

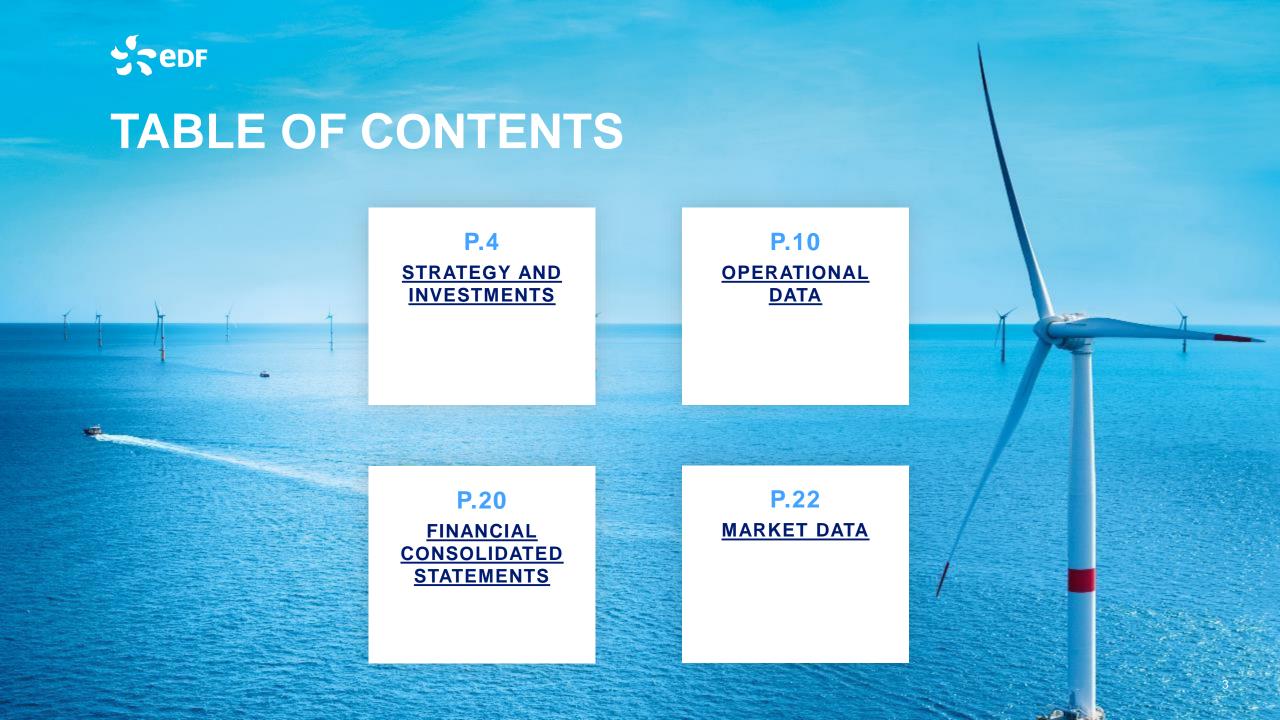
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## 2023 Q1 SALES & HIGHLIGHTS

STRATEGY AND INVESTMENTS



## FLAMANVILLE 3 EPR (~1.6GW)

UPGRADE ON THE MAIN SECONDARY CIRCUIT WELDS AND OTHER MATTERS OF ATTENTION All the welds concerned were upgraded as of 31 December 2022. Non-destructive inspection treatments are ongoing and stress-relieving heat treatments are almost completed (~95% to date)

The most complex penetration welds upgrading works on the reactor containment building are fully completed and compliant

Other technical matters have mobilised the teams and are currently being examined by the French Nuclear Safety Authority (ASN), in particular the filtration sumps SIS/CHRM<sup>(1)</sup>, the pressurizer safety release valves and the lesson-learnt from the technical issue at the Taishan No.1 reactor.

Concerning this last issue, EDF is assessing the needs and conditions for the replacement of the potentially affected fuel assemblies with 64 new reinforced fuel assemblies



SCHEDULE AND COSTS

EDF has updated the fuel-loading date from Q2 2023 to Q1 2024 and the estimated completion cost was increased from €12.7bn to €13.2bn<sup>(2)</sup>

These elements take into account the difficulties encountered in modelling and carrying out the stress-relieving heat treatment operations on "complex geometry" welds

ASN will examine the potential postponement of the vessel head replacement from 2024 to the end of the first operating cycle, in the second half of 2025, following a request from Framatome

Costs arising from post-commissioning modifications are not included in the construction cost of the project

- (1) SIS = Safety injection system, CHRM = containment heat removal system.
- (2) As announced in the press release of 16 December 2022. In 2015 euros, excluding interim interest (see note 10.6 of the Consolidated financial statements as of 31 December 2022).



#### **HINKLEY POINT C**

#### SCHEDULE AND COST REVIEW

- Conclusions of the last schedule and cost review for the two Hinkley Point C reactors announced on 19 May 2022<sup>(1)</sup>:
- The start of electricity generation for Unit 1 is targeted for June 2027; the risk of further delay of the two units is assessed at 15 months, assuming no additional effects of the war in Ukraine. The risk of additional delays and budget overruns is increasing
- The project completion cost was estimated, during this review, in the range of  $\pounds_{2015}25$ bn to  $\pounds_{2015}26$ bn<sup>(2)</sup>, corresponding to £31bn to £32bn in current value based on the inflation indexes available at end-2021<sup>(3)</sup>
- The schedule and cost of electromechanical works and of final testing were not reviewed at this stage of the project

#### **CONSTRUCTION PROGRESS**

- The 768-tonne Reactor Cavity Pool has been safely lifted into Unit 1's Reactor Building
- The Reactor Pressure Vessel of Unit 1 has arrived at Hinkley Point C
- The Reactor Building Equipment Hatch cover and the first Instrumentation and Control (I&C) cabinets have been delivered
- c.46% of total concrete has been poured, and c.14% of mechanical, electrical, heating, ventilation and air conditioning equipments have been manufactured.
  These progresses are behind the planned trajectory and action plans are being set

#### KEY DATA

- The agreements between EDF and CGN include a compensation mechanism of certain additional costs by EDF in case of overrun of the initial budget or delays. This mechanism was triggered in January 2023. This arrangement is part of a Shareholder's bilateral agreement signed between EDF and CGN in September 2016 and is subject to a confidentiality clause
- As the project's total financing needs exceed the contractual commitment of the shareholders, shareholders will be asked to provide additional equity on a voluntary basis in H2 2023 (estimation). The probability that CGN will not fund the project beyond its committed equity cap is high. In the event that CGN does not allocate voluntary equity, it is likely that EDF will have to contribute in place of CGN, as soon as CGN has contributed its share of committed equity

- (1) See EDF's Press Release of 19 May 2022 "Hinkley Point C Update".
- (2) Cost net of operational action plans, in 2015 sterling, excluding interim interest and at a reference exchange rate for the project of  $\pounds_{2015}1 = \pounds 1.23$ .
- (3) Based on inflation indexes as at 30 June 2022, the estimated cost at completion in current value could reach £32.7bn. The real cost remains unchanged.



#### SIZEWELL C

#### MAIN ASPECTS

- Project of 2 UK European Pressurised Reactors (EPR) at Sizewell on the Suffolk coast for a total capacity of 3.26GW
- Power supply to 6 million households for around 60 years
- Second of a kind UK EPR following Hinkley Point C, replication as much as possible of the Hinkley Point C design and supply chain



#### **PROGRESS**

#### **Support from UK Government**

 At 31 March 2023, the UK Government held a 40% shareholding in the project, with EDF owning the remaining 60%
 The UK Government will increase its shareholding through 2023 until it reaches parity with EDF as a 50% ownership, in view of an expected FID by EDF in 2024

#### **Financing**

- EDF intends to be a minority shareholder from FID with no more than 19.99% and to supply the EPR design and key nuclear equipment
- The project is eligible for funding under the Regulated Asset Base (RAB) model, the terms of which are currently under discussion with the UK Government as is the Government Support Package (GSP)
- The financing terms of the project are not defined at this stage

#### **Organisation**

 Organisation and collaboration schemes with Hinkley Point C, that will have to be consistent with the deconsolidation objectives of EDF, are being analysed to secure the benefits of the replication of the Hinkley Point C project

#### **Licenses and permits**

- The ONR (Office for Nuclear Regulation) confirmed in July 2022 that almost all the regulatory requirements were satisfied to grant a Nuclear Site License
- Development Consent Order (DCO) granted in July 2022. A request for iudicial review has been launched in the UK
- The Environment Agency issued in March 2023 the three environmental permits required for the plant to operate

## FINAL INVESTMENT DECISION (FID)

- The power plant's construction remains subject to EDF taking a FID. It will be subject to the fulfilment of some conditions including:
- Securing project financing
- A return on capital expected by EDF, as an investor of up to 19,99%, in line with its investment policy
- The granting of the remaining required consents, in particular subsidy control clearance
- The finalisation of the GSP
- An agreement with the UK Government on the base case estimate of costs at completion and schedule
- The finalisation of the key EDF contracts to be signed at FID
- The ability of EDF to deconsolidate the project in the Group's financial statements (including in the calculation of the economic indebtedness by the rating agencies)
- Should EDF decide not to take a FID, the UK Government would have a right to exercise an option over the land purchase or over EDF's shares in Sizewell C



## STRESS CORROSION PHENOMENON (SC)(1)



- As of March 2023, among the 16 most sensitive reactors<sup>(2)</sup> to SC detected in the auxiliary circuits of the main primary circuit:
  - · sections of pipe replaced on 10 reactors
  - preventive replacement of impacted lines by end of 2023 of the 6 remaining reactors<sup>(3)</sup>

The 40 less sensitive reactors will be inspected by the end of 2025 during the planned outages

In March 2023, a SC defect detected on a weld that was subject to a double repair in the RIS system of Penly 1. The pipe has been replaced to date

Identification of 320 welds (repaired during the construction), of which 69 identified as the most sensitive to SC

**Evolution in EDF's strategy:** acceleration of the inspection of the welds (repaired at the time of construction), during scheduled maintenance outages

ASN considers the schedule appropriate

On the basis of the control strategy, estimate of nuclear output in France for 2023 remains in the range 300-330TWh

- (1) See Information notes of 8 March 2023, of 17 March 2023 and Press Releases of 16 March 2023 and of 26 April 2023.
- (2) Most sensitive reactors: the 4 N4 series reactors of 1,450MW and the 12 P'4 series reactors of 1,300MW.
- (3) 6 reactors not treated (Belleville 1, Belleville 2, Cattenom 2, Golfech 2, Nogent 1, Nogent 2).



#### **ESG PROGRESS TOWARDS AN INTEGRATED PERFORMANCE**



EDF IN THE TOP 8% ASSESSED FOR SUPPLIER ENGAGEMENT ON CLIMATE CHANGE

EDF included in CDP Supplier Leaderboard thanks to its engagement with clients on climate change

EDF also recognised by L'Oréal as a "best in class" supplier and signed with the company several contracts: Corporate Power Purchase Agreement, aggregating contract and supply of electricity for the production sites<sup>(1)</sup>

## NEW MILESTONES IN CSR GOVERNANCE

From 2023 and ahead of CSRD, annual ESG results and the reporting on EU taxonomy will be reviewed by a joint meeting of the audit committee & the corporate responsibility committee of EDF Board

In April 2023, the Co-Chair of EDF group's stakeholder advisory committee presented the outcomes of the committee and discussed common agenda with the board on strategic ESG issues to EDF's corporate responsibility committee

#### **EDF PULSE START-UP AWARDS**

The 4 winners of the EDF Pulse start-up award develop solutions in:

- low carbon output
- low carbon consumption
- decarbonisation of digital usage
- simpler & safer companies

EDF provides them with technological, commercial and marketing support and has granted each a financial aid of 30k€<sup>(2)</sup>

With the EDF Pulse Awards, the EDF Group is actively strengthening the synergies between its employees and the world of start-ups to stimulate innovation, which is essential for achieving carbon neutrality

- (1) See Press Release of 21 February 2023.
- (2) See Press Release of 9 March 2023.

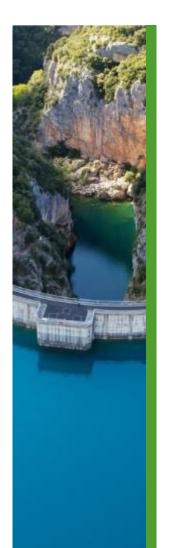


## 2023 Q1 SALES & HIGHLIGHTS

OPERATIONAL DATA



### **KEY OPERATIONAL INDICATORS – Q1 2023**



Nuclear output France

**85.2**TWh -7.1% vs Q1 2022

Nuclear output United Kingdom

**9.0**TWh

Carbon intensity (Group)

**46**gCO<sub>2</sub>/kWh vs 54gCO<sub>2</sub>/kWh Q1 2022

Hydro output mainland France

**9.2**TWh

-2.1% vs Q1 2022

Renewable output (Group excl. hydro France)

**7.8**TWh

+5.4% vs Q1 2022

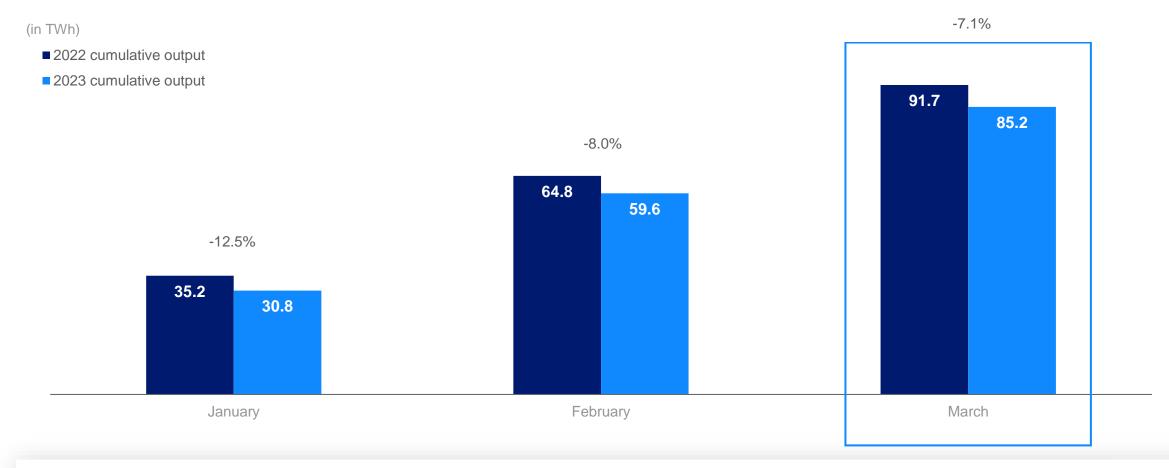
Wind and Solar capacities under construction (Group)

7.3 GW gross

vs 7.9GW Q1 2022



#### FRANCE NUCLEAR OUTPUT

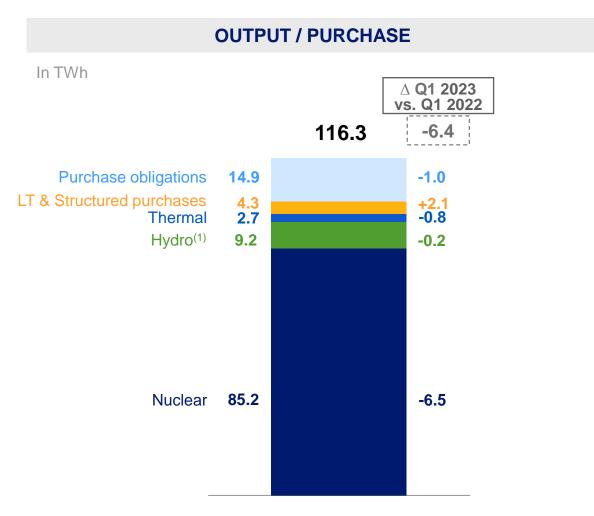


Nuclear output in France amounted to 85.2TWh for Q1 2023, down by 6.5TWh from Q1 2022. This decrease is explained by a lower nuclear fleet availability, mainly due to outages for the controls and repairs on the pipes affected by the stress corrosion phenomenon, and to the impacts of social movements

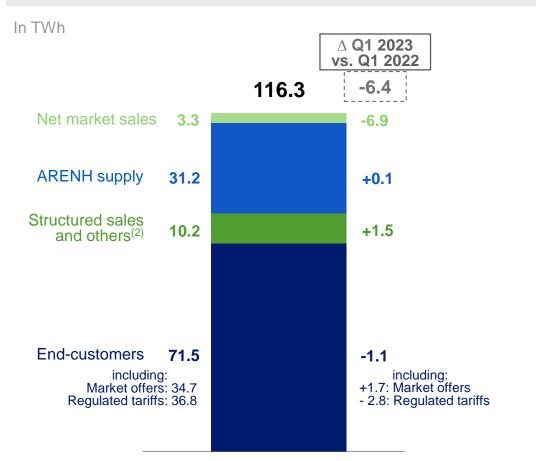


2023 Q1 SALES & HIGHLIGHTS

#### FRANCE: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE







NB: EDF excluding French islands electrical activities.

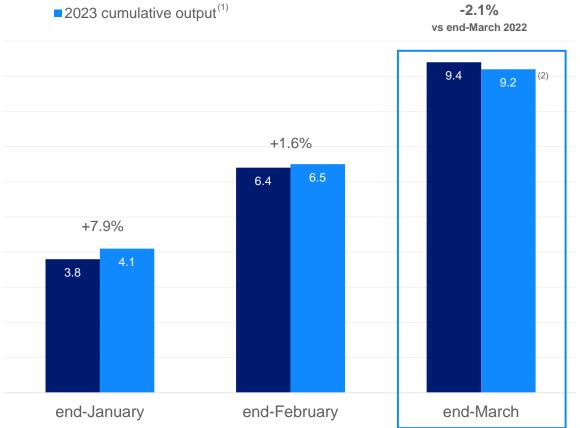
- (1) Hydro output after deduction of pumped volumes: 7.5TWh in Q1 2023 / 7.5TWh in Q1 2022.
- (2) Including hydro pumped volumes of 1.6TWh in Q1 2023 / 1.9TWh in Q1 2022.



Operational data

### FRANCE HYDRO OUTPUT

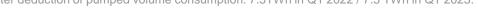
(in TWh) ■2022 cumulative output (1) ■2023 cumulative output<sup>(1)</sup> -2.1% vs end-March 2022 9.4 9.2

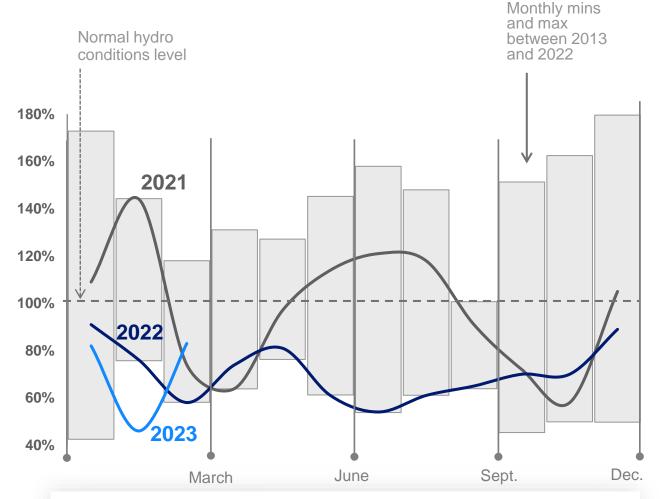




(2) Production after deduction of pumped volume consumption: 7.5TWh in Q1 2022 / 7.5 TWh in Q1 2023.





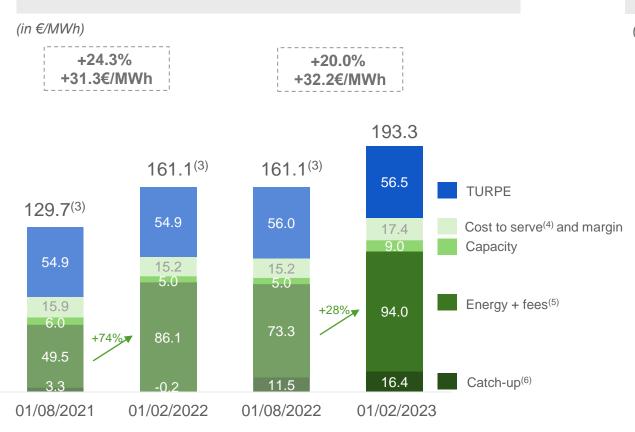


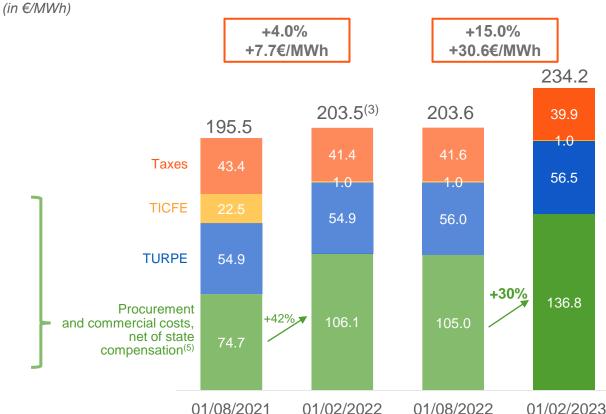
- Unfavourable hydro conditions in Q1 2023 even lower than Q1 2022: hydraulic conditions index of 0.72 in Q1 2023 vs 0.74 in Q1 2022
- > Hydraulic reservoirs filling rate in France at 48% at end-March 2023: +8 points above historical average

#### **REGULATED SALES TARIFFS IN FRANCE: CHANGE IN 2021-2023**

#### RESIDENTIAL BLUE TARIFF EXCLUDING TAXES(1)(2)

## AVERAGE BILL BREAKDOWN VAT INCLUDED (BLUE RESIDENTIAL CUSTOMER)





- (1) Source: Journal Officiel.
- (2) The figures are based on an average calculation on customers portfolio at the Regulated Sales Tariffs at end-2021 (latest available database to date).
- (3) Due to rounding, the total is not strictly equal to the sum of the components.
- (4) Including cost of Energy Efficiency Certificates.

(5) For 2022 and 2023, this part takes into account the tariff cap for the current year. In February 2023, in particular, this part includes the catch-up under the 2022 cap and a **discount of €143.2/MWh** under the 2023 tariff cap. **This discount is compensated by the CSPE** under the finance law for 2023 and will therefore not be subject to a catch-up in 2024.

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(6) Remaining tariff increase decided in Year-1 but invoiced in Year+1.

#### **INSTALLED CAPACITY AS OF 31 MARCH 2023**

| (in GW)                | Total net capacity of E<br>including shares in ass<br>joint venture | sociates and | Investments in associates and joint ventures | Consolidated ca<br>of EDF Gro | •    |
|------------------------|---|--------------|--|-------------------------------|------|
| Nuclear <sup>(1)</sup> | 67.8  | 56%          | -0.2   | 67.9                          | 59%  |
| Hydro <sup>(2)</sup>   | 22.6  | 19%          | 1.0  | 21.5                          | 19%  |
| ENR                    | 13.4  | 11%          | 2.9  | 10.5                          | 9%   |
| Gas <sup>(3)</sup>     | 11.1  | 9%           | -0,3   | 11.4                          | 10%  |
| Fuel oil               | 3.7   | 3%           | 0.2  | 3.5                           | 3%   |
| Coal <sup>(4)</sup>    | 3.0   | 2%           | 1.8  | 1.2                           | 1%   |
| Total                  | 121.5   | 100%         | 5.5  | 116.0                         | 100% |

**87%** of **installed consolidated capacities** at end-March 2023 and c.**94%** of **investments** in 2022 were **low-carbon**. EDF will continue to decarbonise its capex in the future, in line with its **net zero trajectory**. Notably, for the period 2023-2026, the capex will be split between 50% nuclear, 15% renewables and 35% others mainly corresponding to networks<sup>(5)</sup>

- (1) Taking into consideration the closure of Tihange 2 (Belgium).
- (2) Including sea energy: 0.24GW at 31 March 2023.
- (3) Taking into consideration the disposal of the participation in Sloe (Netherlands).

- (4) Taking into consideration the end of generation at West Burton A (the UK).
- (5) This split is based on targets. Although management believes that this split is reasonable, investors are cautioned that such data is subject to numerous risks and uncertainties that could cause actual results and developments to differ materially from those expressed herein.



# RENEWABLES: INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION, AS OF 31 MARCH 2023

| (in 1414)                                  | Gros       | ss <sup>(1)</sup> | Net <sup>(2)</sup> |            |  |
|--|------------|-------------------|--------------------|------------|--|
| (in MW)                                    | 31/12/2022 | 31/03/2023        | 31/12/2022         | 31/03/2023 |  |
| Wind under construction                    | 2,783      | 2,948             | 1,662              | 1,727      |  |
| Solar under construction                   | 4,347      | 4,334             | 3,073              | 3,049      |  |
| Capacity under construction                | 7,130      | 7,282             | 4,735              | 4,777      |  |
| Wind                                       | 14,552     | 14,148            | 9,574              | 9,548      |  |
| Solar                                      | 7,427      | 7,439             | 3,591              | 3,609      |  |
| Wind & Solar installed capacity            | 21,979     | 21,587            | 13,165             | 13,157     |  |
| Biomass and geothermal                     | -          | -                 | 232                | 232        |  |
| Renewable (excl. hydro) installed capacity | -          | -                 | 13,397             | 13,389     |  |
| Hydraulic                                  | -          | -                 | 22,577             | 22,580     |  |
| Renewable installed capacity               | -          | -                 | 35,974             | 35,969     |  |

<sup>(1)</sup> Gross capacity: total capacity of the facilities in which EDF has a stake.

<sup>(2)</sup> Net capacity: capacity corresponding to EDF's stake.



## **ELECTRICITY OUTPUT**

#### Output from fully consolidated entities

| Group                | 135.4 | 100% | 123.3 | 100% |
|----------------------|-------|------|-------|------|
| Coal <sup>(2)</sup>  | 1.0   | 1%   | 0.2   | 0%   |
| Fuel oil             | 1.4   | 1%   | 1.2   | 1%   |
| Gas                  | 11.4  | 8%   | 9.2   | 7%   |
| Biomass              | 0.2   | 1%   | 0.2   | 1%   |
| Solar                | 0.7   | 4%   | 0.6   | 4%   |
| Wind                 | 5.8   | 34%  | 6.3   | 37%  |
| Hydro <sup>(1)</sup> | 10.1  | 60%  | 9.9   | 58%  |
| Total ENR            | 16.8  | 12%  | 17.0  | 14%  |
| Nuclear              | 104.8 | 77%  | 95.7  | 78%  |
| (in TWh)             | Q1 2  | 2022 | Q1 20 | 023  |

<sup>(1)</sup> Hydro output includes tidal energy for 136GWh in Q1 2022 and 123GWh in Q1 2023. Hydro output after deduction of pumped volumes is 8.2TWh in Q1 2022 and 8.3TWh in Q1 2023.



2023 Q1 SALES & HIGHLIGHTS

<sup>(2)</sup> End of generation at West Burton A on 31/03/2023, last coal plant in the UK owned by EDF.

## CO<sub>2</sub> EMISSIONS<sup>(1)</sup>

#### CO<sub>2</sub> emissions from fully consolidated entities

| Emissions from the heat and power            | In kt |      |       |      | In g/kWh <sup>(4)</sup> |         |
|--|-------|------|-------|------|-------------------------|---------|
| generation by segment                        | Q1 20 | 22   | Q1 20 | 23   | Q1 2022                 | Q1 2023 |
| France – Generation and supply activities    | 1,841 | 23%  | 1,198 | 20%  | 18                      | 12      |
| France – Regulated activities <sup>(2)</sup> | 883   | 11%  | 753   | 12%  | 513                     | 480     |
| Dalkia                                       | 1,745 | 22%  | 1,626 | 27%  | 188                     | 187     |
| United Kingdom <sup>(3)</sup>                | 111   | 1%   | 18    | 0%   | 10                      | 2       |
| Italy  | 2,101 | 27%  | 1,838 | 30%  | 299                     | 320     |
| Other international                          | 1,141 | 15%  | 671   | 11%  | 217                     | 173     |
| Framatome and Other activities               | n.s.  | -    | n.s.  | -    | n.s.                    | n.s.    |
| Group  | 7,834 | 100% | 6,111 | 100% | 54                      | 46      |

<sup>(4)</sup> Carbon intensity corresponds to CO<sub>2</sub> emissions in relation to the Group's electricity and heat generation. The EDF Group's heat generation amounts to 8.3TWh in Q1 2023 (vs 9.3TWh in Q1 2022).



2023 Q1 SALES & HIGHLIGHTS

n.s. = not significant.

<sup>(1)</sup> Including direct CO<sub>2</sub> emissions, excluding life cycle analysis (LCA) of fuel and production means.

<sup>(2)</sup> Power generation in ZNI: « Zones non interconnectées » corresponding to overseas departments and Corsica - (mainly island territories) and Electricité de Strasbourg (ES).

<sup>(3)</sup> End of generation at West Burton A on 31/03/2023, last coal plant in the UK owned by EDF.

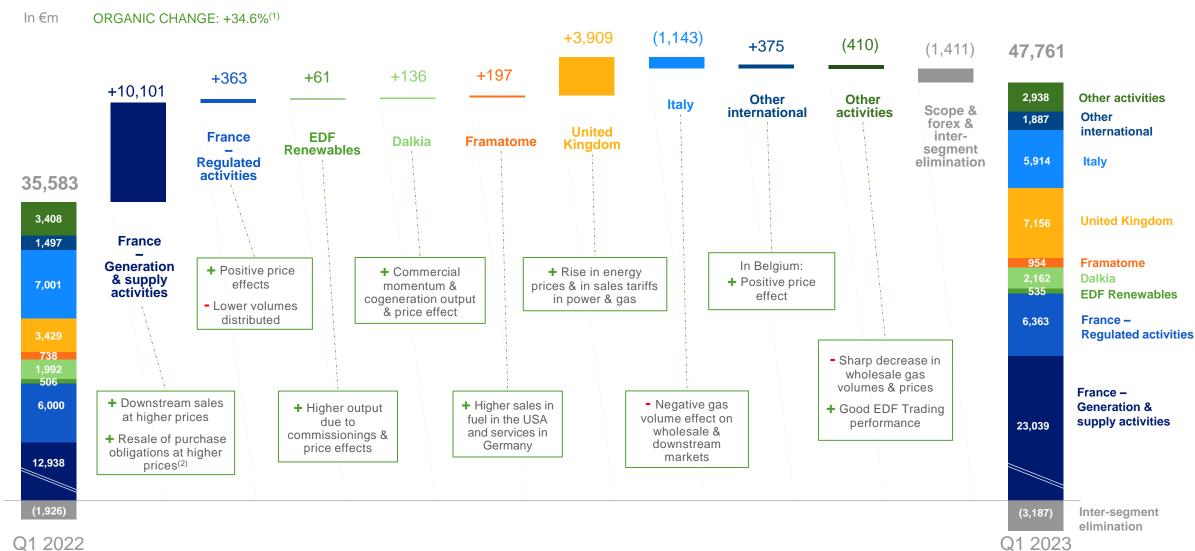
## 2023 Q1 SALES & HIGHLIGHTS

CONSOLIDATED FINANCIAL STATEMENTS



Consolidated financial statements

### **Q1 2023 GROUP SALES**



**2023 Q1 SALES & HIGHLIGHTS** 

Organic change at comparable scope, accounting standards and exchange rates.

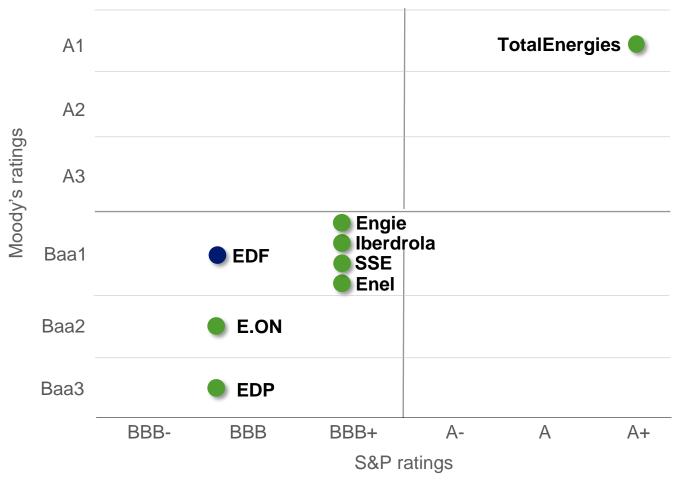
With no EBITDA impacts.

## 2023 Q1 SALES & HIGHLIGHTS

MARKET DATA



### **COMPARATIVE CREDIT RATINGS**



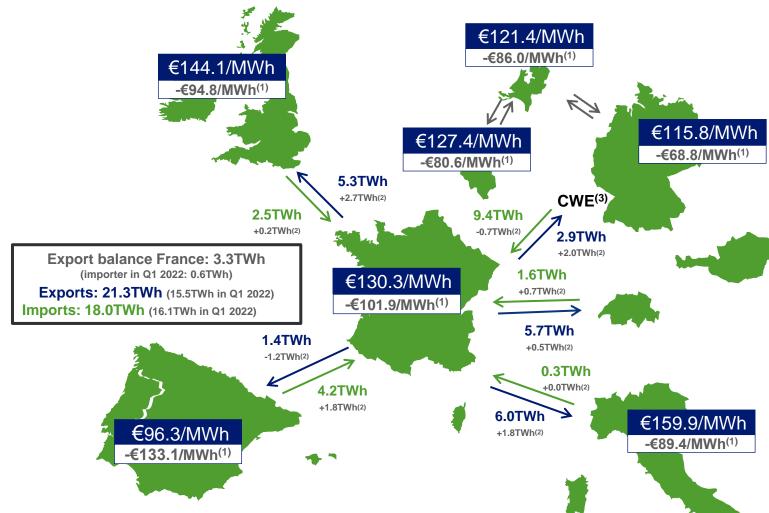
|               | S&P<br>ratings               | Moody's ratings                 | Fitch ratings                 |
|---------------|------------------------------|---------------------------------|-------------------------------|
| EDF           | BBB<br>stable <sup>(1)</sup> | Baa1<br>negative <sup>(2)</sup> | BBB+<br>stable <sup>(3)</sup> |
| Engie         | BBB+ stable                  | Baa1 stable                     | A- stable                     |
| TotalEnergies | A+ stable                    | A1 stable                       | AA- stable                    |
| EDP           | BBB stable                   | Baa3 positive                   | BBB stable                    |
| SSE           | BBB+ positive                | Baa1 stable                     | BBB stable                    |
| Iberdrola     | BBB+ stable                  | Baa1 stable                     | BBB+ stable                   |
| Enel          | BBB+ negative                | Baa1 negative                   | BBB+ stable                   |
| E.ON          | BBB stable                   | Baa2 stable                     | BBB+ stable                   |
| RWE           | n.d.                         | Baa2 stable                     | BBB+ stable                   |
|               |                              |                                 |                               |

Sources: rating agencies as of 27/04/2023.

- (1) Update of the outlook of EDF SA by S&P on 14 December 2022.
- (2) Update of the rating and outlook of EDF SA by Moody's on 21 February 2022.
- (3) Update of the outlook of EDF SA by Fitch on 3 April 2023.



### **IMPORT BALANCE AND AVERAGE SPOT PRICES IN Q1 2023**



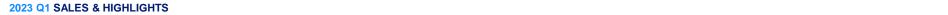
- (1) Change in average prices vs Q1 2022.
- (2) Trade (Source: RTE & ENTSO-E Transparency Website) and change vs Q1 2022.
- 3) Introduction of flow-based coupling mechanism from 21 May 2015 for the entire CWE (France, Benelux, Germany).

- The average decrease in electricity spot prices of -€101.9/MWh vs Q1 2022 in France was attributable to the decrease in commodity prices, especially gas prices from the last guarter of 2022
- In Q1 2023, a decrease in nuclear generation in France (-6.5TWh vs Q1 2022) impacted mainly by social movements. However, it was partly compensated by the increase in renewable generation (wind and solar) (+3.7TWh vs Q1 2022). Fossil fuel power generation was reduced (-2.1TWh)
- Consumption in France fell sharply (-9.1TWh) to 126.3TWh for Q1 2023, amid high prices and mild temperatures like in Q1 2022

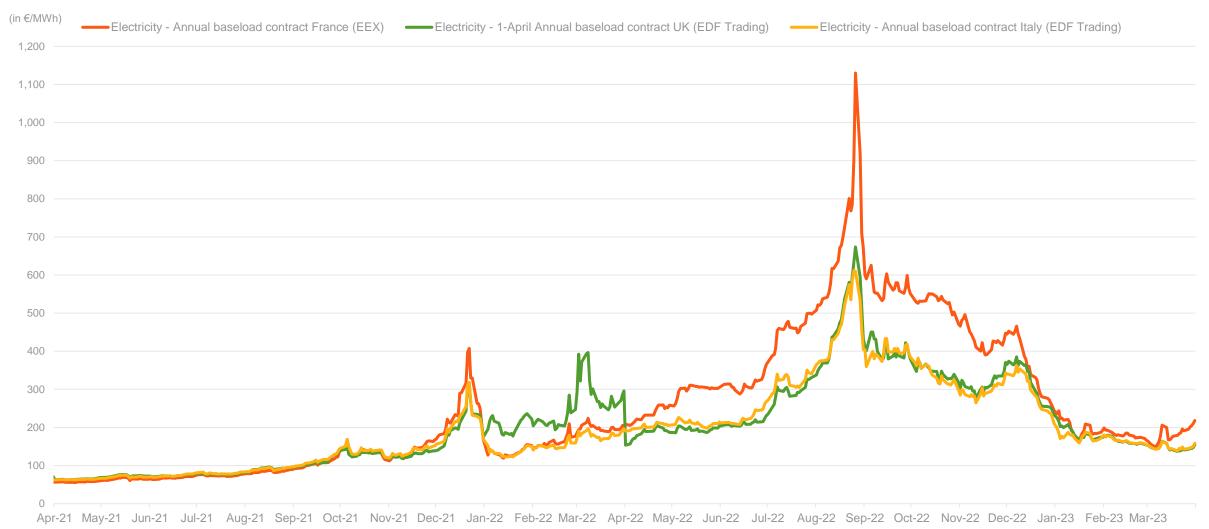
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Average observed spot market price for Q1 2023:

- EPEXSPOT: France & Germany
- N2EX: United-Kingdom
- · OMIE: Spain
- GME: Italy (Prezzo Unico Nazionale)
- APX: Netherlands
- BELPEX: Belgium



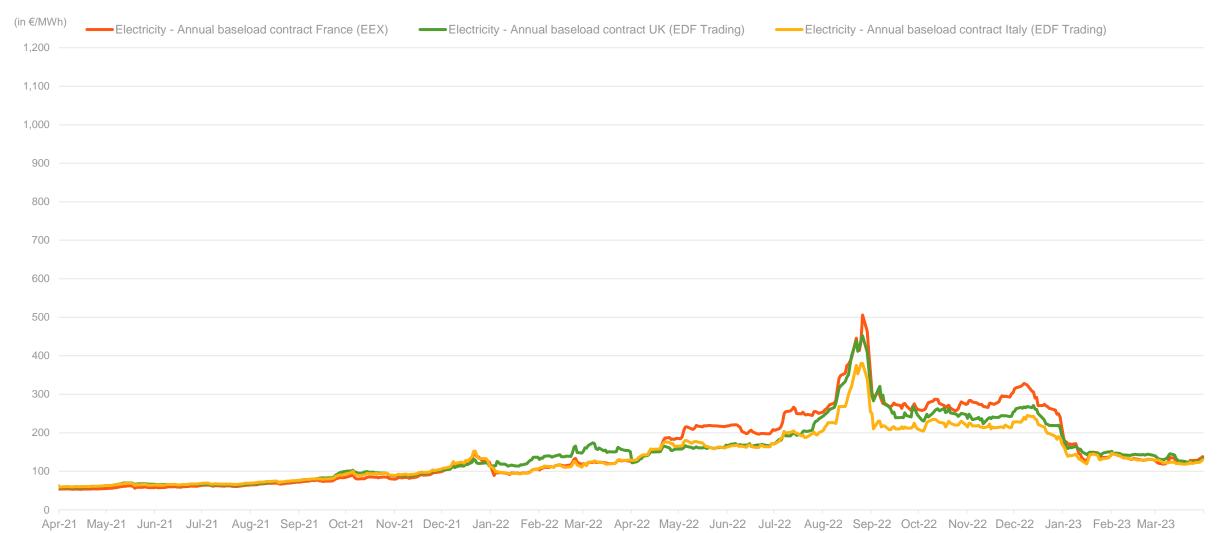
# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK AND ITALY (Y+1) FROM 01/04/2021 TO 31/03/2023





2023 Q1 SALES & HIGHLIGHTS

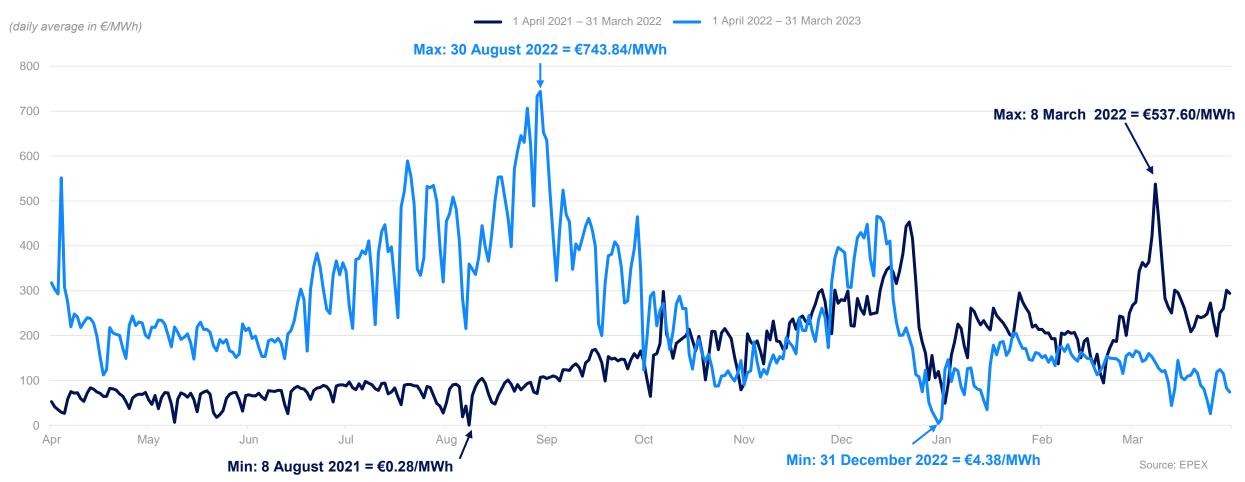
# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK AND ITALY (Y+2) FROM 01/04/2021 TO 31/03/2023





2023 Q1 SALES & HIGHLIGHTS

## FRANCE: BASELOAD ELECTRICITY SPOT PRICES



Baseload electricity spot prices averaged €130.3/MWh in Q1 2023 (-€101.9/MWh vs Q1 2022). This is explained by : gas PEG spot prices done by 46.5% compared to Q1 2022 (- €44.3/MWh) because of high level of stocks and numerous LNG imports in Q1 2023; electricity consumption done by 6.7%; and renewable generation levels higher compared to Q1 2022



2023 Q1 SALES & HIGHLIGHTS

