30 June 2024, the UK Government's share of the project is 76.1%, with EDF owning the remaining 23.9%.

Sizewell C is still fully consolidated in the Group's financial statements at 30 June 2024, despite the fact that it holds only a minority stake, due notably to EDF's involvement in key project decisions and also because there is insufficient visibility regarding the project company's independence and the allocation of risks and responsibilities between the stakeholders after the FID is issued. For the Group, the target is that the project will not be carried in its balance sheet, and the investment will be limited to a maximum 19.99%. The situation should change between now and the FID as a result of the project's governance, the current equity raise processes, Sizewell C's growing independence of EDF and stronger support from the UK Government.

Like other Group investments, EDF's commitment to contribute to the funding of the project build at the FID date is subject to fulfilment of certain criteria selected by the Group.

10.3 Impairment and reversals

The Group's impairment testing methodology is described in note 10.8 to the consolidated financial statements at 31 December 2023.

The impairment recognised at 31 December 2023 amounted to €(13,011) million. It principally concerned the Hinkley Point C project in the United Kingdom (€(11,151) million) following revision of the project schedule and construction costs (see note 10.8 to the financial statements at 31 December 2023), and EDF Energy goodwill (€1,773) million.

Impairment tests are conducted for the half-year financial statements when there is an indication of loss of value.

In reviewing its assets and assessing such indications at 30 June 2024, the Group considered the change over the half-year in key parameters that can affect its CGUs.

Short-term electricity prices (over the CAL 2025 and CAL 2026 market horizon) followed downward trends to varying degrees during the half-year in the United Kingdom and Europe zones, and were subjected to a specific analysis.

Long-term electricity prices for impairment testing resulting from a complex construction and scenario-building process are only updated annually, at the year-end (see note 10.8 to the financial statements at 31 December 2023). As commodity market fundamentals affecting electricity prices did not vary significantly over the first half of 2024, the long-term price curves referred to by the Group at 31 December 2023 still provide the best estimate for these prices at 30 June 2024.

For EDF Energy in the United Kingdom, the decline in short-term prices already observed on the markets at the 2023 year-end principally affected the Nuclear Operations CGU and was largely taken into account in the impairment tests conducted for the 2023 year-end. There was thus only a moderate decrease in the first half of 2024 and the Group found no indication of loss of value on its assets that would require impairment testing. For EDF Energy's other CGUs, no significant change in operating and macroeconomic assumptions was observed that would require impairment tests to be updated.

For EDF's generation fleet in France, Edison's assets in Italy and Luminus' assets in Belgium, short-term electricity prices registered more pronounced variations during the first half of 2024. Given the volatility observed and the downward trend in market prices, sensitivity analyses were carried out in each of these zones, assuming an average of 30% reduction in short-term prices. The results of these analyses confirmed that there was no risk of impairment and that these CGUs still had comfortable headroom. Consequently, in the absence of any other indications of loss of value, the Group did not conduct impairment tests for these assets.

Impairment tests were however conducted at 30 June 2024 for certain specific assets for which indications of impairment were identified, and led to recognition of impairment of €(276) million at that date. These impairments mainly concern assets related to Nuward, the EDF group's Small Modular Reactor (SMR) development project. In view of what has been learned from engineering and development work done during the Basic Design phase, Nuward has decided to switch to a new design of the project based on proven technological building blocks, which is more appropriate to market conditions.

€(61) million of impairment of associates (see note 11) was also recognised in respect of real estate investments included in dedicated assets, and the investment in EDF Renewables' wind farm off the coast of Scotland. Additionally, partial impairment of €(208) million was booked on the loans granted to finance this project (see note 11.3), following delays to commissioning for some of the turbines.

At 30 June 2023, impairment of €(48) million was recognised related to particular assets. This included €(36) million concerning two EDF Renewables wind farms in China commissioned in 2021, for which the confirmed risk of non-reception of subsidies had a substantial impact on the projects' profitability. €(50) million of impairment of associates (see note 11) was also recognised mainly in respect of two wind farms owned by EDF Renewables in Mexico for an amount of €(15) million.

Note 11 Investments in associates and joint ventures

Principal investments in associates and joint ventures are as follows:

(in millions of euros)	Notes	30/06/2024		30/06/2023		31/12/2023	
		Ownership %	Share of net equity	Share of net income	Share of net income	Share of net equity	Share of net income
CTE	11.1	50,10 %	1,689	-	(60)	1,793	190
Other investments: dedicated assets of EDF SA	14.2	n.a.	2,299	39	(1)	1,850	(48)
Investments held by EDF Renewables	11.3	n.a.	2,378	(28)	(22)	2,509	(61)
Taishan (TNPJVC)	11.2	30,00 %	n.c	n.c	(25)	1,075	(78)
Investments in EDF Trading	11.3	n.a.	1,008	115	-	867	255
Other investments	11.3	n.a.	n.c	n.c	n.c.	n.c.	n.c.
TOTAL			9,448	178	142	9,037	257

n.a. : not applicable

n.c. : not communicated

11.1 Coentreprise de Transport d'Électricité (CTE)

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%.

11.2 Taishan

As CGN (Taishan's parent company) publishes its consolidated financial statements later than the Group, the table above does not present financial information for Taishan at 30 June 2024.

EDF owns 30% of Taishan Nuclear Power Joint Venture Company Limited (TNPJVC), which operates two 1750 MW 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 at 30 June 2024, as no new information has been published by the NDRC (National Development and Reform Commission).

The Group did not identify any significant new risk to the recoverable value of the investment in Taishan from its review of indications of impairment at 30 June 2024.

11.3 Other investments

The other investments held by EDF Renewables are mainly located in North America, and to a lesser degree in Europe, China and Brazil. The increase in these investments over the first half of the year is mainly attributable to the Desert Harvest I and II projects.

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 liquefied 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 60GW capacity, began to supply electricity in early June 2024. The other turbines will be commissioned progressively during the rest of the year, bringing the installed capacity to 420MW.

During the first half of 2024, €(61) million of impairment was booked in respect of investments in associates and joint ventures (€(50) million during the first half of 2023). At 30 June 2024, impairment of €(208) million was booked on the loans associated with the investment in EDF Renewables' wind farm off the coast of Scotland (see notes 10.3 and 17.1.3).

Note 12 Working capital

12.1 Working capital: composition and change

Changes in net working capital during the first half of 2024 are as follows:

(in millions of euros)	Notes	31/12/2023	Monetary changes	Non-monetary changes	30/06/2024
Inventories and work-in-process		(18,092)	8	(209)	(18,293)
Trade receivables net of provisions	12.2	(26,833)	6,887	(368)	(20,314)
Trade payables	12.4	19,687	(3,773)	326	16,240
CSPE payable/(receivable)	12.3	2,030	(3,799)	-	(1,769)
Other receivables and payables ⁽¹⁾	12.3 and 12.5	12,468	204	53	12,725
Other components of working capital ⁽²⁾		(628)	(233)	(572)	(1,433)
NET WORKING CAPITAL		(11,368)	(706)	(770)	(12,844)

(1) Excluding receivables and payables on acquisition/disposal of assets and investment subsidies.

(2) Other components of working capital include CO₂ emission certificates and green certificates presented in intangible assets in the balance sheet, and operating derivatives.

The **monetary** change in other receivables and payables is notably explained by a €0.4 billion increase in tax and social security liabilities, particularly in the **France – Generation and supply** segment where this increase amounted to €0.6 billion and principally comprised €0.9 billion resulting from the rise in the TICFE domestic tax on consumption (see note 12.5).

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 the first half of 2024 is mainly explained by changes in the scope of consolidation totalling €(53) million, including €(101) million relating to the provisional acquisition balance sheet of Arabelle Solutions, and by the change in fair value of inventories and operating derivatives totalling €297 million (see note 12.5).

12.2 Trade receivables

Details of net trade receivables are as follows:

(in millions of euros)	30/06/2024	31/12/2023
Trade receivables, gross value – excluding EDF Trading	19,512	24,232
Trade receivables, gross value – EDF Trading	2,636	4,341
Impairment	(1,834)	(1,740)
TRADE RECEIVABLES - NET VALUE	20,314	26,833

Most trade receivables mature within one year.

Advances received from customers in France who pay in regular monthly instalments, amounting to €1,843 million at 30 June 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, attributable in particular to falling prices: €(3.1) billion for the France – Generation and supply segment, €(1.7) billion for EDF Trading, €(0.7) billion for the France – Regulated activities segment, €(0.6) billion for EDF Energy, and €(0.5) billion for Italy.

12.2.1 Trade receivables due and not yet due

(in millions of euros)	30/06/2024			31/12/2023		
	Gross value	Provision	Net value	Gross value	Provision	Net value
TRADE RECEIVABLES	22,148	(1,834)	20,314	28,573	(1,740)	26,833
overdue by up to 6 months	2,104	(372)	1,732	2,263	(392)	1,871
overdue by 6-12 months	1,117	(324)	793	1,100	(401)	699
overdue by more than 12 months	1,228	(773)	455	1,066	(728)	338
Trade receivables due	4,449	(1,469)	2,980	4,429	(1,521)	2,908
Trade receivables not yet due	17,699	(365)	17,334	24,144	(219)	23,925

12.2.2 Assignment of receivables

(in millions of euros)	30/06/2024	31/12/2023
Trade receivables assigned and retained in the balance sheet	38	57
Trade receivables assigned and derecognised	1,234	1,764

The Group assigned trade receivables for a total of €1,234 million at 30 June 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.

12.3 Other receivables

At 30 June 2024, other receivables mainly comprise €1.8 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, as well as 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 12.5).

At 30 June 2024, other receivables also include tax receivables of €2,079 million (€2,508 million at 31 December 2023) and prepaid expenses of €1,682 million (€1,609 million at 31 December 2023).

EDF's public service charges

The compensation mechanism for public energy service charges in France is presented in note 5.5.1 to the consolidated financial statements at 31 December 2023.

The amount of charges to be compensated to EDF SA for the first half of 2024 is €4,035 million and consists mainly of the following:

- €1,524 million for public service charges relating to purchase obligations, as electricity market prices in 2024 were lower than the energy costs sustained by EDF;
- €1,426 million for the sales revenue shortfall caused by the cap on sale prices to final customers (€7,194 million in the first half of 2023). The decrease results from the progressive discontinuation of aid mechanisms for final customers of gas and electricity, which ended on 31 July 2023 and 31 January 2024 respectively. The "electricity buffer" for all contracts signed or renewed before 30 June 2023 is however still in force. France's electricity tariff cap thus gives rise to compensation of €1,698 million, reduced by an accrued liability of €(272) million under the electricity buffer mechanism;
- €1,071 million for public service charges for non-interconnected and solidarity zones.

The amounts received out of the State's General Budget during the first half of 2024 totalled €227 million, notably corresponding to the balance of the compensation due under the mechanism for 2023.

At 30 June 2024, EDF SA therefore has a €1,769 million operating receivable on the State (€2,030 million operating liability at 31 December 2023).

12.4 Trade payables

(in millions of euros)	30/06/2024	31/12/2023
Trade payables – excluding EDF Trading	13,510	14,533
Trade payables – EDF Trading	2,730	5,154
TRADE PAYABLES	16,240	19,687

The €(1.0) billion decrease in trade payables excluding EDF Trading in the first half of 2024 notably includes €(0.9) billion concerning Enedis, €(0.3) billion concerning Edison and €0.4 billion concerning EDF Energy.

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 are therefore included in "trade payables" in the Group's financial statements.

12.5 Other liabilities

Details of other liabilities are as follows:

(in millions of euros)	30/06/2024	31/12/2023
Advances and progress payments received	2,876	4,011
Liabilities related to property, plant and equipment	4,785	5,464
Tax liabilities	5,108	4,740
Social charges	6,340	6,236
Deferred income on long-term contracts	3,939	3,548
Other deferred income ⁽¹⁾	1,382	1,267
Margin calls - trading activity	694	922
CSPE liability	-	2,030
Other	3,759	4,442
OTHER LIABILITIES	28,883	32,660
<i>non-current portion</i>	<i>5,873</i>	<i>5,685</i>
<i>current portion</i>	<i>23,010</i>	<i>26,975</i>

(1) Including the initial payment made under the Fessenheim compensation protocol received in 2020.

12.5.1 Advances and progress payments received

At 30 June 2024, advances and progress payments received comprise €765 million of payments made by the customers in Framatome's long-term contracts (€719 million at 31 December 2023).

12.5.2 Deferred income on long-term contracts

Deferred income on long-term contracts at 30 June 2024 comprises €2,186 million of partner advances made to EDF under the nuclear plant financing plans (€2,089 million at 31 December 2023) and €305 million to Arabelle Solutions.

It 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).

12.5.3 Margin calls - trading activity

At 30 June 2024, other operating liabilities include €0.7 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 12.3), as they concern different counterparties.

12.5.4 Other

At 30 June 2024, the "Other" line in the above table includes €1.6 billion of investment subsidies (€1.6 billion at 31 December 2023) of which €120 million was received during the first half of 2024. These subsidies are particularly for research and development of Small Modular Reactors (SMRs) in France (€36 million for the first half of 2023, see note 10.1).

Investment subsidies received by Group companies are included in this item and transferred to income as and when the economic benefits of the corresponding assets are utilised.

Note 13 Equity

13.1 Share capital

At 30 June 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.

13.2 Dividends

The General Shareholders' Meeting was held on 11 June 2024. It was decided not to pay out any dividend in 2024 in respect of 2023.

13.3 Perpetual subordinated bonds

At 30 June 2024, perpetual subordinated bonds carried in equity amounted to €10,764 million (net of transaction costs after tax) (compared to €12,009 million at 31 December 2023).

On 5 June 2024 EDF announced its intention to exercise its option to redeem on 5 July 2024 the €1,250 million euros tranche of hybrid notes issued in October 2018 at a rate 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).

Interest paid by EDF to the bearers of perpetual subordinated bonds totalled €307 million in the first half of 2024, compared to €300 million in the first half of 2023 and €630 million in 2023. The resulting cash payout is reflected in a corresponding reduction in Group equity.

In the second half of 2024, EDF paid interest of €70 million to the bearers of perpetual subordinated bonds in July 2024, compared to €85 million in July 2023.

13.4 Non-controlling interests (minority interests)

(in millions of euros)	30/06/2024			30/06/2023	
	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%	2,018	195	2,231	79
NNB Holding Company (HPC) Ltd.	29,50%	5,468	(23)	7,515	(23)
NNB Holding Company (SZC) Ltd.	76,10%	3,105	(16)	1,206	-
EDF Investissements Groupe SA	7,54%	521	7	519	6
Luminus SA	31,37%	895	57	616	(26)
Framatome	19,50%	168	(19)	216	(19)
Other non-controlling interests		1,612	105	1,409	81
TOTAL		13,787	306	13,712	98

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 70.5% (67.7% at 31 December 2023) by the Group *via* EDF Energy, correspond to CGN's share.

Non-controlling interests in NNB Holding Company (SZC) Ltd., the holding company for the Sizewell C project, which is owned 23,9% (49,4% at 31 December 2023) by the Group *via* EDF Energy, correspond to His Majesty's Government's (HMG) share.

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 as of 25 January 2024, when EDF purchased the 5% held by Assystem which was a minority shareholder of Framatome.

Non-controlling interests in Luminus correspond to the investments held by Belgian local authorities, and partner contributions to the Seraing CCGT project.

Non-controlling interests in EDF Investissements Groupe correspond to the investment held by Natixis Belgique Investissements.

Other non-controlling interests are mainly 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 shareholders, amounting to a total €68 million at 30 June 2024 (€98 million at 30 June 2023).

Note 14 Provisions related to nuclear generation and dedicated assets

The regulatory and contractual framework for provisions related to nuclear generation, and the principal methods for determining these provisions, are presented in notes 15.1.1 (France) and 15.2 (United Kingdom) to the consolidated financial statements at 31 December 2023.

The breakdown between current and non-current provisions related to nuclear generation is as follows:

(in millions of euros)	30/06/2024			31/12/2023		
	Non-current	Current	Total	Non-current	Current	Total
Provisions for the back-end of the nuclear cycle	31,180	2,130	33,310	28,193	2,069	30,262
Provisions for decommissioning and last cores	32,111	1,562	33,673	32,013	1,269	33,282
Provisions related to nuclear generation	63,291	3,692	66,983	60,206	3,338	63,544

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	Discount effect	Translation adjustments	Other movements	30/06/2024
Provisions for spent fuel management	15,114	3,781	(678)	211	33	(69)	18,392
Provisions for waste removal and conditioning	406	-	-	11	11	3	431
Provisions for long-term radioactive waste management	14,742	34	(301)	51	32	(71)	14,487
Provisions for the back-end of the nuclear cycle	30,262	3,815	(979)	273	76	(137)	33,310
Provisions for nuclear plant decommissioning	29,291	2	(467)	616	276	(172)	29,546
Provisions for last cores	3,991	-	-	93	34	9	4,127
Provisions for decommissioning and last cores	33,282	2	(467)	709	310	(163)	33,673
PROVISIONS RELATED TO NUCLEAR GENERATION	63,544	3,817	(1,446)	982	386	(300)	66,983

The change in the first half of 2024 in 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 spent fuel storage cost scenario (see note 14.1), 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 increase in provisions backed by assets.

There was also a 10 base point increase in the real discount rate in France (see note 14.1) which led to a €(918) million decrease in provisions, recorded as follows: €(491) million in the "Discount effect", corresponding to provisions adjusted via profit and loss, and €(427) million in "Other movements", corresponding to the decrease in provisions backed by assets (assets associated with provisions and underlying assets).

14.1 Nuclear provisions in France

The measurement of provisions for the back-end of the nuclear cycle, plant decommissioning and last cores is sensitive to assumptions concerning industrial scenarios and technical processes, costs, inflation rates, long-term discount rates, depreciation periods of plants currently in operation and disbursement schedules.

The expenses to be covered by provisions for spent fuel management are mainly estimated based on forecast physical flows at the closing date, with reference to the contracts with Orano Recyclage which define the terms of the framework agreement for the period 2008-2040. The most recent contract, signed on 5 February 2016, covered the period 2016-2023.

Negotiations with Orano Recyclage concerning the amendment for the period 2024-2026 began in September 2020. In September 2023, the negotiations achieved convergence and an agreement was signed on the principles for the future contract (2024-2026 amendment to the framework agreement), leading to a €2,216 million increase in EDF SA's provisions for spent fuel management at 31 December 2023. The contract applicable for 2024-2026, incorporating the agreed new principles, was validated by the Board of Directors on 28 June 2024 and thus has no significant impact on provisions for spent fuel management at 30 June 2024. The transitional agreement covering the first half of 2024 has been extended to 30 September 2024, and all parties are expected to sign the contract for 2024-2026 within the extension period.

Furthermore, the interim storage of spent fuel is a key issue for the back-end of the nuclear cycle with the following points at 2023 year-end:

- the 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 storage pool facility under EDF's supervision and subsequent operation. Commissioning of this pool was scheduled for 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 launched of transitional 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;
- the 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 whose commissioning was planned 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 the extended operation 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 information notice 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 as soon as possible, with high-level safety objectives.

The industrial scenario presented to the ASN Commission by EDF on 11 April 2024 thus incorporates 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, and the plan to use a single pool (as opposed to two as mentioned above) for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville; the work is to be supervised by EDF, in accordance with the ministerial order of 9 December 2022 made in application of Decree No. 2022-1547 of 9 December 2022. The estimates used for calculation of this scenario are founded on these key assumptions. EDF, Orano, the ASN and French State departments continue to work on these matters, in liaison with reflections on upgrades to back-end facilities. Should different forms of implementation be decided for new long-term storage capacities given the new context of upgraded back-end facilities, the effects would be taken into account in the Group's financial statements.

At 30 June 2024, this change of industrial scenario led to the 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 has been confirmed and the development studies have been finalised, leading to a €311 million increase in provisions at 30 June 2024. The supplementary solution of dry storage is also currently still in consideration;
- regarding the need for long-term storage of spent plutonium (MOX) fuel and the fuel from Creys-Malville, the provision has been 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 incorporates the latest safety and security requirements. These factors led to an increase of €2,657 million at 30 June 2024 in the related provision, which is unrelated to the operating cycle as defined by the law of 2006 and is thus backed by dedicated assets;
- regarding spent uranium fuel derived from processing (spent RepU), the new industrial scenario assumes that it will be processed 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 have been increased by €333 million, and the provisions for long-term radioactive waste management have been reduced by €120 million.

Finally, in accordance with its powers under Article 594-4 of the Environment Code, in early 2024 the French Department for Energy and Climate (*Direction générale de l'énergie et du climat* or DGEC) and the French Treasury commissioned an external audit of the valuation of EDF's spent fuel management costs at 31 December 2023, to be conducted by an external audit firm. This audit began in the second quarter of 2024 and should be completed by the end of the year.

Provisions for decommissioning and last cores were not affected by any regulatory, industrial, operational or financial development during the first half of 2024 that could prompt a notable change in cost estimates or the amount of the provisions.

Concerning Flamanville 3, the nuclear fuel was loaded into the reactor in May 2024, and EDF is now engaged in a precritical testing phase, i.e. without initiating a nuclear chain reaction. Next, EDF will proceed to reactor divergence (after the ASN has given its approval), which is the start of the chain reaction process. The first divergence will lead to recognition in the Group's consolidated financial statements of provisions for decommissioning, management of the resulting waste and last cores for Flamanville 3, estimated at €375 million, booked against a corresponding fixed asset. A provision for Flamanville's spent fuel management will also be recognised, estimated at €75 million, with a corresponding entry in fuel inventories.

Discount rate and inflation rate

The methods for calculation of the discount rate and inflation rate are described in note 15.1.1.5 to the consolidated financial statements at 31 December 2023.

Applying these methods, the nominal discount rate is 4.7% at 30 June 2024 (4.5% at 31 December 2023), assuming inflation of 2.1% (2.0% at 31 December 2023), i.e. a real discount rate of 2.6% at 30 June 2024 (2.5% at 31 December 2023).

The increase in the discount rate reflects the increase in OAT bond rates during the first half of 2024.

Regulatory discount rate limit

The discount rate must comply with two regulatory limits. Under the decree of 1 July 2020 on secure financing for nuclear expenses (which codified and updated the initial decree of 23 February 2007 as part of the Environmental 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 Ultimate Forward Rate (UFR) applicable at the date concerned, published by the European Insurance and Occupational Pensions Authority (EIOPA), plus 150 bp;
- and the expected rate of return on assets covering the liability (dedicated assets).

The maximum discount rate calculated by reference to the UFR in application of the ministerial order is 2.72% at 30 June 2024 (2.85% at 31 December 2023).

Studies incorporating the risk-return profile of the different asset classes show a 20-year average forecast return on dedicated assets that is close to the average annualised return of 6% observed between 1 January 2004 and 30 June 2024, and thus higher than the nominal discount rate.

Sensitivity to assumptions concerning costs, inflation rate, 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

	30/06/2024		31/12/2023	
	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
(in millions of euros)				
Spent fuel management	24,345	15,915	18,998	12,657
<i>amount unrelated to the operating cycle</i>	7,531	4,389	3,658	1,760
Long-term radioactive waste management	37,627	12,866	38,467	13,205
BACK-END NUCLEAR CYCLE EXPENSES	61,972	28,781	57,465	25,862
Decommissioning of nuclear plants in operation	23,564	13,005	23,335	13,002
Decommissioning of shut-down nuclear plants	8,820	5,343	8,832	5,417
Last cores	4,796	2,797	4,668	2,720
DECOMMISSIONING AND LAST CORE EXPENSES	37,180	21,145	36,835	21,139
PROVISIONS RELATED TO NUCLEAR GENERATION within the scope of the Law of 28 June 2006		49,926		47,001

In addition to sensitivity analyses, the table below shows the estimated impact of a +/-20 base point change in the discount rate on the present value of EDF's provisions for the back-end of the nuclear cycle, decommissioning and last cores:

At 30 June 2024

(in millions of euros)	Amounts in provisions at present value	Sensitivity to discount rate			
		Balance sheet provisions		Pre-tax net income	
		+ 0.20%	- 0.20%	+ 0.20%	- 0.20 %
Back-end nuclear cycle expenses:					
- spent fuel management	17,143	(298)	315	259	(275)
- long-term radioactive waste management	12,866	(671)	751	519	(587)
Decommissioning and last core expenses:					
- decommissioning of nuclear plants in operation	13,005	(558)	586	-	-
- decommissioning of shut-down nuclear plants	5,343	(157)	167	157	(167)
- last cores	2,797	(91)	97	-	-
TOTAL	51,154	(1,775)	1,916	935	(1,029)
<i>Amount covered by dedicated assets</i>	<i>36,202</i>	<i>(1,548)</i>	<i>1,679</i>	<i>796</i>	<i>(884)</i>

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 €(904)/939 million, including €478/(502) million on the pre-tax net income.

14.2 EDF's dedicated assets

As required by French regulations, EDF has built up a portfolio of financial assets dedicated to secure financing of long-term nuclear obligations, in particular decommissioning of its power plants and long-term management of radioactive waste.

The key features of this portfolio, the principles governing its management and the applicable regulations are presented in note 15.1.2 to the consolidated financial statements at 31 December 2023.

14.2.1 Changes in dedicated assets in the first half of 2024

As the coverage of provisions by dedicated assets was above 100% at 31 December 2023 (108.5%), EDF has no obligation to add to the dedicated asset portfolio in 2024, and no allocation was made during the first half of the year (in 2023, there was also no such obligation and no allocation to dedicated assets was made).

In the first half of 2024 the upward trend observed in 2023 continued on the equity markets, and the bond markets remained relatively stable.

Fears that the US economy would overheat subsided, and the macroeconomic data on the job market and inflation (3.0% in June 2024) approached the Federal Reserve's targets. While the tone is still cautious, the market is now confident that the next interest rate intervention will be a rate cut, probably in late August/early September. The European Central Bank made an initial rate cut in June since inflation in Europe is converging towards 2%. However, the impact on long rates in Europe remained low due to political uncertainties that revived the shadow of a deficit and debt crisis.

For corporate issuers, as in 2023 good growth rates and stock market performances were concentrated in a few firms. With the artificial intelligence revolution, American mega-caps outperformed the whole market, and five stocks (Nvidia, Microsoft, Apple, Amazon and Meta) accounted for 44% of the performance by the MSCI All Country World equities index over the half-year.

Between the start of the year and 30 June, the MSCI All Country World Index rose by 13.7% in Euros, the sovereign bond index FTSE EMU GBI declined by 1.9%, the FTSE EuroBIG Corporate Index increased by 0.5% and the High Yield Short Duration index rose by 2.7%. The performances by EDF's growth assets (+12.6%, including +13.1% for listed equities) and fixed-income assets (+0.4%, including +0.1% for listed bonds) were close to the index performances.

Positive changes in the fair value of the dedicated asset portfolio (investment funds, equities) amounting to €1,837 million were consequently recognised in the financial result in the first half of 2024 (see note 8.3), compared to positive changes amounting to €1,392 million in the first half of 2023 and €2,220 million in 2023. Similarly, negative changes in the fair value of the bonds in the dedicated asset portfolio amounting to €(98) million were recognised in OCI in the first half of 2024 (see note 17.1.2), compared to positive changes amounting to €141 million in the first half of 2023 and €431 million for the year 2023.

In the first half of 2024, EDF Invest continued to manage into different classes of unlisted assets covered by its mandate (infrastructures, real estate and investment funds) and finalised the acquisitions signed in the second half of 2023 (50% of a portfolio of logistics warehouses in Sweden and 40.05% of a consortium that has taken over control of the Norwegian electric ferry operator Fjord1). In May 2024 EDF Invest also signed a promise of sale for the purchase of 50% of a portfolio of logistics warehouses in France (this operation will be completed during the second half of 2024).

Withdrawals from dedicated assets in the first half of 2024 totalled €329 million, equivalent to payments made in respect of the long-term nuclear obligations to be covered during the period (€309 million in the first half of 2023 and €465 million in 2023).

14.2.2 Valuation of EDF's dedicated assets

Details of EDF's dedicated assets are as follows:

		30/06/2024		31/12/2023	
(in millions of euros)	Consolidated balance sheet presentation	Book value	Realisable value	Book value	Realisable value
YIELD ASSETS (EDF Invest) ⁽¹⁾		6,507	9,204	6,196	8,657
Other associates (including CTE)	Investments in associates ^{(1) (2)}	4,136	6,827	3,834	6,287
Other unlisted assets	Debt and equity securities and other net assets ⁽³⁾	2,380	2,386	2,359	2,367
Derivatives	Fair value of derivatives	(9)	(9)	3	3
GROWTH ASSETS		15,706	15,706	14,036	14,036
Listed equities	Debt securities	15,105	15,105	13,392	13,392
Unlisted equity funds (EDF Invest) ⁽¹⁾	Debt securities	632	632	589	589
Derivatives	Fair value of derivatives	(31)	(31)	55	55
FIXED-INCOME ASSETS		13,660	13,660	14,192	14,192
Listed bonds and negotiable debt instruments	Debt securities	12,868	12,868	12,488	12,488
Unlisted high-yield debt funds (EDF Invest) ⁽¹⁾	Debt securities	243	243	236	236
Unlisted senior debt funds (EDF Invest) ⁽¹⁾	Debt securities	380	380	363	363
Cash portfolio ⁽⁴⁾	Debt securities	159	159	1,104	1,104
Derivatives	Fair value of derivatives	10	10	1	1
TOTAL DEDICATED ASSETS		35,873	38,570	34,424	36,885

(1) Including 50.1% of CTE, the company that holds 100% of the shares in RTE (see note 11). 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 €2,259 million and the value of the share in equity of other controlled companies.

(4) After deduction of €152 million of financial debt relating to transfers of bonds under repurchase agreements, offset by +€152 million reinvested in monetary funds included in the "Cash portfolio" line.

14.3 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)	30/06/2024	31/12/2023
Provisions for spent fuel management – portion unrelated to the operating cycle as defined in the regulations	4,389	1,760
Provisions for long-term radioactive waste management	12,866	13,205
Provisions for nuclear plant decommissioning	18,348	18,419
Provisions for last cores – portion for future long-term radioactive waste management	599	605
PRESENT COST OF LONG-TERM NUCLEAR OBLIGATIONS	36,202	33,989
REALISABLE VALUE OF DEDICATED ASSETS	38,570	36,885
REGULATORY COVERAGE RATE	106.5%	108.5%

At 30 June 2024, by the regulatory calculations provisions are 106.5% covered by dedicated assets. The regulatory caps on the realisable value of certain investments set in the Environment Code were not applied at 30 June 2024.

Thanks to the good performance by dedicated assets over the first half of the year (5.5%), nuclear provisions are 106.5% covered by dedicated assets at 30 June 2024 despite the impact of the change of industrial scenario for spent fuel storage on the provisions to be covered (the coverage rate was 108.5% at 31 December 2023). This is a small decrease of 2% from the 2023 year-end and still significantly higher than the 100% coverage required by the regulations. Consequently, despite the forecast impact of decommissioning provisions to be established for Flamanville 3 after the first reactor divergence expected in 2024, unless market conditions deteriorate, the coverage rate should remain above 100% at the end of 2024.

Note 15 Provisions for employee benefits

15.1 Group provisions for employee benefits

(in millions of euros)	30/06/2024	31/12/2023
Provisions for employee benefits – current portion	657	665
Provisions for employee benefits – non-current portion	15,606	15,895
PROVISIONS FOR EMPLOYEE BENEFITS	16,263	16,560

15.1.1 Breakdown of the change in the provision: obligations, fund assets, net liability

(in millions of euros)	Obligations	Fund assets	Net liability
Net employee benefit liability at 31/12/2023⁽¹⁾	33,922	(17,504)	16,418
Net expense for first half 2024	880	(330)	550
Actuarial gains and losses	(1,107)	526	(581)
Employer's contributions to funds	-	(42)	(42)
Employees' contributions to funds	-	-	-
Benefits paid	(768)	177	(591)
Translation adjustment	179	(184)	(5)
Other movements	52	8	60
NET EMPLOYEE BENEFIT LIABILITY AT 30/06/2024	33,158	(17,349)	15,809
<i>provisions for employee benefits</i>			16,263
<i>non-current financial assets</i>			(454)

(1) The net liability at 31 December 2023 comprised a €16,560 million provision for employee benefits and €(142) million of non-current financial assets, giving a net liability of €16,418 million.

The breakdown of the net liability by geographical area is as follows:

(in millions of euros)	Obligations	Fund assets	Net liability
France	25,906	(10,060)	15,846
United Kingdom	6,376	(6,812)	(436)
Other countries	876	(477)	399
Net employee benefit liability at 30/06/2024	33,158	(17,349)	15,809
<i>provisions for employee benefits</i>			16,263
<i>non-current financial assets</i>			(454)

(in millions of euros)	Obligations	Fund assets	Net liability
France	26,187	(10,001)	16,186
United Kingdom	6,913	(7,033)	(120)
Other countries	822	(470)	352
Net employee benefit liability at 31/12/2023	33,922	(17,504)	16,418
<i>provisions for employee benefits</i>			16,560
<i>non-current financial assets</i>			(142)

Actuarial gains and losses on obligations amount to €(1,107) million for the first half of 2024, including:

- €(422) million in France as a result of the change in discount rates and inflation (+10 bp in the real discount rate);
- €(681) million in the United Kingdom, essentially reflecting a significant increase in the discount rate (+65bp) and a rise in inflation and wage increase rates of +10bp and +15bp respectively.

Actuarial gains and losses on fund assets amount to €526 million for the first half of 2024. They mainly result from a €433 million change in the United Kingdom due to a pronounced rise in UK sovereign rates and a €107 million change in France due to an increase in bond interest rates.

15.1.2 Post-employment and other long-term employee benefits

(in millions of euros)	H1 2024	H1 2023
Current service cost	(259)	(224)
Past service cost	30	91
Actuarial gains and losses – other long-term benefits	(43)	(38)
Effect of plan curtailment or settlement		(10)
Net expenses recorded as operating expenses	(272)	(181)
Interest expense (discount effect)	(608)	(664)
Return on fund assets	330	351
Net interest expense included in financial result	(278)	(313)
EMPLOYEE BENEFIT EXPENSES RECORDED IN THE INCOME STATEMENT	(550)	(494)
Actuarial gains and losses – post-employment benefits	1,107	412
Actuarial gains and losses on fund assets	(526)	23
Actuarial gains and losses	581	435
Translation adjustments	5	19
GAINS AND LOSSES ON EMPLOYEE BENEFITS RECORDED DIRECTLY IN EQUITY	586	454

15.2 Actuarial assumptions

The methods for determining actuarial assumptions are unchanged from 31 December 2023.

The principal assumptions used to value employee benefits are the following:

(in %)	France		United Kingdom	
	30/06/2024	31/12/2023	30/06/2024	31/12/2023
Discount rate/rate of return on assets ⁽¹⁾	3.60%	3.40%	5.15%	4.50%
Inflation rate	2.10%	2.00%	3.00%	2.90%
Wage increase rate ⁽²⁾	3.20%	3.10%	2.90%	2.75%

(1) The interest income generated by assets is calculated using the discount rate. The difference between this interest income and the return on assets is recorded in equity.

(2) Average inflation rate included and projected over a full career.

Note 16 Other provisions, contingent liabilities and contingent assets

(in millions of euros)	Notes	30/06/2024			31/12/2023		
		Non-current	Current	Total	Non-current	Current	Total
Other provisions for decommissioning	16.1	1,978	140	2,118	1,943	116	2,059
Other provisions	16.2	3,741	3,283	7,024	2,935	3,175	6,110
OTHER PROVISIONS		5,719	3,423	9,142	4,878	3,291	8,169

16.1 Other provisions for decommissioning

Other provisions for decommissioning principally concern fossil-fired power plants, installations for the production of nuclear fuel assemblies, and dismantling of wind farms.

The breakdown by company is presented in note 17.1 to the consolidated financial statements at 31 December 2023 and remains valid at 30 June 2024.

16.2 Other provisions

Details of changes in other provisions are as follows:

(in millions of euros)	31/12/2023	Increases	Decreases		Changes in scope	Other changes	30/06/2024
			Utilisations	Reversals			
Provisions for contingencies related to subsidiaries and investments	638	6	(1)	-	(3)	12	652
Provisions for tax liabilities (excluding income tax)	30	-	(3)	-	21	-	48
Provisions for litigation	233	36	(40)	(4)	10	91	326
Provisions for onerous contracts	676	36	(76)	-	5	11	652
Provisions related to environmental schemes	1,707	1,139	(645)	-	-	34	2,235
Other provisions for contingencies and losses	2,826	667	(404)	(45)	43	25	3,112
TOTAL	6,110	1,884	(1,169)	(49)	76	173	7,025

Provisions for onerous contracts

Provisions for onerous contracts are mainly attributable to the Group's LNG activities (a long-term regasification contract with Dunkerque LNG).

Provisions related to environmental schemes

Provisions related to environmental schemes include provisions for greenhouse gas emission quota trading, renewable energy certificates and energy savings certificates, where relevant.

The increase in provisions over the half-year principally concerns renewable energy certificates in the United Kingdom and energy savings certificates in Italy, partly offset by decreases in provisions in France. Many of the obligations under the renewable energy certificates scheme are covered by purchased certificates recorded as intangible assets.

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 €379 million at 30 June 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 16.3.2).

These other provisions also cover various contingencies and losses related to operations (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.

16.3 Contingent liabilities and assets

Apart from proceedings mentioned below, no significant change was observed during the first half of 2024 in the Group's contingent liabilities and assets as presented in note 17.3 to the consolidated financial statements at 31 December 2023 and chapter 7.1.5 of the 2023 Universal Registration Document.

16.3.1 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 are Hydroption, Vattenfall, Priméo Energie Grands Comptes and Priméo Energie Solutions, Arcelor Mittal Energy, Plüm Energy et Entreprises et Collectivités, 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. The court considered that the conditions for *force majeure* were fulfilled and concluded that in continuing its ARENH deliveries against Hydroption's wishes EDF had committed a breach of contract for which it could be held liable. On 15 October 2021, the Paris Court of Appeal overturned the Commercial Court's judgement insofar as it considered EDF liable and ordered it to pay damages to Hydroption, 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 30 November 2021 the Paris Commercial Court issued two more judgements on the merits in the cases brought by TotalEnergies and Ekwateur, ordering EDF to pay damages of €53.9 million to TotalEnergies and €1.8 million to Ekwateur. EDF has appealed against these two judgments. The case is to be heard by the Court of Appeal on 20 March 2025.

On 6 December 2022, the Paris Commercial Court issued two further judgements on the merits in the cases brought by Priméo Energie Grands Comptes and Priméo Energie Solutions, ordering EDF to pay these two companies damages of €1.7 million and €2.4 million respectively. As all parties withdrew from the ensuing appeal, these litigation proceedings are now closed.

On 27 March 2023, the Commercial Court confirmed Plüm's withdrawal from the litigation with EDF. On 24 May 2023, the same court dismissed Arcelor Mittal's claims. A certificate of non-appeal was received on 8 November 2023 and these two matters are now closed.

On 16 January 2024, the Paris Commercial Court issued a judgement on the merits of the Vattenfall case, ordering EDF to pay the company €5 million in damages. EDF has appealed this judgement.

16.3.2 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. This provision was increased by €379 million at 30 June 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 16.2). The future costs are currently being estimated.

16.3.3 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.

The case was heard on 27 May 2024. EDF (like Enedis and RTE) requested postponement of the decision until the Court of Appeal gives its verdict on the appeal by E-Pango against the Competition Authority's declaration of 7 September 2023 that it was not competent to rule on the unfair practices alleged by E-Pango. On 2 July 2024 the Paris Commercial Court issued its ruling ordering postponement of the decision.

16.3.4 Investigations by France's Competition Authority (ADLC)

Appeal brought before the Paris Court of Appeal against the ADLC's decision of 18 January 2022: as indicated in note 17.3 "Contingent assets and liabilities" to the consolidated financial statements at 31 December 2023, the ADLC, in a decision dated 18 January 2022, rejected the complaint and the request for protective measures filed against EDF by the French National Association of Energy Retailers (*Association nationale des opérateurs détaillants en énergie – ANODE*). This complaint concerned EDF's refusal to provide access to the database of non-residential customers affected by the end of the "blue" regulated electricity sales tariffs, who were switched automatically to a follow-on market-price contract at 31 December 2020. However, the ADLC considered that ANODE's arguments were not backed up by sufficient evidence proving the existence of the alleged practices. ANODE filed an appeal against this decision on 1 March 2022 before the Paris Court of Appeal and in parallel, EDF made a declaration of voluntary intervention on 30 March 2022. On 3 November 2022, by a judgment, the Paris Court of Appeal declared EDF's voluntary intervention inadmissible. On 15 May 2024, the Court of Cassation rejected EDF's appeal against the Court of Appeal's inadmissibility ruling. The substantive appeal proceedings against the ADLC decision of 18 January 2022 are still ongoing.

16.3.5 CGN Arbitration

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 with two 1750MW reactors, 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. (collectively 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. CGN reimbursed €1 million to EDF. In May 2024, the parties signed a letter of intent to frame discussions concerning changes to the shareholder pact and the depreciation policy.

16.3.6 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.

16.3.7 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 inquiry which was conducted by the Economic Crime Unit of the police (*Brigade de répression de la délinquance économique* or BRDE). On 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.

The verdict will be issued on 30 September 2024.

Note 17 Financial assets and liabilities

17.1 Financial assets

17.1.1 Breakdown between current and non-current financial assets

Current and non-current financial assets break down as follows:

(in millions of euros)	30/06/2024			31/12/2023		
	Non-current	Current	Total	Non-current	Current	Total
Instruments at fair value through OCI with recycling	5,791	19,846	25,637	5,894	18,014	23,908
Instruments at fair value through OCI with no recycling	340	-	340	268	30	298
Instruments at fair value through profit and loss	26,852	1,755	28,607	25,629	1,845	27,474
Debt and equity securities	32,983	21,601	54,584	31,791	19,889	51,680
Trading derivatives – Positive fair value	-	8,246	8,246	-	14,519	14,519
Hedging derivatives – Positive fair value	3,919	1,787	5,706	3,512	2,654	6,166
Loans and financial receivables ⁽¹⁾	13,987	2,163	16,150	13,024	2,380	15,404
CURRENT AND NON-CURRENT FINANCIAL ASSETS	50,889	33,797	84,686	48,327	39,442	87,769

(1) Including impairment of €(551) million at 30 June 2024 (€(353) million at 31 December 2023).

The decrease in the positive fair value of trading derivatives (€(6) billion) is explained by the decline in the value of derivatives used in trading activities, mainly as a result of the evolution in commodity market prices observed over the first half of 2024.

17.1.2 Debt and equity securities

Details of debt and equity securities are shown in the table below:

(in millions of euros)	30/06/2024			31/12/2023	
	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 ⁽¹⁾	5,790	-	26,005	31,795	30,410
Liquid assets	19,782	-	1,696	21,478	20,077
Other assets ⁽²⁾	65	340	906	1,311	1,193
TOTAL	25,637	340	28,607	54,584	51,680

(1) EDF's dedicated assets include an amount of €152 million corresponding to securities transferred under repurchase agreements. These transactions give rise to simultaneous recognition of a financial asset and a financial liability (see note 17.2.1) of the same amount, with no impact on the book value of deducted assets (see note 14.2.2) or on net indebtedness, which excludes dedicated assets and related liabilities.

(2) Investments in non-consolidated companies.

Information on EDF's dedicated assets is given in note 14.2. The general management policy for dedicated assets is presented in note 15.1.2 of the consolidated financial statements for the year ended 31 December 2023.

Changes in fair value recorded in equity

Changes in the fair value of debt and equity securities recognised in equity (EDF share) during the period are as follows:

(in millions of euros)	H1 2024			H1 2023		
	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	(160)	-	(62)	98	-	(43)
Liquid assets	148	-	(29)	138	-	-
Other assets	-	3	-	-	3	-
DEBT AND EQUITY SECURITIES⁽³⁾	(12)	3	(91)	236	3	(43)

(1) + / (): increase / (decrease) in equity (EDF share).

(2) + / (): increase / (decrease) in income (EDF share).

(3) Excluding associates and joint ventures.

In the first half of 2024, gross changes in fair value recorded in OCI with recycling (before reclassification to profit and loss) principally concern EDF (+€79 million, including €(98) million for dedicated assets). In the first half of 2023, gross changes in fair value recorded in OCI with recycling (before reclassification to profit and loss) principally concern EDF (+€279 million, including +€141 million for dedicated assets).

No significant impairment was recorded in the first half of 2024.

17.1.3 Loans and financial receivables

Loans and financial receivables consist of the following:

(in millions of euros)	30/06/2024	31/12/2023
Amounts receivable from the NLF	13,528	13,104
Loans and financial receivables – other	2,622	2,300
LOANS AND FINANCIAL RECEIVABLES	16,150	15,404

At 30 June 2024 loans and financial receivables mainly include:

- amounts representing reimbursements receivable from the Nuclear Liabilities Fund (NLF) and the British government for coverage of long-term nuclear obligations, totalling €13,528 million at 30 June 2024 (€13,104 million at 31 December 2023), discounted at the same rate as the provisions they finance;
- other loans and financial receivables notably include:
 - the overfunding of EDF Energy's EDFG (EDF Group of the ESPS) pension schemes by €453 million at 30 June 2024, compared to €134 million at 31 December 2023,
 - an amount of €338 million representing the advance payments made by Luminus to Synatom to cover long-term nuclear obligations (€298 million at 31 December 2023). In Luminus' financial statements these amounts are discounted at the same rate as the provisions they fund. This receivable is equal to the fair value of the amounts held by Synatom on behalf of Luminus as fund assets,
 - loans of €753 million made by EDF Renewables in the course of its project development activity (€908 million at 31 December 2023), mainly relating to wind farms in the United Kingdom (including €389 million for the NNG offshore wind farm, written down by €(208) million), France and North America.

17.2 Financial liabilities

17.2.1 Breakdown between current and non-current financial liabilities

Current and non-current financial liabilities break down as follows:

(in millions of euros)	30/06/2024			31/12/2023		
	Non-current	Current	Total	Non-current	Current	Total
Loans and other financial liabilities	67,548	18,824	86,372	67,769	18,878	86,647
Financial liabilities - dedicated assets ⁽¹⁾	-	152	152	-	-	-
Trading derivatives - negative fair value	-	6,935	6,935	-	14,418	14,418
Hedging derivatives - negative fair value ⁽²⁾	2,297	3,000	5,297	1,955	4,807	6,762
FINANCIAL LIABILITIES	69,845	28,911	98,756	69,724	38,103	107,827

(1) EDF's dedicated assets include an amount of €152 million corresponding to securities transferred under repurchase agreements. These operations give rise to simultaneous recognition of a financial asset and a financial liability (see note 17.1.2) of the same amount, with no impact on the book value of deducted assets (see note 14.2.2) or on net indebtedness, which excludes dedicated assets and related liabilities.

(2) Including €2,203 million of derivatives used to hedge liabilities included in net indebtedness (see note 18.2).

The decrease in the negative fair value of trading derivatives (€(7.5) billion) is explained by a decrease in the value of derivatives used in the trading activity, principally associated with the decline in commodity market prices and volatility observed in the first half of 2024.

17.2.2 Loans and other financial liabilities

17.2.2.1 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	5,536	6,264	1,977	452	200	14,429
Decreases	(20)	(10,560)	(5,229)	(359)	(66)	(16,234)
Translation adjustments	248	2	76	22	(2)	346
Changes in scope of consolidation	52	168	3	54	16	293
Changes in fair value	(122)	(1)	-	-	-	(123)
Other changes	-	(37)	1,211	(167)	7	1,014
BALANCES AT 30/06/2024	54,777	14,149	11,485	4,320	1,641	86,372

In the first half of 2024, EDF issued €5,536 million of senior **bonds** on various markets. The main bond issues are detailed below:

- 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 (CAD750 million) (see the Group press release of 14 May 2024);
- On 11 June 2024, three-tranche senior green bond issue of €3 billion (see the Group press release of 11 June 2024).

The principal operations in the first half of 2024 concerning **loans from financial institutions** relate to drawings on credit lines totalling €5,978 million (€4,450 million and \$1,650 million in June 2024) and their partial repayment of €(10,272) million (of which €8,660 million and \$1,700 million).

At 30 June 2024, EDF's **other financial liabilities** include negotiable debt instruments amounting to €3,727 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 do not affect the net indebtedness. On 5 June 2024 the Group announced its intention to exercise its option to redeem on 5 July 2024 the €1,250 million tranche of hybrid notes issued on 4 October 2018. At 30 June 2024, the amount of €1,250 million carried in equity was reclassified as other financial liabilities (see note 13.3).

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	30/06/2024
Issuance of borrowings	5,536	6,264	1,977	-	-	13,777
Repayments of borrowings	(20)	(10,560)	(5,229)	(359)	24	(16,144)

17.2.2.2 Principal bond changes of the Group

Changes in the Group's principal borrowing changes in the first half of 2024 are as follows:

New borrowings excluding green bonds

Type of borrowing (in millions of currencies)	Issue ⁽¹⁾	Maturity	Issue amount	Currency	Rate
Bond	04/2024	04/2029	650	USD	5.65%
Bond	04/2024	04/2034	650	USD	5.95%
Bond	04/2024	04/2064	750	USD	6.00%
Bond	05/2024	05/2034	350	CAD	5.38%
Bond	05/2024	05/2054	400	CAD	5.78%

(1) Date funds were received.

New green bonds

Type of borrowing (in millions of currencies)	Issue ⁽¹⁾	Maturity	Issue amount	Currency	Rate
Bond	06/2024	06/2031	1 000	EUR	4.13%
Bond	06/2024	06/2036	750	EUR	4.38%
Bond	06/2024	06/2044	1 250	EUR	4.75%

(1) Date funds were received.

17.2.2.3 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	2,874	3,475	10,599	692	1,184	18,824
From one to five years	11,706	8,712	97	2,072	126	22,713
More than five years	40,197	1,962	789	1,556	331	44,835
LOANS AND OTHER FINANCIAL LIABILITIES AT 30/06/2024	54,777	14,149	11,485	4,320	1,641	86,372

17.3 Unused credit lines

At 30 June 2024, the Group has unused credit lines with various banks totalling €13,641 million (€15,842 million at 31 December 2023). This total includes €10,820 million of credit lines indexed on ESG criteria, which were totally undrawn at 30 June 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 €1,700 million of credit lines granted to EDF by various banks, partly offset by the opening of two new credit lines totalling €600 million.

	30/06/2024				31/12/2023
	Maturity				
(in millions of euros)	Total	< 1 year	1-5 years	> 5 years	Total
CONFIRMED CREDIT LINES	13,641	1,581	12,060	-	15,842

17.4 Fair value of loans and other financial liabilities

(in millions of euros)	30/06/2024		31/12/2023	
	Fair value	Balance sheet value	Fair value	Balance sheet value
LOANS AND OTHER FINANCIAL LIABILITIES	84,711	86,372	84,736	86,647

17.5 Fair value of hedging derivatives

Changes in the fair value of hedging derivatives included in equity (EDF share) and profit and loss are detailed below:

(in millions of euros)	H1 2024			H1 2023			2023		
	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	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	83	-	9	(1)	-	5	(202)	-	6
Exchange rate hedging	336	183	(16)	(409)	(264)	4	(1,069)	(335)	12
Net foreign investment hedging	(407)	-	-	(341)	-	-	(107)	-	-
Commodity hedging	186	(1,137)	(72)	5,278	(1,403)	(84)	4,833	(3,066)	(8)
HEADING DERIVATIVES⁽³⁾	198	(954)	(79)	4,527	(1,667)	(75)	3,455	(3,401)	10

(1) +/(): increase/(decrease) in equity (EDF share).

(2) +/(): increase/(decrease) in net income (EDF share).

(3) Excluding associates and joint ventures.

The gross change in the fair value of hedging instruments recognised in equity (EDF share), including recycling, is €1,152 million in the first half of 2024 (€6,194 million in the first half of 2023 and €6,856 million in 2023).

In the first half of 2024 this change is explained by the gross fair value changes in net foreign investment hedges, amounting to €(407) million (€(341) million in the first half of 2023 and €(107) million in 2023), and interest rate, exchange rate and commodity hedges, amounting to €1,497 million (€6,401 million in the first half of 2023 and €(7,089) million in 2023) – see the consolidated statement of comprehensive income.

The amount transferred to operating profit before depreciation and amortisation in the first half of 2024 in respect of commodity hedges is €(1,137) million, comprising:

- €(928) million for electricity hedging contracts, mainly concerning the France - Generation and Supply and the United Kingdom segments;
- €(234) million for gas hedging contracts, mainly concerning the France - Generation and Supply and United Kingdom segments;
- +€25 million for other hedging contracts.

Note 18 Financial indicators

The financial indicators are not defined by the accounting standards and are not directly visible in the Group's financial statements.

18.1 Net income excluding non-recurring items

The net income excluding non-recurring items amounts to €8,354 million at 30 June 2024, up by €2,087 million compared to the first half of 2023.

It 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:

(in millions of euros)	Notes	H1 2024			H1 2023
		Gross value	Income taxes	Non-controlling interests	EDF net income
Net income					7,039
Changes in the fair value of debt and equity instruments		(1,900)	491	(3)	(1,406)
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	6	(696)	177	-	(519)
Impairment		337	(66)	-	271
- impairment of goodwill, intangible and tangible assets ⁽¹⁾	10.3	276	(66)	-	210
- impairment of investments in associates and joint ventures ⁽²⁾	11.3	61	-	-	61
Other items		3,925	(945)	11	2,969
- other income and expenses ⁽³⁾	7	3,690	(945)	11	2,734
- impairment of financial receivables – dedicated assets		27	-	-	27
- impairment of financial receivables – NNG wind farm	11.3	208	-	-	208
- other		-	-	-	-
NET INCOME EXCLUDING NON-RECURRING ITEMS					8,354

(1) At 30 June 2024, this impairment notably concerns the impairment of assets related to Nuward (€230 million). At 30 June 2023, it mainly concerned wind farms in China (€36 million).

(2) Including impairment of securities and receivables associated with investments. At 30 June 2024, this impairment (€61 million) notably concerns dedicated assets and EDF Renewables' wind farm off the coast of Scotland. At 30 June 2023, it mainly concerned dedicated assets (€30 million) and wind farms in Mexico (€15 million).

(3) At 30 June 2024 other income and expenses notably include increases to provisions for spent fuel management in France and impairment of capitalised costs following revision of the scenario for spent fuel storage costs (€3,203 million), a provision of €(379) million in connection with the environmental agreement with ENI, and exceptional additional costs of €(81) million for repairs to the main secondary circuit welds at the Flamanville 3 EPR. At 30 June 2023 other income and expenses notably included the additional provision of €(1,026) million in connection with the framework agreement contract with Orano for waste processing, exceptional additional costs of €(226) million for repairs to the main secondary circuit welds at the Flamanville 3 EPR and €(335) million for re-estimation of provisions in Belgium, principally reflecting the effects for Luminus and EDF Belgium of the agreement signed by Engie with the Belgian government. They also included income of €91 million resulting from EDF Energy's decision to limit inflation-linked pension increases, in accordance with the terms of the pension scheme.

18.2 Net indebtedness

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 is detailed as follows:

(in millions of euros)	Notes	30/06/2024	31/12/2023
Loans and other financial liabilities	17.2.2	86,372	86,647
Derivatives used to hedge liabilities	17.1.1 and 17.2.1	(1,381)	(1,379)
Cash and cash equivalents		(9,238)	(10,775)
Debt and equity securities – liquid assets	17.1.2	(21,478)	(20,077)
Derivatives hedging liquid assets		(29)	(35)
NET INDEBTEDNESS		54,246	54,381

The Group's net indebtedness amounts to €54,246 million at 30 June 2024 (€54,381 million at 31 December 2023).

Note 19 Off-balance sheet commitments

This note presents off-balance sheet commitments given and received by the Group at 30 June 2024. The amounts of commitments correspond to non-discounted contractual values.

19.1 Commitments given

(in millions of euros)	Notes	30/06/2024	31/12/2023
Operating commitments given	19.1.1	71,897	64,201
Investment commitments given	19.1.2	19,534	17,605
Financing commitments given	19.1.3	5,925	6,043
TOTAL COMMITMENTS GIVEN		97,356	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.

19.1.1 Operating commitments given

Operating commitments given by the Group are as follows:

(in millions of euros)	30/06/2024	31/12/2023
Fuel and energy purchase commitments ⁽¹⁾	46,283	43,548
Operating contract performance commitments given	25,137	20,103
Operating lease commitments as lessee	477	550
TOTAL OPERATING COMMITMENTS GIVEN	71,897	64,201

(1) Excluding gas purchases and related services

19.1.1.1 Fuel and energy purchase commitments

Commitments to purchase commodities, energy and nuclear fuel (excluding purchases of gas and related services) amount to €46,283 million (€43,548 million at 31 December 2023).

The increase in these commitments in the first half of 2024 is principally explained by an increase in EDF's purchase commitments for electricity produced from biomass and recovered solid fuels in non-interconnected zones, which was partly offset by a decrease in electricity purchase commitments in the United Kingdom due to lower future electricity prices.

At 30 June 2024, fuel and energy purchase commitments mature as follows:

(in millions of euros)	30/06/2024					31/12/2023
	Maturity					Total
	Total	< 1 year	1 to 5 years	5 to 10 years	> 10 years	
Electricity purchases and related services	31,591	4,093	9,287	7,266	10,945	29,142
Other energy and commodity purchases ⁽¹⁾	390	126	170	94	-	390
Nuclear fuel purchases	14,302	1,827	6,130	4,514	1,831	14,016
FUEL AND ENERGY PURCHASE COMMITMENTS	46,283	6,046	15,587	11,874	12,776	43,548

(1) Excluding gas purchases and related services.

19.1.1.2 Operating contract performance commitments given

At 30 June 2024, these commitments mature as follows:

(in millions of euros)	30/06/2024				31/12/2023
	Maturity				Total
	Total	< 1 year	1 to 5 years	> 5 years	
Operating guarantees given	14,275	4,449	4,686	5,140	11,805
Operating purchase commitments ⁽¹⁾	10,692	6,549	3,340	803	8,116
Other operating commitments	170	66	89	15	182
OPERATING CONTRACT PERFORMANCE COMMITMENTS GIVEN⁽²⁾	25,137	11,064	8,115	5,958	20,103

(1) Excluding fuel and energy.

(2) Including commitments given by controlled entities to joint ventures, amounting to €2,321 million at 30 June 2024 (€2,186 million at 31 December 2023).

In the course of its business, the Group provides contract performance guarantees in the form of parent company guarantees or bank guarantees.

Operating guarantees given at 30 June 2024 mainly consist of guarantees given by EDF Renewables in connection with its development projects, and by EDF, Edison, Framatome and Arabelle Solutions.

The change in these guarantees is essentially explained by EDF's takeover of €2.2 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.

The increase in operating purchase commitments (excluding nuclear fuel and energy) principally reflects the consolidation of Arabelle Solutions (€1.3 billion), and commitments by EDF, particularly for maintenance of its generation fleet, PEI, particularly for purchases of the low-carbon biofuel Ester Méthylique d'Acide Gras (EMAG), and EDF Renewables, essentially in connection with wind projects in the United Kingdom.

19.1.1.3 Lease commitments as lessee

Lease commitments as lessee that are not recognised in the balance sheet amount to €477 million (€550 million at 31 December 2023), including €355 million (€442 million at 31 December 2023) for assets not yet available to the Group (principally real estate properties and LNG carriers currently in construction).

These commitments decreased by €87 million over the first half of 2024, notably after Enedis recognised a leased building in its balance sheet upon completion.

19.1.2 Investment commitments given

At 30 June 2024, details of investment commitments are as follows:

	30/06/2024				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	18,243	12,223	5,392	628	16,065
Commitments related to acquisition of financial assets	989	142	846	1	1,247
Other commitments related to investments	302	265	19	18	293
TOTAL INVESTMENT COMMITMENTS GIVEN⁽¹⁾	19,534	12,630	6,257	647	17,605

(1) Including commitments given by controlled entities to joint ventures, amounting to €141 million at 30 June 2024 (€161 million at 31 December 2023).

Commitments related to acquisition of tangible and intangible assets principally concern EDF Energy (€5.9 billion, mainly commitments related to Sizewell C and HPC), EDF SA (€5.3 billion, including commitments for the *Grand Carénage* industrial refurbishment programme, Flamanville 3 and a small amount for the EPR 2 project), Enedis (€4.2 billion) and EDF Renewables (€1.4 billion, notably commitments for projects in the United States, the United Kingdom and Brazil. 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 increase in these commitments over the first half of 2024 principally relates to EDF Energy's commitments for Sizewell C, and a commitment by Enedis to renew the contract for HVA/LV transformers that connect the high-voltage and low-voltage networks.

19.1.3 Financing commitments given

Financing commitments given by the Group at 30 June 2024 comprise the following:

	30/06/2024				31/12/2023
	Maturity				
(in millions of euros)	Total	< 1 year	1 to 5 years	> 5 years	Total
Security interests in real property	3,566	1,226	382	1,958	3,760
Guarantees related to borrowings	1,275	71	740	464	1,216
Other financing commitments	1,084	855	220	9	1,067
TOTAL FINANCING COMMITMENTS GIVEN⁽¹⁾	5,925	2,152	1,342	2,431	6,043

(1) Including commitments given by controlled entities to joint ventures, amounting to €1,705 million at 30 June 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 hold property, plant and equipment of EDF Renewables.

The increase in guarantees related to borrowings principally concerns guarantees given by EDF Renewables in connection with its project funding.

The decrease in financing commitments given principally results from reduction of the credit line provided by EDF Trading for its subsidiary Jera (a joint venture), as market volatility was lower in 2024 than in 2022 and 2023.

19.2 Commitments received

The table below shows off-balance sheet commitments received by the Group that have been valued.

(in millions of euros)	30/06/2024	31/12/2023
Operating commitments received	12,094	9,466
Investment/divestment commitments received	917	206
Financing commitments received	18	13
TOTAL COMMITMENTS RECEIVED⁽¹⁾	13,029	9,685

(1) Excluding commitments related to credit lines, which are described in note 17.3.

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) and Arabelle Solutions' equipment manufacturing contracts for nuclear plants (€1.8 billion) after it was consolidated by EDF.

Note 20 Subsequent events

No event has arisen subsequent to the year-end apart from those presented in the notes to the consolidated financial statements.



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