



2022

# HALF YEAR RESULTS

COMPLEMENTARY BOOK



# DISCLAIMER

This presentation is for information purposes only and does not constitute an offer or solicitation to sell or buy instruments, part of the company or the assets described here, in the US or any other country.

This presentation contains forward-looking statements or information. While EDF believes that the expectations reflected in these forward-looking statements are based on reasonable assumptions at the time they were made, these assumptions are fundamentally uncertain and imply a certain amount of risk and uncertainty which is beyond the control of EDF. As a result, EDF cannot guarantee that these assumptions will materialise. Future events and actual financial and other outcomes may differ materially from the assumptions used in these forward-looking statements, including, and not limited to, potential timing differences and the completion of transactions described therein.

Risks and uncertainties (notably linked to the economic, financial, competition, regulatory and climate backdrop) may include changes in economic and business trends, regulations, as well as those described or identified in the publicly-available documents filed by EDF with the French financial markets authority (AMF), including those presented in Section 2.2 “Risks to which the Group is exposed” of the EDF Universal Registration Document (URD) (under number D.22-0110) filed with the AMF on 17 March 2022, which may be consulted on the AMF website at [www.amf-france.org](http://www.amf-france.org) or on the EDF website at [www.edf.fr](http://www.edf.fr) (including the management report as of 31 December 2021).

EDF and its affiliates do not undertake nor do have any obligation to update forward-looking information contained in this presentation to reflect any unexpected events or circumstances arising after the date of this presentation.

# TABLE OF CONTENTS

**P.4**  
**STRATEGY AND**  
**INVESTMENTS**

**P.13**  
**ESG**

**P.17**  
**RENEWABLES**

**P.25**  
**FRANCE**

**P.44**  
**FINANCIAL**  
**CONSOLIDATED**  
**STATEMENTS**

**P.75**  
**FINANCING AND**  
**CASH**  
**MANAGEMENT**

**P.88**  
**OPERATIONAL**  
**DATA &**  
**MARKETS**




# 2022 HALF YEAR RESULTS

## STRATEGY AND INVESTMENTS




# THE 5 STRATEGIC PLANS OF EDF



**Target:** 30% market share in the electricity supply for electric vehicle owners in 2023 in the Group's four main markets (G4)

- 400,000 charging stations rolled out by 2023
- 20,000 smart charging stations operated by 2023


**Target:** to enable the French nuclear industry to return to the highest level of rigor, quality and excellence in order to meet the needs of existing and future major nuclear projects




## Launch of the Hydrogen Plan in 2022

**Target:** to be a European leader of 100% low-carbon hydrogen generation in 2030 from low-carbon network electricity, renewable energy or nuclear power

- 3GW gross of low-carbon electrolytic hydrogen projects developed by 2030 worldwide






**Target:** to be a leader in France

- 30% market share by 2035

**Target:** to develop 10GW in new storage sites worldwide by 2035, in addition to the 5GW operated today



# FLAMANVILLE 3 EPR (1,650MW)

## CONSTRUCTION PROGRESS

More than 90% completion rate in the reactor building, in the machine room, and in the diesel rooms.

## UPGRADE ON THE MAIN SECONDARY CIRCUIT WELDS AND OTHER MATTERS OF ATTENTION

The upgrading involves 122 welds. As of 30 June 2022, 41% of the welds are repaired and compliant before stress-relieving heat treatment and 17% are completed and compliant post stress-relieving heat treatment

Other technical matters are mobilising the teams, in particular the filtration sumps SIS/CHRM <sup>(1)</sup>, the pressurizer safety release valve, the computer operating test of the boiler control system as well as the lesson-learnt from the technical issue at the Taishan No.1 reactor



## SCHEDULE AND COSTS

In its press release on 12 January 2022, EDF has been updated these elements taking into account the progress on operations and preparations for commissioning. The fuel-loading date was postponed to Q2 2023. The estimated construction completion cost have increased from €12.4bn to €12.7bn <sup>(2)</sup>

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

The project has no margin either in terms of schedule or completion costs

(1) SIS = Safety injection system, CHRM = containment heat removal system

(2) In 2015 euros, excluding interim interest (see note 10.2 of the Group financial statements as of 30 June 2022). This estimate takes into account the analytical allocation of part of the compensation paid by AREVA under the settlement agreement reached on 29 June 2021

# HINKLEY POINT C

### SCHEDULE AND COSTS REVIEW

- The conclusions of the schedule and cost review for the two Hinkley Point C reactors were announced on 19 May 2022 <sup>(1)</sup> :
  - The start of electricity generation for Unit 1 is now targeted for June 2027; the risk of further delay of the two units is assessed at 15 months, assuming the absence of a new pandemic wave and no additional effects of the war in Ukraine.
  - The project completion costs are now estimated in the range of £<sub>2015</sub>25bn to £26<sub>2015</sub>bn <sup>(2)</sup>, and £31bn to £32bn in current values.
  - The schedule and cost of electromechanical works and of final testing have not been reviewed.

### CONSTRUCTION PROGRESS

- The Simulator building, which is now completed and already training 30 operators, has been handed over to pre-operations,
- The first main coolant pump casing for the Nuclear Steam Supply System has been delivered to site.
- The lower and upper walls of the Unit 1 Turbine hall have been completed.
- Reactor 1 vessel head has been built

### KEY DATA

- The agreements between EDF and CGN include a compensation mechanism between both shareholders in case of overrun of the initial budget or delays. This mechanism is applicable and will be triggered when the time comes. This arrangement is part of a Shareholder’s bilateral agreement agreements 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). In the context of the SZC discussions, it becomes more likely that CGN will not fund voluntary equity within HPC project

(1) See EDF’S press release of 19 May 2022 “Hinkley Point C Update”. Previous target announced on 27 January 2021 : start of electricity generation for Unit 1 in June 2026, project completion costs estimated in a range of £<sub>2015</sub> 22-23 bn.

(2) Net costs of operational action plans, in 2015 sterling, excluding interim interest and at a reference exchange rate for the project of £<sub>2015</sub>1 = €1.23.



# 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
- As of 30 June 2022, EDF owns 80% of the project and CGN 20%. EDF intends to be a minority shareholder at FID with a maximum 20% stake and to provide the EPR design and key nuclear equipment



## KEY ELEMENTS

### UK government support

- The British Energy Security Strategy launched in April 2022 sets out an ambition to increase nuclear installed capacity up to 24 GW by 2050 representing up to around 25% of the projected electricity demand and to take one project to a FID by 2024.
- The UK government is in active negotiations with EDF on the Sizewell C project to support the project development and reach a FID. EDF's ability to continue the development is subject to reaching an agreement with the UK government, in particular on the funding of the remaining development costs until FID

### Funding model:

- Discussions are ongoing on the terms of the RAB model and Government Support Package (GSP) for the Sizewell project

### Permits :

- On 12 July 2022, the ONR (Office for Nuclear Regulation) has confirmed that almost all the regulatory requirements are satisfied to grant a Nuclear Site License. Residual matters will be addressed in due course
- Development Consent Order (DCO), granted on 20 July 2022

## FINAL INVESTMENT DECISION (FID)

- EDF's ability to take FID depends on the fulfilment of some conditions including :
  - Having a full commitment of investors and debt holders at FID for the financing of the project. This is subject in particular to achieving an investment grade credit rating
  - The requirement not to consolidate the project in the Group's financial statements, including in the calculation of the economic indebtedness by the rating agencies
  - A return on capital proposed to equity investors compliant with the Group's investment guidance
  - Agreement with the UK government on the project's shareholding structure
  - Securing the funding of development costs until FID with the UK government
  - If and when an agreement is found with the UK government on the funding of the remaining development costs until FID, risks still exist of not reaching FID, or taking FID under unfavourable financial conditions for EDF
  - Securing subsidy control clearance
  - The risk of judicial review of DCO decision
  - Confirmation that development costs will be fully recoverable under the RAB
- If EDF were not able to take FID, the development costs incurred would be written off from the group's balance sheet and the British Government would have a right to exercise the option on the land or on the shares



# TECHNICAL ISSUE AT THE TAISHAN EPR

## MAIN ASPECTS OF THE TAISHAN EPR

- EDF holds a 30% stake in TNPJVC <sup>(1)</sup>, which operates two EPR nuclear reactors (1,750MW each) in Taishan in the Guangdong Province
- The commercial commissioning of unit 1 was on 13 December 2018 and that of unit 2 on 7 September 2019. After their initial 18-month fuel cycle, each unit carried out its first “Initial Complete Visit” outage with reloading



## TECHNICAL ISSUE: FEEDBACK

- Atypical evolution of radiochemical parameters, leading to suspicion that fuel assembly rods had become unsealed <sup>(2)</sup>
- Shutdown of reactor 1 and defueling operations in August 2021
- According to investigations on the fuel assemblies, and the following studies, the loss of sealing would be due to a deterioration of the rod cladding owing to mechanical wear stemming from the rupture of small rod hold-down systems in the assemblies <sup>(3)</sup>
- Inspections of the assemblies and the interior of the vessel have also revealed a localised phenomenon between the assemblies and a component covering the core related to hydraulic exposure. Studies are underway to determine solutions to reduce interactions between the assemblies and the core barrel
- The analysis concerning the other EPR projects is ongoing
- The file for the restart of the reactor n°1 is currently being examined by competent Chinese authorities
- Operating feedback is collected to feed ongoing projects

(1) Taishan Nuclear Power Joint Venture Company Limited

(2) See the 14 June 2021 and 22 July 2021 press releases

(3) See 12 January 2022 press release

# NACHTIGAL HYDROELECTRIC DAM IN CAMEROON

## MAIN ASPECTS OF THE PROJECT

- Design, construction and operation for a period of 35 years of a 420MW run-of-the-river hydropower plant on the Sanaga river near the Nachtigal Falls
- Construction of a 50-km power transmission line
- Project will be operated by NHPC (Nachtigal Hydro Power Company), established since December 2018, currently owned by EDF (40%) <sup>(1)</sup>, IFC (20%), the Republic of Cameroon (15%), Africa50 (15%) and STOA (10%)
- Expected annual power generation of 3TWh, which will cover 30% of the energy needs of the country
- Substantial economic benefits: up to 3,000 direct jobs during peak construction periods, of which 65% will be locally sourced within a 65km radius of the construction site. The project will generate tens of permanent jobs

## FINANCING STRUCTURE

- Project's expected total cost: €1.2bn
- Shareholders' equity to fund a quarter of the project, lenders to fund the rest
- The lender group includes 11 international Development Finance Institutions (DFI) and 4 local commercial banks <sup>(2)</sup>
- The largest hydropower project ever built in Africa through non-recourse project finance debt

## TIMELINE

- Final and binding agreements signed on 8 November 2018, financial closing on 24 December 2018
- Start of construction in March 2019, 63.8% of civil engineering achieved at 30/06/2022
- Construction slowdown: the Covid-19 pandemic and concrete supply and production difficulties have led to an estimated 10-month delay in operational commissioning, now planned for summer 2024



(1) Equity consolidation method

(2) Including: AfDB, IFC (International Finance Corporation) – member of the World Bank Group, CDC, European DFI coordinated by Proparco (AFD, DEG and FMO), EIB, OFID,EAIF, AFC. Local banks include: Attijari/SCB, BICEC, SG Cameroun and Standard Chartered Bank Cameroon



# EXISTING NUCLEAR FLEET AND “GRAND CARÉNAGE” PROGRAMME

GRAND CARÉNAGE PROGRAMME: FIRST PHASE

Targets of the first phase 2014-2025:

- Extend **operating lifespan** beyond 40 years
- Ensure the fleet meets its **production targets in complete safety**
- Secure and optimise the **financial trajectory of investments**

Strategy compatible with the guidelines laid out in the Multi-annual Energy Plan

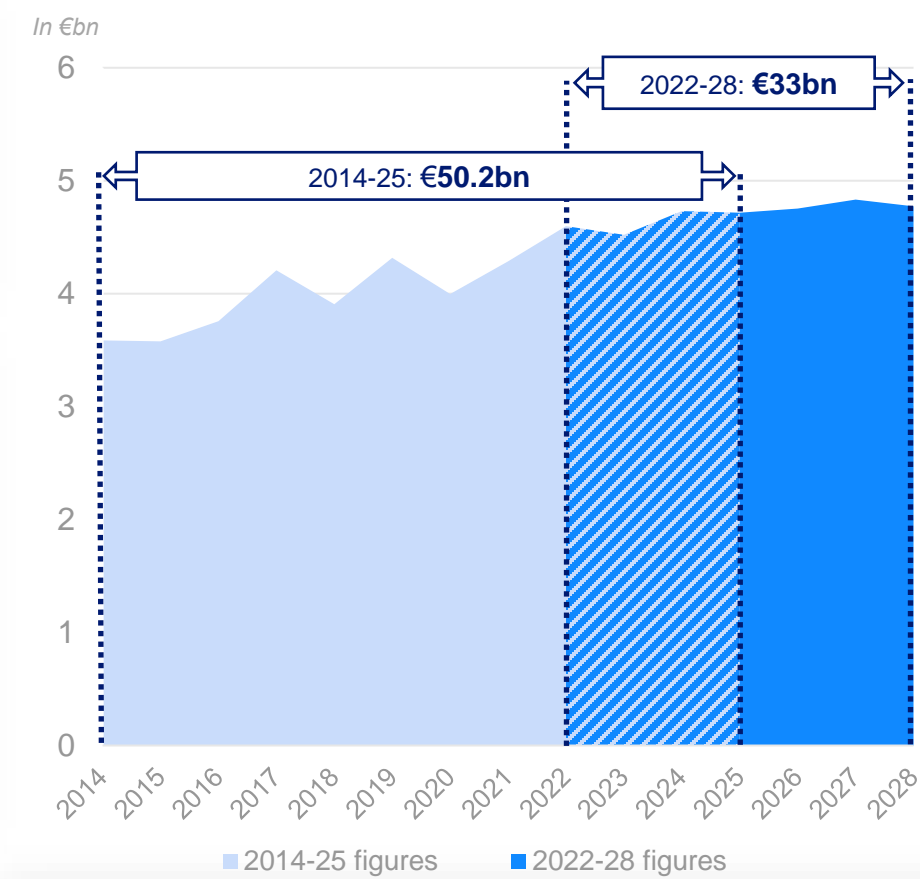
EXTENSION OF TECHNICAL SCOPE AND TIMEFRAME: SECOND PHASE

Launch of the second phase of *Grand Carénage* programme for the period 2022-2028, including:

- Continuation of the fourth ten-year visits of 900MW reactors, with additional works in accordance with ASN recommendations
- Studies and launching of the fourth ten-year visits of 1,300MW reactors based on feedback from the ruling on the fourth ten-year visits of 900MW reactors
- Prior studies for the continued operation beyond 50 years of 900MW reactors
- Continuation of maintenance operations and replacement of large components, in line with the ASN, to allow to extend lifespan of the fleet beyond 50 years

CORRESPONDING FINANCIAL TRAJECTORY

- 2014-2025** period total costs amounting to **€50.2bn**
- Total expenses for the new scope of the **2022-2028** period estimated at **€33bn**



LAUNCH OF THE SECOND PHASE OF THE GRAND CARÉNAGE PROGRAMME

# NEW NUCLEAR: SMR NUWARD™ PROJECT

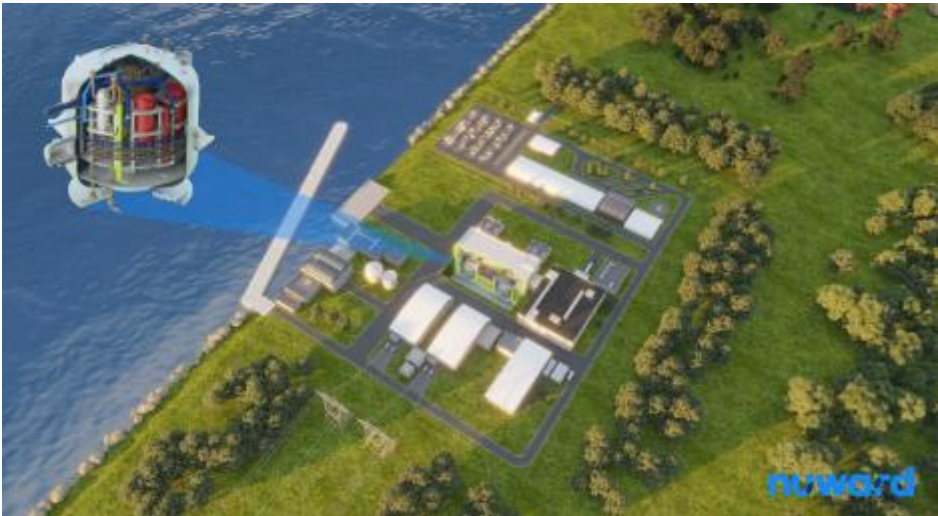
## PROJECT

- Development of **NUWARD™**, a small modular reactor (SMR), in technical partnership with CEA, Naval Group, TechnicAtom, Framatome and Tractebel
- Nuclear plant of **two pressurized water reactors (PWR)** of **170MWh each**



## PROGRESS AND COSTS

- Currently in the « **Conceptual Design** » phase (setting main design options and starting qualification of the main systems and components)
- Design subject to a pre-assessment by the ASN, in collaboration with the Czech and Finnish safety authorities, for the purpose of international harmonization of safety standards
- Start of work by the International Nuward Advisory Board (INAB), with the first meeting being held in Paris in April 2022
- €50m of subsidies granted by the French State in December 2020 , and €500 million of financial support announced by the French President in February 2022





# 2022 HALF YEAR RESULTS

## ESG



# NEW GREEN FINANCING FRAMEWORK IN JULY 2022

## RESPECTS THE GREEN BOND PRINCIPLES

Since 2013, EDF's Framework has followed the requirements and key recommendations of **the ICMA Green Bond Principles** including **robust transparent annual impact reporting** and subject to an annual verification report



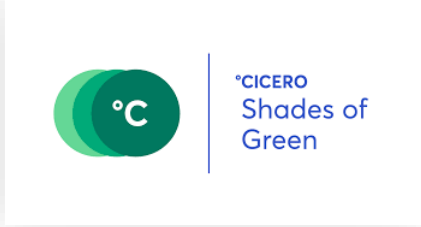
## ALIGNED TO THE EU TAXONOMY

The Framework includes only eligible project categories with investments that **are fully aligned to the EU Taxonomy**, including the technical screening criteria « Do No Significant Harm » (DNSH) and minimum social safeguards



## BEST IN CLASS

The Framework has been subject to an independent second party review, **CICERO Shades of Green** which has awarded it a certified « Medium Green » rating and « Likely aligned » <sup>(1)</sup> with the EU Taxonomy



(1) CICERO Shades of Green uses the terminology “likely aligned/partially aligned/not aligned”. The term “likely” is not to indicate an uncertainty in CICERO’s assessment but is meant to reflect the current lack of official authority as a verifier of the EU Taxonomy.



# GREEN FINANCING FRAMEWORK FOLLOWS BEST MARKET PRACTICES AND IS ALIGNED WITH THE EU TAXONOMY

**First company** to issue a Green Bond **in 2013**. **Active member of the Green Bond Principles governance and co-founder of the Corporate Forum on Sustainable Finance**  
**3 updates of the Framework** in order to contribute to better market practices, to be aligned with the European Taxonomy and include **Green Bonds, Green Commercial Paper and Green Repo**

## 1 - USE OF FUNDS

- Use of Proceeds shall be limited to projects in the below eligible categories
  - **Renewable power projects,**
  - **Hydropower generation,**
  - **Energy efficiency projects,**
  - **Distribution of electricity,**
  - **Nuclear power generation**
- Eligible investments shall **align with the EU Taxonomy**, including “**Do No Significant Harm**” criteria and minimum **social safeguards**
- Look-back period limited to three calendar years from the issuance year

## 2 - PROJECT SELECTION PROCESS

- An **ad-hoc working group** is responsible for helping EDF entities identify green bond eligible projects and verifying their eligibility
- EDF currently verifies and reports **Taxonomy eligible CAPEX** and according to the Taxonomy regulation and Taxonomy complementary delegated acts. As of 2021 EDF reports these amounts in its Universal Registration Document.
- EDF shall **exclude projects already financed by its social bond program.**
- Investments may include **tangible or intangible assets, Investments and some operating expenditures** (such as R&D and investments in the maintenance of green assets)

## 3 - FUND MANAGEMENT

- Funds are **managed and monitored separately** until they are allocated to eligible projects. They are invested in **Socially Responsible Investments funds** <sup>(1)</sup> until their allocation
- Net proceeds of green bond issuances identifying **nuclear power generation** as an eligible project shall be **managed in a portfolio separate** from other issuances to ensure full traceability
- EDF shall use best efforts to allocate all eligible proceeds within 24 months after issuance

## 4 – REPORTING

- **At half-yearly intervals:** allocation of funds
- **Annually:** allocation of funds + list of projects financed and environmental impacts (at the level of each green issue) in URD

## 5 – EXTERNAL REVIEW

- **External ex-ante opinion:** “Medium Green” rating and “Likely aligned” with the EU Taxonomy by **Cicero** on EDF’s Green Financing Framework
- **Ex-post certification:** annual report issued by an **external auditor** on the allocation of funds and the compliance of Green Bond issues with the Green Financing Framework, the Green Bond Principles, the compliance of the CO<sub>2</sub> emissions calculation terms

GREEN BONDS: PROCEEDS ALLOCATION

Issue date <sup>(1)</sup>	Nominal amount (in million of currency units)	Currency	Maturity (in years)	New renewable capacities <sup>(2)</sup>	Investments in hydro facilities	Biodiversity projects	Total (% of raised funds)	
November 2013	1,400	EUR	7.5	1,400	-	-	1,400	(100%)
October 2015	1,250	USD	10	1,250	-	-	1,250	(100%)
October 2016	1,750	EUR	10	1,248	502	-	1,750	(100%)
January 2017	19,600	JPY	12	8,149	11,451	-	19,600	(100%)
January 2017	6,400	JPY	15	5,872	528	-	6,400	(100%)
September 2020	2,400	EUR	4	2,246	110	28	2,384	(100%)
November 2021 <sup>(3)</sup>	1,850	EUR	12	753	128	12	893	(48.3%)

EUR Green Bond issued in November 2021: 48.3% of the funds allocated at end-June 2022 on the net proceed total of €1,850M

- Funds allocated to EDF Renewables’ projects are mainly for projects located in the United States on wind and solar technologies
- EDF Hydro has used funds to projects located in France, including biodiversity projects

NB: No look-back for the November 2021 green bond  
 (1) Date of funds reception

(2) Since 2019, the Green Bonds funds are financing eligible investments of Luminus in Belgium: construction of wind farms and renovation of a hydroelectric power plant; and also since 2020 for EDF ENR: installation of solar shade house  
 (3) Allocation of funds will be made according to the 2020 Green Bond Framework, which was applicable when the issuance was made

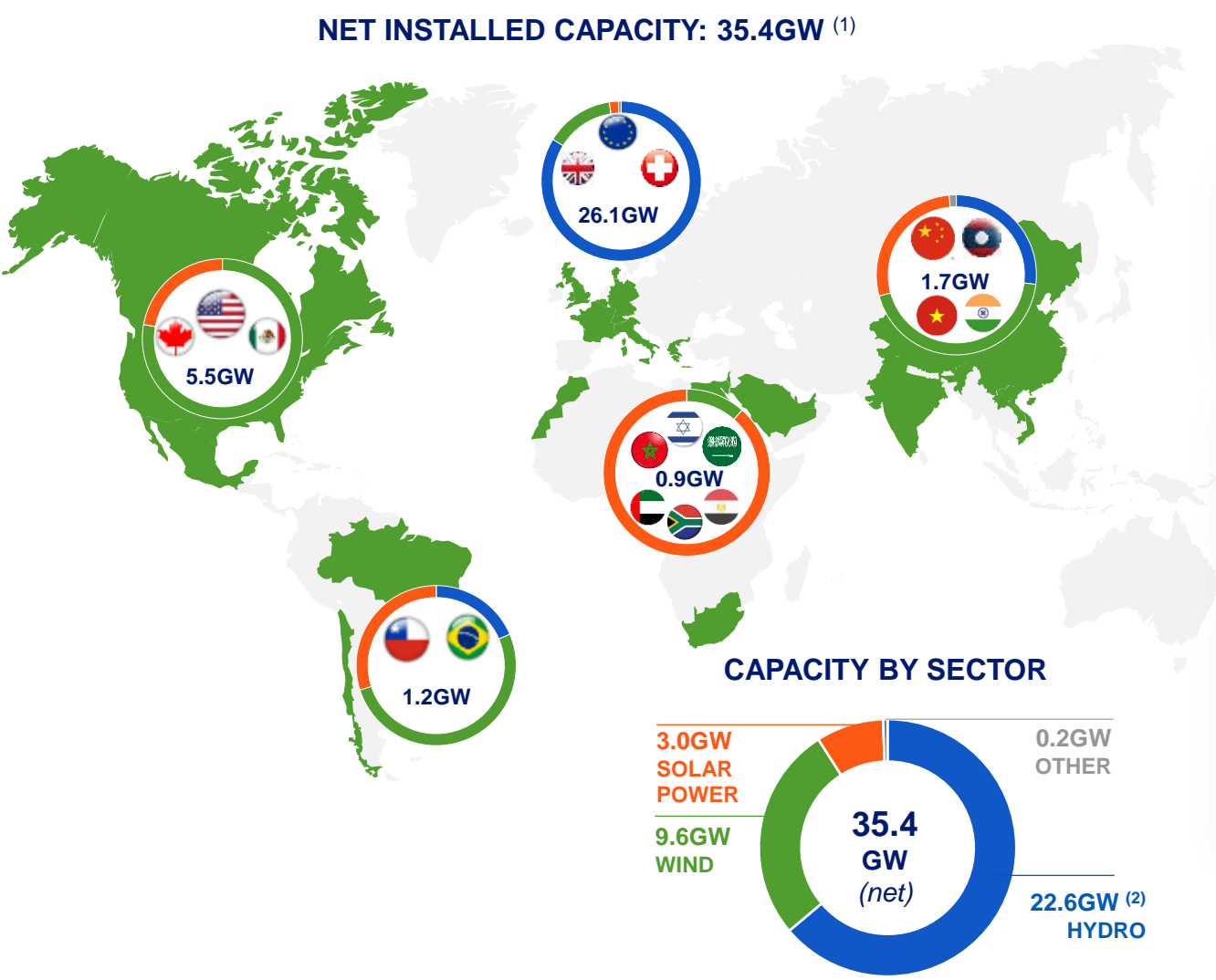


# 2022 HALF YEAR RESULTS

## RENEWABLES



# EDF, THE EUROPEAN LEADER IN RENEWABLE ENERGY



A DIVERSIFIED MIX WITH 35.4GW IN OPERATION

- 22.6GW of hydropower
- 12.6GW of wind and solar power
- 0.2GW others (biomass, geothermy, ...)

HYDROPOWER

- Leading European producer of hydropower
- More than 400 production sites worldwide

A GLOBAL LEADER IN WIND AND SOLAR ENERGY

- 0.8GW gross commissioned in Q1 2022
- 7.6GW gross currently under construction (0.9GW in onshore wind power, 1.9GW in offshore wind power, 4.8GW in solar power)

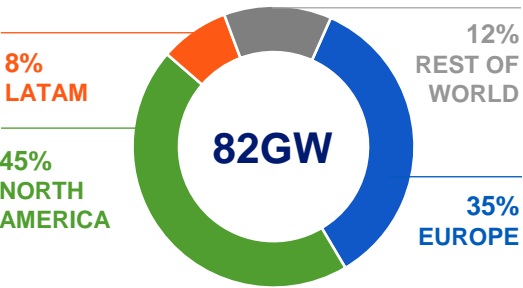
(1) Installed capacity shown as net, corresponding to the consolidated data based on EDF's participation in Group companies, including investments in affiliates and joint ventures

(2) Including sea energy: 0.24GW

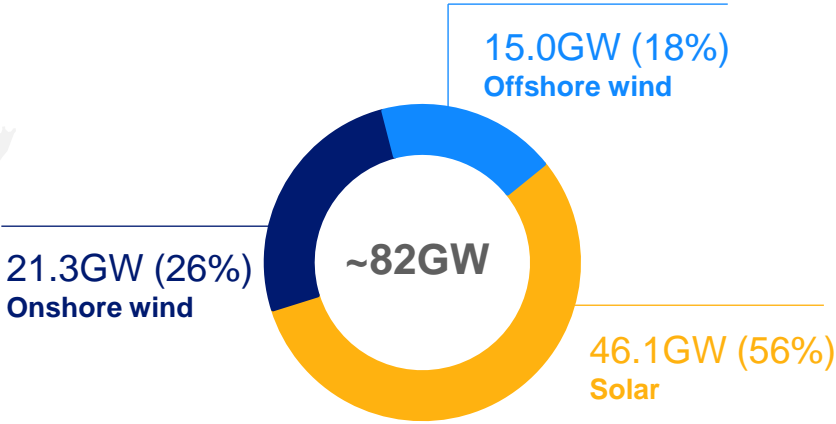


# A PORTFOLIO OF WIND AND SOLAR PROJECTS OF ~82GW <sup>(1)</sup> (1/2)

A PROJECT PORTFOLIO THAT IS **DIVERSIFIED GEOGRAPHICALLY...**



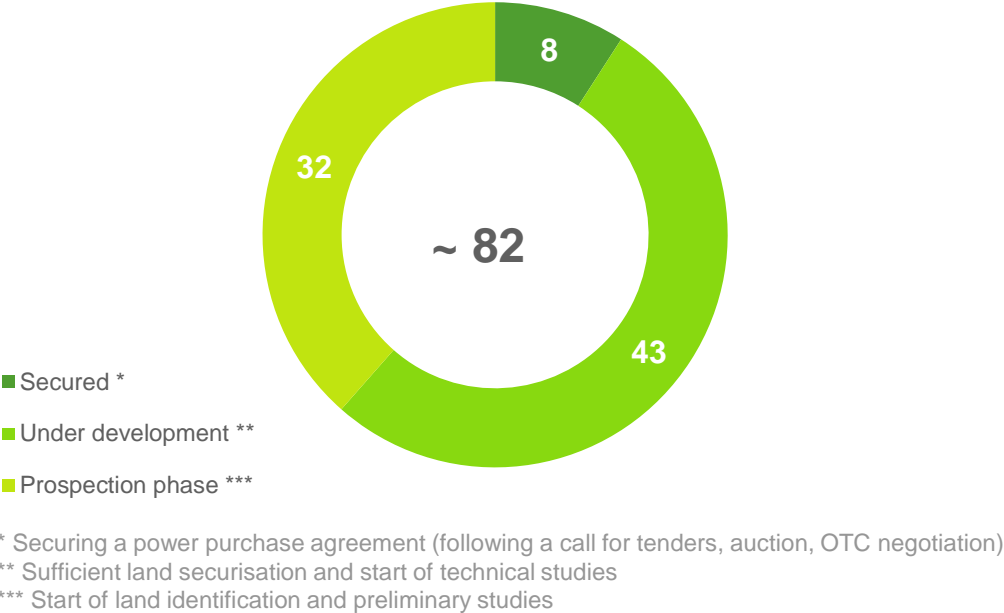
... AND BY TECHNOLOGY



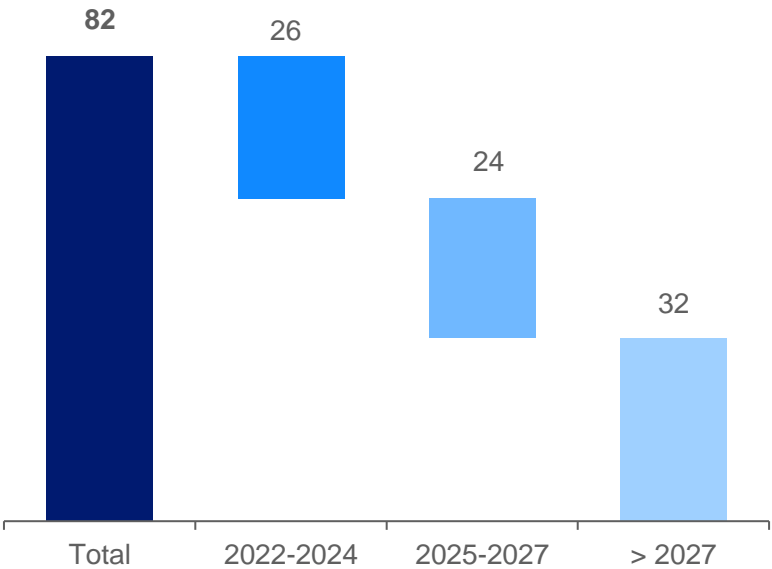
(1) Pipeline excluding capacities under construction. Gross data corresponding to 100% of the capacity of the projects concerned.

# A PORTFOLIO OF WIND AND SOLAR PROJECTS OF ~ 82GW <sup>(1)</sup> (2/2)

PORTFOLIO OF PROJECTS BREAKDOWN  
BY DEVELOPMENT PHASE (IN GW)



PIPELINE BREAKDOWN BY DATE OF START  
OF CONSTRUCTION (IN GW) <sup>(2)</sup>



(1) Pipeline excluding capacities under construction. Gross data corresponding to 100% of the capacity of the projects concerned.

(2) Start of construction portfolio, not probability-based



# OFFSHORE WIND DEVELOPMENTS IN FRANCE: 5 PROJECTS FOR A TOTAL CAPACITY OF MORE THAN 2GW, INCLUDING ~ 1.5GW UNDER CONSTRUCTION



Fixed offshore wind project



Floating offshore wind project

## ONGOING CONSTRUCTIONS

- Saint-Nazaire offshore wind farm** (started in 2019, expected commissioning in 2022, ~€2bn total investments, partnership with Enbridge)
  - Installation of the first wind turbine on 13 April 2022
  - Initial MWh produced <sup>(1)</sup> and 56 out of 80 offshore wind turbines installed
- Fécamp offshore wind farm** (started in 2020, expected commissioning in 2023, ~€2bn total investments, partnership with Enbridge and wdp)
- Calvados offshore wind farm (Courseulles-sur-Mer)** (started in February 2021, expected commissioning in 2024, ~€2bn total investment, partnership with Enbridge and wdp)

## FURTHER DEVELOPMENTS

- Ongoing development of **Dunkirk offshore wind farm** (~€1bn total investment, partnership with Enbridge)
- Pre-selection for projects in Normandy in partnership with Enbridge and CPPIB

## ONGOING CONSTRUCTIONS

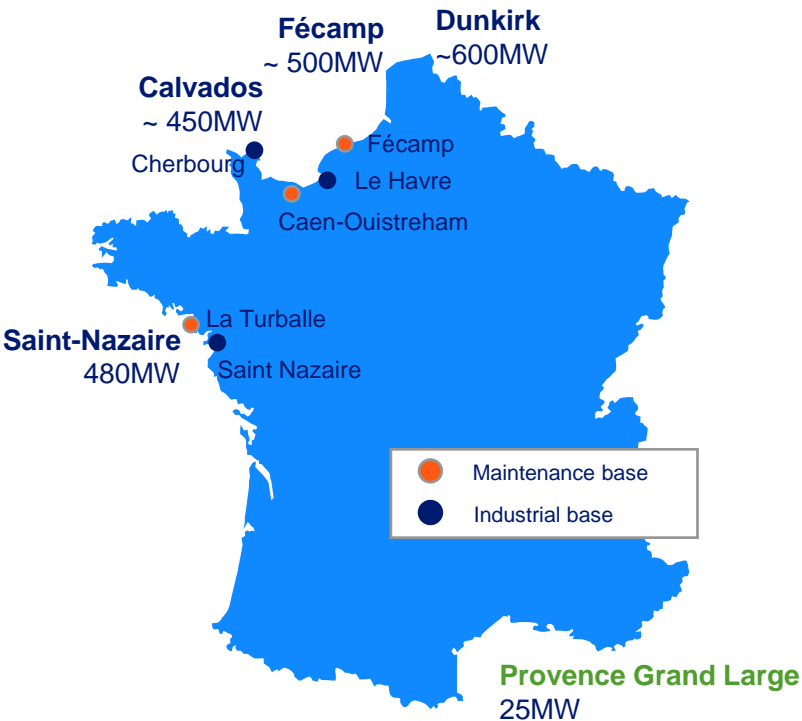
- Construction of **Provence Grand Large, a pilot floating offshore wind project**: installation of three 8MW turbines on floating foundations off the coast of Fos-sur-mer. Project led in partnership with Enbridge and CPPIB

## FURTHER DEVELOPMENTS

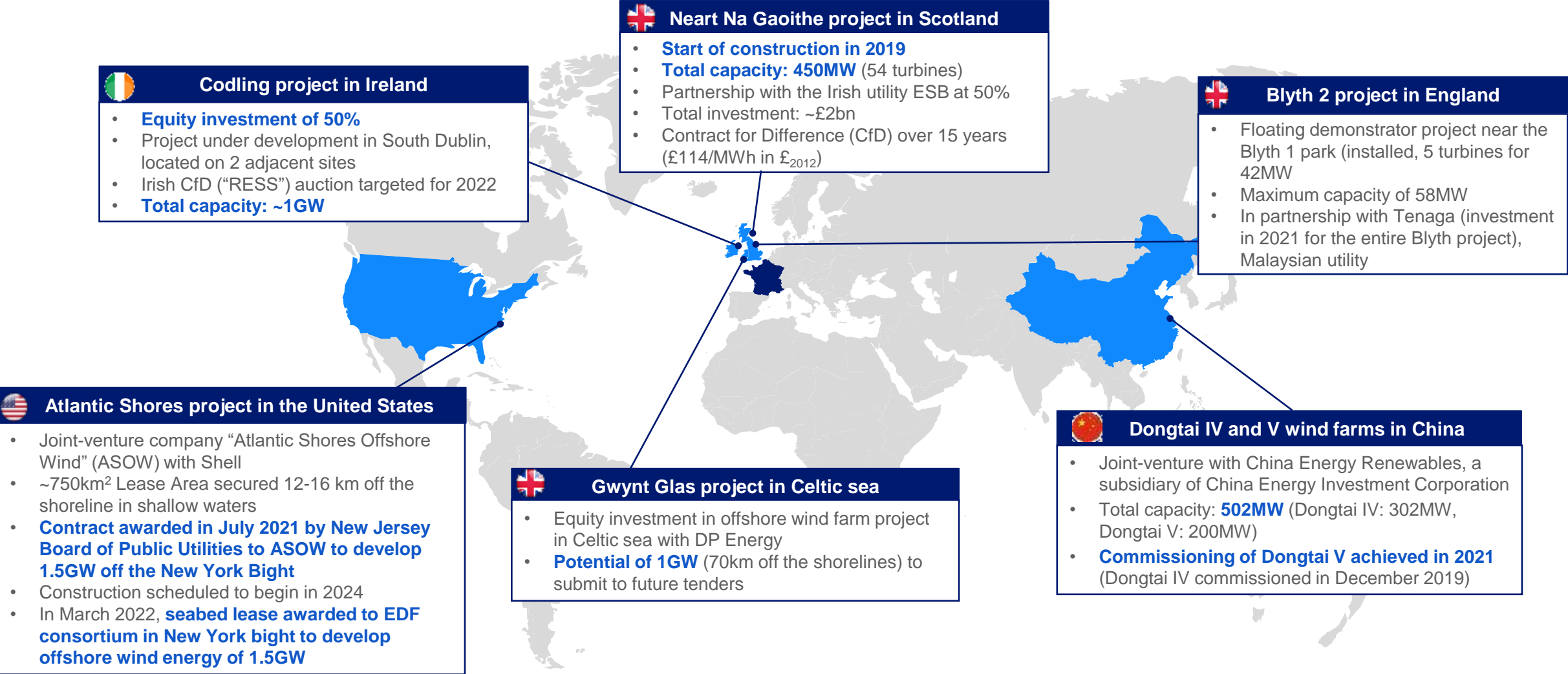
- Pre-selection for projects in South Brittany with Enbridge and CPPIB



Wind turbine of the Saint-Nazaire offshore wind farm

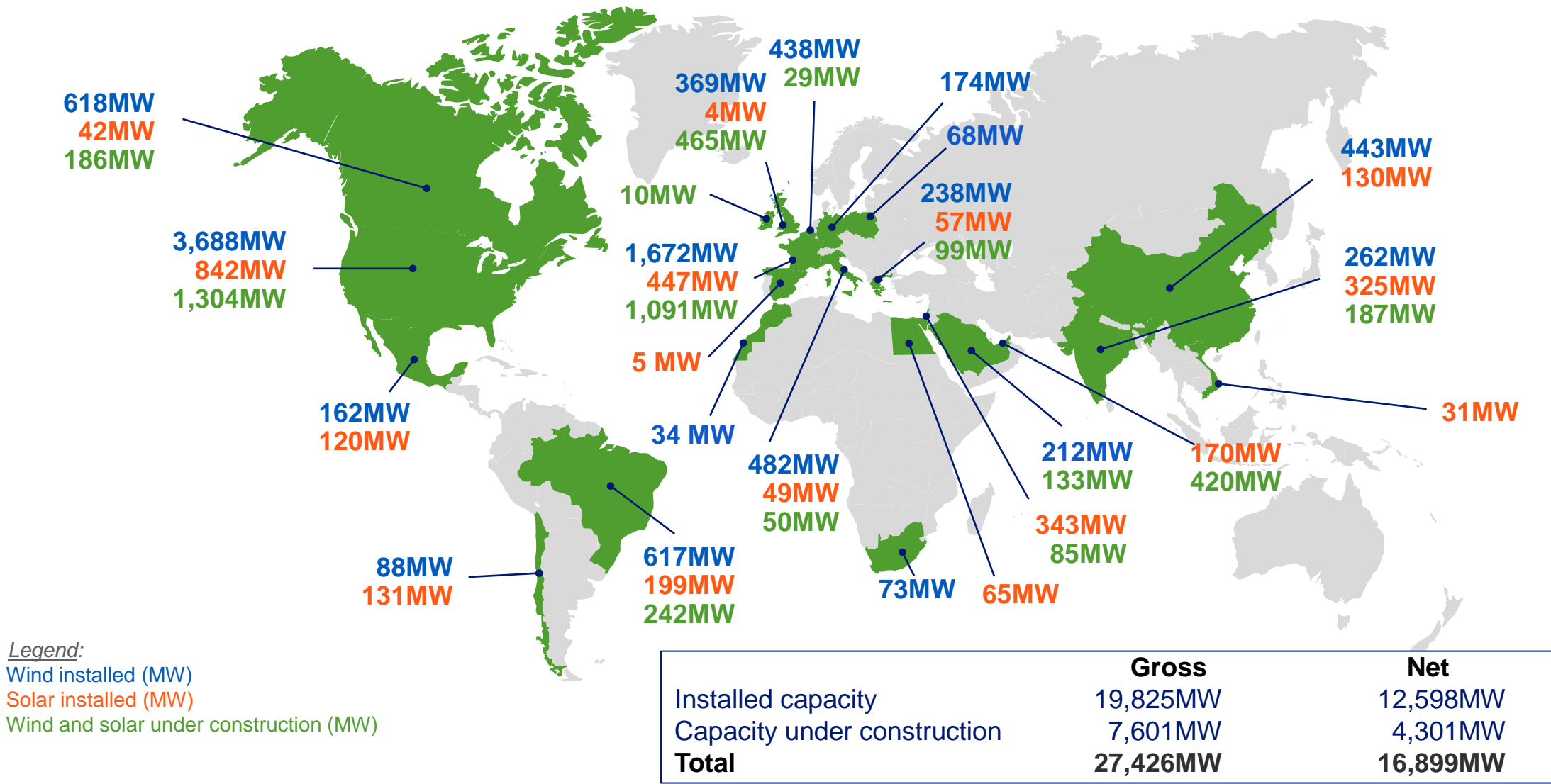


# INTERNATIONAL OFFSHORE WIND DEVELOPMENTS: NEARLY 5GW IN DEVELOPMENT, 450MW UNDER CONSTRUCTION IN SCOTLAND





# NET INSTALLED AND UNDER CONSTRUCTION CAPACITY – 30 JUNE 2022



# INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION, WIND & SOLAR, AS OF 30 JUNE 2022

(in MW)	Gross <sup>(1)</sup>		Net <sup>(2)</sup>	
	31/12/2021	30/06/2022	31/12/2021	30/06/2022
Wind	13,606	14,250	9,047	9,637
Solar	5,399	5,575	2,975	2,961
<b>Total installed capacity</b>	<b>19,005</b>	<b>19,825</b>	<b>12,021</b>	<b>12,598</b>
Wind under construction	3,391	2,750	2,169	1,582
Solar under construction	4,495	4,852	2,350	2,719
<b>Total capacity under construction</b>	<b>7,885</b>	<b>7,601</b>	<b>4,520</b>	<b>4,301</b>

NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

(1) Gross capacity: total capacity of the facilities in which EDF has a stake

(2) Net capacity: capacity corresponding to EDF's stake

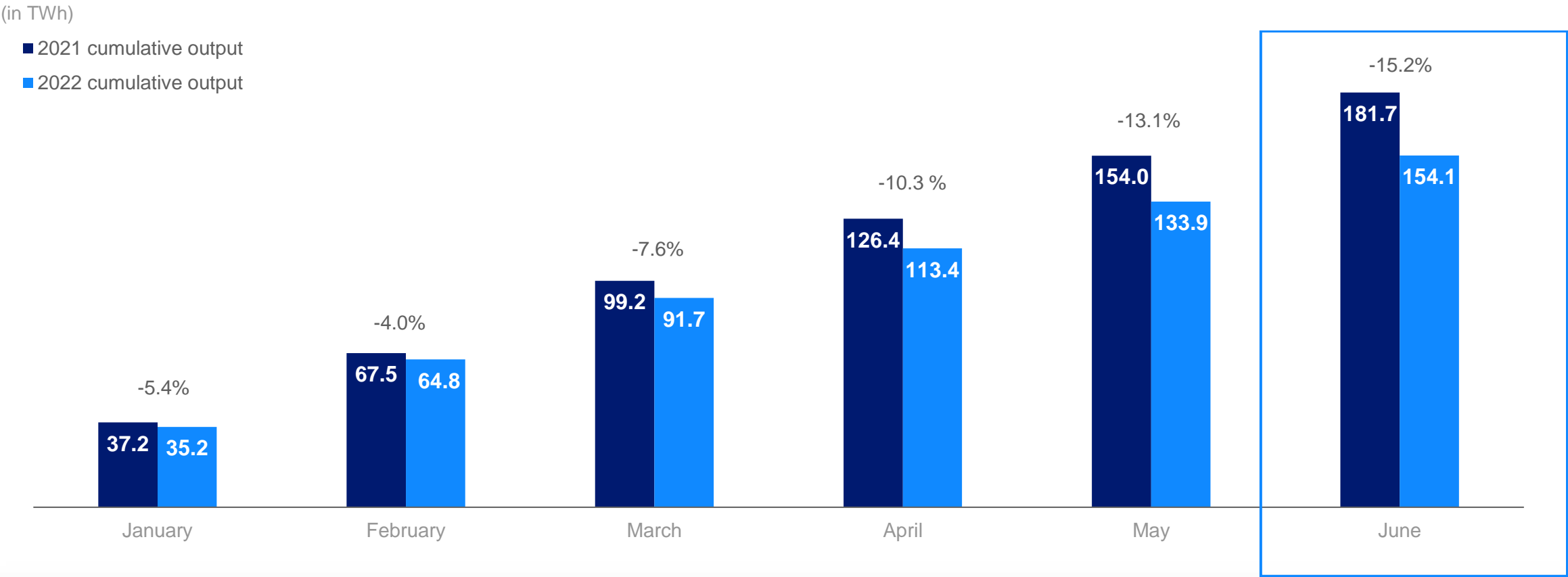
# 2022 HALF YEAR RESULTS

## FRANCE



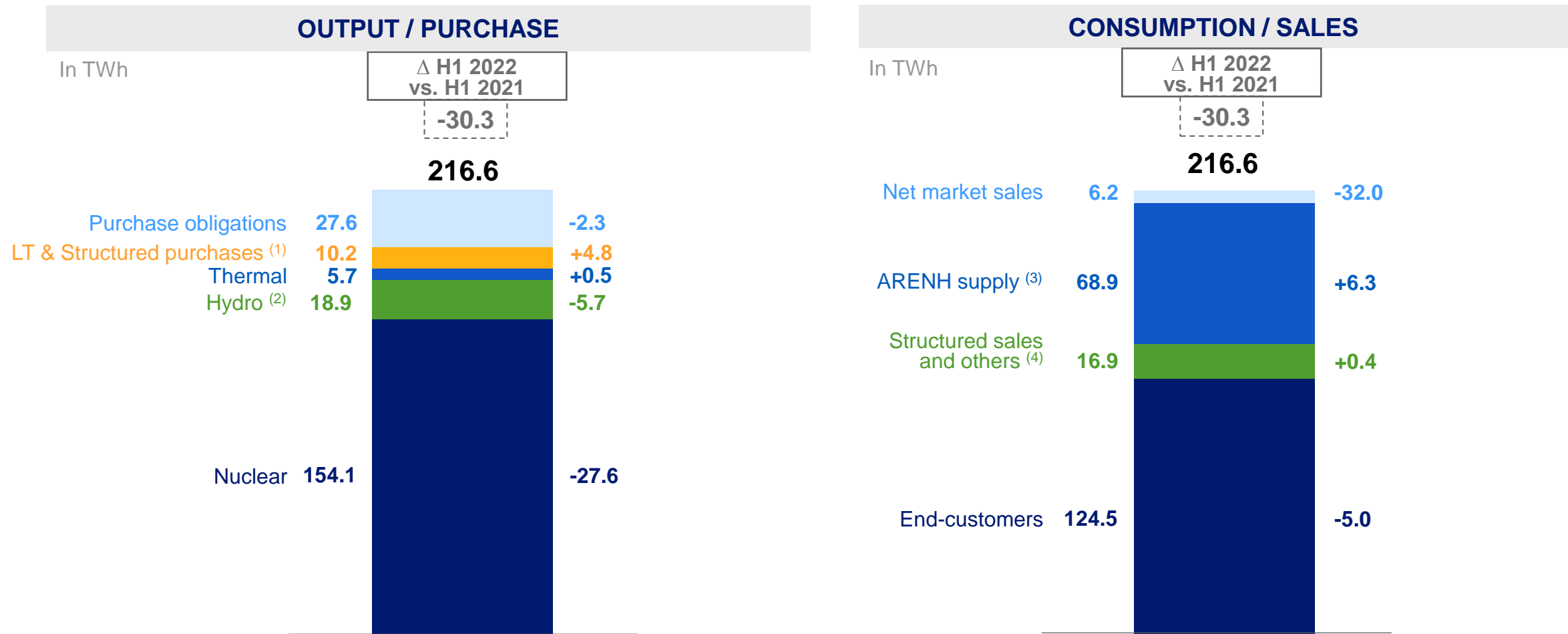


# FRANCE NUCLEAR OUTPUT



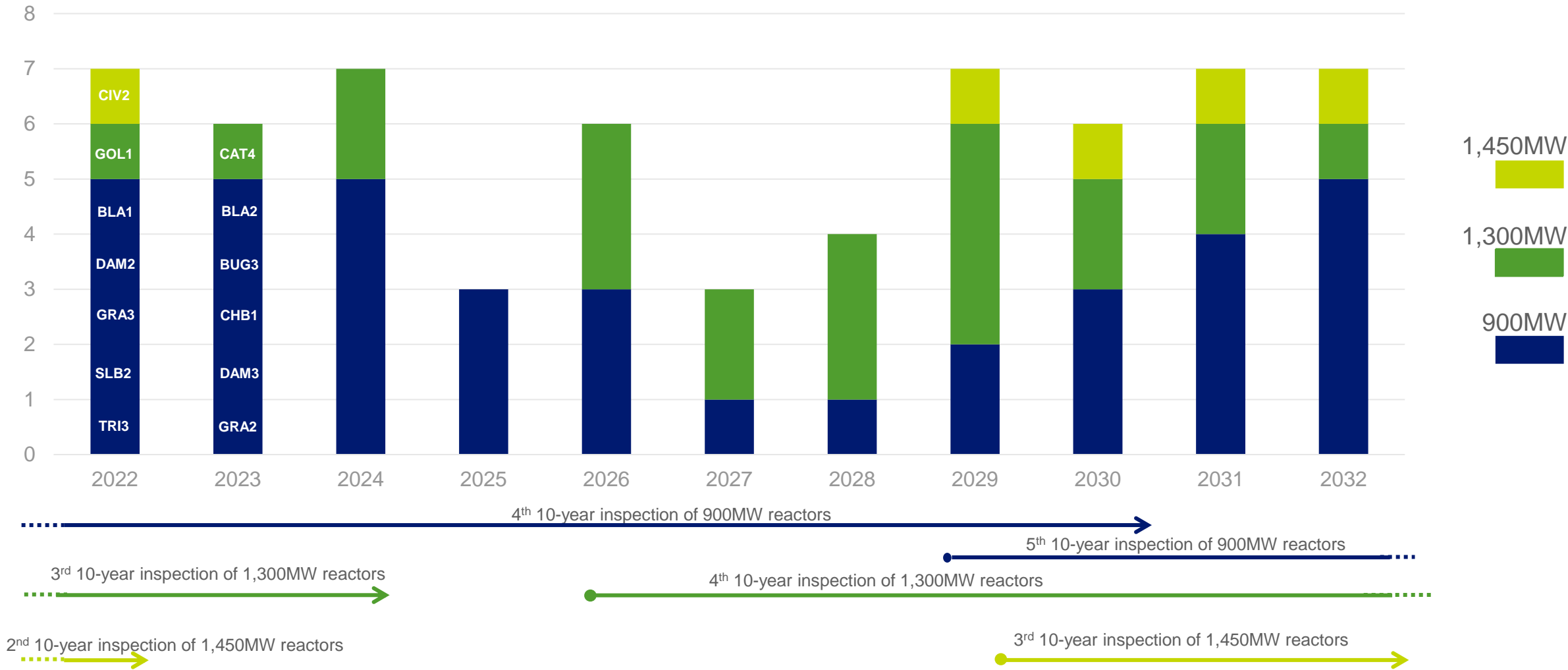
➤ **Nuclear output of 154.1TWh for H1 2022, down by 27.6TWh** from H1 2021. This is mainly explained by a lower availability of the nuclear fleet mainly in relation to the impact of the detection of stress corrosion indications, partially offset by less unplanned outages and an optimisation of the output schedule

FRANCE: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE



# 10-YEAR INSPECTIONS OF THE NUCLEAR FLEET

Number of 10-year inspections



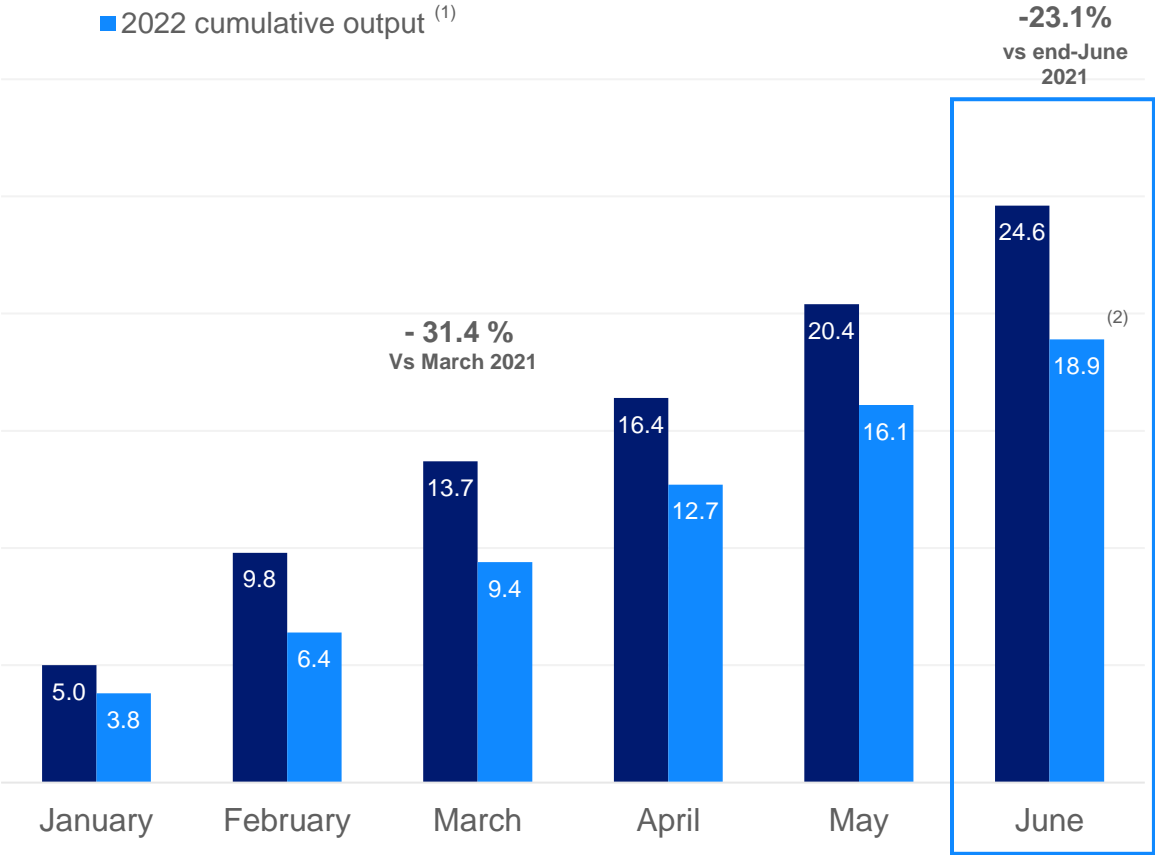
In 2029, 900MW series: Tricastin 1 will be the first reactor to realise its 5<sup>th</sup> 10-year inspection



# EDF HYDRO OUTPUT

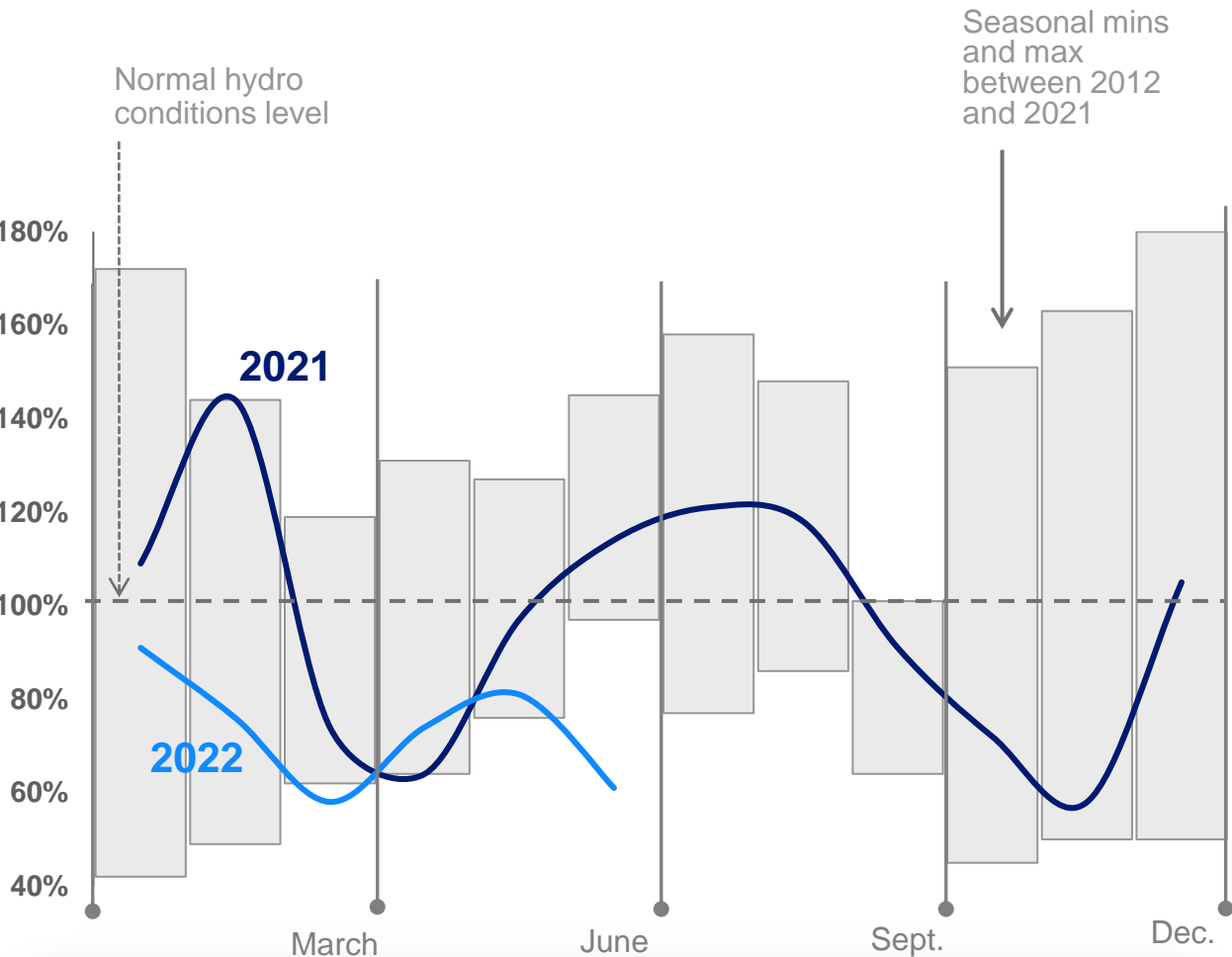
(in TWh)

- 2021 cumulative output <sup>(1)</sup>
- 2022 cumulative output <sup>(1)</sup>



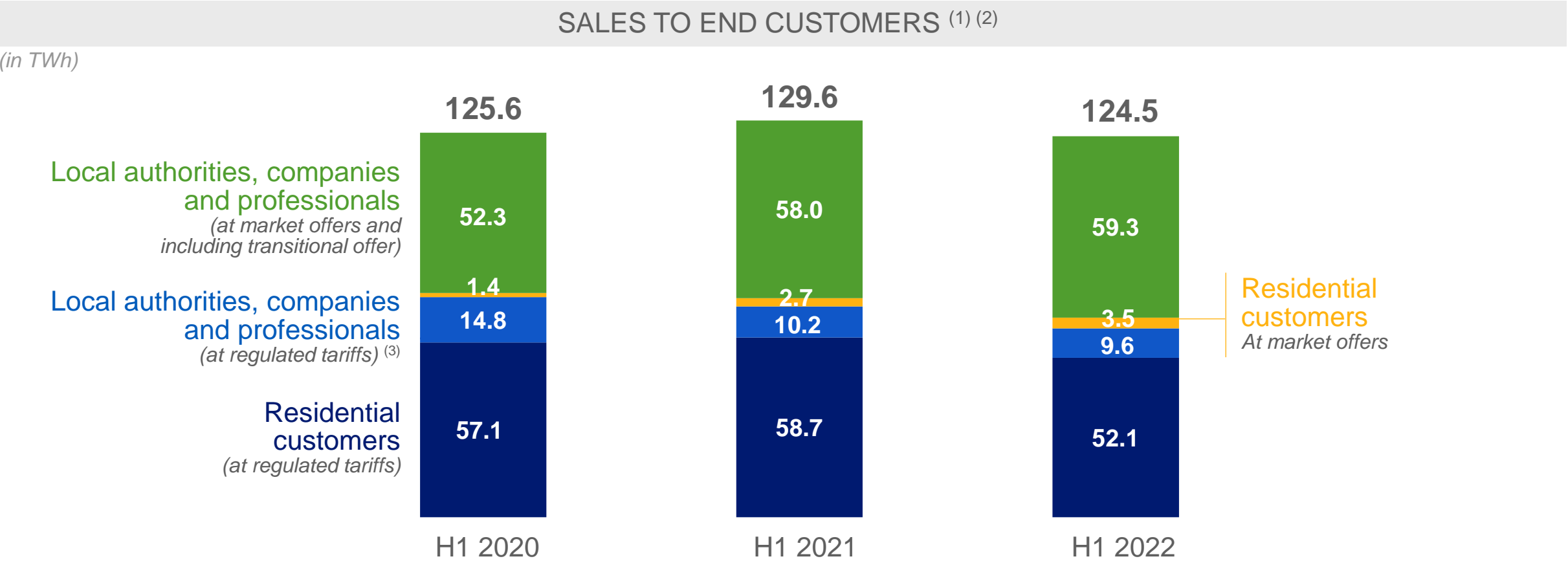
(1) Hydropower excluding electrical activities on French islands, before deduction of pumped volume consumption.

(2) Production after deduction of pumped volume consumption: 21.9TWh in H1 2021, and 15.5TWh in H1 2022.



- Hydro conditions in H1 2022 lower than H1 2021
- Hydraulic reservoirs filling rate in France at 68.4% at end-June 2022: -4.4 points vs historical average

# ELECTRICITY SUPPLY IN FRANCE

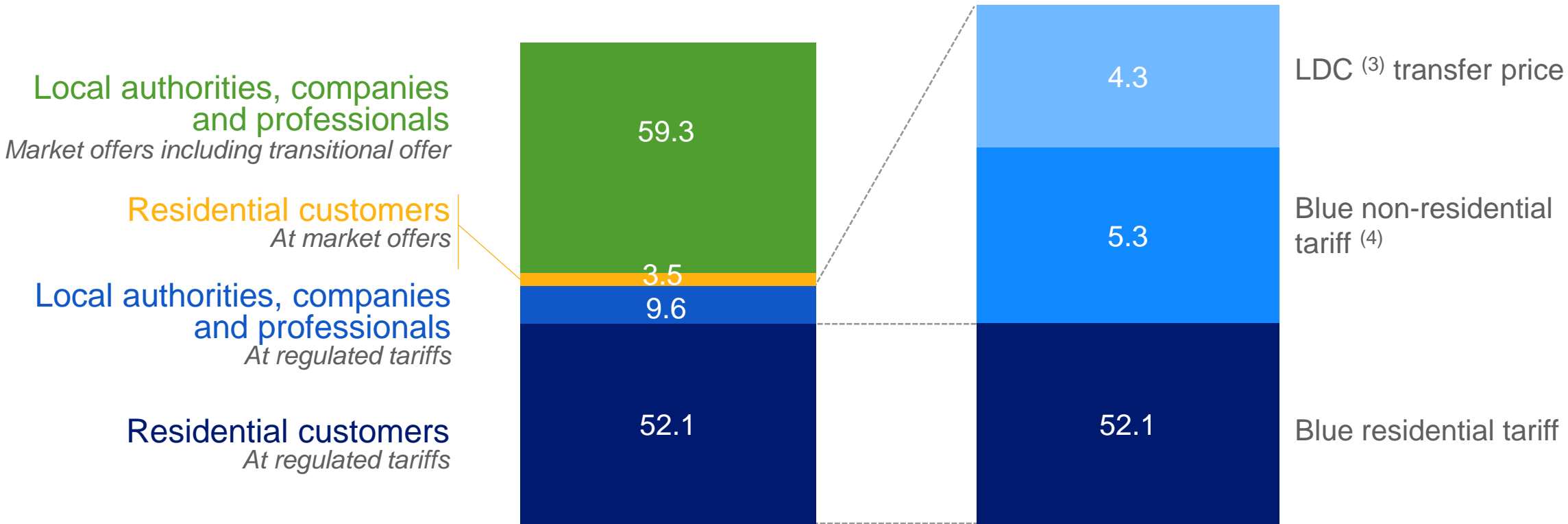


(1) Rounded to the nearest tenth  
(2) Including EDF's own consumption  
(3) Blue professional tariff, LDC (*Local Distribution Companies*) at transfer price and Yellow and Green tariffs, below 36kVA that persist beyond 2015

# ELECTRICITY SUPPLY IN FRANCE – SALES UNDER REGULATED TARIFFS SPLIT

SALES TO END CUSTOMERS FOR H1 2022 <sup>(1)</sup> <sup>(2)</sup>

(in TWh)



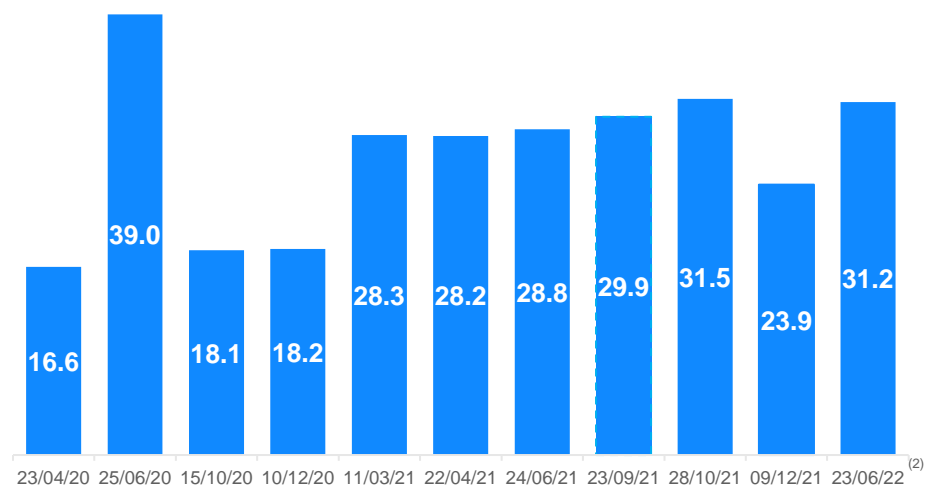
(1) Rounded to the nearest tenth  
(2) Including EDF's own consumption  
(3) Local Distribution Companies (LDCs)  
(4) Of which Yellow and Green tariffs for 0.03TWh - Tariffs lower than 36 kVA



# CAPACITY MARKET IN FRANCE

## FOR DELIVERY IN 2022

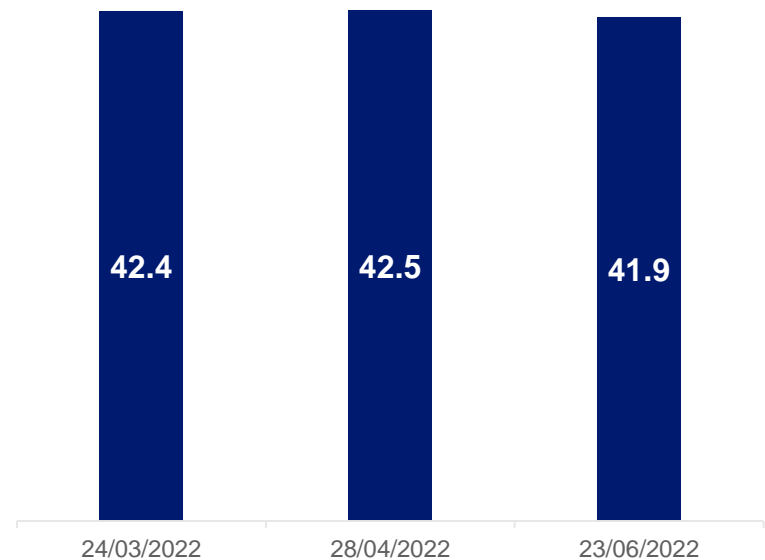
(in €/kW)



- Volume of certified EDF capacities: 64.2GW at end-June 2022
- Average price <sup>(2)</sup> : €26.2/kW

## FOR DELIVERY IN 2023

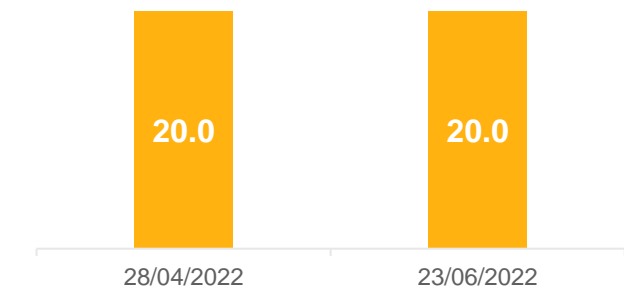
(in €/kW)



- Volume of certified EDF capacities: 62.4GW at end-June 2022
- Average price : €42.4/kW

## FOR DELIVERY IN 2024

(in €/kW)

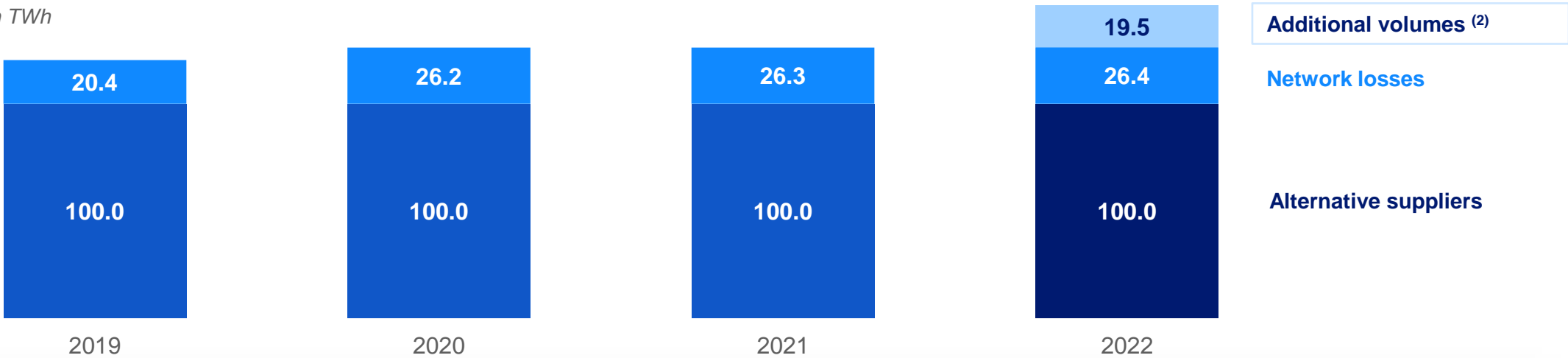


- Volume of certified EDF capacities: 67GW at end-June 2022
- Average price : €20.0/kW

(1) Data rounded to nearest tenth  
(2) Does not take into account rebalance sessions

# ARENH: VOLUMES ALLOCATED

in TWh



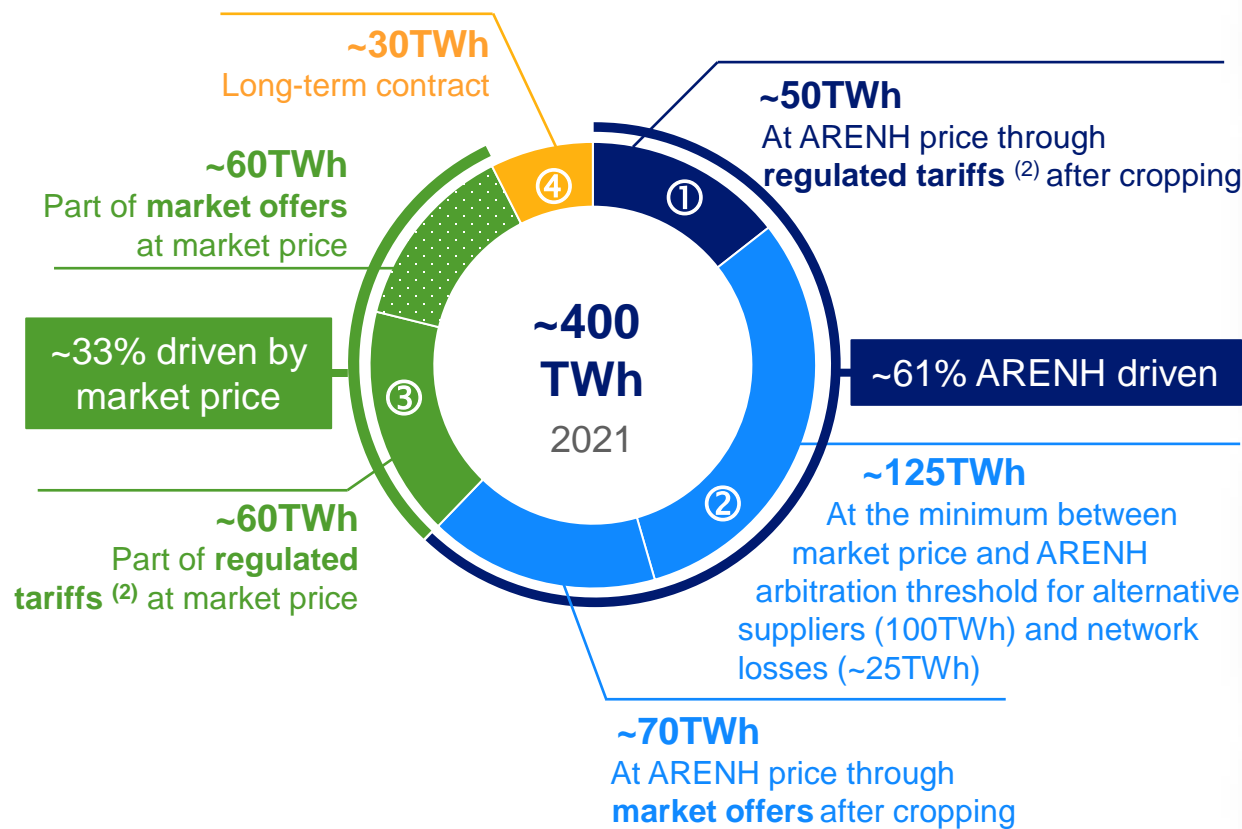
- Historical situation: maximum annual sales volume of 100TWh <sup>(1)</sup> by EDF to alternative suppliers and 26.4TWh for network losses coverage
- In November 2021, ARENH requests from alternative suppliers for 2022 amounted to 160TWh.
- Volume sold for 2022 (including 26.4TWh sold for network losses coverage): 126.4TWh, of which 19.5TWh corresponding to the exceptional increase announced the 13 January 2022.
- Consequently, since 1 April 2022: delivery of 19.5TWh of additional ARENH volume at a price of €46.2/MWh, in exchange for the resale by the Alternative Suppliers to EDF of an equivalent volume, at a price of €256.98/MWh
- In May 2022: ARENH volumes not delivered to suppliers whose deliveries were suspended in the first half-year were reallocated to two suppliers having formulated a new request during the auction

Source: CRE

(1) The Energy and Climate law of November 2019, provides the government with the possibility of raising the cap for global maximal volumes via a ministerial order, from 100 to 150TWh as of 1 January 2020. The law also allows the government to revise the ARENH price.

(2) Additional volumes have been reduced from 20TWh to 19.5TWh due to the cessation of activity or the waiver of some suppliers

# DISTRIBUTION OF ELECTRICITY SALES <sup>(1)</sup> ACCORDING TO THEIR MARKET PRICE EXPOSURE



(1) Sales excluding purchase obligations volumes and volumes under long-term supply contracts. Estimated distribution based on the situation in 2021, in particular in terms of EDF downstream market shares. In 2021, the level of cropping corresponding to ARENH over subscription (146.2TWh) by alternative suppliers has been applied to downstream offers

(2) Regulated electricity sales tariffs

- 1** Volumes sold at the ARENH price following the cost-stacking formula in the regulated sales tariffs (essentially blue residential and non-residential tariffs)
- 2** Volumes sold at the market price if this price is lower than ARENH arbitration threshold (ARENH price - capacity price) and ARENH price otherwise <sup>(3)</sup>, which include:

  - The ARENH volumes that can be requested by alternative suppliers and network operators for their purchases of losses
  - Part of the volumes <sup>(4)</sup> sold to EDF final customers under market-based contracts
- 3** Volumes sold at the market price, whatever the price, which include:

  - Part of the volumes sold to EDF final customers: “market complement supply” in the regulated tariffs <sup>(5)</sup>, balance of the volumes sold to clients under market-based contracts
  - Volumes sold on wholesale power markets
- 4** Contracts at negotiated prices that do not follow a market-indexed structure

(3) EDF is subjected to the arbitrage between the two prices and its date of exercise is variable depending on the volumes (it takes place at the latest at the time of the ARENH end of year subscription window for a delivery the following year)

(4) Related to the replication of the sourcing cost structure of alternative suppliers: shares of the volumes corresponding to the “ARENH rights”

(5) Related to the replication of the sourcing cost structure of alternative suppliers: the balancing volumes sourced on the market which exceed the “ARENH rights”



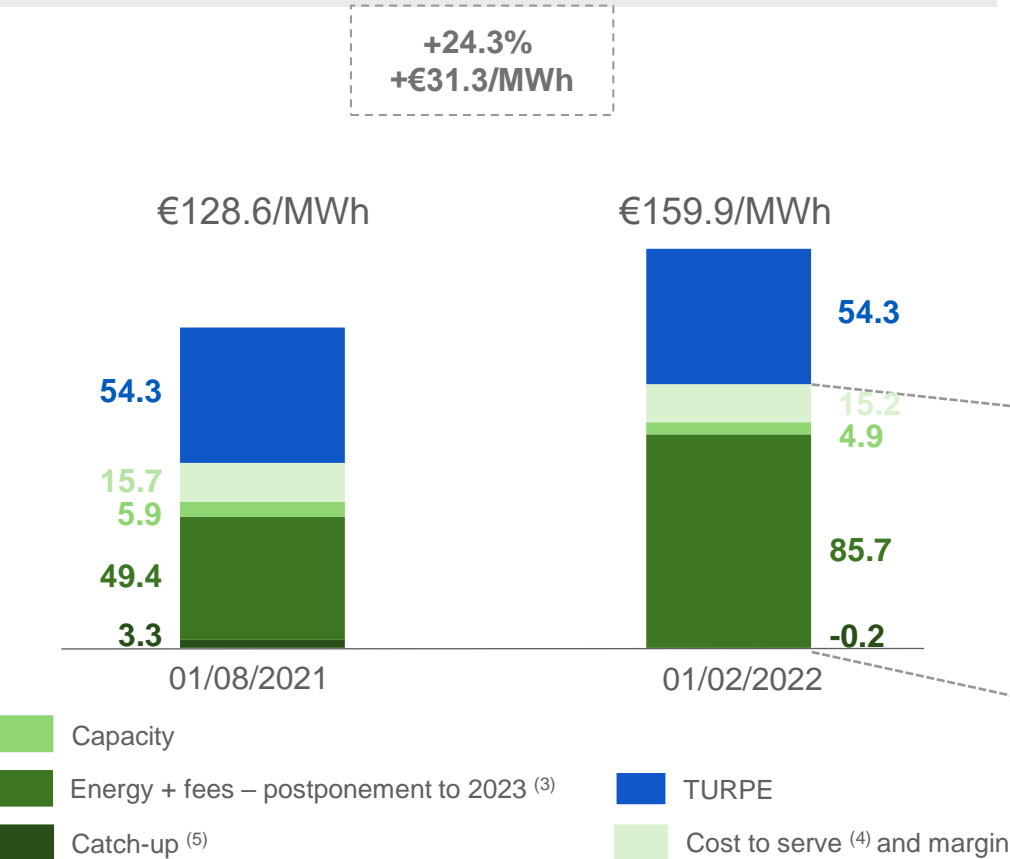
# REGULATED SALES TARIFFS IN FRANCE (1/3)

Change in Blue tariff				
Date	Change in Residential Blue tariff		Change in Non-Residential Blue tariff	
	(VAT excluded)	(including VAT)	(VAT excluded)	(including VAT)
01/02/2018	+0.7%	+ 0.6%	+1.6%	+ 1.3%
01/08/2018	-0.5%	- 0.3%	+1.1%	+ 0.9%
01/06/2019	+7.7%	+ 5.9%	+7.7%	+ 5.9%
01/08/2019	+1.49%	+ 1.26%	+1.34%	+1.1%
01/02/2020	+3.0 %	+2.4%	+3.1%	+2.4%
01/08/2020	+1.82%	+1.54%	+1.81%	+ 1.58%
01/02/2021	+1.93%	+1.61%	+3.23%	+2.61%
01/08/2021	+1.08%	+0.48%	+0.84%	+0.38%
01/02/2022	+24.3%	+4.0%	+23.6%	+4.0%
01/08/2022 <sup>(1)</sup>	+0% (+4.10%)	+0.07% (+3.92%)	+0% (+3.73%)	+0.08% (+3.56%)

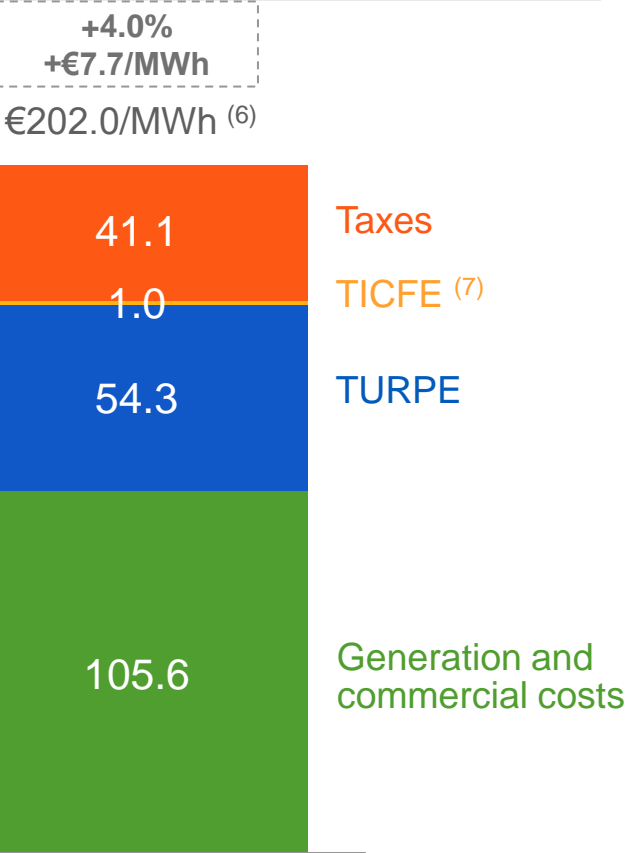
(1) Values calculated based on the grids of the proposition of decrees submitted to the CSE on 21/07/2022. The grids of the proposition of decrees do not correspond to the grids proposed by CRE in its deliberation of 07/07/2022 (government opposition to CRE's proposal according to the procedures provided for in article 181 of the 2022 finance law)  
 Figures in parentheses correspond to the changes proposed by CRE in this deliberation.

# REGULATED SALES TARIFFS IN FRANCE : CHANGE IN FEBRUARY 2022 (2/3)

## RESIDENTIAL BLUE TARIFF EXCLUDING TAXES <sup>(1)</sup> <sup>(2)</sup>



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



(1) Source: for February 2022, date from the decree of 28 January 2022 published in the journal officiel on 30 January 2022

(2) At August 2021 and February 2022, the figures are based on an average calculation on customers portfolio at the Regulated Sales Tariffs at end-2020 (base calculation for the CRE deliberation of 18/01/2022)

(3) As part of the tariff shield, part of the 2022 increase is postponed to 2023 to limit the average increase in the 2022 residential blue tariff to 4% including tax

(4) Including cost of Energy Efficiency Certificates

(5) Commercial costs of 2021 + catch-up of January 2021 (catch-up of the tariff freeze of 2019 is ended)

(6) Due to rounding, the total is not strictly equal to the sum of the components

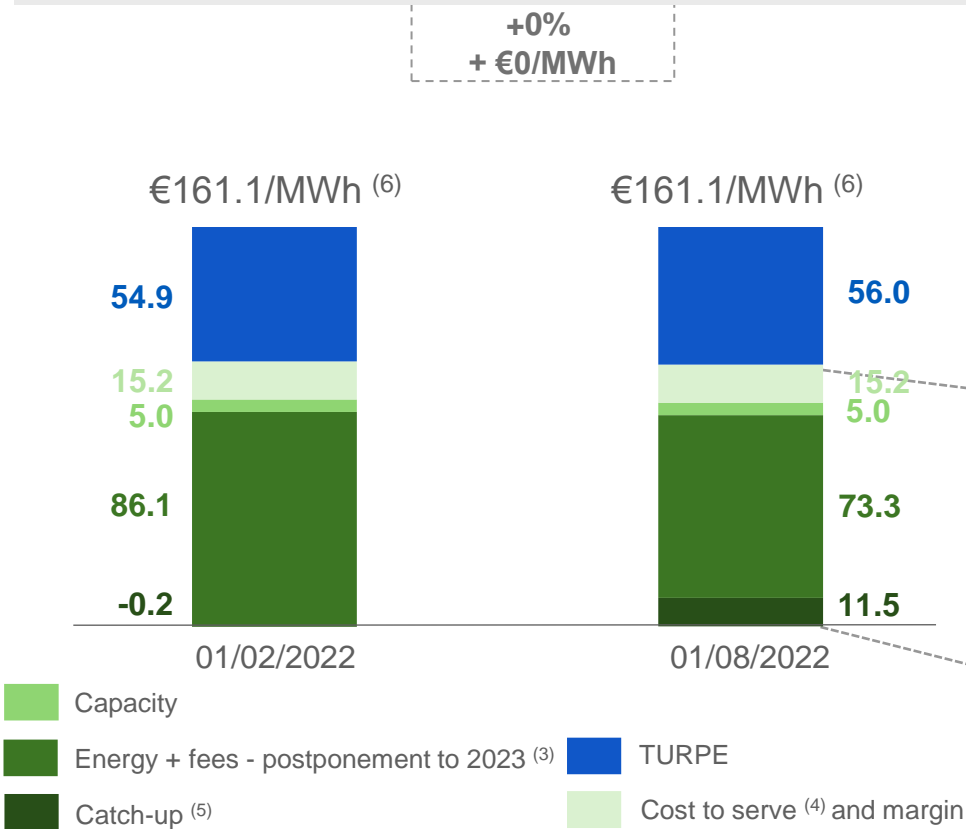
(7) Ex CSPE

EDF

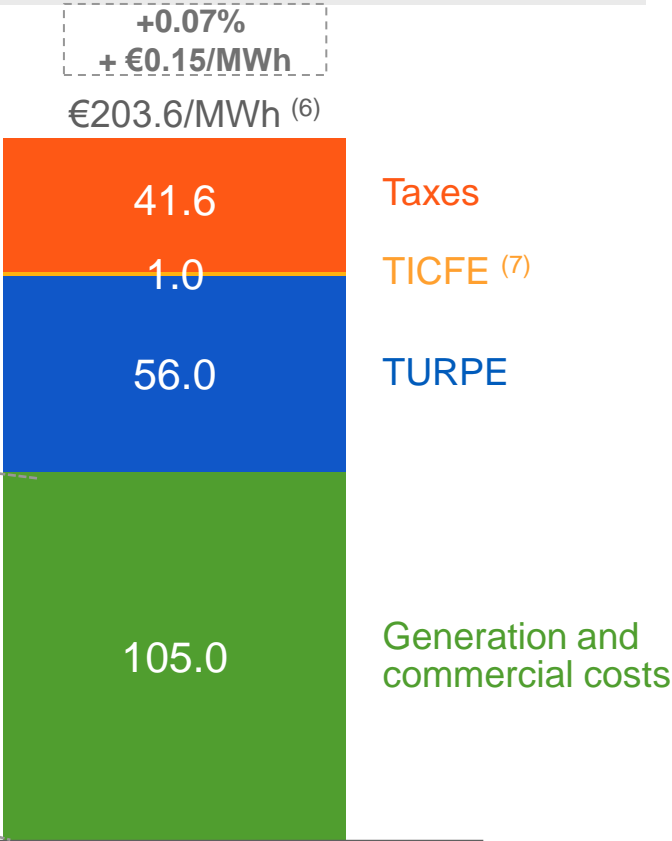
2022 HALF-YEAR RESULTS

# REGULATED SALES TARIFFS IN FRANCE : PROPOSITION OF DECREE FOR AUGUST 2022 (3/3)

RESIDENTIAL BLUE TARIFF EXCLUDING TAXES (1) (2)



AVERAGE BILL BREAKDOWN VAT INCLUDED (BLUE RESIDENTIAL CUSTOMER)



(1) Source: for February 2022, date from the decree of 28 January 2022 published in the Journal Officiel on 30 January 2022

(2) At February 2022, the figures are based on an average calculation on customers portfolio at the Regulated Sales Tariffs at end-2020 (base calculation for the CRE deliberation of 18/01/2022)

(3) As part of the tariff shield, part of the 2022 increase is postponed to 2023 to limit to 4% including tax the average increase in the Blue Residential TRV 2022 compared to 2021

(4) Including cost of Energy Efficiency Certificates

(5) Catch-up of 2021 and January 2022

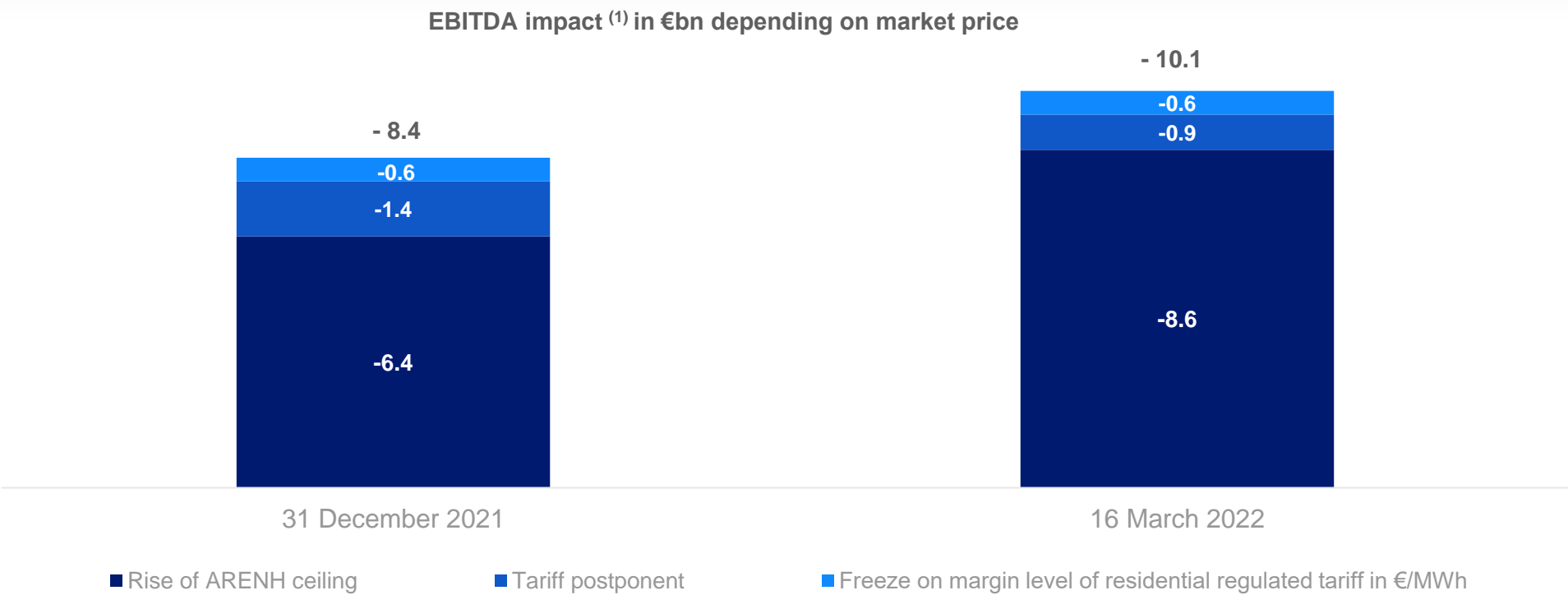
(6) Due to rounding, the total is not strictly equal to the sum of the components

(7) Ex-CSPE



# 2022 EBITDA SENSITIVITY TO REGULATORY MEASURES

- Impacts on the 2022 EBITDA of the decree published on 12 March 2022**, based on the average of forward market prices between 2 and 23 December 2021 (€256.98/MWh) :
- An **additional 19.5TWh of ARENH at €46.2/MWh** to be delivered from April to December 2022 to alternative suppliers whose demand was capped during the end-2021 auction: impact estimated at around **-€4.1bn**. Additional volumes have been reduced from 20TWh to 19.5TWh due to the cessation of activity or the waiver of some suppliers
  - The impact of this additional allocation is replicated in **EDF offers (regulated tariffs and market offers)**: impact estimated at around **-€4.5bn**
  - **Margin level freeze in €/MWh for residential regulated tariffs**: impact estimated at around **-€0.6bn**
  - **Portion of the 2022 residential regulated tariff postponed to 2023**, aiming at limiting the increase to 4% including taxes **and an extension of residential regulated tariff measures to the professional regulated tariff and non-interconnected zones** (freeze in margin level and tariff postponement): impact estimated at around **-€0.9bn**



# PUBLIC SERVICE COSTS: STABLE MECHANISM FOR COMPENSATING PUBLIC SERVICE COSTS AND TAXES SINCE 2016 AND TAXES EVOLUTION IN 2022 (1/3)

- The 2015 amended French finance act and the 2016 French finance act introduced the principles of a new mechanism for compensating energy public service costs, effective as of 1 January 2016, with the following specific characteristics:
  - The State's budgeting of public service charges for energy (electricity and gas) is defined for 2022 on the basis of the CRE's (Commission for Energy Regulation) decision of 15 July 2021 and is fully financed from 1 January 2021 by the "Energy Public Service" programme of the General Budget. The 2022 Initial Budget Act thus budgets the costs of the Public Service at €8,449m. A negative gap of €415m exists between the 2022 Initial Finance Law and the CRE deliberation of July 2021 on the "renewable energies support" item. It results from the readjustment made by the Budget Department consistent with the increase in market prices of electricity in September 2021.
- Repayment achieved at the end of 2020 of EDF's historical compensation deficit, in accordance with the Ministers' letter of 26 January 2016, enacted in the Decree of 18 February 2016 and the Orders of 13 May and 2 December 2016
- The TICFE (formerly CSPE) tax remained stable and unchanged between 2016 and 2021 at €22.5/MWh (for the full rate). As of 1 January 2022, the TDCFE (Departmental Tax) has been abolished, resulting in an increase in the full TICFE rate. However, the introduction of the tariff shield, decided by the French government on 1 February 2022, will result in a reduction in the level of the TICFE tax to €1/MWh for the full rate.

# CSPE: CHARGES FOR EDF (2/3)

Article L121-6 of the French Energy Code stipulates that the charges attributable to the public service tasks assigned to the electricity operators are fully compensated by the State

In millions of euros	H1 2020		H1 2021		H1 2022	
Purchase obligation <sup>(1)</sup>	3,532	79%	2,907	75%	195	14%
Other <sup>(2)</sup>	929	21%	958	25%	1,152	86%
<b>Total EDF CSPE</b>	<b>4,461</b>	<b>100%</b>	<b>3,865</b>	<b>100%</b>	<b>1,347</b>	<b>100%</b>

The trend in public service charges between H1 2021 and H1 2022 can be attributed to two opposing factors:

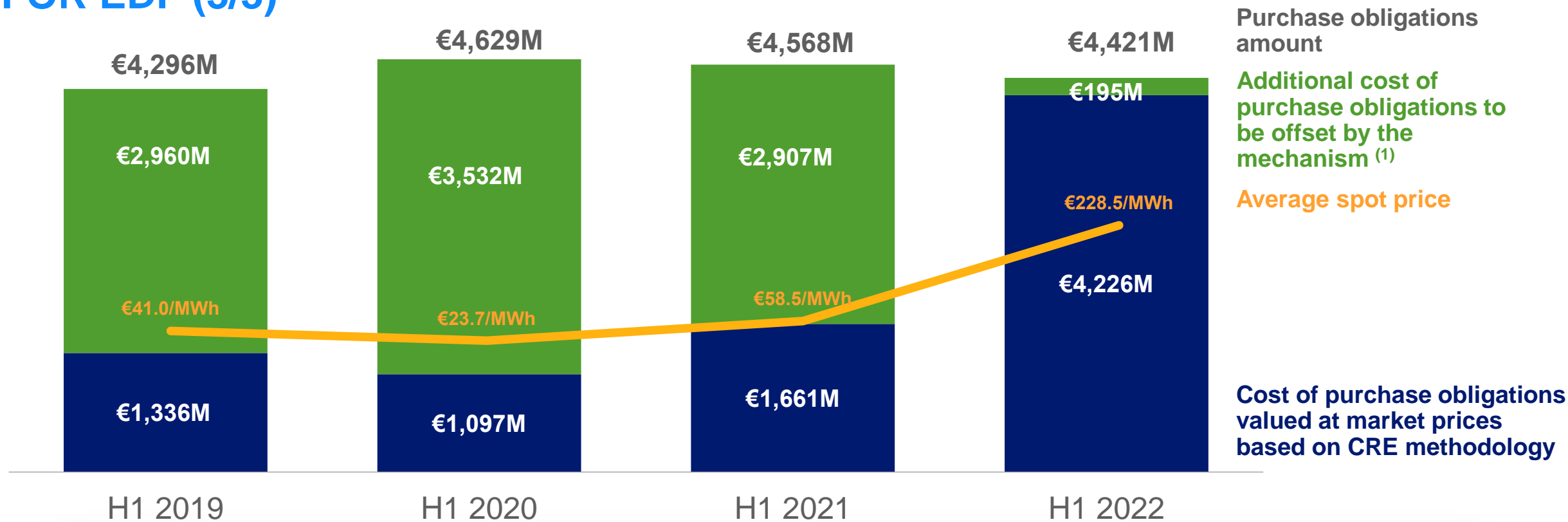
- Charges on the purchasing requirement in metropolitan France fell €2,712m between H1 2021 and H1 2022 owing to a -2.5TWh contraction in renewable energies volumes (mainly wind and in particular in January, March and May). Production under the purchasing requirement totalled 28.9TWh in H1 2022. The decline in volumes was accompanied by a sharp increase in electricity spot prices of €170/MWh between H1 2021 (€58/MWh) and H1 2022 (€228/MWh). Similarly, this increase reduced charges by tightening the spread between the purchase obligation price and the market valuation.
- ZNI <sup>(3)</sup> charges rose in 2022 in connection with the increase in the price of commodities, fuel and CO<sub>2</sub>, which increase the cost of electricity generation in the islands and therefore ultimately the need for compensation by the CSPE mechanism. The other charges also increase to take account in 2022 of the costs linked to the cap on the regulated gas sales tariffs (TRV), without any counterpart in 2021.

(1) Purchases obligations include electricity generated from: hydropower (less than 12MW), biomass, wind power, PV power, cogeneration, recovery of household waste and energy recovery, with the exception of ZNI <sup>(3)</sup>

(2) Additional generation costs and purchase obligations in ZNI<sup>(3)</sup>, the TPN (First Necessity Tariff) and the FSL (Housing Solidarity Fund), as well as charges relating to the sales shortfall of the Gas portfolio following the price freeze ruled on by the government starting on 1 November 2021.

(3) ZNI: *Zones non interconnectées* corresponding to overseas departments and Corsica and some of the Breton islands

# CSPE: CHANGE IN PURCHASE OBLIGATIONS IN MAINLAND FRANCE FOR EDF (3/3)



**Principle:** The compensation mechanism of public energy services <sup>(2)</sup> charges offsets the difference between the cost of purchase obligations in mainland France and market prices

(1) EDF SA excluding island activities

(2) The compensation mechanism of public energy services charges also covers the tariff equalization costs in the ZNI (*Zones Non Interconnectées*), and the solidarity programs.



# ENERGY EFFICIENCY CERTIFICATES SYSTEM

<p>Implemented in 2006</p> <p>Confirmed until 2025</p>	<p>The French response to requirements of the European Directive 2012/27/EU on energy efficiency.</p> <p>The fifth EEC period began on 1 January 2022 for a four-year period.</p>
<p>Enhanced targets, a greatly increased scheme cost</p> <p>Publication 5th period obligation...</p> <p>...before a revision in H2 2022</p>	<p>The national obligation for the fifth period was set at 2,500TWhc by the decree of 3 June 2021 (up 17.2% compared with the fourth period).</p> <ul style="list-style-type: none"> <li>➢ Of which 730TWhp for households in energy poverty (+37 with, in parallel, the shift of vulnerability towards households with extremely low incomes) and 1,770TWhp of conventional energy savings certificates (CEE) obligation (+10.7%)</li> <li>➢ The measure costs over €5bn a year</li> <li>➢ The 5th period energy saving certificate (CEE) decree rebalances a previously unfavourable situation for electricity (Elec +4% / Gas +58% / Fuels 18% compared with the 4th period)</li> <li>➢ Phased lowering of the franchise threshold (400 GWh/year →100GWh/year from 2024) to limit distortions to competition</li> <li>➢ Reduction of subsidies (25% of the obligation) which do not in themselves generate energy savings</li> <li>➢ Implementation of inspections of energy savings work operations at beneficiaries, carried out by accredited inspection offices before the obliged party is able to make its EEC request to the public authorities.</li> <li>➢ Given the drop in the Emmy indices for both conventional energy saving certificates and those for households in precarious energy situations, the public authorities may decide to increase the 5th period obligation in the next few weeks. In addition, the Fit for 55 package and the EU’s EED Directive aiming at strengthening energy saving targets will lead to an increase in the energy savings certificate obligation via a revision of the scheme.This potential increase would result from the EEC 2024-2033 obligation trajectory to be decided on as part of the energy and climate planning act to be adopted in summer 2023.</li> </ul>
<p>Involved parties</p>	<p>An obligation imposed on energy suppliers to achieve energy savings for customers called “obligated parties”.</p> <ul style="list-style-type: none"> <li>➢ Electricity, gas, heating, refrigeration, domestic fuel and automotive fuel</li> </ul> <p>In order to promote the issuance of energy efficiency operations to their customers</p> <ul style="list-style-type: none"> <li>➢ Households, local authorities, social housing landlords or business/professionals</li> </ul>
<p>EDF and the mechanism</p>	<p>EDF is the first obligated party and intervenes in several areas:</p> <ul style="list-style-type: none"> <li>➢ Residential (insulation work and the replacement of heating equipment, in particular heat pumps, thanks to the subsidies provided by the “Coups de Pouce” schemes via the "Mon chauffage durable" offer), social-housing lessors and industry and services</li> <li>➢ Financing of national programmes : ADVENIR (electric vehicle recharging stations), FEEBat (training craftsmen), SARE (<i>Service d’Accompagnement pour la Rénovation Énergétique</i>) with the ADEME, ACTEE with the FNCCR, etc.</li> </ul>

ENEDIS <sup>(1)</sup> : KEY FIGURES

In millions of euros	June 2021	June 2022	Δ%
Sales	8,005	8,132	+1.6
EBITDA	2,702	2,699	(0.1)
Net income excl. non-recurrent items	882	793	(10.1)
Gross operating investments <sup>(2)</sup>	2,127	2,037	(4.2)

**Enedis’ EBITDA for H1 2022 is stable compared to 2021**, despite unfavourable price effects on energy purchases to compensate for losses and the increase of fuel prices, offset by a decrease in personnel expenses due to the increase of the discount rate for long-term benefits

Net income was down due to an increase in calculated expenses (favourable effects in H1 2021 following increase in the depreciable base).

Finally, investments have decreased due to the end of the industrial rollout of the Linky programme at end-2021.

(1) Enedis, an independant EDF subsidiary as defined in the French energy code; local data  
 (2) Including Linky

# 2022 HALF YEAR RESULTS

## CONSOLIDATED FINANCIAL STATEMENTS



# SIMPLIFIED INCOME STATEMENT

In millions of euros

	H1 2021	H1 2022
<b>Sales</b>	<b>39,621</b>	<b>66,262</b>
Fuel and energy purchases	(18,753)	(48,238)
Other external expenses	(3,629)	(3,919)
Personnel expenses	(7,273)	(7,286)
Taxes other than income taxes	(2,509)	(2,383)
Other operating income and expenses	3,144	(1,764)
<b>EBITDA</b>	<b>10,601</b>	<b>2,672</b>
Impact of the commodities volatility	(541)	(993)
Amortisation/depreciation expenses and provisions for renewal	(5,194)	(5,534)
(Impairment)/reversals	(502)	(253)
Other income and expenses	(92)	(388)
<b>EBIT</b>	<b>4,272</b>	<b>(4,496)</b>
Financial income	861	(2,947)
Income before taxes of consolidated companies	5,133	(7,443)
<b>Net income – Group share</b>	<b>4,172</b>	<b>(5,293)</b>
<b>Net income excl. non-recurring items <sup>(1)</sup></b>	<b>3,740</b>	<b>(1,312)</b>

(1) Excluding non-recurring items & commodities volatility



CHANGE IN SALES <sup>(1)</sup>

In millions of euros	H1 2021	Forex	Scope	Organic growth	H1 2022	Δ% org. <sup>(2)</sup>
France – Generation and supply activities	16,001	-	9	7,752	23,762	48.4
France – Regulated activities <sup>(3)</sup>	9,096	-	-	482	9,578	5.3
Framatome	1,634	35	52	256	1,977	15.7
United Kingdom	4,887	152	(192)	2,057	6,904	42.1
Italy	3,911	-	34	9,072	13,017	232.0
Other international	1,394	62	222	907	2,585	65.1
EDF Renewables	807	48	-	196	1,051	24.3
Dalkia	2,326	8	(51)	928	3,211	39.9
Other activities	1,887	31	(97)	5,876	7,697	311.4
Inter-segment eliminations	(2,322)	-	-	(1,198)	(3,520)	51.6
<b>Total Group</b>	<b>39,621</b>	<b>336</b>	<b>(23)</b>	<b>26,328</b>	<b>66,262</b>	<b>66.4</b>

(1) Sales breakdown across the segments, before inter-segment eliminations

(2) Organic change at constant scope and exchange rates

(3) Regulated activities: Enedis, ÉS and island activities; Enedis, an independant EDF subsidiary as defined in the French energy code

# CHANGE IN EBITDA <sup>(1)</sup>

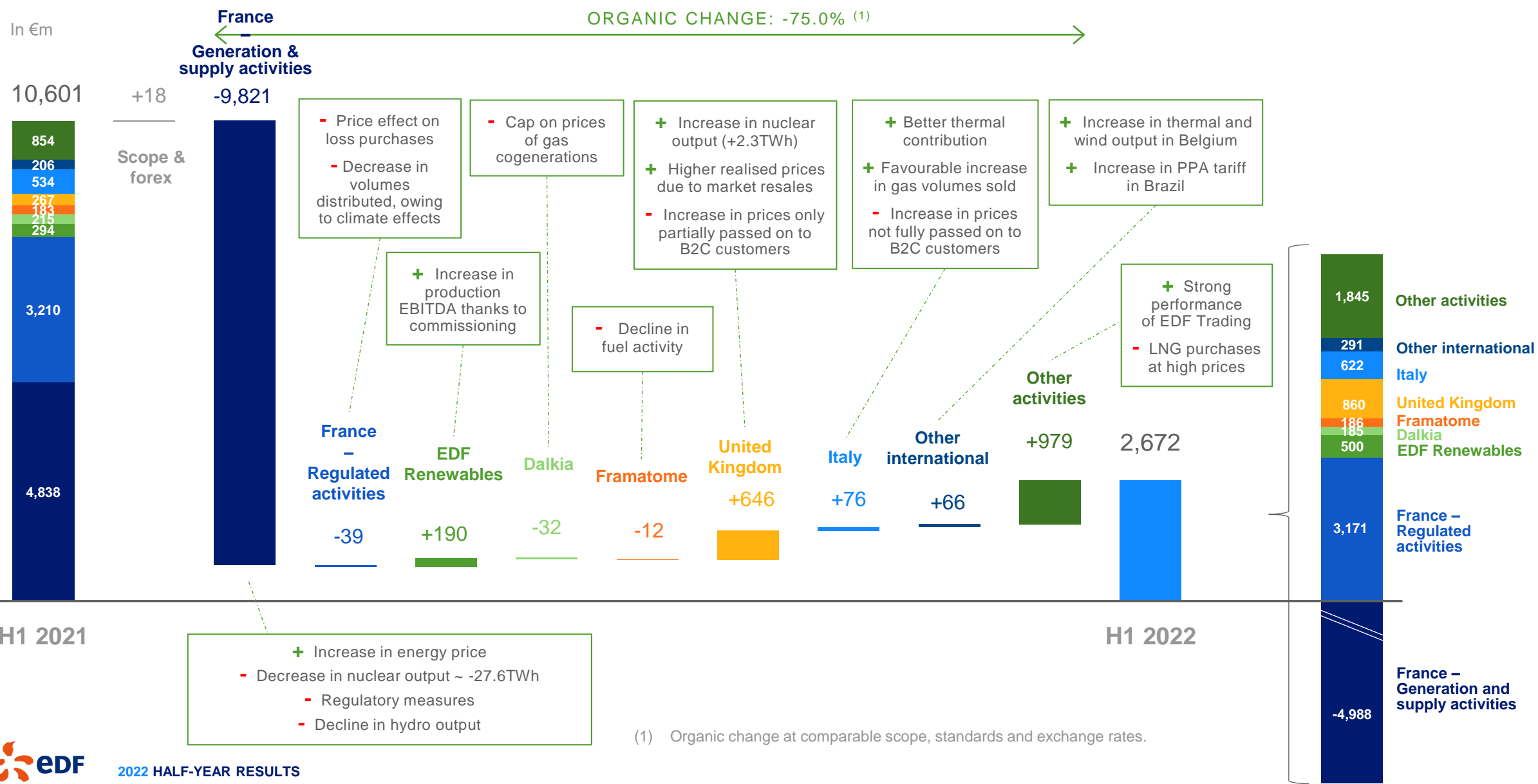
In millions of euros	H1 2021	Forex	Scope	Organic growth	H1 2022	Δ% org. <sup>(2)</sup>
France – Generation and supply activities	4,838	-	(5)	(9,821)	(4,988)	(203.0)
France – Regulated activities <sup>(3)</sup>	3,210	-	-	(39)	3,171	(1.2)
Framatome	183	5	10	(12)	186	(6.6)
United Kingdom	267	8	(61)	646	860	241.9
Italy	534	-	12	76	622	14.2
Other international	206	15	4	66	291	32.0
EDF Renewables	294	16	-	190	500	64.6
Dalkia	215	-	2	(32)	185	(14.9)
Other activities	854	18	(6)	979	1,845	114.6
<b>Total Group</b>	<b>10,601</b>	<b>62</b>	<b>(44)</b>	<b>(7,947)</b>	<b>2,672</b>	<b>(75.0)</b>

(1) Contribution to the Group

(2) Organic change at constant scope, standard and exchange rates

(3) Regulated activities: Enedis, ÉS and island activities; Enedis, an independant EDF subsidiary as defined in the French energy code

GROUP EBITDA BY SEGMENT



ENERGY SERVICES

DALKIA				
In €m	H1 2021	H1 2022	Δ %	Δ % Org. <sup>(1)</sup>
EBITDA	215	185	-14.0	-14.9

GROUP ENERGY SERVICES <sup>(3)</sup>				
In €m	H1 2021	H1 2022	Δ %	Δ % Org. <sup>(1)</sup>
EBITDA	255	234	-8.2	-8.6
Net investments	(122)	(148)	+21.5	-

- Cap on cogenerations gas prices and suspension of most cogeneration owing to the lag in the tariff winter



**SIGNATURE OF AGREEMENTS WITH ARKEMA**  
ON A SRF <sup>(2)</sup> RECOVERY PROJECT AVOIDING 10,000 TONNES OF CO<sub>2</sub> EMISSIONS PER YEAR

- **EBITDA**
  - Decrease in Dalkia cogeneration business
  - Growth in services sales in France, Belgium and Italy
- **Increase in net investments** at Edison and Dalkia

(1) Organic change at comparable scope, exchange rates and standards.  
 (2) SRF = Solid Recovered Fuel that cannot be recycled locally.


(3) The Group Energy services include Dalkia, Dalkia Electrotechnics (formerly Citelum), Izi Confort, SOWEE, IZI Solutions, IZI Solutions Renov, Izivia, EDEV, EDF China Holding, EDF Pulse croissance and the service businesses of EDF Energy, Edison, Luminus and EDF SA. They consist in particular of street lighting, heating networks, decentralised low-carbon generation based on local resources, energy consumption management and electric mobility.



FRAMATOME

In €m	H1 2021	H1 2022	Δ %	Δ % Org. <sup>(1)</sup>
EBITDA	293	321	+9.6	+4.1
EBITDA EDF Group contribution	183	186	+1.6	-6.6

- **Lower sales** of fuel assemblies in the United States
- **Improved volume contribution** of the “Installed Base” business in North America



**ACQUISITION**  
OF THE NUCLEAR  
ENERGY AND NAVAL  
ACTIVITIES FOR  
DEFENCE (WELDING)  
OF THE **EFINOR**  
GROUP



**ORDER INTAKE**  
H1 2022: €2.1bn <sup>(2)</sup>

(1) Organic change at comparable scope, exchange rates and standards.  
 (2) At Framatome perimeter

# OTHER INTERNATIONAL


In €m	H1 2021	H1 2022	Δ %	Δ % Org. <sup>(1)</sup>
<b>EBITDA</b>	<b>206</b>	<b>291</b>	<b>+41.3</b>	<b>+32.0</b>
<i>o/w Belgium <sup>(2)</sup></i>	<i>122</i>	<i>179</i>	<i>+46.7</i>	<i>+43.4</i>
<i>o/w Brazil</i>	<i>77</i>	<i>114</i>	<i>+48.1</i>	<i>+31.2</i>

➤ **Belgium <sup>(2)</sup>**

- **Thermal:** Good performance of the thermal generation units and their increased use
- **Wind:** output up 15.6%, in line with more favourable wind conditions vs H1 2021 and an increase in installed capacity to 599MW <sup>(3)</sup> (+7.5% vs end-June 2021)
- **Commercial activities:** strong resilience relating to the increase in the B2C portfolio in a context of strong competition and growth in services activities
- **Electricity purchases** at high prices due to the unplanned outage of the Chooz nuclear plant <sup>(4)</sup>

➤ **Brazil**

- Increase in the tariff for electricity sales (PPA) for EDF Norte Fluminense



COMPLETION OF THE  
 2/3 OF THE  
 CONSTRUCTION OF  
 THE HYDRO  
 POWERPLANT OF  
 NACHTIGAL (420MW)

(1) Organic change at comparable scope, standards and exchange rates.

(2) Luminus and EDF Belgium.

(3) Net capacity at Luminus perimeter. 664MW in gross capacity (1% growth vs end-2021).

(4) Luminus benefits from a 100MW special drawing right at the Chooz plant.

# CHANGE IN COMMODITIES <sup>(1)</sup> VOLATILITY

In millions of euros	H1 2021	H1 2022	Δ
France – Generation and supply activities	(223)	(444)	(221)
France – Regulated activities	(8)	(28)	(20)
United Kingdom	22	12	(10)
Italy	(14)	(7)	7
Dalkia	-	(119)	(119)
Other activities	(318)	(407)	(89)
<b>Total Group <sup>(2)</sup></b>	<b>(541)</b>	<b>(993)</b>	<b>(452)</b>

(1) Net changes in fair value of energy and commodity derivatives, excluding trading activities

(2) The segments Other international, Framatome and EDF Renewables are not concerned

# CHANGE IN FINANCIAL RESULT

In millions of euros	H1 2021	H1 2022	Δ
Cost of gross financial debt	(754)	(728)	26
<i>o/w interest expenses on financing operations</i>	(760)	(784)	(24)
Discount expenses	(1,016)	502	1,518
Other financial income and expenses	2,631	(2,721)	(5,352)
<i>o/w gains on dedicated assets disposals</i>	34	(115)	(149)
<i>o/w net change in fair value of debt and equity instruments of dedicated assets</i>	1,836	(3,196)	(5,032)
<b>Financial result</b>	<b>861</b>	<b>(2,947)</b>	<b>(3,808)</b>
<i>Excluding non-recurring items before tax (change in IFRS 9 fair value of financial instruments)</i>	(1,854)	3,477	5,331
<b>Current Financial result</b>	<b>(993)</b>	<b>530</b>	<b>1,523</b>



# FROM INTEREST CHARGES ON FINANCING ACTIVITIES TO NET FINANCIAL EXPENSES DISBURSED

In millions of euros	H1 2021	H1 2022	Δ
<b>Interest charges on financing activities</b>	(760)	(784)	(24)
Accrued interest	(86)	31	117
Other financial income and charges (including dividends)	453	329	(124)
<b>Net financial expenses disbursed</b>	<b>(393)</b>	<b>(424)</b>	<b>(31)</b>

# NET INCOME EXCL. NON-RECURRING ITEMS

In €m	H1 2021 current	H1 2021 non current	H1 2021	H1 2022 current	H1 2022 non current	H1 2022
<b>EBITDA</b>	10,601	-	<b>10,601</b>	2,672	-	<b>2,672</b>
Commodities volatility	-	(541)	<b>(541)</b>	-	(993)	<b>(993)</b>
Amortisation/depreciation expenses and provisions for renewal	(5,122)	(72)	<b>(5,194)</b>	(5,534)	-	<b>(5,534)</b>
Impairments and other operating income and expenses	-	(594)	<b>(594)</b>	-	(641)	<b>(641)</b>
<b>EBIT</b>	5,479	(1,207)	<b>4,272</b>	(2,862)	(1,634)	<b>(4,496)</b>
Financial result	(993)	1,854	<b>861</b>	530	(3,477)	<b>(2,947)</b>
Income tax	(1,187)	(271)	<b>(1,458)</b>	609	1,231	<b>1,840</b>
Share of net income from associates and joint-ventures	378	(34)	<b>344</b>	581	(137)	<b>444</b>
Net income of discontinued operations	(3)	-	<b>(3)</b>	4	-	<b>4</b>
Deduction net income from minority interests	(66)	(90)	<b>(156)</b>	174	(36)	<b>138</b>
<b>Net income – Group share</b>	<b>3,740</b>	<b>432</b>	<b>4,172</b>	<b>(1,312)</b>	<b>(3,981)</b>	<b>(5,293)</b>

# SHARE IN NET INCOME OF ASSOCIATES AND JOINT VENTURES

In millions of euros	H1 2021	H1 2022	Δ
CTE/RTE	116	246	130
CENG	105	-	(105)
Other <sup>(1)</sup>	123	198	75
<b>TOTAL</b>	<b>344</b>	<b>444</b>	<b>100</b>

(1) Mainly Jera Trading, NTPC, CES (Companhia Energética Sinop SA), Jiangxi Datang International Fuzhou Power Generation Company Ltd and different companies owned by EDF Renewables and EDF SA

NET INCOME FROM MINORITY INTERESTS

In millions of euros	H1 2021	H1 2022	Δ
Framatome	2	-	(2)
United Kingdom	(215)	27	242
Italy	11	33	22
Other international	4	(4)	(8)
EDF Renewables	8	53	45
Other	34	29	(5)
<b>TOTAL</b>	<b>(156)</b>	<b>138</b>	<b>294</b>

# CHANGE IN NET FINANCIAL DEBT

In millions of euros

	H1 2021	H1 2022
<b>EBITDA</b>	<b>10,601</b>	<b>2,672</b>
Cancellation of non-monetary items included in EBITDA	(391)	(3,343)
<b>EBITDA Cash</b>	<b>10,210</b>	<b>(671)</b>
Change in net WCR	(1,896)	6,804
Net investments – excluding disposals 2020-2022 <sup>(1)</sup>	(7,679)	(8,474)
Dividends received from associates and joint ventures	112	98
Other elements	(181)	(608)
<b>Operating Cash Flow</b>	<b>566</b>	<b>(2,851)</b>
Assets disposals	420	9
Income taxes paid	(343)	(202)
Net financial expenses	(393)	(424)
Dedicated assets	(79)	30
Dividends paid in cash	(411)	(543)
<b>Group Cash Flow</b>	<b>(240)</b>	<b>(3,981)</b>
Other monetary changes	942	3,230
<b>Change in net financial debt</b>	<b>702</b>	<b>(751)</b>
Effects of change and exchange rates	(304)	(113)
Other non-monetary changes – IFRS 16	(364)	(237)
Other non-monetary changes	1,249	1,318
<b>Change in net financial debt from continuing operations</b>	<b>1,283</b>	<b>217</b>
<b>Change in net financial debt from discontinued operations</b>	<b>-</b>	<b>-</b>
<b>Net Financial Debt – Opening balance</b>	<b>42,290</b>	<b>42,988</b>
<b>Net Financial Debt – Closing balance</b>	<b>41,007</b>	<b>42,771</b>

(1) Including Linky and HPC

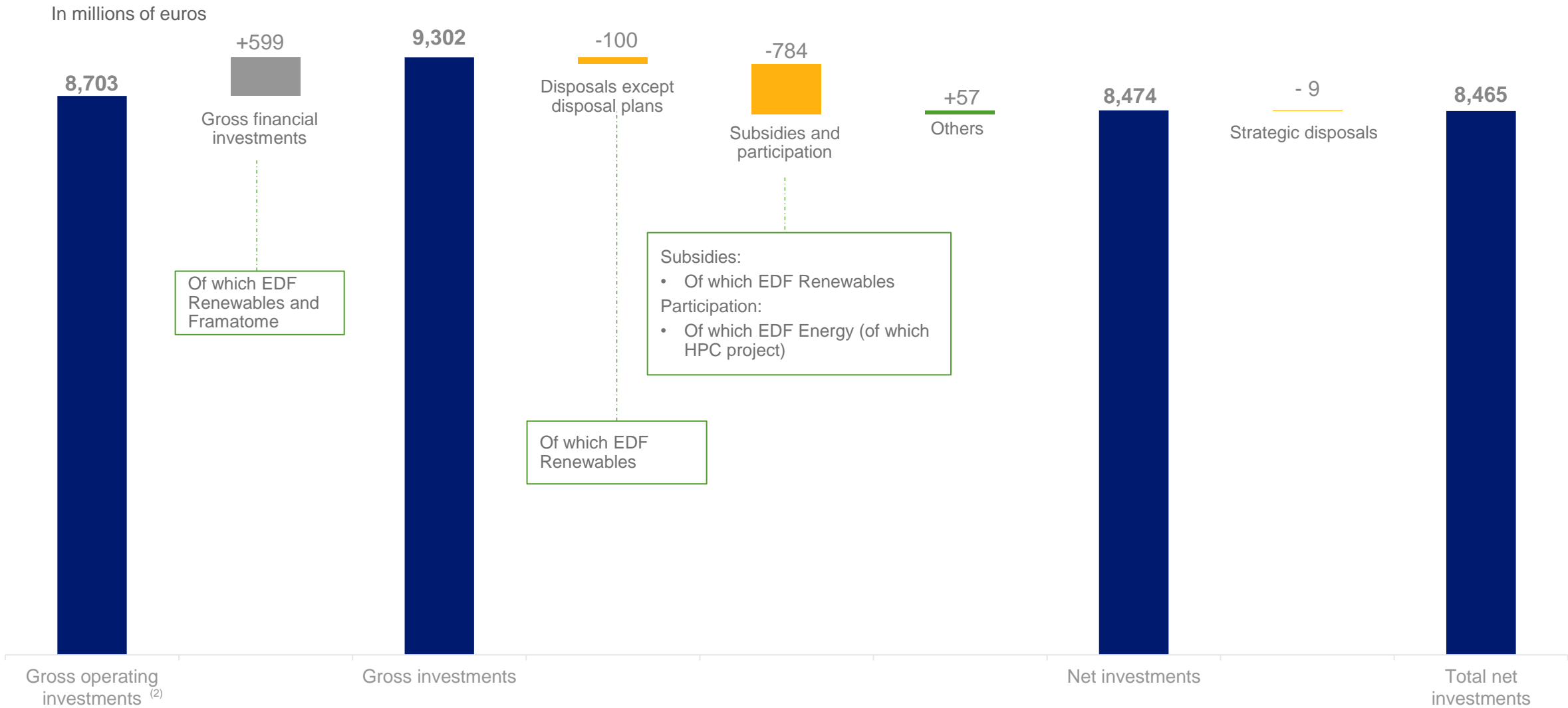


# NET INVESTMENTS

In millions of euros	H1 2021	H1 2022	Δ	Δ %
France – Generation and supply activities	2,655	2,850	195	7
France – Regulated activities	2,407	2,310	(97)	(4)
Framatome	74	112	38	51
United Kingdom	1,433	1,396	(36)	(3)
Italy	486	256	(230)	(47)
Other international	197	78	(119)	(60)
EDF Renewables	368	1,384	1,016	276
<i>o/w Gross investment</i>	<i>1 032</i>	<i>1,654</i>	<i>622</i>	<i>60</i>
<i>o/w Disposals and subsidies</i>	<i>(664)</i>	<i>(270)</i>	<i>394</i>	<i>59</i>
Dalkia	80	78	(2)	(3)
Other activities	(21)	10	31	<i>n.a</i>
<b>Total net investments, excluding assets disposal plan</b>	<b>7,679</b>	<b>8,474</b>	<b>795</b>	<b>10</b>
Group assets disposal plan	(420)	(9)	411	98
<b>NET INVESTMENTS</b>	<b>7,259</b>	<b>8,465</b>	<b>1,206</b>	<b>17</b>

NB: figures rounded up to the nearest whole number

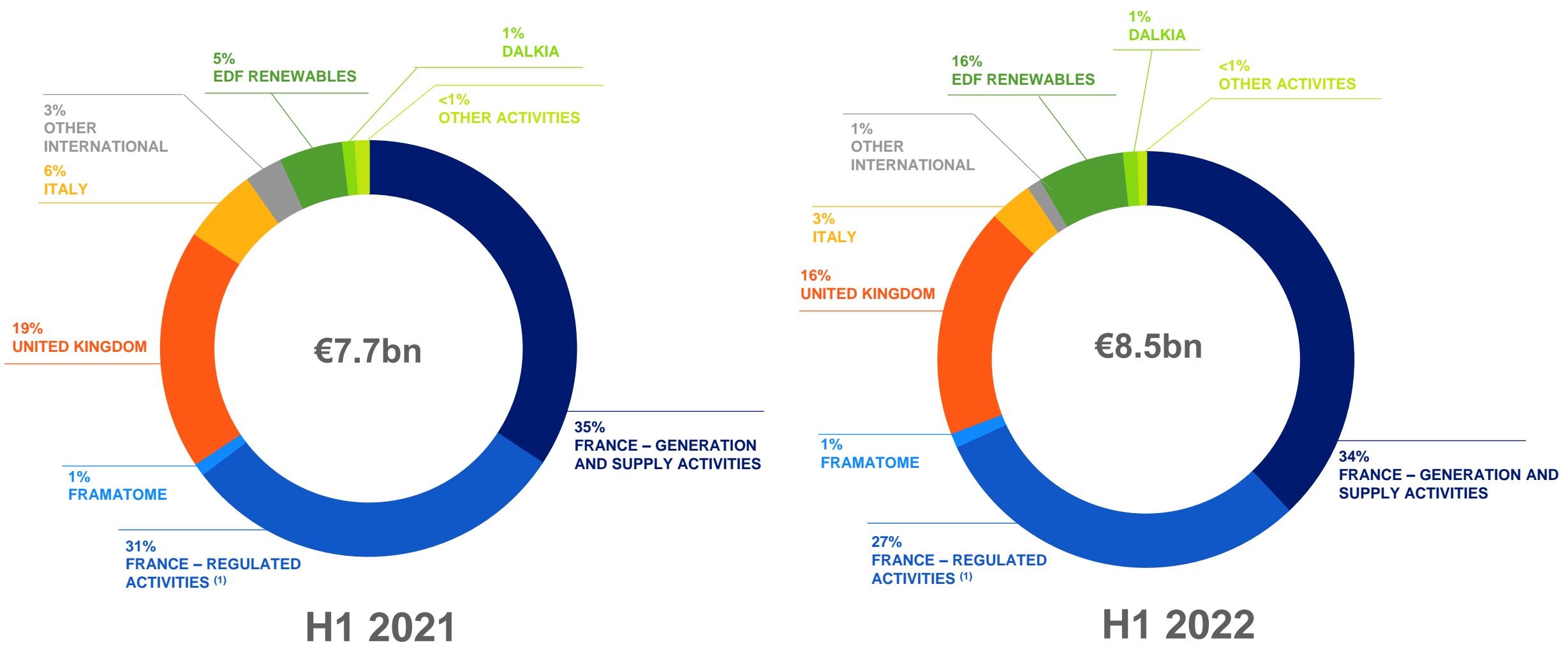
INVESTMENTS: FROM GROSS TO NET (1)



(1) Net investments in the Change in NFD statement including Linky, HPC and excluding disposal plan

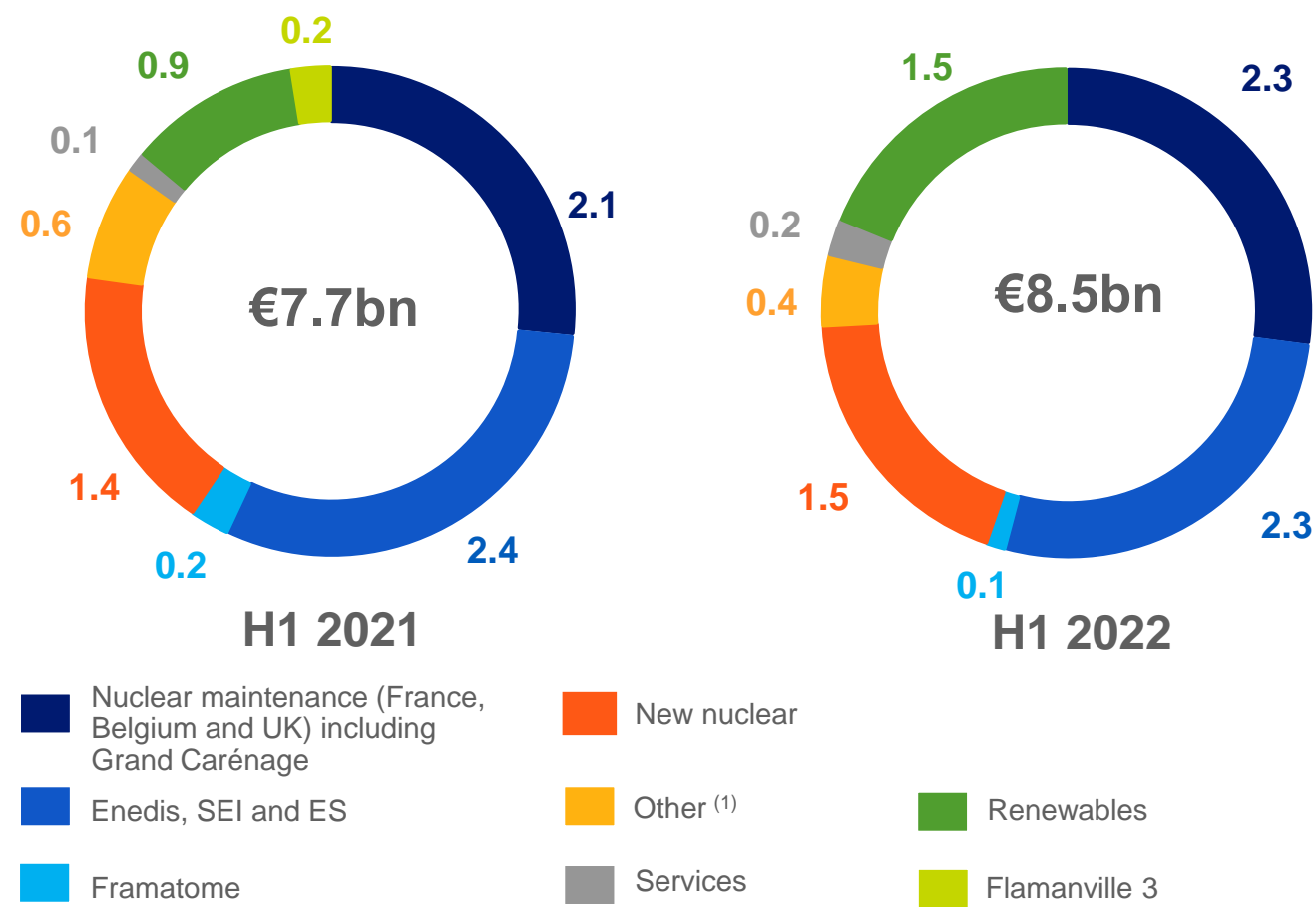
(2) Investments in intangible assets and property, plant and equipment in consolidated cash flow statement

# NET TOTAL INVESTMENTS INCLUDING ACQUISITIONS EXCLUDING DISPOSAL PLAN



NET INVESTMENTS INCLUDING ACQUISITIONS EXCLUDING DISPOSAL PLAN

In billions of euros



H1 2022 data

In billions of euros	Maintenance	Development	TOTAL
Renewables	0.2	1.4	1.6
Nuclear maintenance (France, Belgium and UK) including Grand Carénage	2.3	0.0	2.3
Enedis, SEI and ES	1.0	1.3	2.3
Framatome	0.0	0.1	0.1
Project Flamanville 3	0.0	0.1	0.0
Services	0.1	0.1	0.2
New nuclear	0.0	1.5	0.6
Other <sup>(1)</sup>	0.2	0.2	0.4
<b>TOTAL</b>	<b>3.7</b>	<b>4.7</b>	<b>8.5</b>

NB: figures rounded up to the nearest decimal number  
(1) Mainly thermal maintenance, gas, property, central functions,

# SIMPLIFIED BALANCE SHEET

<b>ASSETS</b> (in millions of euros)	<b>31/12/2021</b>	<b>30/06/2022</b>
Intangible and tangible assets	188,416	189,612
Other non-current assets	67,452	69,038
<b>Non-current assets</b>	<b>255,868</b>	<b>258,650</b>
Inventories and trade receivables	38,432	37,108
Other current assets	56,678	100,537
Cash and cash equivalents	9,919	7,418
<b>Current assets</b>	<b>105,029</b>	<b>145,063</b>
Assets held for sale	69	74
<b>Total assets</b>	<b>360,966</b>	<b>403,787</b>

<b>LIABILITIES</b> (in millions of euros)	<b>31/12/2021</b>	<b>30/06/2022</b>
Equity (EDF's share)	50,211	59,107
Equity (non-controlling interests)	11,778	12,211
<b>Total equity</b>	<b>61,989</b>	<b>71,318</b>
Non-current provisions	89,225	75,786
Special distribution concession liabilities	48,853	49,072
Non-current other liabilities	63,760	75,660
<b>Non current liabilities</b>	<b>201,838</b>	<b>200,518</b>
<b>Current liabilities</b>	<b>97,109</b>	<b>131,921</b>
Liabilities related to assets classified as held for sale	30	30
<b>Total liabilities</b>	<b>360,966</b>	<b>403,787</b>



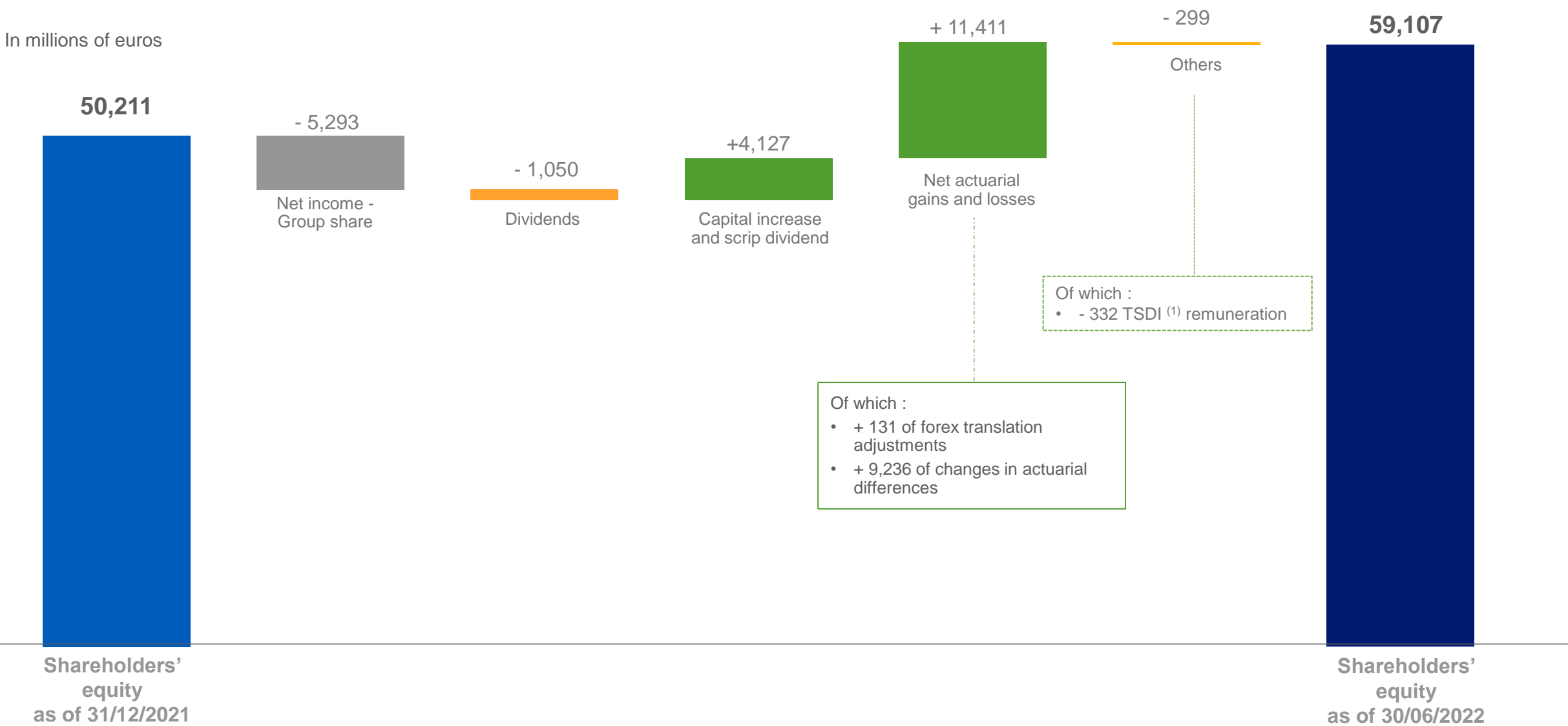
GOODWILL

In millions of euros	31/12/2021	30/06/2022	Δ
EDF Energy <sup>(1)</sup>	8,095	7,928	(167)
Framatome	1,428	1,450	22
Dalkia	592	588	(4)
Other	830	854	24
<b>TOTAL</b>	<b>10,945</b>	<b>10,820</b>	<b>(125)</b>

(1) Variation mainly linked to the foreign currency adjustments

GROUP SHAREHOLDERS' EQUITY

In millions of euros

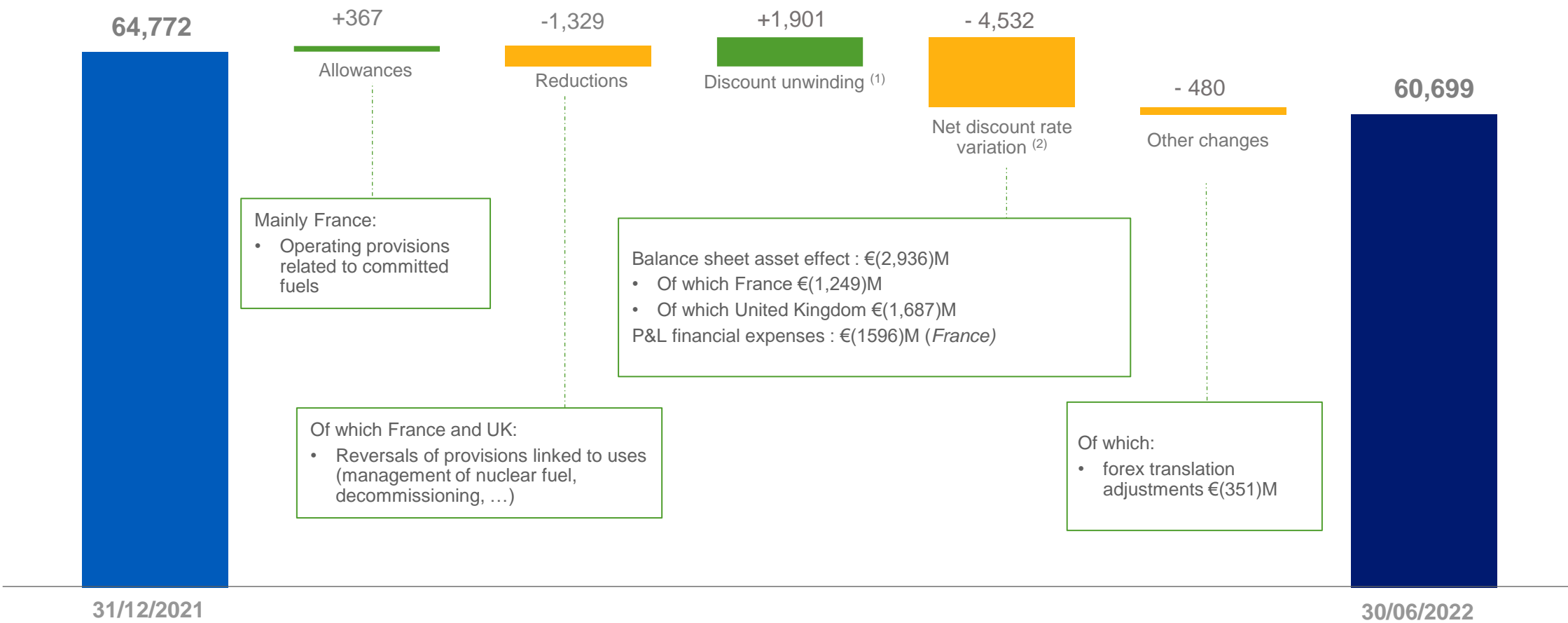


# GROUP PROVISIONS

In millions of euros	31 December 2021			30 June 2022		
	Current	Non Current	Total	Current	Non Current	Total
Provisions for back-end nuclear cycle	1,359	28,155	29,514	1,369	25,934	27,303
Provisions for nuclear decommissioning and last cores	1,346	33,912	35,258	1,509	31,887	33,396
Other provisions for decommissioning	95	1,872	1,967	141	1,979	2,120
Provisions for employee benefits	791	21,716	22,507	748	12,402	13,150
Other provisions	3,245	3,570	6,815	6,081	3,584	9,665
<b>Total Provisions</b>	<b>6,836</b>	<b>89,225</b>	<b>96,061</b>	<b>9,848</b>	<b>75,786</b>	<b>85,634</b>

# GROUP NUCLEAR PROVISIONS

In millions of euros



(1) Impacts on the income statement of which discount unwinding France +€856M and discount unwinding UK +€1,040M (note a symmetrical effect linked to the accretion of receivables from the Nuclear Liabilities Fund (NLF) and the British Government leading to an effect on the income statement)

(2) Effects of a change in net discount rate for France :

- for provisions with no related assets: impact on P&L
- for provisions with related assets: impact on balance sheet

FRANCE NUCLEAR PROVISIONS

In millions of euros	31/12/2021	Net allowances	Discount effect <sup>(1)</sup>	Other changes <sup>(2)</sup>	30/06/2022
<b>Total provisions for back-end nuclear cycle</b>	<b>26,052</b>	<b>(372)</b>	<b>(871)</b>	<b>(373)</b>	<b>24,436</b>
Provisions for management of spent fuel	11,819	(242)	(61)	(130)	11,386
Provisions for long-term management of radioactive waste	14,233	(130)	(810)	(243)	13,050
<b>Total provisions for nuclear dismantling and last cores</b>	<b>20,390</b>	<b>(8)</b>	<b>131</b>	<b>(1,073)</b>	<b>19,440</b>
Provisions for dismantling power stations	17,730	(8)	82	(820)	16,984
Provisions for last cores	2,660	-	49	(253)	2,456
<b>TOTAL FRANCE NUCLEAR PROVISIONS</b>	<b>46,442</b>	<b>(380)</b>	<b>(740)</b>	<b>(1,446)</b>	<b>43,876</b>

NB: Regarding the allocation to Dedicated Assets for nuclear provisions coverage, please refer to the slide “Dedicated Assets” on p.85

(1) P&L financial expenses of which: cost of unwinding the discount 856 M€ and impact of actual changes to discounting rates for provisions not backed by assets on the balance sheet €(1,596)M

(2) Other changes include changes in asset-backed provisions. These changes are not included in the income statement.



# DISCOUNT RATE OF NUCLEAR PROVISIONS IN FRANCE (1/5)

	December 2021	June 2022
Regulatory ceiling rate – real	2.8%	2.9% <sup>(1)</sup>
Nominal discount rate	3.7%	4.5%
Real discount rate	2.0%	2.3%
Inflation	1.7%	2.2%

The real discount rate, calculated according to the calculation methods applied since end-2020, is 2.3% on 30 June 2022 given the market data at this date, with an inflation assumption of 2.2%

The real discount rate is 30 bps up compared to end-2021

(1) 2.85% rounded to 2.9%

# DISCOUNT RATE OF NUCLEAR PROVISIONS IN FRANCE (2/5)

## REGULATORY CEILING

- The **discount rate** for nuclear provisions in France must respect a **regulatory ceiling** calculated using a formula determined by ministerial order in accordance with the French Environmental Code (Art. D594-4)
- A **new regulatory ceiling**, applying from second-half 2020, has been determined by the ministerial order of 1 July 2020 (Art. 3)
- The **formula for the current regulatory ceiling** is expressed as a real value (including inflation) and equal, after a four-year transition period starting from end-2020, to the representative value of expectations of the real long-term interest rate (selected for the calculation published by the European Insurance and Occupational Pensions Authority (EIOPA) of the ultimate forward rate (UFR)) applicable on the date in question and increased by 150 basis points
- The application of the formula for 2022 gives a **regulatory ceiling for the discount rate of 2.85% in real value**

# DISCOUNT RATE OF NUCLEAR PROVISIONS IN FRANCE (3/5)

## EVOLUTION IN DISCOUNT RATE CALCULATION METHODS

- The discount rate is now established on the basis of an interest-rate curve. This curve includes:
  - a sovereign yield rate, based on market data at the end of trading for liquid time frames (0 to 20-year OAT rate curve) and subsequently converging, by using an interpolation curve, towards the ultimate forward rate (UFR) <sup>(1)</sup>;
  - to which is added a spread curve for A to BBB-rated corporate bonds.

On the basis of the disbursement cash flows expected for nuclear engagements, an equivalent single discount rate is deducted from the rate curve thus constructed.
- The inflation rate assumption is established on the basis of an inflation rate curve, built using inflation-linked market products and taking account of economic forecasts, and consistent in the long term with the inflation rate assumption underlying the UFR (2%).
- This discount rate calculation method led, at 30 June 2022, to a nominal discount rate of 4.5% combined to an inflation rate of 2.2% (respectively 3.7% and 1.7% at 31/12/2021), so real rate 30bps up to 2.3%
- The impact of this 0.3% increase of the real rate on adjusted economic debt (AED) corresponds to the decrease in nuclear provisions <sup>(2)</sup>, or -€2.8bn (no impact on the net debt, in particular in the absence of a need for allocation to dedicated assets, the coverage rate of provisions being greater than 100%)

(1) The UFR was determined by the EIOPA (European Insurance and Occupational Pension Authority) for extremely long-term insurance liabilities comprising disbursements beyond market time frames. It is selected in the calculation methodology consistent with the decision of the administrative authority, which, in its order of 1 July 2020 amending the order of 21 March 2007 on the securing of financing for nuclear expenses, changed the formula for the regulatory ceiling of the discount rate, henceforth taking the UFR as a reference rather than the arithmetic average of the last 48 months of the TEC 30, the reference to the UFR being considered as more relevant for nuclear provisions given the extremely long-term maturities.

(2) Excluding in particular the upstream portion of provisions for last core

# DISCOUNT RATE OF NUCLEAR PROVISIONS IN FRANCE (4/5)

## SENSITIVITIES AT 30/06/2022

- All other things being equal, depending on discount rate and inflation rate assumptions, **the sensitivity <sup>(1)</sup> to a 0.1% decrease in the real discount rate (excluding the corresponding tax effect) would be:**
  - For balance sheet provisions: €933m <sup>(2)</sup> (of which €835m for provisions covered by dedicated assets)
  - For income before tax: €(515)m
- This increase in nuclear provisions, and in particular those to be covered by dedicated assets, **does not imply a direct transposition of this effect to the Group's net debt** on the dates under consideration, as the amount to be allocated to dedicated assets in respect of each financial year varies, notably according to (given the order of 1 July 2020):
  - the profitability of the dedicated assets and the resulting coverage rate <sup>(3)</sup>
  - of the period within which the allocation is made, with regulation allowing ministers to determine a maximum period of five years for making the allocation

(1) As published in the consolidated financial statements at 30 June 2022

(2) Including €418m recorded against assets

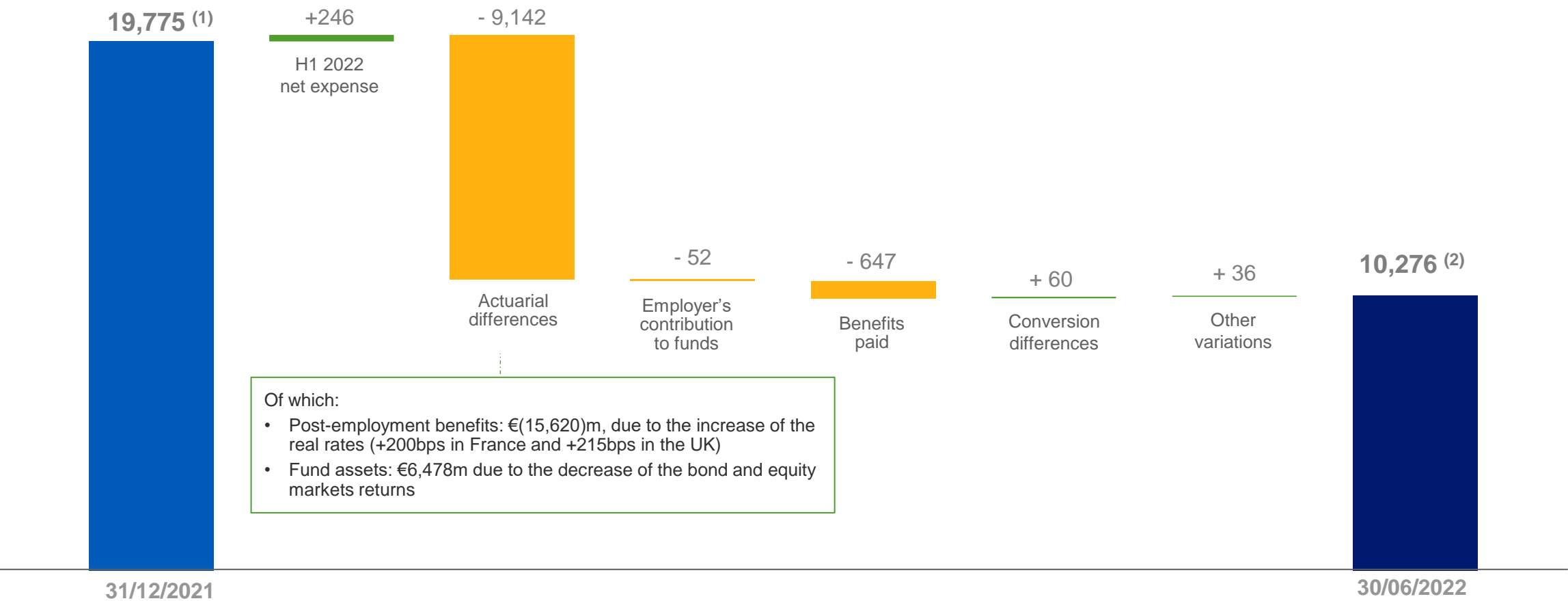
(3) No need to allocate once the coverage rate reaches 100%

# DISCOUNT RATE OF NUCLEAR PROVISIONS IN FRANCE: SENSITIVITY ANALYSIS OF THE DISCOUNT RATE BASED ON PROVISIONS AT 30/06/2022 (5/5)

		Sensitivity to the discount rate				
<i>For a variation of 10 base points</i>		Provisions (discounted value)	On balance sheet provisions		On pre-tax earnings	
In millions of euros			+0.10%	-0.10%	+0.10%	-0.10%
Back-end nuclear						
Management of nuclear fuel	11,386	(106)	109	91	(94)	
Long-term management of radioactive waste	13,050	(394)	419	318	(340)	
Dismantling and last cores						
For decommissioning permanently shut-down nuclear plants	12,090	(269)	276	-	-	
For decommissioning nuclear plants in operation	4,894	(78)	81	78	(81)	
Last cores	2,456	(46)	48	-	-	
Total	43,876	(893)	933	487	(515)	
o/w part of the coverage base for dedicated assets		32,158	(798)	835	432	(459)

# GROUP PROVISIONS FOR EMPLOYEE BENEFITS: CHANGE IN NET LIABILITY

In millions of euros



(1) Including: provisions for employee benefits €22,508m and non-current financial assets €(2,733)m  
(2) Including: provisions for employee benefits €13,150m and non-current financial assets €(2,874)m



# 2022 HALF YEAR RESULTS

## FINANCING AND CASH MANAGEMENT



# DEBT AND LIQUIDITY

In billions of euros	30/06/2021	31/12/2021	30/06/2022
<b>Net financial debt</b>	41.0	43.0	<b>42.8</b>
Net financial debt/EBITDA	2.21x	2.39x	<b>4.24x</b>
<b>Debt</b>			
• Bonds	46.8	49.2	<b>45.1</b>
• Average maturity of gross debt (in years)	15.3	13.7	<b>12.2</b>
• Average coupon	2.27%	2.06%	<b>1.87%</b>
<b>Gross liquidity <sup>(1)</sup></b>	28.4	35.7	<b>42.7</b>
Financial debt – current part	(9.3)	(15.1)	<b>(13.7)</b>
<b>Net liquidity</b>	19.1	20.6	<b>29.0</b>

(1) With cash and cash equivalents, liquid assets, and undrawn lines of credit

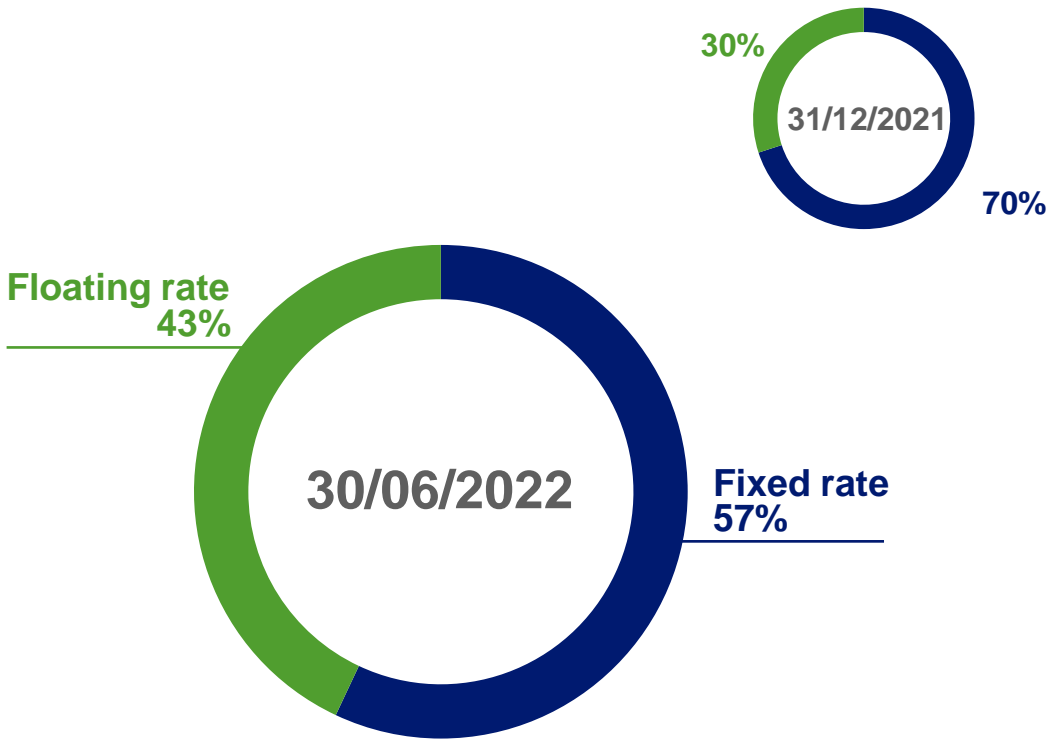
NET FINANCIAL DEBT

In millions of euros	30/06/2021 <sup>(1)</sup>	31/12/2021 <sup>(1)</sup>	30/06/2022 <sup>(1)</sup>
Financial debt	61,503	69,406	77,425
Derivatives used to hedge debt	(2,831)	(3,762)	(3,893)
Cash and cash equivalents	(5,928)	(9,919)	(7,418)
Liquid financial assets available for sale	(11,715)	(12,737)	(23,323)
Asset coverage derivatives	-	-	(20)
Net financial debt reclassified (IFRS 5) <sup>(2)</sup>	(22)	-	-
<b>Net financial debt</b>	<b>41,007</b>	<b>42,988</b>	<b>42,771</b>

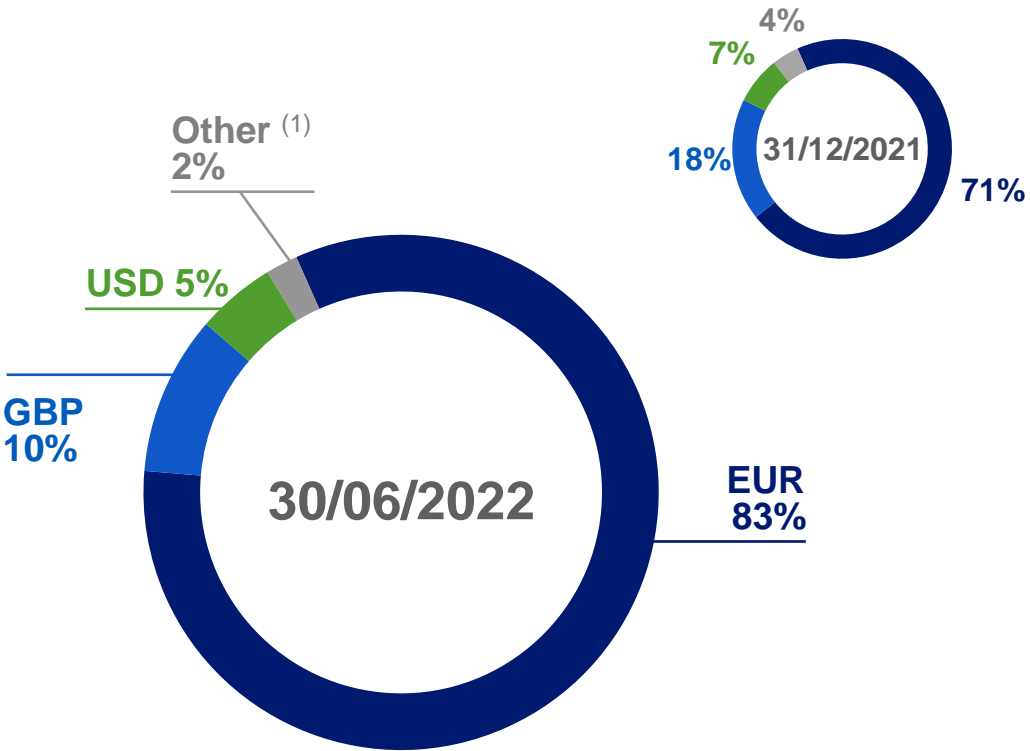
(1) After application of IFRS 16  
(2) After disposal of Edison's E&P

# GROSS FINANCIAL DEBT AFTER SWAPS

BREAKDOWN BY TYPE OF RATE



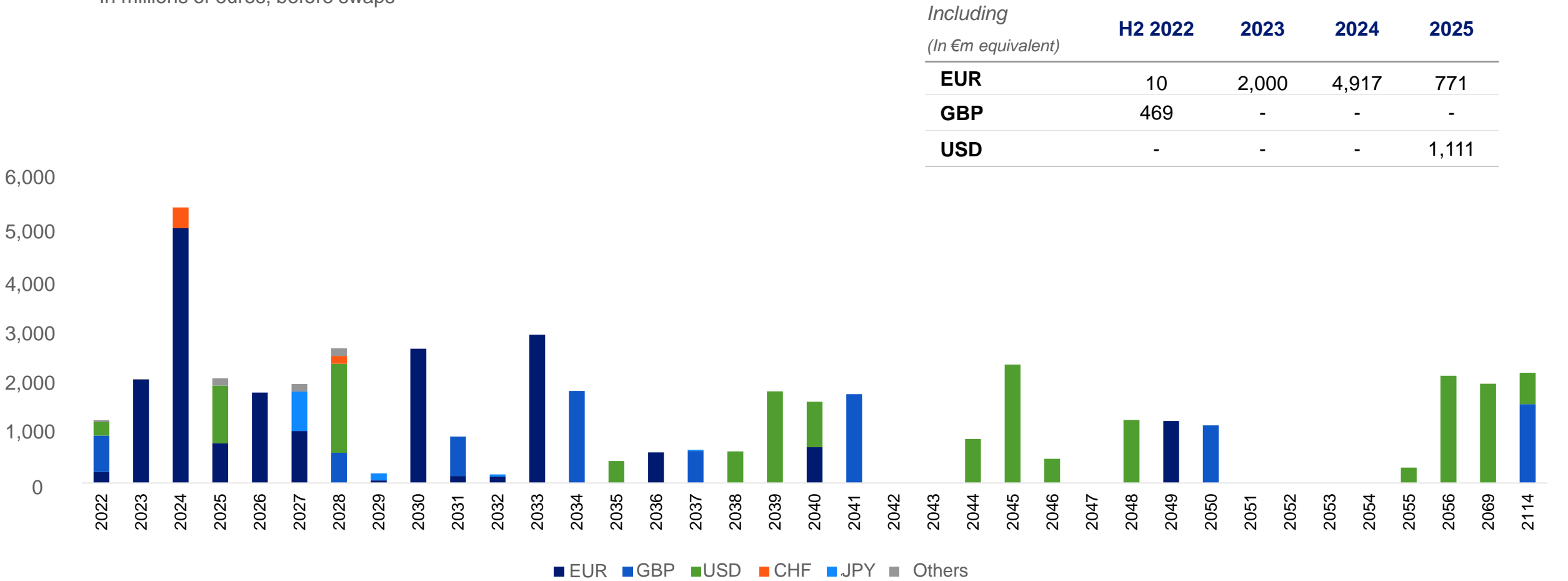
BREAKDOWN BY CURRENCY



(1) Mainly CHF, PLN, CAD and JPY

# BREAKDOWN OF BOND DEBTS REPAYMENTS BY CURRENCY

In millions of euros, before swaps



# MAIN OUTSTANDING BONDS AS OF 30 JUNE 2022 (1/2)

	Issue date <sup>(1)</sup>	Maturity	Nominal amount <i>(in millions of currency units)</i>	Currency	Coupon
	09/2012	03/2023	2,000	EUR	2.75%
	09/2009	09/2024	2,492	EUR	4.63%
	09/2020	09/2024	2,400	EUR	0.00%
Green Bond	10/2015	10/2025	1,250	USD	3.63%
	11/2010	11/2025	750	EUR	4.00%
Green Bond	10/2016	10/2026	1,750	EUR	1.00%
Green Bond	01/2017	01/2027	107,900	JPY	1.09%
	03/2012	03/2027	1,000	EUR	4.13%
	09/2018	09/2028	1,800	USD	4.50%
	04/2010	04/2030	1,500	EUR	4.63%
	10/2018	10/2030	1,000	EUR	2.00%
	07/2001	07/2031	650	GBP	5.88%
	02/2003	02/2033	850	EUR	5.63%
Green Bond	11/2021 <sup>(2)</sup>	11/2033	1,750	EUR	1.00%

(1) Date of funds reception

(2) Initial emission of €1,750m, supplemented by an additional €100m




# MAIN OUTSTANDING BONDS AS OF 30 JUNE 2022 (2/2)

Issue date <sup>(1)</sup>	Maturity	Nominal amount <i>(in millions of currency units)</i>	Currency	Coupon
06/2009	06/2034	1,500	GBP	6.13%
09/2016	10/2036	750	EUR	1.88%
01/2009	01/2039	1,750	USD	6.95%
01/2010	01/2040	850	USD	5.60%
11/2010	11/2040	750	EUR	4.50%
10/2011	10/2041	1,250	GBP	5.50%
01/2014	01/2044	1,000	USD	4.88%
10/2015	10/2045	1,500	USD	4.75%
10/2015	10/2045	1,150	USD	4.95%
09/2018	09/2048	1,300	USD	5.00%
12/2019	12/2049	1,250	EUR	2.00%
09/2010	09/2050	1,000	GBP	5.12%
10/2016	10/2056	2,164	USD	4.99%
11/2019	12/2069	2,000	USD	4.50%
02/2014	01/2114	700	USD	6.00%
01/2014	01/2114	1,350	GBP	6.00%

(1) Date of funds reception

# FOCUS ON HYBRIDS SECURITIES



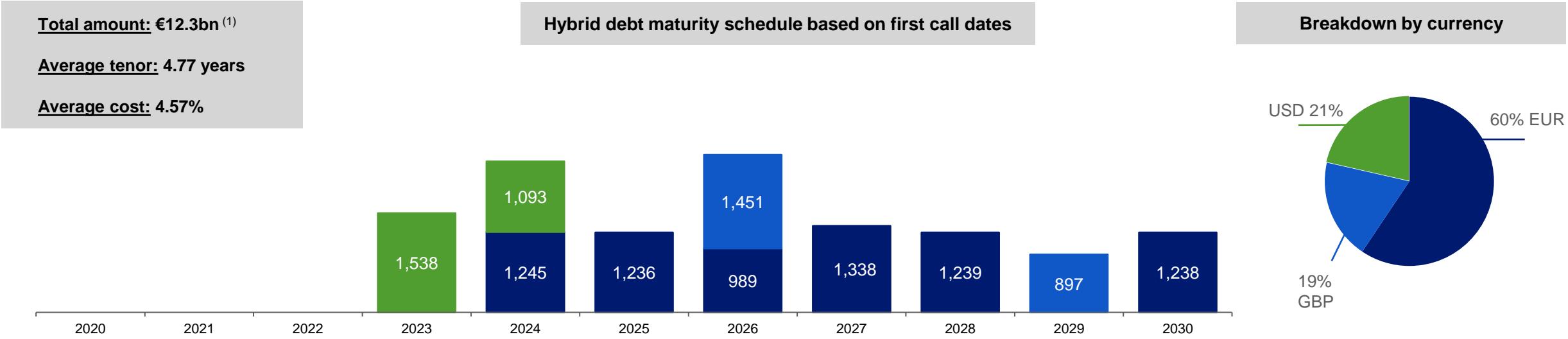
OVERVIEW OF KEY ELEMENTS

Hybrid issue

Hybrid issues contribute to strengthening the balance sheet through their qualification as equity under IFRS and 50/50 as debt and equity by rating agencies

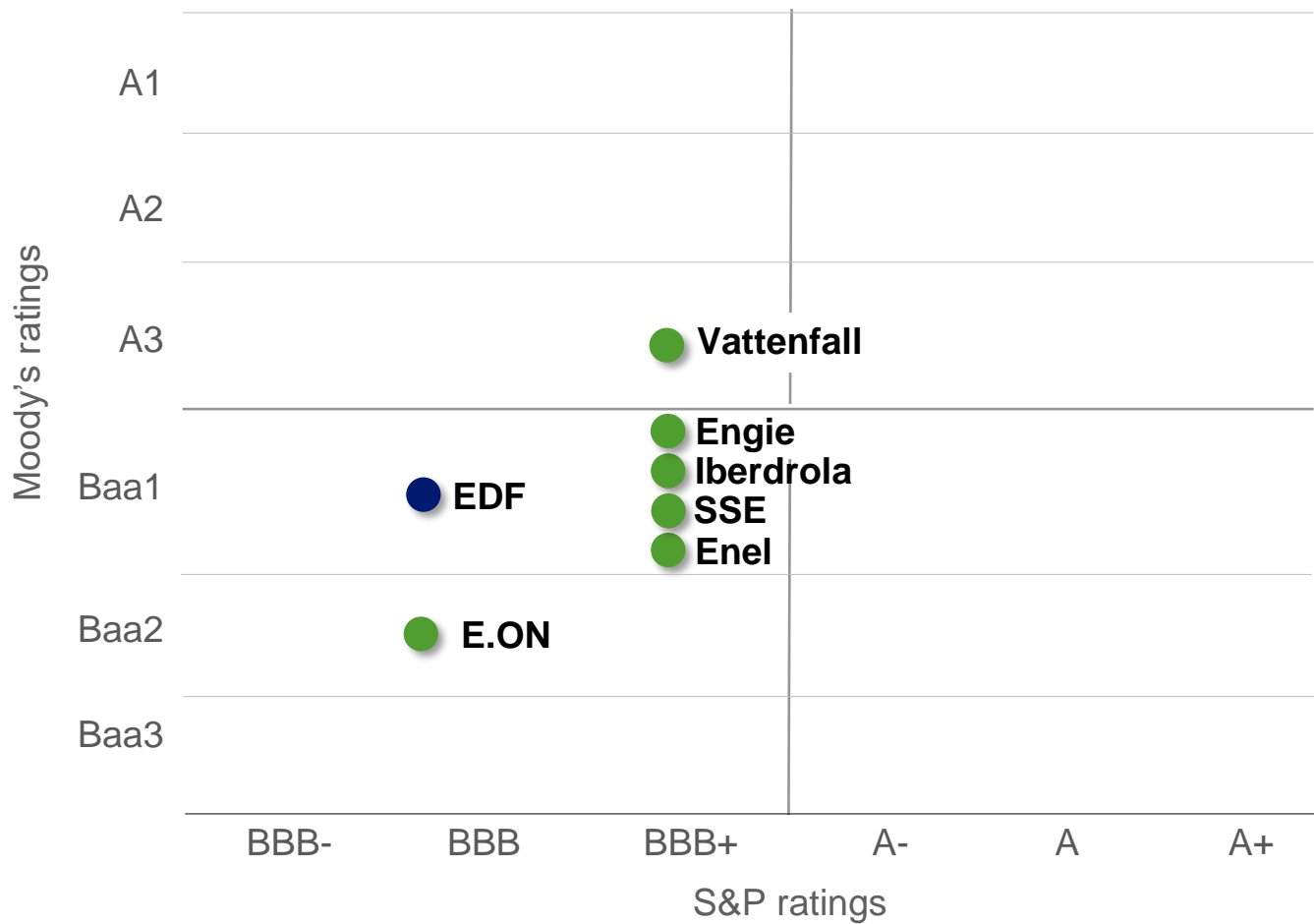
There was no new emission in H1 2022 due to very deteriorated market conditions for these instruments. The next repayment date is 29 January 2023 and relates to the 5.25% hybrid perpetual bond, issued on 29 January 2013, for a residual amount of \$2,098m

## Hybrid securities snapshot following new issues (in millions of euros) <sup>(1)</sup>



(1) Exchange rate as of transaction time

# COMPARATIVE CREDIT RATINGS



	S&P ratings	Moody's ratings	Fitch ratings
EDF	BBB negative <sup>(1)</sup>	Baa1 negative <sup>(2)</sup>	BBB+ negative <sup>(3)</sup>
Engie	BBB+ stable	Baa1 stable	A- stable
Vattenfall	BBB+ positive	A3 stable	n.d.
SSE	BBB+ stable	Baa1 stable	BBB stable
Iberdrola	BBB+ stable	Baa1 stable	BBB+ stable
Enel	BBB+ stable	Baa1 stable	BBB+ stable
E.ON	BBB stable	Baa2 stable	BBB+ stable
Uniper	BBB- negative	n.d.	n.d.
RWE	n.d	Baa2 stable	BBB+ stable

Sources: rating agencies as of 27/07/2022

(1) Update of the rating and creditwatch of EDF SA by S&P on 24 May 2022

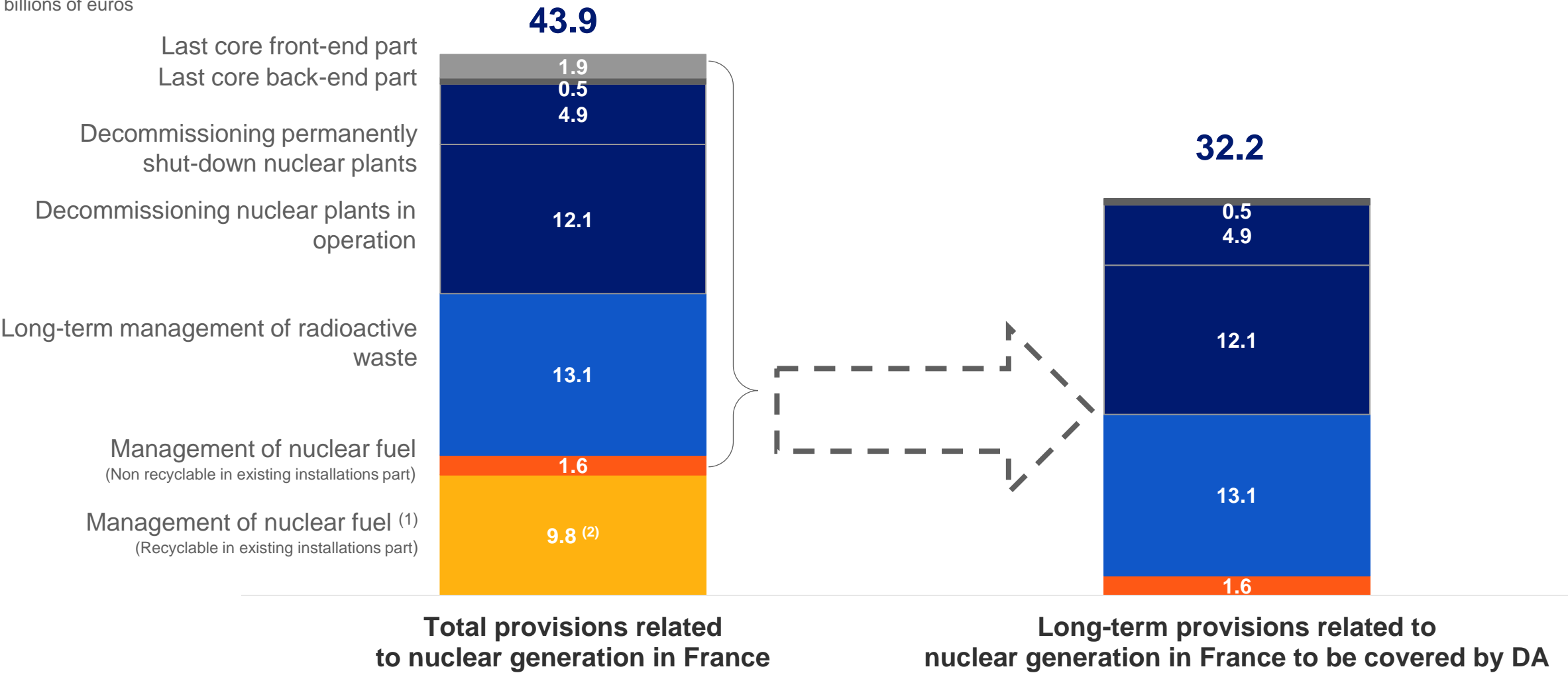
(2) Update of the rating and outlook of EDF SA by Moody's on 21 February 2022

(3) Update of the rating and outlook of EDF SA by Fitch on 2 March 2022

# PROVISIONS RELATED TO NUCLEAR GENERATION IN FRANCE

## PART TO BE COVERED BY DEDICATED ASSETS

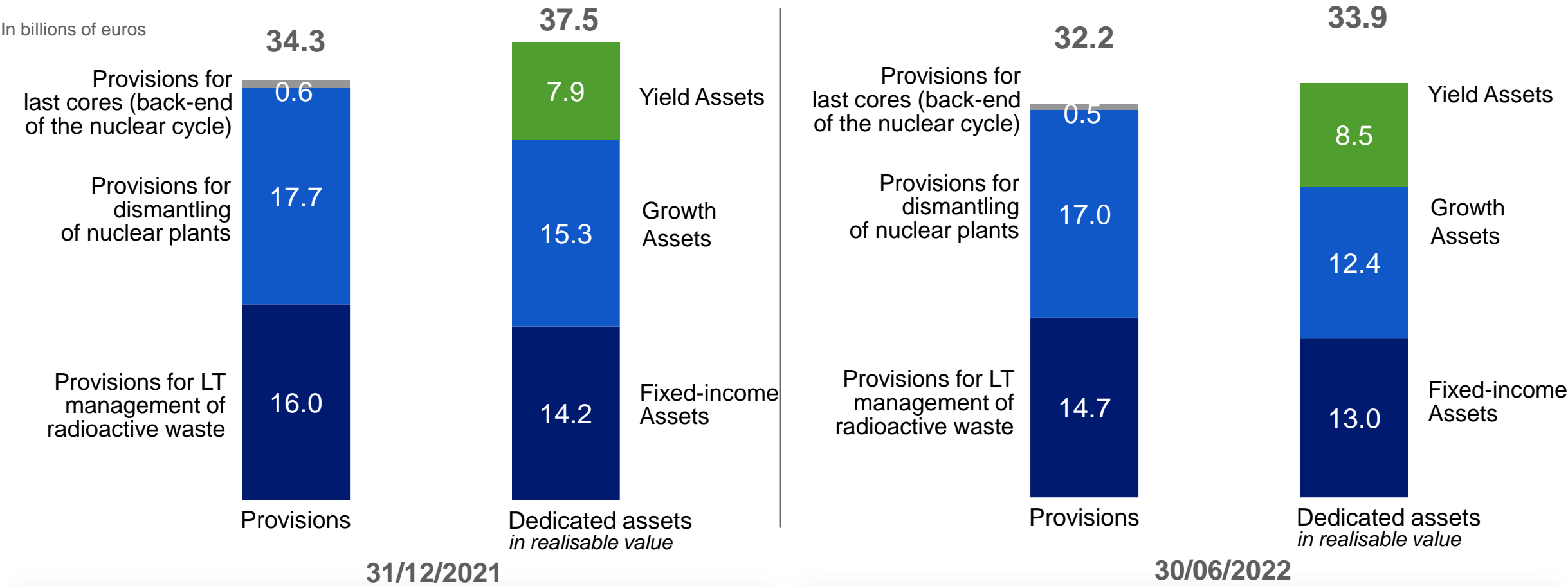
In billions of euros



(1) Related to the operating cycle  
(2) Of which €1.2bn Management of nuclear fuel non concerned by the law of 28 June 2006 on nuclear provisions and dedicated assets

EDF SA DEDICATED ASSETS

In billions of euros

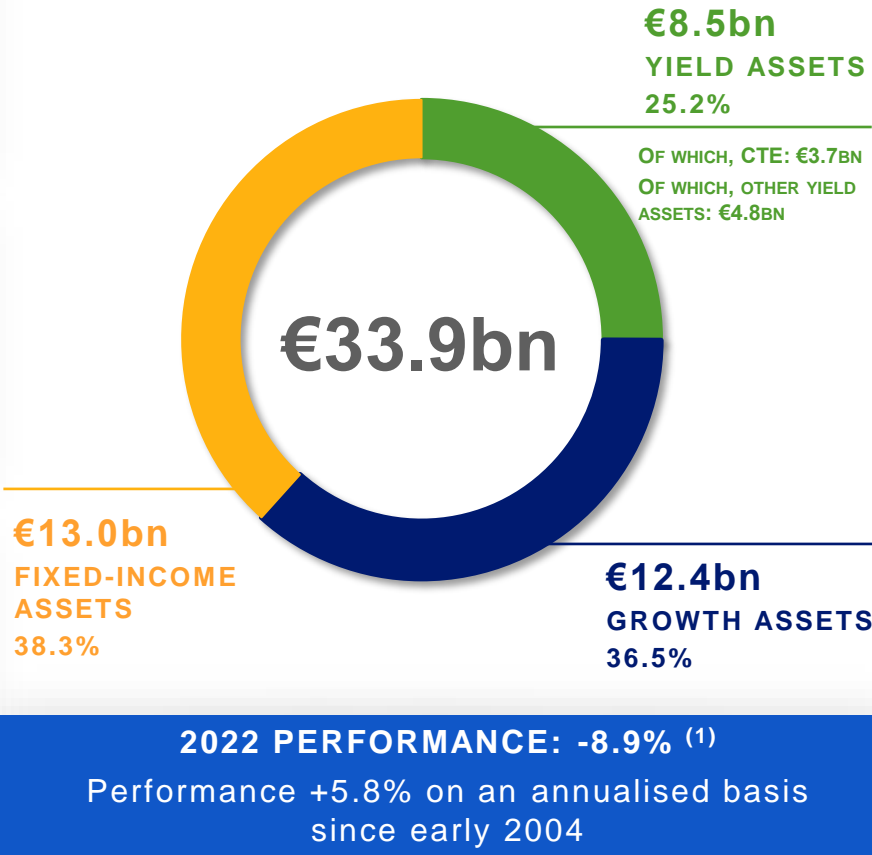


- At 31 December 2021, the regulatory coverage rate was 109.3%
- No allocation to Dedicated Assets to be made in 2022 in respect of 2021 owing to a coverage rate of over 100%, in accordance with the regulation applicable since 1 July 2020

- At 30 June 2022, the regulatory coverage rate is 105.3%

PERFORMANCE OF EDF SA DEDICATED ASSETS (1)

<div>YIELD ASSETS:</div> <div>+7.3%</div>	<p>The performance of yield assets, consisting of real estate and infrastructure assets, is explained by dividends received and the change in fair value of the holdings during the half year. This solid performance (+7.3%) was achieved through good sectoral and geographical diversification.</p>
<div>GROWTH ASSETS:</div> <div>-16.0%</div>	<p>Listed equity markets have reacted negatively to the significant rise in real rates since the beginning of the year, particularly in developed markets. Growth funds, on the other hand, are showing a good resiliency</p>
<div>FIXED-INCOME ASSETS:</div> <div>-9.9%</div>	<p>Fixed-income assets are affected by rising inflation (due to in particular increases in energy prices) which is pushing central banks to tighten their monetary policy. As a consequence, real rates are rising. Credit assets are also affected by the increase in spreads on both High Yield and Investment Grade. The Dedicated Assets portfolio remained under-sensitive during the first half of the year, which enabled it to partially resist this sharp rise in interest rates.</p>



(1) Pre-tax, non-annualised performance

A new strategic allocation was defined in 2018 to improve the adequacy of the profile of dedicated assets to the long-term nature of the disbursements to be covered (Growth assets: 40%, Fixed-income assets: 30%, Yield assets: 30%).

The targets of the new allocation will be met progressively, as investments are made, entailing a gradual rebalancing from fixed-income assets to yield assets



# EDF INVEST, THE INVESTMENT PLATFORM FOR NON-LISTED ASSETS

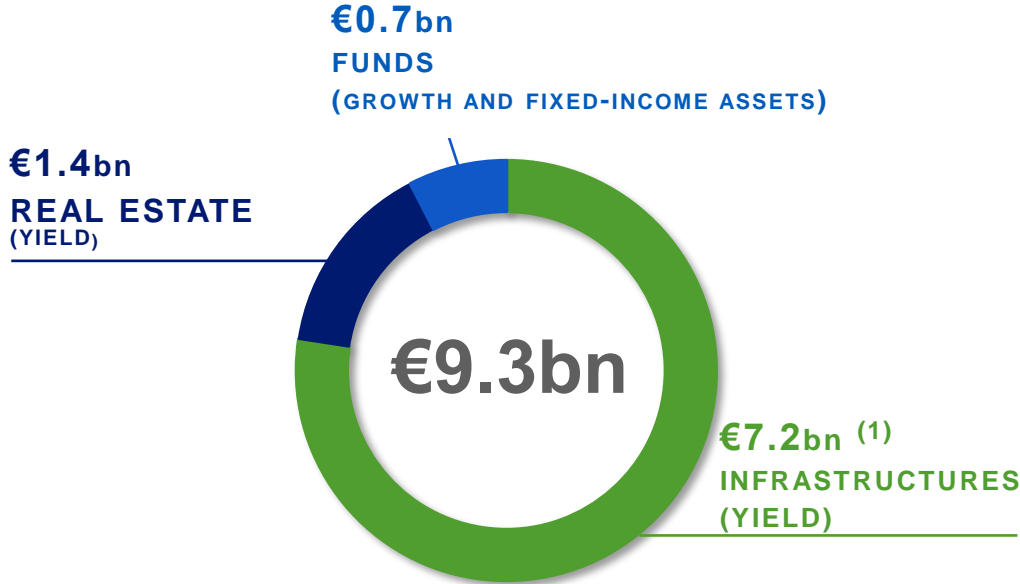
## MANAGEMENT OF DEDICATED ASSETS ...

- EDF Invest is **the unlisted investment arm of EDF's Dedicated Assets** ; this portfolio amounts to **€9.3bn** at **30 June 2022**
- The contribution of unlisted assets is the key to improve the Dedicated Assets return / risk profile and the perspective of long-term management is consistent with the liabilities to be covered
- Among Dedicated Assets, non listed assets include yield assets, growth assets and fixed-income assets, invested in Infrastructure, Real Estate and other Funds portfolios

## ... FOR A DIVERSIFIED PORTFOLIO

- EDF Invest **aims at raising the amount of the non-listed assets** portfolio up to the **reference target fixed in the Strategic allocation defined in June 2018**
- In the first half of 2022, EDF Invest mainly:
  - strengthened the share of **telecoms in its portfolio with an investment in fibre optics in Denmark**, in addition to the stake acquired in 2021 in Orange Concessions in France
  - finalised **the sale of its stake in Thyssengas** (gas network - Germany)

## PORTFOLIO BREAKDOWN AT 30 JUNE 2022



Strategic allocation target: growth assets (consisting of equity funds investing in listed or unlisted equities) : 40% / Fixed-income assets (consisting of listed bonds or listed bond funds, unlisted debt funds, receivables and cash) : 30% / Yield assets (consisting of infrastructure assets, including the shares of CTE, and real estate property) : 30%.

# 2022 HALF YEAR RESULTS

## OPERATIONAL DATA & MARKETS



# INSTALLED CAPACITY AS OF 30 JUNE 2022

<i>(in GW)</i>	Total net capacities of EDF Group, including shares in associates and joint ventures		Investments in associates and joint ventures	Consolidated capacities of EDF Group	
Nuclear <sup>(1)</sup>	68.7	56%	-0.5	69.1	59%
Hydro <sup>(2)</sup>	22.6	18%	1.0	21.5	18%
ENR	12.8	10%	3.0	9.8	8%
Gas	10.9	9%	0.3	10.6	9%
Fuel oil	3.7	3%	0.2	3.5	3%
Coal <sup>(3)</sup>	4.0	3%	1.8	2.2	2%
<b>Total</b>	<b>122.6</b>	<b>100%</b>	<b>5.8</b>	<b>116.7</b>	<b>100%</b>

NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

(1) Taking into consideration the shutdown of Hunterston in the UK

(2) Including sea energy: 0.24GW in 2022

(3) Taking into consideration the transfer of Shiheng facilities to China Energy Group

# ELECTRICITY OUTPUT

Output from fully consolidated entities

(in TWh)	H1 2021		H1 2022	
Nuclear	206.3	77 %	180.0	76 %
Hydro <sup>(1)</sup>	26.9	10 %	20.6	9 %
ENR	10.8	4 %	12.9	5 %
Gas	20.6	7 %	19.3	8 %
Fuel oil	2.5	1 %	2.7	1 %
Coal	1.7	1 %	1.1	1 %
<b>Group</b>	<b>268.9</b>	<b>100 %</b>	<b>236.6</b>	<b>100 %</b>

NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

(1) Hydro output includes tidal energy for 273GWh in H1 2022 and 278GWh in H1 2021. Hydro output after deduction of pumped volumes is 17.1TWh in H1 2022 and 24.2TWh in H1 2021

# HEAT OUTPUT

Output from fully consolidated entities

(in TWh)	H1 2021		H1 2022	
ENR <sup>(1)</sup>	3.2	21 %	2.5	19 %
Gas	10.9	72 %	9.7	75 %
Fuel oil	0.1	1 %	0.1	1 %
Coal	0.5	3 %	0.5	4 %
Others <sup>(2)</sup>	0.4	3 %	0.1	1 %
<b>Group</b>	<b>15.0</b>	<b>100 %</b>	<b>12.9</b>	<b>100 %</b>

NB. The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

(1) Category corresponding to installations operating with woody biomass, landfill gas, sewage incineration, sewage treatment plant gas and biogases

(2) Category combining part of the heat generation by incineration non classified as RE, gas mine and the recovery of heat and electricity from other industrial processes

# RENEWABLE OUTPUT

Output from fully consolidated entities

<i>(in TWh)</i>	H1 2021		H1 2022	
Hydro <sup>(1)</sup>	26.9	71 %	20.6	62 %
Wind	9.4	25 %	11.2	33 %
Solar	1.0	3 %	1.3	4 %
Biomass	0.5	1 %	0.4	1 %
<b>Total electricity Group</b>	<b>37.8</b>	<b>100 %</b>	<b>33.4</b>	<b>100 %</b>
<b>Total heat Group</b>	<b>3.2</b>	<b>100 %</b>	<b>2.5</b>	<b>100 %</b>

NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

(1) Hydro output includes tidal energy for 273GWh in H1 2022 and 278GWh in H1 2021. Hydro output after deduction of pumped volumes is 17.1TWh in H1 2022 and 24.2TWh in H1 2021



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

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

Emissions from the heat and power generation by segment	In kt				In g/kWh	
	H1 2021		H1 2022		H1 2021	H1 2022
France – Generation and supply activities	2,564	18 %	2,737	22 %	14	15
France – Island regulated activities <sup>(2)</sup>	1,488	11 %	1,683	14 %	481	497
Dalkia	3,312	24 %	2,301	19 %	211	180
United Kingdom	1,323	9 %	121	1 %	57	5
Italy	2,722	19 %	3,847	31 %	263	304
Other international	2,655	19 %	1,693	14 %	234	214
<b>Group <sup>(3)</sup></b>	<b>14,078</b>	<b>100 %</b>	<b>12,406</b>	<b>100 %</b>	<b>50</b>	<b>50</b>

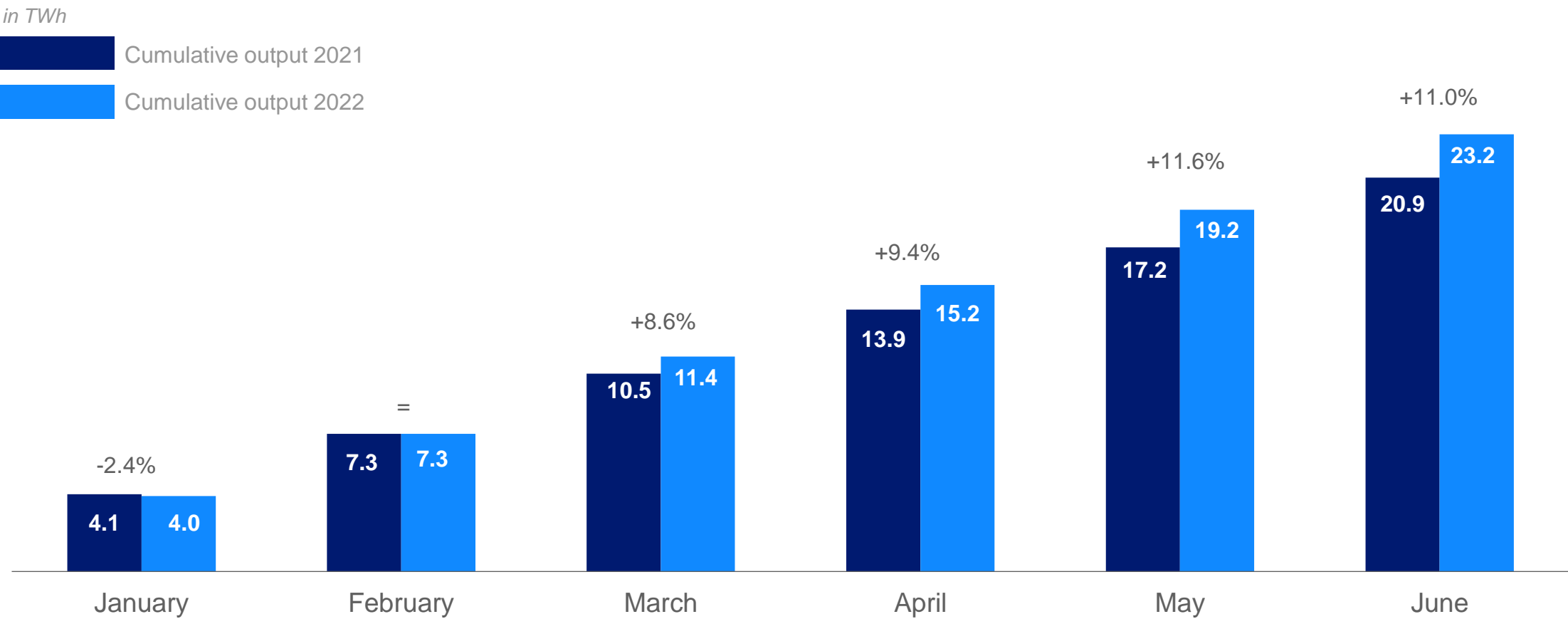
NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding

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

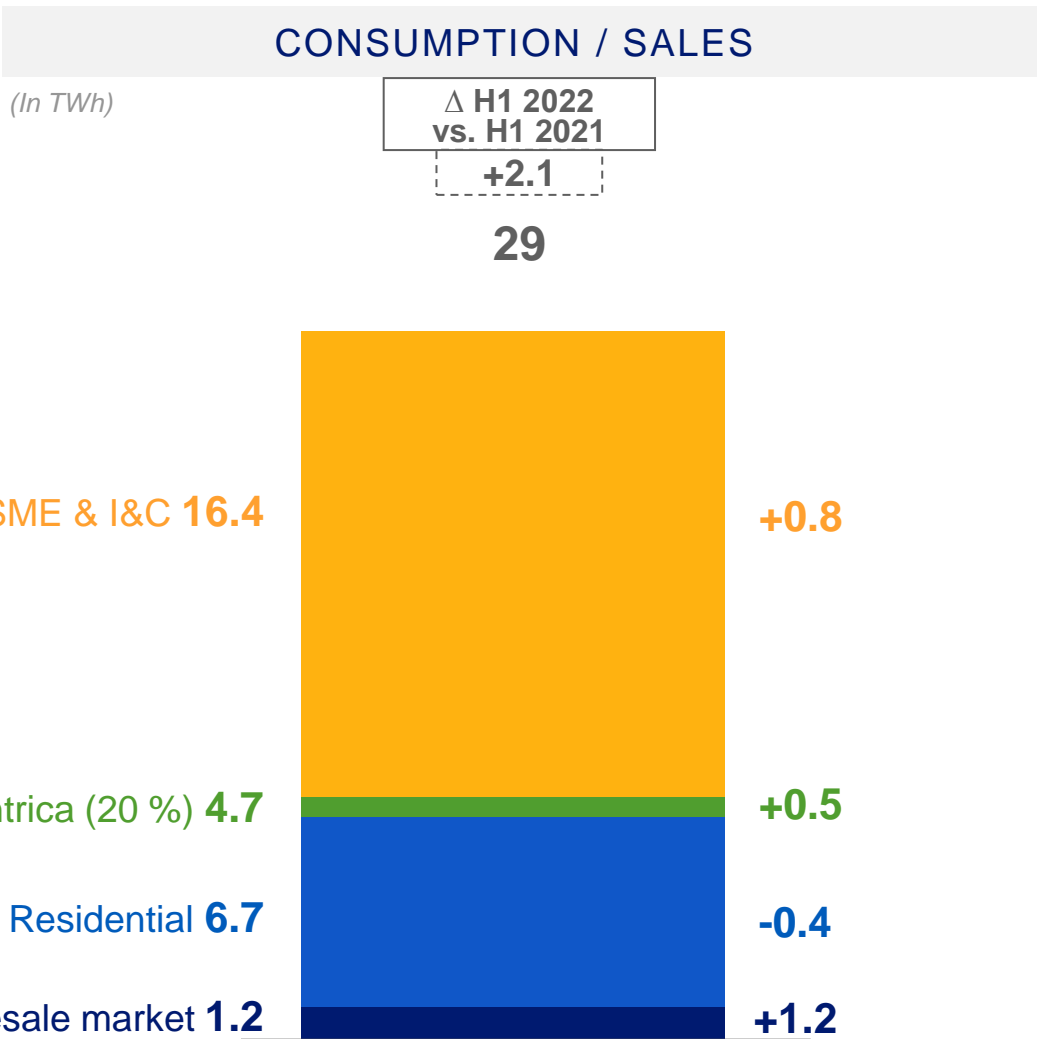
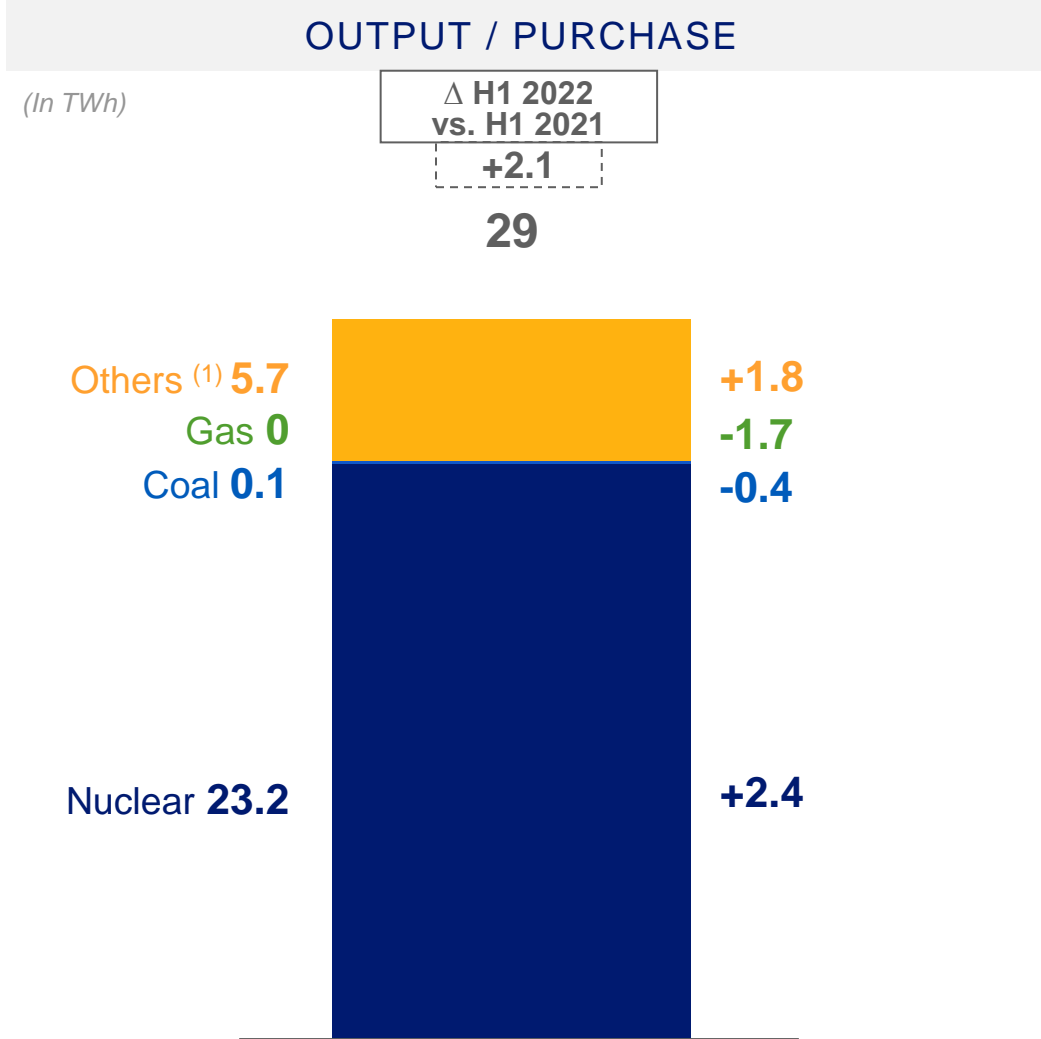
(2) Power generation in ZNI: « Zones non interconnectées » corresponding to overseas departments and Corsica - (mainly island territories) and Electricité de Strasbourg (ES)

(3) Framatome contributes to 24ktCO<sub>2</sub> in H1 2022 and 13ktCO<sub>2</sub> in H1 2021. The direct CO<sub>2</sub> emissions from “Others activities” segments are not significant compared to Group total emissions

# UNITED KINGDOM: NUCLEAR OUTPUT



# UNITED KINGDOM: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE



# UNITED KINGDOM CAPACITY AUCTION RESULTS FOR EDF ENERGY

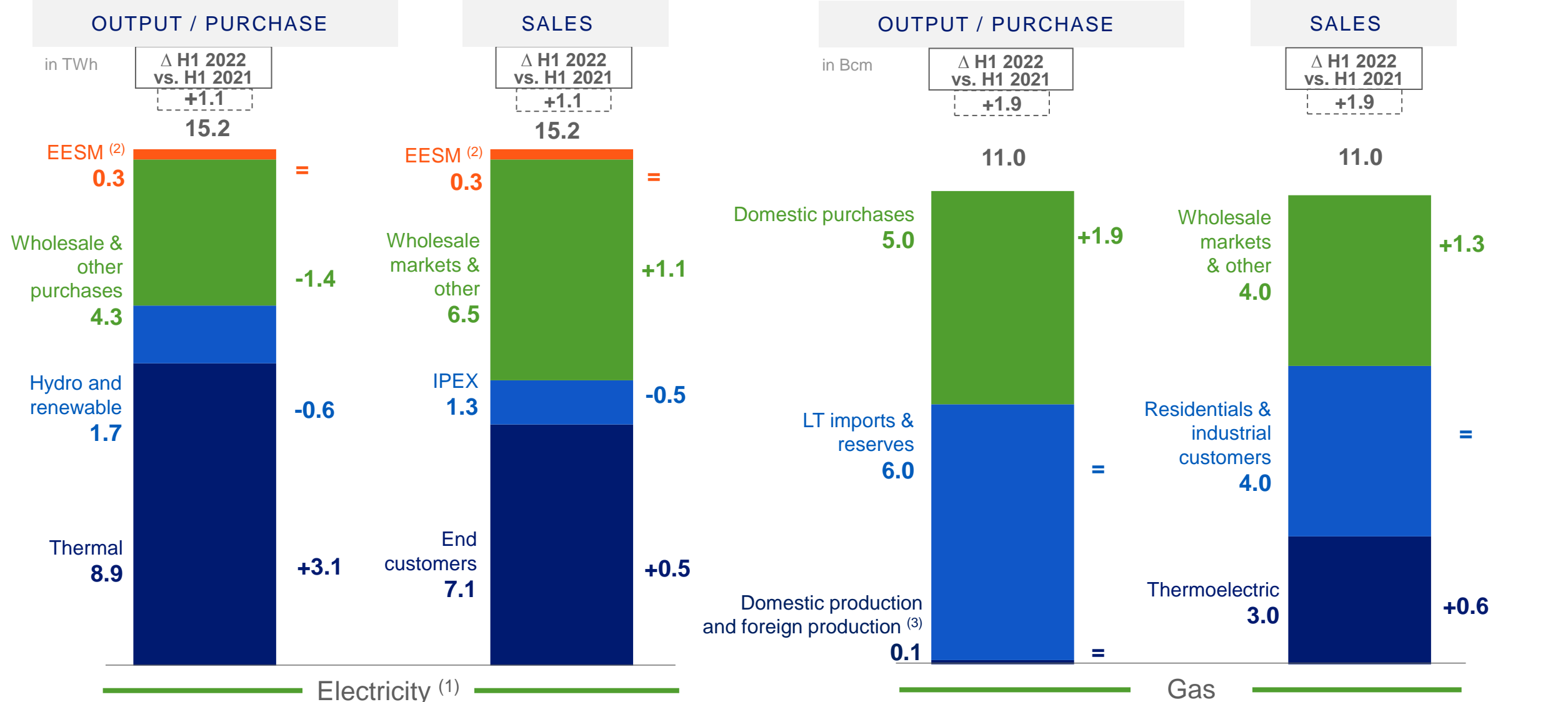
All capacity agreements for 1 year unless otherwise stated	Clearing price £/kW/an	Nuclear	Coal	Demand-side Response (DSR)
2016 Q4 (2020/2021)	22.5 (2015/2016 prices)	All 16 units (7.9GW)	3 of 8 units (1.8GW)	N/A
2018 Q4 (2021/2022)	8.4 (2016/2017 prices)	All 16 units (7.9GW)	0 unit	5 units (32.1MW)
2020 Q3 (2022/2023)	6.4 (no indexation)	12 units (5.9GW)	0 unit	0 unit
2021 Q1 (2023/2024)	16.0 (2018/2019 prices)	8 units (4.0GW)	0 unit	4 units (21.5MW)
2021 Q1 (2024/2025)	18.0 (2019/2020 prices)	4 units (2.0GW)	0 unit	0 unit
2022 Q1 (2025/2026)	30.59 (2022 prices)	2 units (1.0GW)	0 unit	0 unit

The slide includes capacities for which agreements were awarded (de-rated capacity).  
 For DSR this equates to bidding capacities in the context of auctions

# UK PLANT FLEET: TIMELINE OF CLOSURES AND SHUTDOWNS

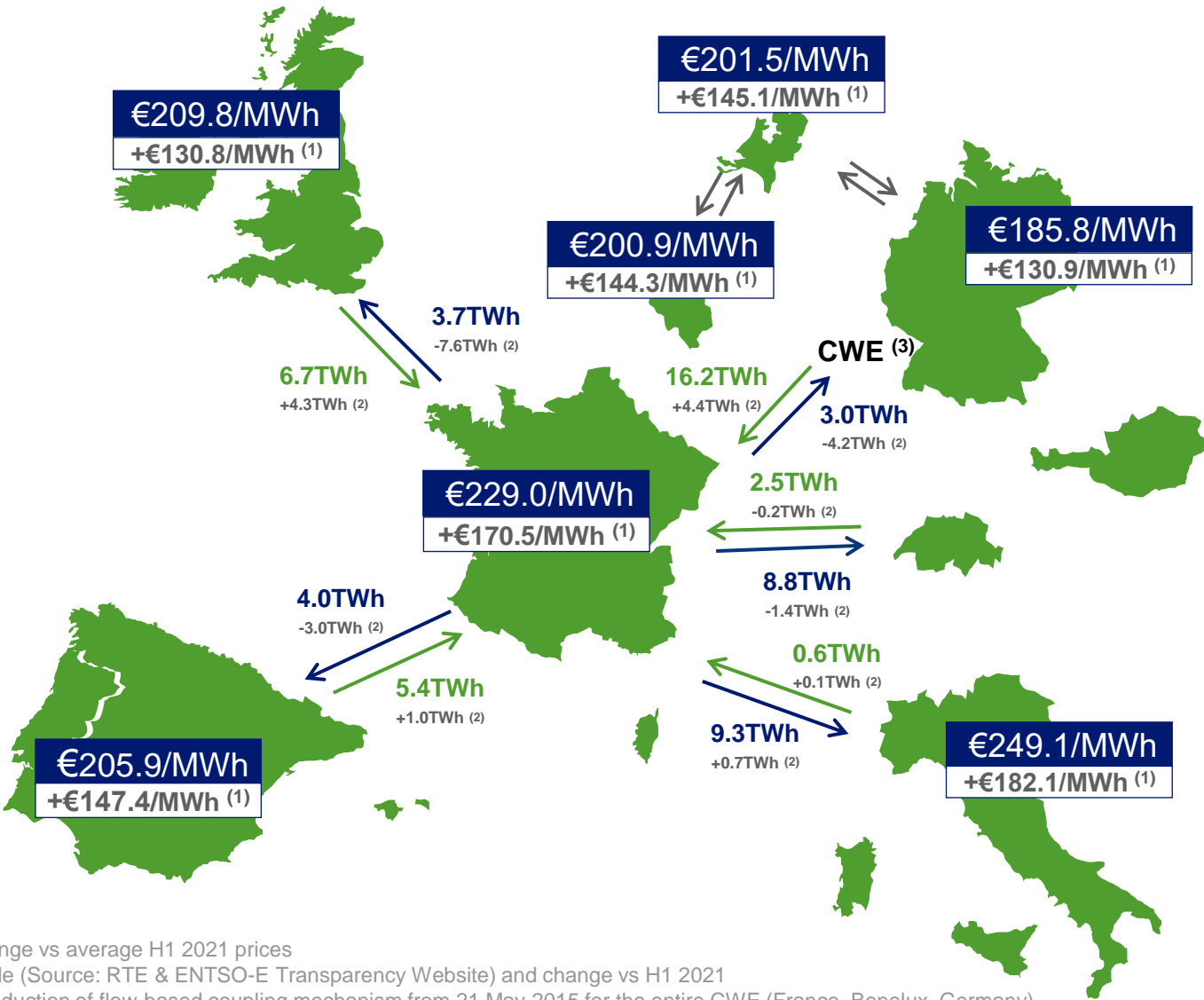
List of plants	Technology	Planned closure date	Shutdowns
Dungeness	Nuclear	Closed since 7 June 2021	Dungeness B was moved to defueling phase as of 7/06/2021.
Hartlepool	Nuclear	2024	
Heysham 1	Nuclear	2024	
Heysham 2	Nuclear	2028	
Hinkley Point B	Nuclear	1 August 2022	Both reactors will move to defueling phase as of 06/07/2022 (R4) and 01/08/2022 (R3), marking the end of 46 years of generation. At that point, the plant will have ran 20 years longer than original design life and 5 years longer than expected when acquired by EDF in 2009.
Sizewell B	Nuclear	2035 <sup>(1)</sup>	
Torness	Nuclear	2028	
Hunterston B	Nuclear	Closed since 7 January 2022	Both reactors moved to defueling phase as of 26/11/21 (R3) and 07/01/2022 (R4), marking the end of 46 years of generation. The plant ran for more than 20 years longer than original design life and more than 5 years longer than expected when it was acquired by EDF in 2009.
West Burton A	Coal	31 March 2023	West Burton A will remain open for a further 6 months, until 31 March 2023. The remaining two 500MW units were due to close at the end of September 2022 but will now provide an emergency service to the National Grid ESO in support of the government’s request to reduce reliance on gas and boost energy security

# EDISON: UPSTREAM/DOWNSTREAM ELECTRICITY AND GAS BALANCES





# AVERAGE SPOT PRICES IN H1 2022



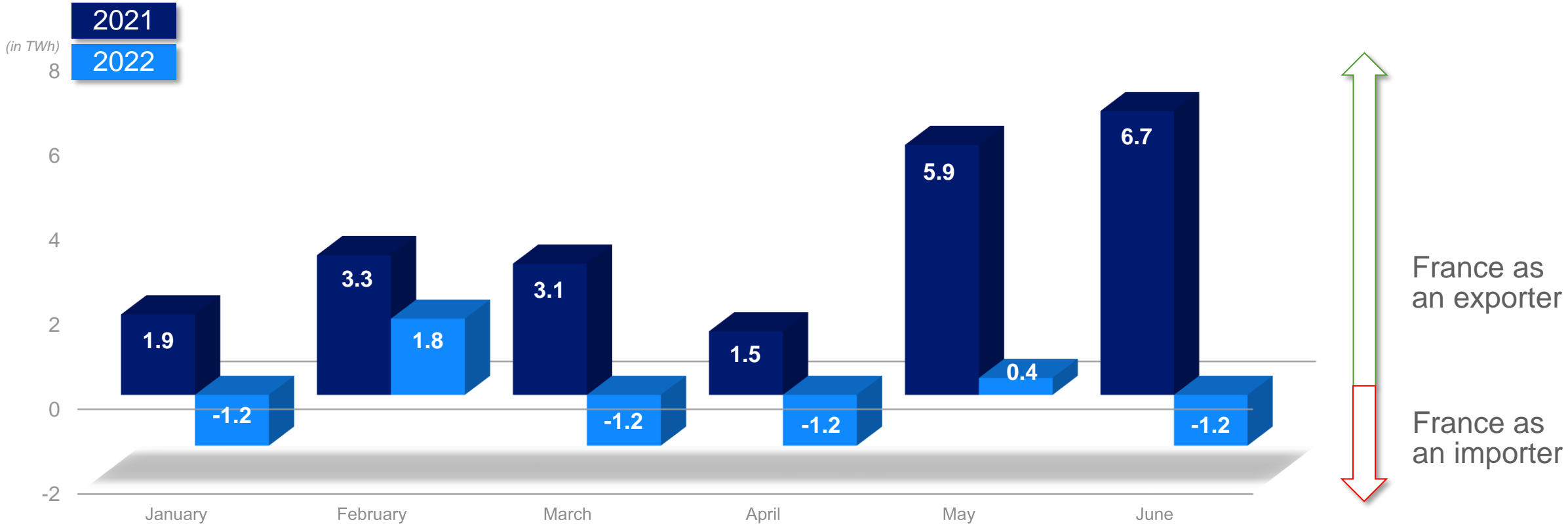
- In the first half of 2022, spot electricity prices averaged €229.0/MWh on a base load basis (+€170.5/MWh vs. H1 2021). This increase can be explained by the sharp rise in commodity prices since mid-2021, and by the start of the Ukrainian war in February 2022, whereas consumption in H1 was observed to be decreasing (-5TWh), in line with the milder temperatures in H1 2022 (1.3°C).
- Nuclear output was down 27.6TWh between the two periods, impacted by the analysis of indications of stress corrosion. Thermal output was up 4.2TWh, hydropower output fell by 8.4TWh, while solar and photovoltaic generation remained stable between the two periods.

Average observed spot market price for H1 2022:

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

(1) Change vs average H1 2021 prices  
(2) Trade (Source: RTE & ENTSO-E Transparency Website) and change vs H1 2021  
(3) Introduction of flow-based coupling mechanism from 21 May 2015 for the entire CWE (France, Benelux, Germany)

# CROSS-BORDER ELECTRICITY TRADE BALANCE



Despite a decline in domestic demand to 239.8TWh, France was a net importer of 2.6TWh whereas it is generally a net exporter (to the extent of 22.4TWh in the first half of 2021). In the first half of 2022, France was a net importer from the CWE zone, the United Kingdom and Spain (13.2TWh 3.1TWh and 1.4TWh respectively) but remained a net exporter to Italy and Switzerland (8.7TWh and 6.3TWh respectively).

Source : RTE until August 2020 et from September 2020 : ENTSO-E data  
(1) CWE flow-based coupling zone composed of Germany, Belgium, France, Luxembourg and Netherlands, set up in May 2015

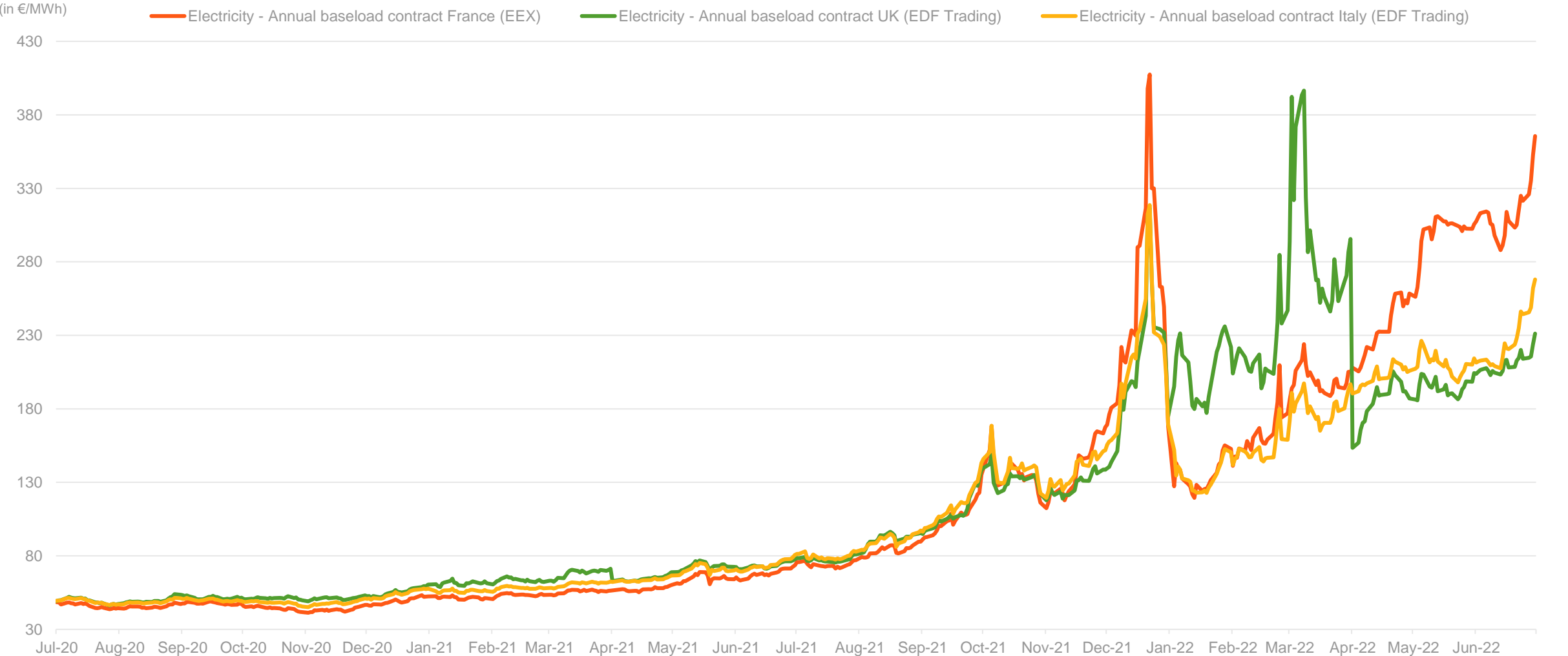
FRENCH POWER TRADE BALANCES AT ITS BORDERS

(in TWh <sup>(1)</sup>)

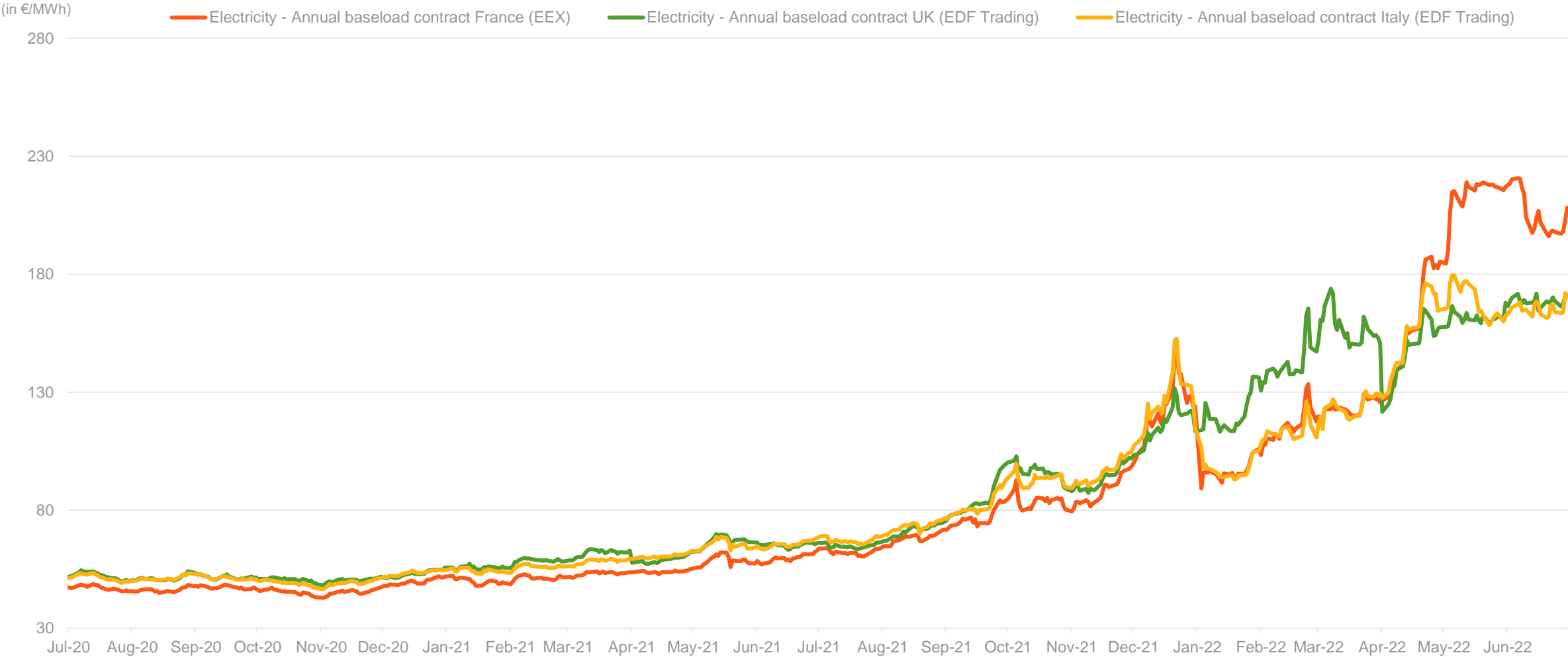
(in TWh <sup>(1)</sup> )		H1 2021							H1 2022						
		January	February	March	April	May	June	Total	January	February	March	April	May	June	Total
United-Kingdom	exports	1.7	1.9	2.0	1.7	2.0	2.0	11.3	0.9	0.9	0.8	0.5	0.3	0.3	3.7
	imports	0.3	0.5	0.5	0.6	0.3	0.3	2.5	0.9	0.6	0.8	1.1	1.5	1.8	6.7
	balance	1.4	1.4	1.5	1.1	1.7	1.7	8.8	0.1	0.2	0.0	-0.6	-1.2	-1.5	-3.1
Spain	exports	1.3	0.2	1.0	1.1	1.6	1.7	7.0	0.6	1.3	0.7	0.4	0.6	0.5	4.0
	Imports	0.8	1.4	0.8	0.7	0.4	0.3	4.4	1.1	0.3	1.0	1.2	1.0	0.7	5.4
	Balance	0.6	-1.2	0.2	0.4	1.1	1.4	2.6	-0.5	1.0	-0.3	-0.9	-0.4	-0.3	-1.4
Italy	exports	1.1	1.6	1.4	1.0	1.7	1.6	8.5	1.2	1.8	1.2	1.5	2.1	1.5	9.3
	imports	0.2	0.0	0.0	0.1	0.0	0.0	0.4	0.2	0.0	0.1	0.1	0.0	0.1	0.6
	balance	1.0	1.5	1.4	0.9	1.7	1.6	8.1	1.0	1.7	1.1	1.4	2.1	1.4	8.7
Switzerland	exports	1.8	1.7	1.9	1.6	1.6	1.6	10.2	1.8	1.8	1.6	1.2	1.1	1.3	8.8
	imports	0.6	0.2	0.3	0.6	0.5	0.4	2.6	0.4	0.1	0.4	0.6	0.5	0.5	2.5
	balance	1.3	1.5	1.5	1.0	1.1	1.1	7.6	1.4	1.7	1.2	0.6	0.7	0.8	6.3
CWE <sup>(2)</sup>	exports	0.8	1.4	1.0	0.7	1.6	1.8	7.2	0.3	0.2	0.3	0.6	1.0	0.5	3.0
	imports	3.0	1.4	2.4	2.7	1.3	1.0	11.8	3.4	3.2	3.5	2.3	1.7	2.1	16.2
	balance	-2.2	0.0	-1.5	-2.0	0.3	0.8	-4.7	-3.1	-2.9	-3.2	-1.7	-0.7	-1.6	-13.2
TOTAL	exports	6.7	6.9	7.3	6.1	8.5	8.7	44.2	4.8	6.1	4.6	4.2	5.1	4.1	28.8
	imports	4.8	3.6	4.1	4.7	2.6	2.0	21.7	6.0	4.3	5.9	5.4	4.6	5.3	31.4
	balance	1.9	3.3	3.1	1.5	5.9	6.7	22.4	-1.2	1.8	-1.2	-1.2	0.4	-1.2	-2.6

Source: RTE  
(1) Rounded to the nearest tenth  
(2) CWE flow-based coupling zone composed of Germany, Belgium, France, Luxembourg and Netherlands, set up in May 2015

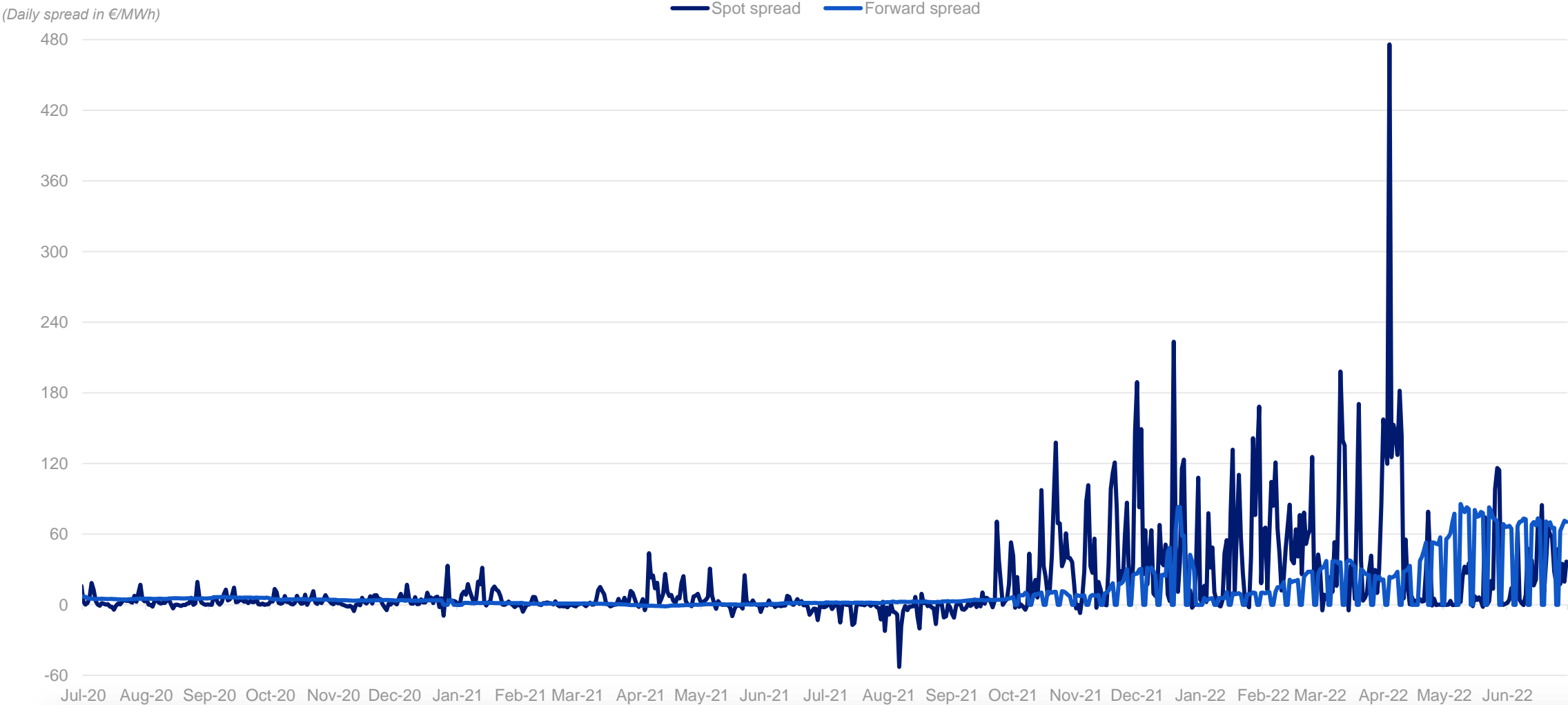
# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK AND ITALY (Y+1) FROM 01/07/2020 TO 30/06/2022



# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK AND ITALY (Y+2) FROM 01/07/2020 TO 30/06/2022



# FRANCE/GERMANY SPREAD FROM 01/07/2020 TO 30/06/2022

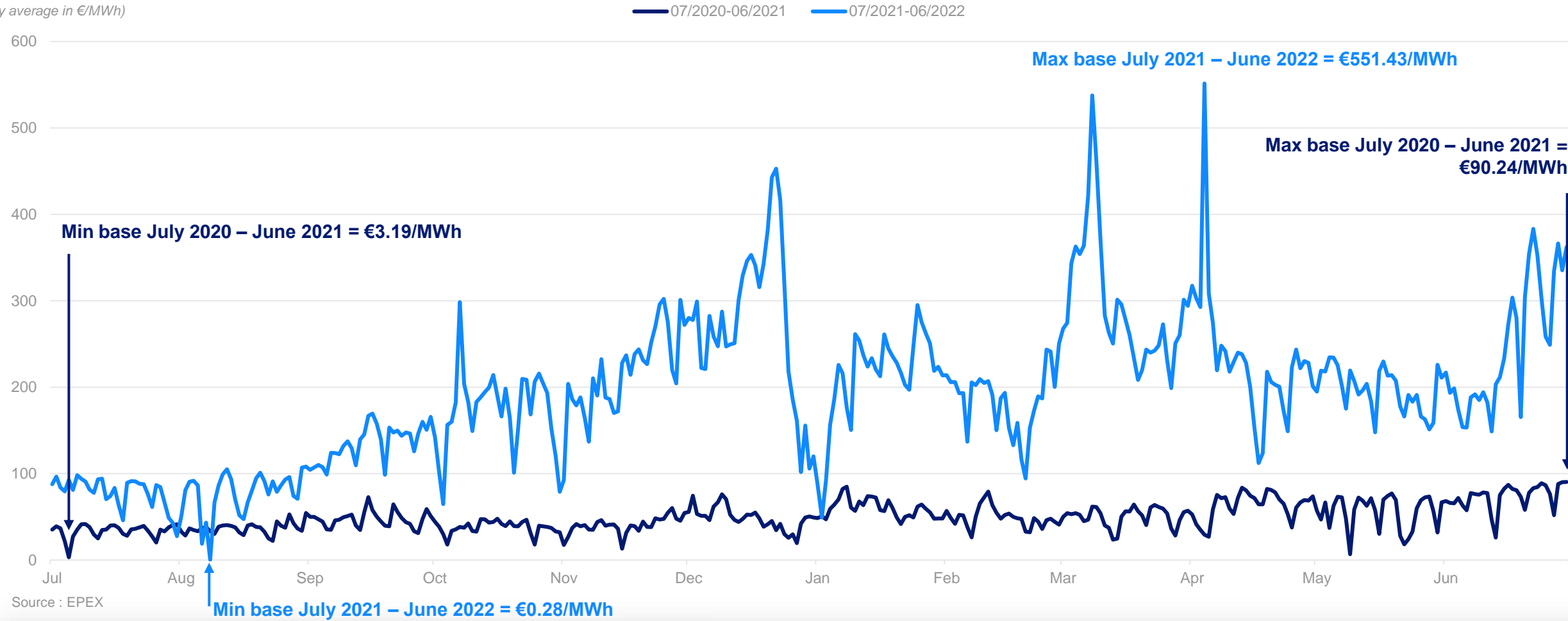


Note: Over the period, the France/Germany spread reached its minimum on 6 August 2021 at €-52.80/MWh, and its maximum on 4 April 2022 at €476.11/MWh



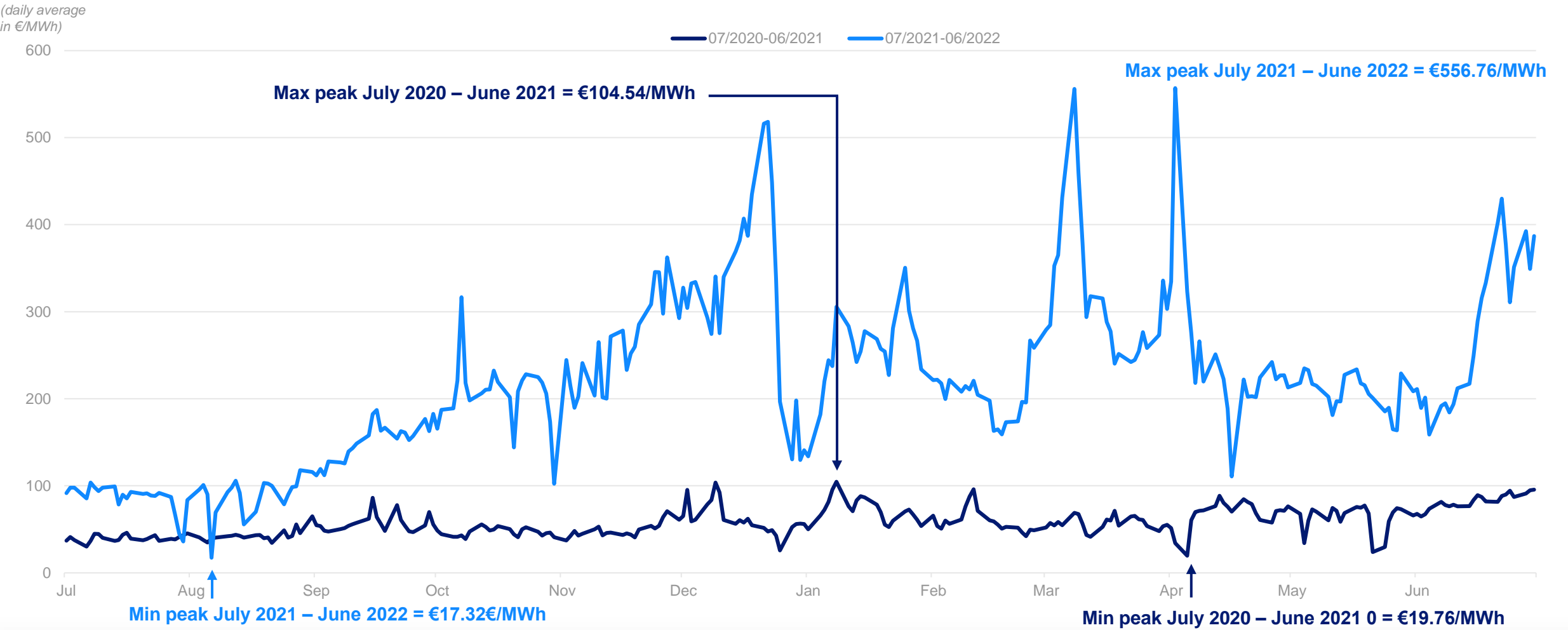
# FRANCE: BASELOAD ELECTRICITY SPOT PRICES

(daily average in €/MWh)



In H1 2022, spot electricity prices averaged €229.0/MWh on a base load basis (+€170.5/MWh vs. 2021). This increase can be explained by the sharp rise in commodity prices since mid 2021, and by the trigger of the Ukrainian war in February 2022, whereas consumption was down in H1 (-5TWh) in line with milder temperatures in H1 2022 (+1.3°C). Nuclear output was down 27.6TWh in 2022 vs. 2021, due to lower availability of the nuclear fleet mainly due to the impact of the discovery of indications of stress corrosion. Thermal generation increased by 4.2TWh, and hydroelectric output sharply decreased by 8.4TWh and solar and photovoltaic output was stable between the two periods.

# FRANCE: PEAKLOAD ELECTRICITY SPOT PRICES



In H1 2022, spot electricity prices averaged €252.7/MWh on a peak load basis (+€185.6/MWh vs. H1 2021). As with the base load prices, this increase is due to the sharp rise in commodity prices and the tension on the gas market fueled by the fear of the interruption of gas flows between Russia and Europe at a time when the European stock filling targets were becoming more restrictive in anticipation of the winter.

# COAL PRICES (Y+1) FROM 01/07/2020 TO 30/06/2022



The price of coal for delivery in Europe in N+1 averaged \$187.4/t in H1 2022 (+153.9% or +113.6/t vs. H1 2021), in constant change over the half year. This significant increase and the volatility of coal prices since the start of the year are explained by several factors:

- The durability of the energy crisis since October 2021, especially in the gas market, leading to greater use of coal-fired facilities and lower stock levels in Europe
- The embargo on Russian coal from 15 August 2022, decided in early April by the European Union;
- The reduction of gas supplies from Russia, which resulted in several European countries taking steps to restart electricity generation by coal-fired plants.

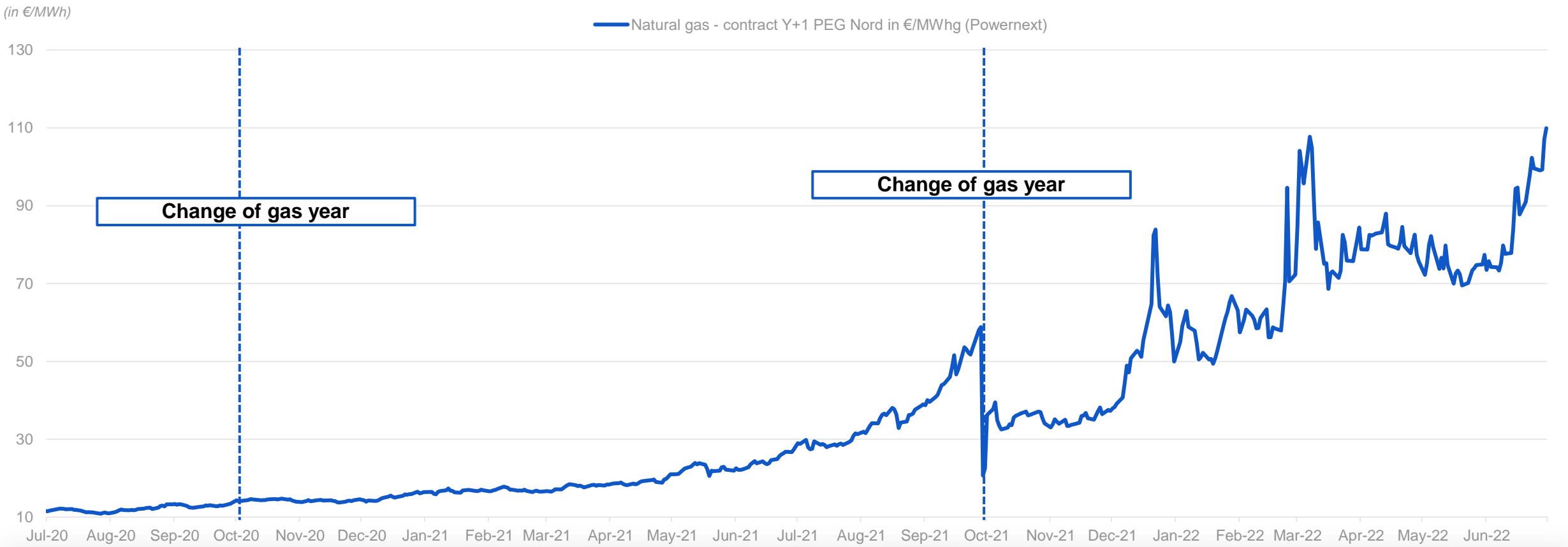
# BRENT PRICES <sup>(1)</sup> FROM 01/07/2020 TO 30/06/2022



Oil prices stood at an average \$105.0/bbl for the first half of 2022 (+61.0% or +\$39.8/bbl year on year). Amid market tensions, prices were fundamentally supported by a shrinking supply and geopolitical tensions.

When the war in Ukraine began, the United States announced an embargo on Russian oil on 8 March, but price increases were limited by falling Chinese demand because of lockdowns following the resurgence of Covid, and the United States’ decision to put 180 million barrels onto the market from March to September. At the end of the half-year, persistent supply-demand tensions worldwide and the announcement in May of an EU embargo on Russian oil pushed prices back upwards.

# GAS PRICES<sup>(1)</sup> (Y+1) FROM 01/07/2020 TO 30/06/2022



The price of the annual gas contract for delivery in N+1 on PEGs averaged €74.9/MWh in S1 2022 (+282.0% or +€55.3/MWh vs. S1 2021). The energy crisis that had begun in October 2021 became more firmly established in 2022 as the Ukrainian war stoked fears of reduced gas supplies from Russia. Meanwhile, Russia demanded payment in roubles for Russian gas deliveries. Tensions abated when deliveries continued, and there was a large influx of LNG into Europe. However, there was a further upturn in prices late in the half-year, due to:

- Extension of the unavailability of the Freeport LNG terminal in Texas to three months as a result of a fire in early June;
- A 40%, then 60% reduction in Gazprom's export capacity via Nord Stream 1, intensifying concerns over the restoration of European stocks. Gas storage levels at 30 June were at 58.2% of capacity, one point below the ten-year average.

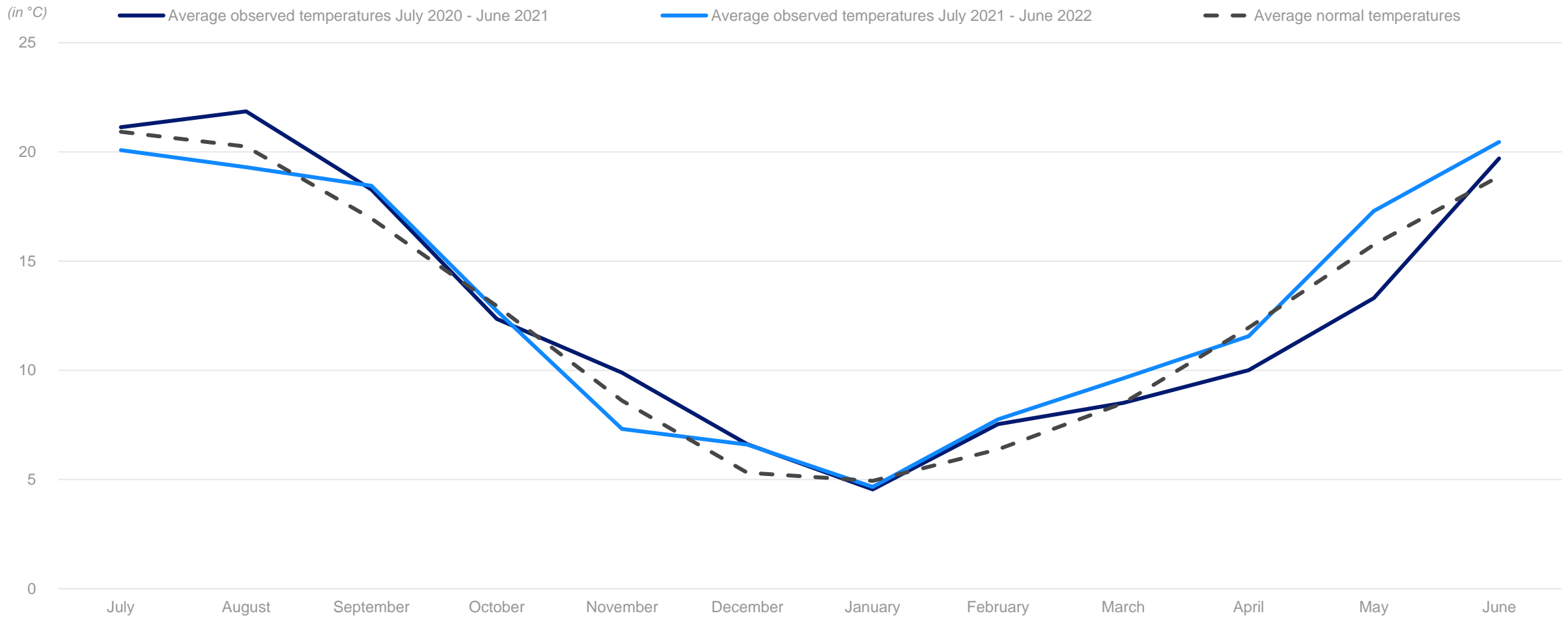
# CO<sub>2</sub> MARKET FROM 01/07/2020 TO 30/06/2022



The price of emission certificates for delivery in December N+1 averaged €85.4/t in H1 2022, a sharp rise over H1 2021 (92.7 % or +€41.1/t vs. H1 2021). Following the announce by the European Commission for the "Fit for 55" package, in late June the European Parliament raised the target CO<sub>2</sub> emission reduction and approved the gradual phasing out between 2027 and 2032 of free emissions quota allocations to businesses.

The emission quota price also increased early in the year due to falling temperatures in central Europe and forecasts of low wind power generation (entailing greater use of fossil-fired generation facilities). In late February, the conflict in Ukraine caused high volatility in prices. With the diminishing gas supplies from Russia, many European States considered making greater use of coal, and therefore purchased emissions quotas.

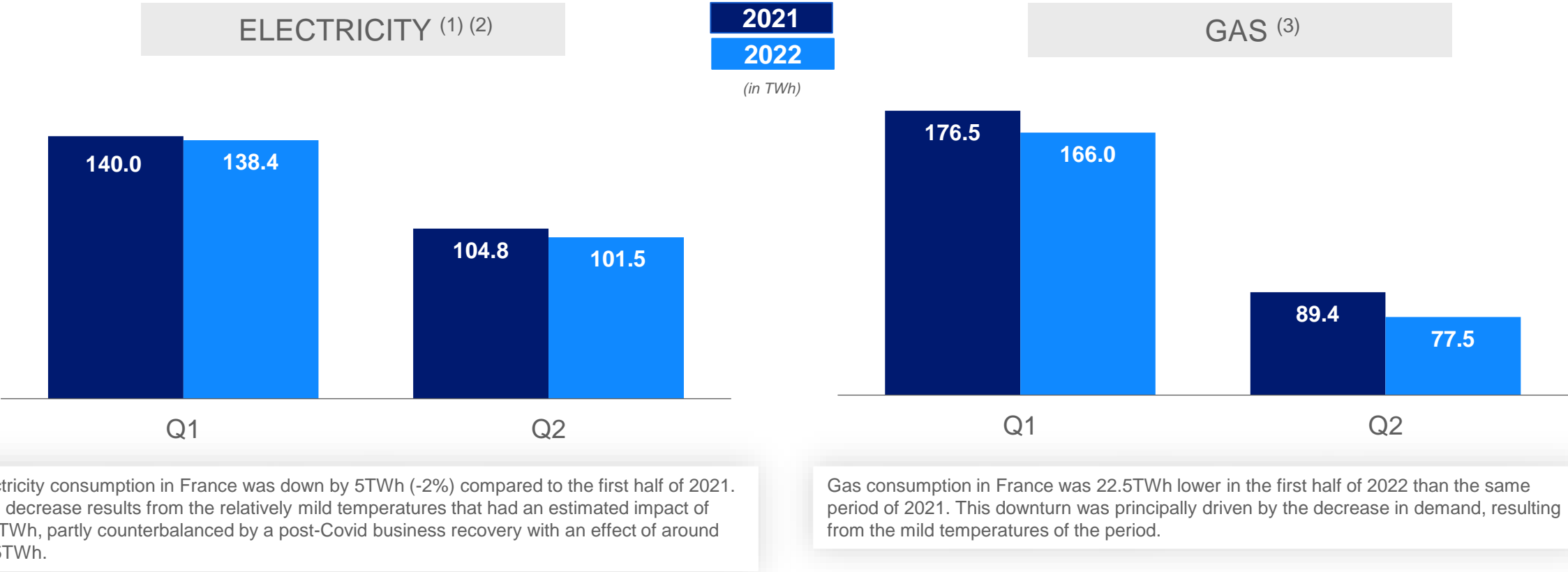
# AVERAGE MONTHLY TEMPERATURES <sup>(1)</sup> IN FRANCE



The first half of 2022 was generally mild, except for a few cold spells in January and April. The average temperature was 0.8°C above seasonal norms and +1.3°C higher than in the first half of 2021. May was particularly warm, and June saw a heatwave that came exceptionally early in the year and was exceptionally intense.



# FRANCE: ELECTRICITY AND GAS OUTPUT



(1) Data unadjusted from weather effect and 29 February, including Corsica  
(2) Source 2020-2021: RTE monthly overview – June 2022: ETR + Corsica consumption  
(3) Source: energy monthly data, Service des données et études statistiques, Ministère de la Transition Écologique et Solidaire  
June 2022 GRT gaz and TEREKA (ex: TIGF)





2022

# HALF YEAR RESULTS

COMPLEMENTARY BOOK