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Detailed information regarding these uncertainties and potential risks are available in the Universal Registration Document (URD) of EDF filed with the *Autorité des marchés financiers* on <u>13 March 2020</u>, which is available on the AMF's website at www.amf-france.org and on EDF's website at <a href="https://www.edf.fr">www.edf.fr</a>, as well as in the 2020 half-year financial report available on EDF's website.

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# SALES AND HIGHLIGHTS 9M 2020 CONSOLIDATED SALES

## COVID-19 (1) IMPACTS

In millions of euros	France – Generation and supply activities	France – Regulated activities	UK	Italy	Dalkia	Framatome	Other international	Other activities	Inter- segment	Total
Sales	(972)	(223)	(389)	(84)	(164)	(103)	(70)	(44)	46	(2,003)

In-depth analyses were conducted in the Group's separate entities and centrally, to prepare reliable estimates of the impacts of the pandemic on Group's sales as at 30 September 2020

In particular, specific analyses have been performed to evaluate the impact on generation and sales of the maintenance outage programme for nuclear power plants in France, which, as previously indicated, is very much affected by the pandemic with a significant extension of outages, mainly affecting the second half of the year

By convention, no price effect has been attributed to the Covid-19 crisis

Estimates as of 30 September 2020 are reflecting the information known by the Group at 30 September, which by construction do not include potential effects of the 2<sup>nd</sup> wave of the Covid-19 crisis, and more generally the economic conditions, and the measures the Group can take to meet crisis' challenges

(1) For more information on the consequences of the Covid-19 health crisis on the Group's financial statements, please refer to Note 2.1 to the condensed financial statements at 30 June 2020



## **CHANGE IN SALES** (1)

In millions of euros	9M 2019 restated <sup>(2)</sup>	Forex	Scope	Organic growth	9M 2020	∆% org. <sup>(3)</sup>
France – Generation and supply activities	20,079	-	5	(88)	19,996	-0.4
France – Regulated activities (4)	11,437	-	-	(127)	11,310	-1.1
Framatome	2,346	-	25	(148)	2,223	-6.3
United Kingdom	6,392	(9)	(165)	499	6,717	+7.8
Italy	5,681	-	24	(1,487)	4,218	-26.2
Other international	1,938	(99)	10	(100)	1,749	-5.2
EDF Renewables	1,163	(13)	(59)	71	1,162	+6.1
Dalkia	2,903	(1)	214	(309)	2,807	-10.6
Other activities	2,159	(8)	(16)	(546)	1,589	-25.3
Inter-segment eliminations	(3,135)	-	27	186	(2,922)	-5.9
Total Group	50,963	(130)	65	(2,049)	48,849	-4.0

<sup>(1)</sup> Breakdown of sales across the segments, before inter-segment eliminations

<sup>(4)</sup> Regulated activities: Enedis, ÉS and island activities; Enedis, an independant EDF subsidiary as defined in the French energy code



<sup>(2)</sup> The 2019 data published were restated due to the impact linked to the change in the scope of the ongoing disposal of E&P

<sup>(3)</sup> Organic change at constant scope and exchange rates



# SALES AND HIGHLIGHTS 9M 2020 FINANCING AND CASH MANAGEMENT

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## **GREEN CONVERTIBLE EMISSION**

Launch date	■ 8 September 2020				
Transaction type	■ Green Convertible Bond				
Deal size	<ul><li>c. €2,400m (c. 7.1% of share capital)</li></ul>				
Maturity	■ 14 September 2024 (4 years)				
Conversion Premium	■ 32.5%				
Conversion Price	■ €10.93				
Coupon / YTM	■ Zero coupon / (1.68)%				
Lock-up	■ 90 days, for the Issuer and its main shareholder				
Use of proceeds	■ Financing and/or refinancing of new and/or existing Eligible Projects, as defined in EDF's Green Bond Framework. Existing Eligible Projects that may be refinanced with the present Offering with a maximum 3-year look-back period amount to approx. €1.5bn				

EDF launched its first green senior unsecured bonds convertible into new shares and/or exchangeable for existing shares of the Company (*OCEANEs Vertes*) due 2024, by way of a placement to qualified investors, for a nominal amount of approximately €2.4 billion. The French State has subscribed a total nominal amount of €960 million, corresponding to 40% of the bonds

The Bonds will not bear interest (zero-coupon) and were issued at an issue price of €11.70, i.e. 107.00% of their nominal value, resulting in an annual gross yield-to-maturity of (1.68)%. The nominal value of the Bonds has been set at €10.93, corresponding to a premium of 32.5% above the Company's reference share price on the regulated market of Euronext in Paris

Bondholders are granted the right to convert or exchange the Bonds into new and/or existing shares which they may exercise at any time from 14 December 2020 up to the 7th business day (inclusive) preceding the Maturity Date

The conversion/exchange ratio is set at one share per Bond, subject to standard adjustments, including anti-dilution and dividend protections. Upon exercise of their Conversion/Exchange Right, bondholders will receive at the option of EDF new and/or existing shares of the Company

This landmark transaction marks a key milestone in EDF's Cap 2030 strategy. In 2015, EDF has set itself the goal of doubling its net installed renewables capacity to more than 50GW in 2030

Since 2013, EDF issued five Green Bonds (6 tranches) for a **total amount of c. €6.9 billion**, fostering its development in renewable energies



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# **FOCUS ON HYBRIDS SECURITIES**

#### **Hybrid issue**



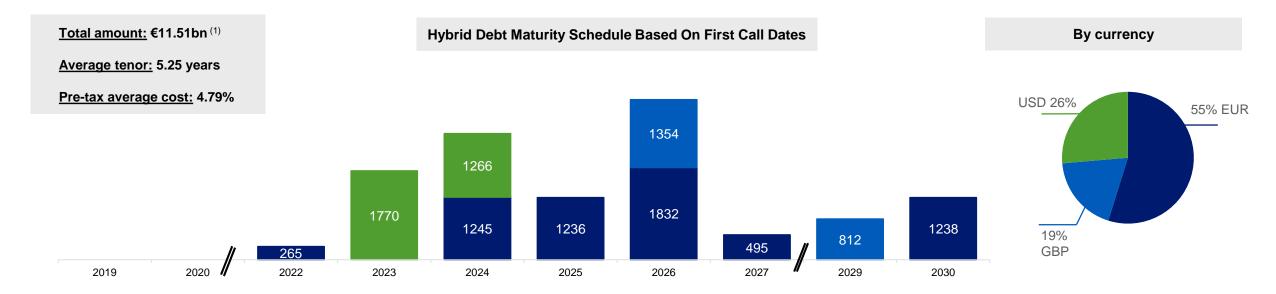
Hybrid issues contribute to strengthening the balance sheet through their qualification as equity under IFRS and 50/50 as debt and equity by rating agencies

Two new issues in September 2020 of Euro-denominated hybrid notes for a total nominal amount of €2,100 million, consisting of:

- a €850 million perpetual 6.5 years non-call hybrid notes issue with an initial coupon of 2.875%,
- a €1,250 million perpetual 10 years non-call hybrid notes issue with an initial coupon of 3.375%

These issues allowed to extend the maturity of the stock of hybrids and to reduce the average coupon

#### Hybrid Securities Snapshot Following new issues (in millions of euros) (1)







# SALES AND HIGHLIGHTS 9M 2020 STRATEGY AND INVESTMENTS

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# **HIGHLIGHTS AND DEPLOYMENT OF CAP 2030**

#### Net zero: at the heart of our raison d'être

To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development (1)

- In line with this raison d'être, EDF's ambition is to achieve carbon neutrality by 2050 with close to zero direct emissions, a reduction in indirect emissions that is as significant as possible within the framework of national policies, and residual emissions offsetting by compensation through negative-emission projects
- By joining the "Business Ambition for 1.5 degrees" coalition on 26
  February 2020, alongside 200 other companies worldwide, EDF has
  announced new commitments to:

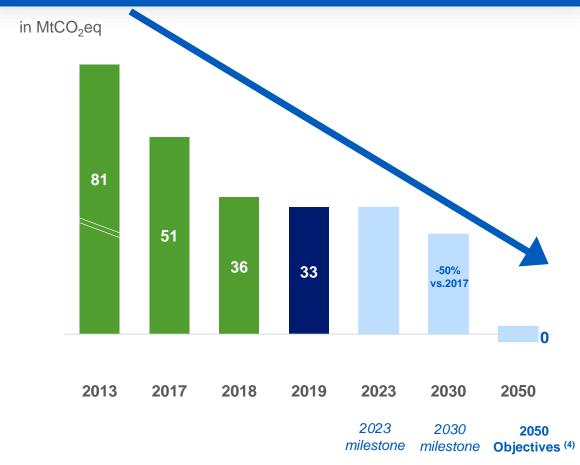


obtain the **Science-Based Target initiative certification**, with a **reduction** in the Group's direct emissions raised **from 40 to 50% by 2030** (compared to 2017) with a **half-way target** of 33\* million tonnes by 2023 and a commitment to reduce indirect emissions (Scope 3) for the first time

- move away from coal-based generation by 2030 in all geographical areas
- The continuous reduction in Group CO<sub>2</sub> emissions, and the very low level of carbon intensity 10g/kWh in France <sup>(2)</sup> in 9 months, confirms EDF'S commitment to its net zero trajectory
- (1) EDF's *Raison d'être*, approved in the Shareholders' Meeting of 07/05/2020
- 2) Generation and supply activity
- \*Work in progress with SBTi regarding figures' adjustment

# BUSINESS 1.5°C OUR OUR OUR FUTURE

### Direct Greenhouse Gas Emissions (Scope 1) (3)

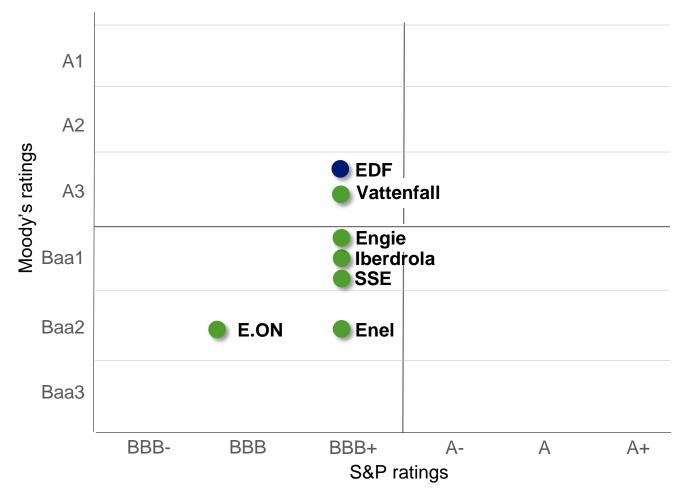


- 2020 new commitments Work in progress with SBTi regarding figures' adjustment
- Direct GGE, excluding life cycle analysis (LCA) of fuel and production means
- (4) Carbon neutrality would be achieved in 2050 thanks to close to zero direct emissions, a reduction as much as possible in indirect emissions, and an offsetting of residual emissions by compensation through negativeemission projects



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## **COMPARATIVE CREDIT RATINGS**



	S&P ratings	Moody's ratings	Fitch ratings
EDF	BBB+ stable (1)	A3 negative (2)	A- negative (3)
Engie	BBB+ stable	Baa1 stable	A negative
Vattenfall	BBB+ stable	A3 negative	n.d.
SSE	BBB+ stable	Baa1 negative	BBB stable
Iberdrola	BBB+ stable	Baa1 stable	BBB+ stable
Enel	BBB+ stable	Baa2 positive	A- stable
Innogy	n.d.	Baa2 stable	n.d.
E.ON	BBB stable	Baa2 stable	BBB+ stable
Uniper	BBB negative	n.d.	n.d.
RWE	n.d	Baa3 positive	BBB stable

Sources: rating agencies as of 12/11/2020

- (1) Update of the rating and outlook of EDF Group by S&P on June 22th 2020.
- (2) Update of the rating and outlook of EDF Group by Moody's on April 24th 2020
- (3) Update of the rating and outlook of EDF Group by Fitch on September 3<sup>rd</sup> 2020



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# FLAMANVILLE 3 EPR (1,650MW)



- Construction progress:
  - ✓ Main civil engineering work completed
  - ✓ More than 98% of electromechanical assembly completed, the remaining activity is being carried out as the system performance tests are undertaken
  - √ 79% completion of building finishing work <sup>(1)</sup>
- On 8 October 2020, ASN authorised for the fuel arrival on site

All construction activities have been temporarily interrupted between mid-March and early May, because of Covid-19 crisis



**UPDATING OF SECONDARY** CIRCUIT WELDS In a letter dated 19 June 2019, the Nuclear Safety Authority (ASN) asked EDF to repair the eight containment penetration welds for the Flamanville EPR, not compliant with the "break preclusion" principle. Within this framework, EDF has assessed three repair scenarios

This work resulted in discussions with the ASN, which sent EDF a letter in October 2019 concerning the technical feasibility of these three scenarios

The penetration weld rework scenario preferred by EDF is the use of remote-controlled robots, designed to conduct high precision operations inside the pipings concerned. This technology has been developed for nuclear power plants in operation and shall be qualified for penetration weld rework. The aim is to qualify this scenario with validation by the ASN by the end of 2020, the date on which EDF will be able to initiate the repair works. The second scenario, based on extraction and realignment works in the Safeguard Auxiliary Buildings, is kept at this stage as a fall-back solution

The technical examination of the process of realignment of the welds on the main secondary system, with quality deviations or not in compliance with the "break preclusion" principle requirements defined by EDF, is being continued in order to start welding activities as soon as possible (see the significant incident report of 30 November 2017 on the correction application of "high quality" requirements)



The provisional schedule for the implementation of the preferred penetration weld repair scenario, if the target for validation by the ASN is complied with, has led to estimate the date of fuel loading at the end of 2022 and to reassess the construction cost to €12.4 billion (3), representing an increase of €1.5 billion. These additional costs will be recorded mainly as other operating income and expenses (4) and not as CAPEX

The instruction of other technical issues is ongoing and remains subject to ASN approval

A new application to amend the Flamanville 3 construction authorisation decree, to extend the deadline, was filed by EDF on 23 July 2019. Subsequent to this application, the construction authorisation decree has been amended on 25 March 2020 with a new deadline extended until 2024

The review conducted post spring 2020 lockdown led to a confirmation of schedule and costs, although with a tight and shrinking headroom

- (1) Finishing work aimed at bringing the facility up to a high quality standard (cleanliness, paint, weather stripping), in accordance with the standard of an operating nuclear power plant
- See press release of 9 October 2019

- (3) In 2015 euros, excluding interim interest
- (4) IAS 16 paragraph 22 on abnormal costs incurred in connection with assets constructed by the Company. These costs will affect the Group share of net income, without any impact on net income excluding nonrecurring operations

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## **HINKLEY POINT C**

Work on site continues despite Covid-19, and Unit 2 Liner cup was lifted successfully in line with schedule

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# MANAGEMENT OF THE COVID-19 PANDEMIC

- Strict measures have been implemented on site which have enabled to keep the site constantly working (face covering, testing centre, additional cleaning, social distancing)
- Workforce on site is back at pre-pandemic levels and is continuing to increase depending on future restrictions due to the second wave
- Recovery plans are being developed on all workstreams to mitigate the impacts of the pandemic

#### PROGRESS ON SITE

- Q1 goal First safety-related pipework installed
- Q2 goal J-0 milestone for Unit 2
- Q3 goal Manufacturing of the Unit 1 feedwater tank slightly delayed, now expected in November
- Unit 2 liner cup was lifted into position on time.
   Construction was 30% quicker than on Unit 1, benefitting from lessons learned



Unit 2 liner cup lifting in September 2020, 4 months faster than Unit 1

- (1) Please refer to press release published by EDF on 25 September 2019
- (2) In 2015 Sterling, excluding interim interests and forex effect versus the reference exchange rate for the project 1 Sterling = 1.23 Euro.
- 3) Additional costs net of action plans

#### REMINDER ON KEY DATA (1)

- Project's completion cost estimated in September 2019<sup>(1)</sup> at between £<sub>2015</sub>21.5bn and £<sub>2015</sub>22.5bn<sup>(2)</sup>
- The risk of delay on commissioning schedule is high and increasing. It has been estimated in September 2019 at 15 months for Unit 1 (scheduled for end 2025) and 9 months for Unit 2; those delays entailing an additional cost of around £<sub>2015</sub>0.7bn (3)
- A review of schedule and costs taking into account Covid-19 impact is still ongoing and expected to be finalised before the end of the year



# NACHTIGAL HYDROELECTRIC DAM IN CAMEROON (1)



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 owned and operated by NHPC (Nachtigal Hydro Power Company), currently comprising EDF (40%) (2), IFC (3) (20%), the Republic of Cameroon (15%), Africa50 (15%) and STOA (10%)
- Expected annual power generation of 3TWh, i.e. 30% of the country's electricity generation output
- Substantial economic benefits: up to 1,500 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 dozens of permanent jobs



FINANCING STRUCTURE

- Project's expected total cost: €1.2 billion
- Shareholder's equity to fund a quarter of the project, lenders to fund the rest
- The lender group coordinated by IFC includes 11 Development Finance Institutions (DFI) and 4 local commercial banks (4)
- The largest hydropower project ever built in Africa through nonrecourse 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, 32% of civil engineering achieved at 30/09/2020
- Covid-19 impact: slowdown of the construction in April with a progressive come back to nominal level between June and August. Delay in commissioning currently estimated at 4.5 months. Further potential impacts of the continuing sanitary crisis are under investigation
- Operational commissioning expected in early 2024



- (1) Refer to the press release published by EDF on 8 November 2018
- (2) Equity consolidation method
  - 9M 2020 SALES

- (3) IFC (International Finance Corporation) member of the World Bank Group
- (4) DFI include: AfDB, IFC, 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

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# CUSTOMERS AND SERVICES (1/3): A STRATEGY OF CONQUEST THROUGH A BROAD AND INNOVATIVE OFFER

The Group's ambitions in the residential, business and local authority markets in France by 2023 (1)

BASED ON PROVEN FUNDAMENTALS

- Customer confidence: satisfaction rate higher than 90% (residential, business and local authorities), lowest litigation rate on the market.
- Strong local presence: 100% of the customer advisors based in France
- Continuing innovation strategy

POSITIONING OF RESIDENTIAL

"EDF, providing peace of mind for the challenges of today and tomorrow"

Offering an ever broader range of services, guaranteeing a very high level of customer care, thanks to a strategy of continuing innovation to ensure EDF offer remains an important reference in the market

BUSINESSES AND LOCAL AUTHORITIES

Commitment to the energy of the future, low-carbon and competitive, in order to accelerate customers' transition to carbon neutrality, enrichment of the offer range

NEW CARBON-FREE BUSINESSES

Positioning in new carbon-free businesses: electric mobility (Izivia no. 1 in France with 20% market share), aggregation of decentralised capacities (2.5GW operated by Agregio), photovoltaic and self-consumption and hydrogen (3 projects won by Hynamics, a subsidiary launched in 2019)

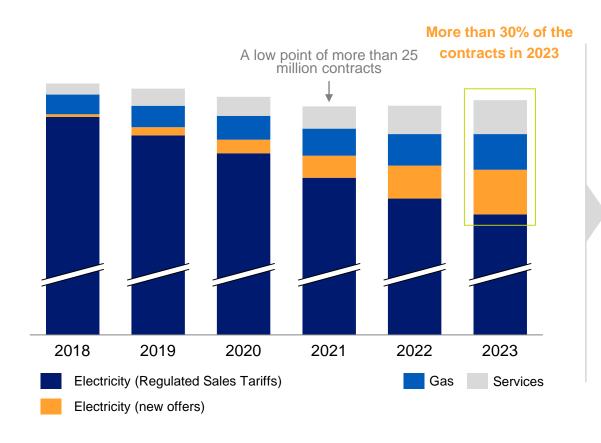
(1) See press release of 23 September 2020



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# **CUSTOMERS AND SERVICES (2/3): RESIDENTIAL CUSTOMERS**

Erosion of the portfolio at Regulated Sales Tariffs is leading EDF to target growth over a large commercial sector



#### **2023 TARGETS**

- Remain the leading supplier of electricity
- Market offering of 3 million electricity contracts
- 25% market share in gas
- Doubling of the number of service contracts

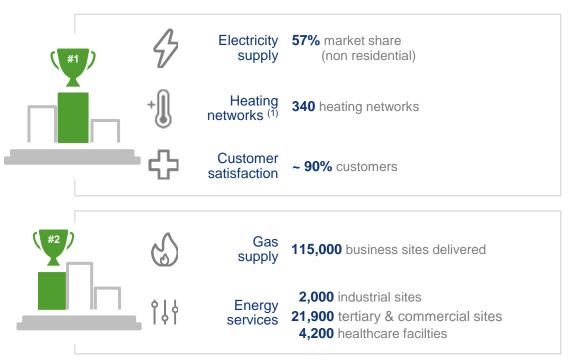


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# **CUSTOMERS AND SERVICES (3/3): BUSINESSES AND LOCAL AUTHORITIES**

#### The Group is strengthening its leading positions

#### **Positioning in 2019**



#### **2023 TARGETS**

#### A contribution to a carbon-free world:

 50% renewable energy and energy recovery in facilities operated by Dalkia

#### A strong digital ambition for our customers:

- 90% of customers with an active customer account
- 90% of customers with an electronic bill
- 100% of Dalkia-managed installations connected

(1) In number of heating networks Source: Enetwork



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# EXISTING NUCLEAR FLEET AND "GRAND CARÉNAGE" PROGRAMME



Industrial strategy to continue the operation of plants after 40 years for a competitive energy mix:

- Technical capacity of the plants to operate beyond 40 years supported by international benchmarks for similar technologies
- Extension from 40 to 50 years of the depreciation period of the 900MW nuclear fleet (except Fessenheim) accounted as of 1 January 2016: the Tricastin 1 reactor is the first to have successfully completed its 4th ten-year inspection in January 2020 and thereby crossed the 40-year milestone
- Strategy confirmed by the guidelines given by multi-year energy programme (PPE)



- Programme integrating the totality of the investments in the existing nuclear fleet over the 2014-2025 period, and beyond
- In 2015, investment on the 2014-2025 period was estimated at €<sub>2013</sub>55 billion (¹) and was optimised and revised to €<sub>2013</sub>45 billion (€48.2bn in current euros) in 2018
- In October 2020 <sup>(2)</sup>, it was adjusted at €49.4bn in current euros on the same 2014-2025 period. The new cost estimate accounts mainly for the first findings on the works to be conducted in the context of the ongoing review process related to the periodic safety review of the Group's 900MW reactors. The review focuses on studies, modification work and initially unplanned additional equipment seeking to improve safety levels. Moreover, the estimate factors in the expected increase in the duration of planned maintenance outages including ten-year and partial inspections. The costing also draws on prior year experience as well as the impact of the health crisis between 2020 and 2022
- ASN generic position on 900MW fleet life extension (beyond 40 years) process:
  - > Publication on 16 April 2020 of the IRSN synthesis view on the generic phase of the 900MW 4<sup>th</sup> ten-year inspection
  - > Public consultation and ASN opinion about the VD4 900MW generic phase scheduled for early 2021
- Feedback from the VD4 900MW and ongoing discussions with the ASN could lead to an expansion in the programme in the coming years. A review of the programme is in progress
- (1) The figures presented by the French Cour des comptes in its report of 10 February 2016 cover a longer time horizon, up to 2030, and included, beyond the investment, operating and maintenance expenses. Both assessments are consistent, as stated by the Cour des comptes in its report. Indeed, among the overall estimates calculated by the Cour des comptes and amounting to close to €<sub>2013</sub>100 billion for the 2014-2030 period, the investment -expenditures estimated at €<sub>2013</sub>74.73 billion should be distinguished from the operating expenditures estimated at €<sub>2013</sub>25.16 billion. Within the €<sub>2013</sub>74.73 billion of investment expenses between 2014 and 2030, €<sub>2013</sub>55 billion are dedicated to the 2014-2025 period, which allows the two estimates established by the EDF group and the Cour des comptes to be connected
- (2) See press release of the 29 October 2020

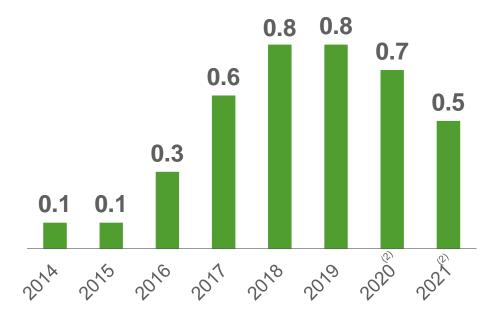


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# LINKY (1) SMART METERS DEPLOYMENT

#### 2014-2021 INVESTMENT PATTERN

(in €bn)



- (1) Linky is a project led by Enedis, an independent EDF subsidiary as defined in the French Energy Code
- (2) Figures established on the basis of the best view to date of the recovery post Covid-19

#### **Key elements**

- Goal of about 34.5 million Linky meters installed by 2021: i.e. 90% of the metering fleet
- Amount of investment of €3.9bn over the 2014-2021 deployment period
- Specific regulation over a 20-year period (RAB and Linky-dedicated remuneration)

#### 9M 2020 key points

- The milestone of 28.5 million delivery points equipped with a Linky meter was reached at end-October. The solid momentum in the Linky meters installations observed since the end of the lockdown (covid-19 crisis) continued during the summer period. Remaining backlog at end-2020 is estimated at 400,000
- In regard to the process of the opening up of services of the installed meters, the year-end objectives set by the Regulatory Incentives (RI) are already reached



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### **EDF ACTOR IN THE HYDROGEN SECTOR**

Hydrogen is a key vector in the energy transition: it could meet 20% of worldwide energy demand in 2050 (1)

EDF group's positioning on this market is in line with **the objective of carbon neutrality by 2050** and the support of its customers in regard to **decarbonised solutions** 

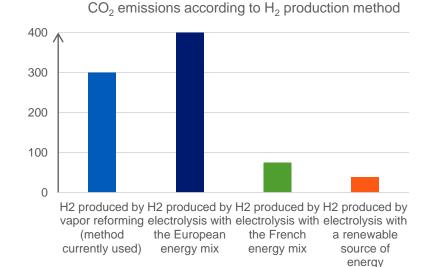
It is supported naturally by its decarbonised electricity generation mix, through a dedicated subsidiary created in 2019, **Hynamics**, and by an industrial and commercial partnership with **McPhy** - held 14.4% by EDF

# NATURAL COMPLEMENTARITY WITH EDF'S LOW CARBON MIX

HYNAMICS, THE GROUP'S DEDICATED SUBSIDIARY PRESENT ACROSS THE ENTIRE VALUE CHAIN

INDUSTRIAL AND COMMERCIAL PARTNERSHIP WITH **McPHY** (14.4% OWNED BY EDF SINCE JUNE 2018)





Project Development Design/Construction

HH Investor
Sales and marketing
Operation/Maintenance

Markets

Mobility



- Leading player in the hydrogen sector
- A complete range of solutions
  - Electrolysers
  - Hydrogen recharging stations
  - Storage
- Acquisition by EDF Pulse Croissance in 2018

(1) McKinsey report - Hydrogen Council 2019



g CO<sub>2</sub>/KWh PCS

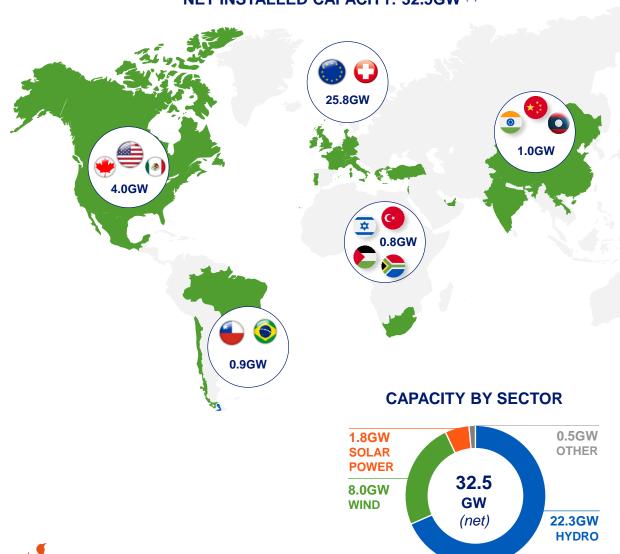


# SALES AND HIGHLIGHTS 9M 2020 RENEWABLES

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# EDF, THE EUROPEAN LEADER IN RENEWABLE ENERGIES

#### **NET INSTALLED CAPACITY: 32.5GW** (1)



A DIVERSIFIED MIX WITH 32.5GW IN OPERATION

- 22.3GW of hydropower
- 9.8GW of wind and solar power

**HYDROPOWER** 

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

A GLOBAL LEADER IN WIND AND SOLAR ENERGY

- 0.7GW gross commissioned in 9M 2020
- 6.6GW currently under construction
   (3.6GW in onshore wind power,
   1.6GW in offshore wind power, and
   1.3GW in solar power)

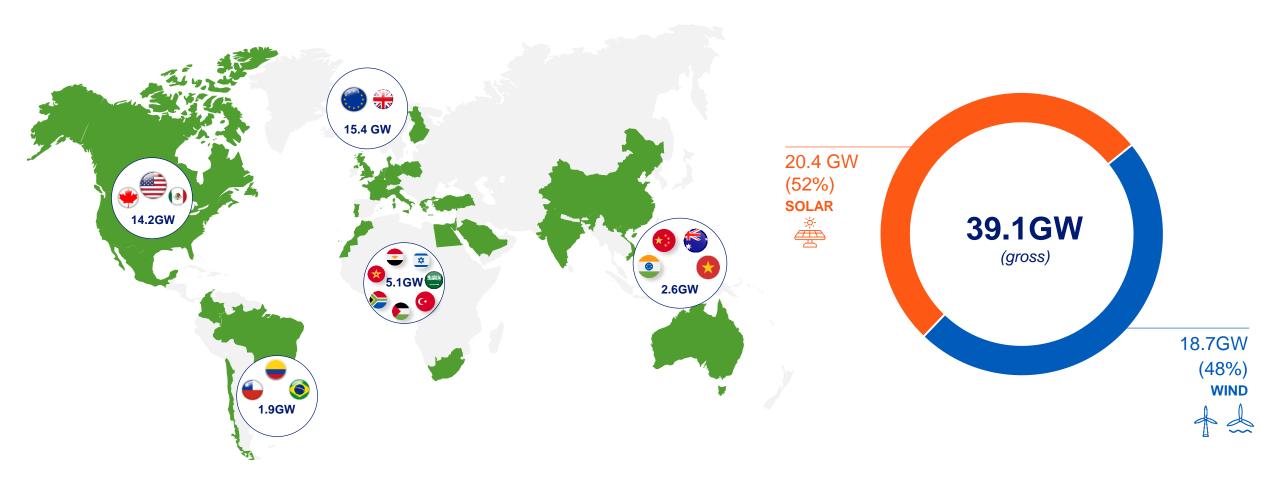
(1) Installed capacity shown as net, corresponding to the consolidated data based on EDF's participation in Group companies, including investments in affiliates and joint ventures



# A PORTFOLIO OF WIND AND SOLAR PROJECTS OF MORE THAN 39GW (1) SITUATION AT 30 JUNE 2020

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

... AND BALANCED BETWEEN WIND AND SOLAR





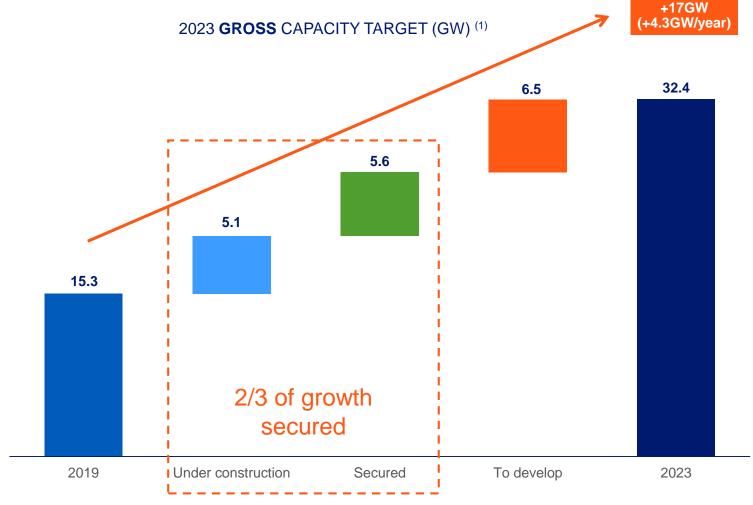
(1) Pipeline excluding capacities under construction, including secured capacities. Gross data corresponding to 100% of the capacity of the projects concerned at end-June 2020

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# STRONG GROWTH EXPECTED THANKS TO MORE THAN 10GW OF PROJECTS ALREADY SECURED

NB: This financial communication contains forward-looking data based on targets. Although management believes that this data is reasonable, investors are cautioned that such data is subject to numerous risks and uncertainties that could cause actual results and developments to differ materially from those expressed herein





**9M 2020 SALES** 

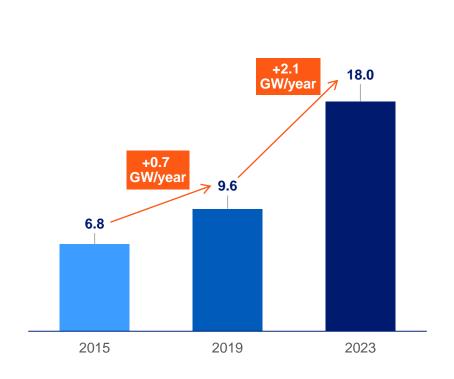
Situation at end of 2019

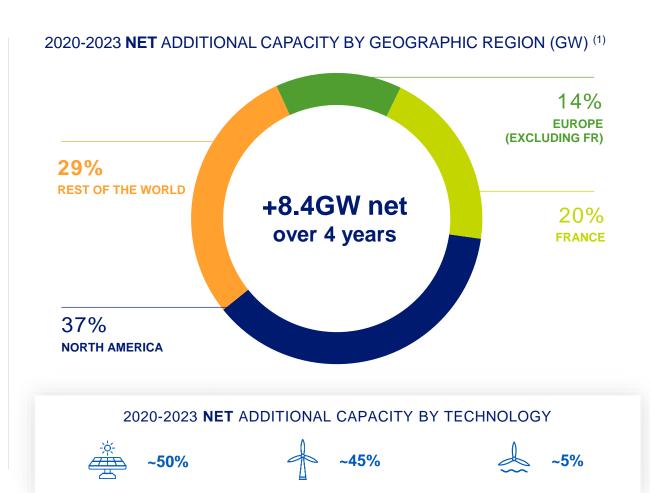
Consolidated financial Financing & cash Strategy and statements France Markets

## **BALANCED ACCELERATION ACROSS GEOGRAPHIES AND TECHNOLOGIES**

NB: This financial communication contains forward-looking data based on targets. Although management believes that this data is reasonable, investors are cautioned that such data is subject to numerous risks and uncertainties that could cause actual results and developments to differ materially from those expressed herein

#### 2023 **NET** INSTALLED CAPACITY TARGET (GW) (1)





(1) Solar and wind. 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



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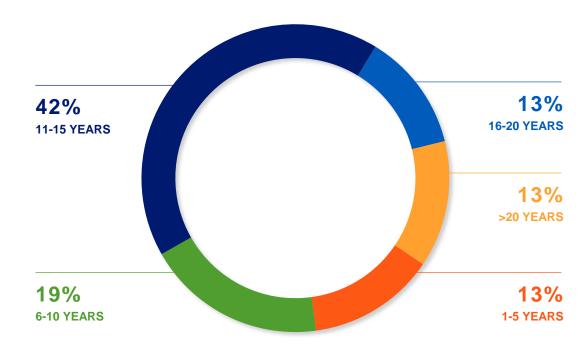
## **REVENUE SECURED BY LONG-TERM CONTRACTS**

# CONTRACTUALISATION OF 2020 CONSOLIDATED REVENUES FROM RENEWABLE GENERATION (in %) (1)



93% of 2020 REVENUES SECURED

# **AVERAGE RESIDUAL DURATION OF LONG TERM CONTRACTS** (in years) (2)



THE AVERAGE REMAINING TERM OF THE CONTRACTS IS ~13 YEARS



<sup>(1)</sup> Based on the estimate of 2020 revenues from fully consolidated assets

<sup>(2)</sup> Weighting according to estimated 2020 revenues of fully consolidated assets

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# A SUSTAINABLE BUSINESS MODEL BASED ON KEY COMPETITIVE **ADVANTAGES**



- Key competitive advantages for the development of a strong project portfolio
  - A large and diverse international presence
  - Key local partnerships in order to share investments and country risk
  - Expertise in site security, engineering, procurement, arrangement of structured finance and responses to calls for tenders
- Synergies within EDF for customised solutions for customers (PPAs for industrials, off-grid or decentralised offers)



**ENGINEERING &** CONSTRUCTION

- Strong engineering expertise
- Significant expertise in the construction of industrial-scale projects and operational excellence in construction to meet budgets and deadlines
- Continued technical innovation to seize opportunities in new markets (floating PV, floating offshore wind, etc.)



**O&M AND ASSET** MANAGEMENT

Integrated skills in O&M supporting operational excellence, optimised production, technological expertise



**ASSET ROTATION** 

Maximised value creation via a selective asset rotation approach (with assets sold mainly postconstruction)

**VALUE CREATION:** 

+150-200 bps

DIFFERENCE (1) **BETWEEN THE FORECAST RETURN RATE AND THE WACC AT END-2019** 

Situation at end of 2019



(1) Average performance estimated as part of a profitability analysis of EDF Renewables projects (scope: 79% of installed capacity, 103 power plants, 6.2GW net, 14 countries). The calculation of IRR takes into consideration the various hypothesis, in particular on market prices evolution, excluding volumes and periods covered by the PPAs

9M 2020 SALES

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## **AL DHAFRA PROJECT**

#### **KEY PROJECT POINTS**

- 35 kilometers south of Abu Dhabi City, United Arab Emirates
- 2GW capacity ~ equivalent electricity to power over 160,000 local households
- Bifacial module technology
- 1.35USDcent/kWh on a Levelized Electricity Cost basis
- Public-Private Partnership (PPP) scheme. EDF Renewables and Jinko Power will hold 20% each. The 60% remaining share will be owned by TAQA and Masdar.
- 30-year Power Purchase Agreement (PPA)
- Commission Operational Date in 2022
- Over 4,000 jobs during the construction phase





**Dunkirk** 

# OFFSHORE WIND DEVELOPMENTS IN FRANCE: 4 PROJECTS FOR A TOTAL CAPACITY OF 2GW, INCLUDING ~980MW UNDER CONSTRUCTION

#### **MAJOR ACHIEVEMENTS IN 2020:**



- Saint Nazaire offshore wind farm:
  - Construction in progress
  - Commissioning scheduled for 2022
  - Total investments of ~ €2bn
  - Partnership with Enbridge
- Fécamp offshore wind farm
  - Start of the construction in June 2020
  - Commissioning scheduled for 2023
  - Total investment of ~ €2bn
  - Partnership with Enbrigde avec wpd Offshore
- Dunkirk offshore wind farm:
  - EDF Renouvelables wins the tender in 2019
  - Public debate in progress since mid-September 2020
  - Partnership with Enbridge and Innogy
  - Commissioning scheduled for 2027

#### **COMING SOON**

- · Courseulles-sur-Mer offshore wind farm
  - Start of the construction in Q1 2021
  - · Commissioning scheduled for 2024
  - Total investment of ~€2bn
  - Partnership with Enbridge and wpd Offshore





Development in progress of **Provence Grand Large**, a floating wind pilot project: contract awarded to EDF Renouvelables for the installation of three 8MW turbines on floating foundations off the coast of Fos-sur-mer



# NEARLY 4GW OF INTERNATIONAL OFFSHORE WIND DEVELOPMENTS, 450MW UNDER CONSTRUCTION IN SCOTLAND



#### Codling project in Ireland

- EDF acquires 50% of the offshore wind power project. Other 50% is Fred Olsen.
- Project under development in South Dublin, located on 2 adjacent sites
- Irish CfD ("RESS") auction targeted for 2023
- Total capacity: ~1GW



#### Neart Na Gaoithe project in Scotland

- Start of construction in 2019
- **Total capacity: 450MW** (54 turbines)
- Commissioning scheduled for 2023
- Partnership with ESB
- Total investment: ~£2bn
- Contract for Difference (CfD) over 15 years (£114.39/MWh in 2012s)



#### Atlantic Shores project in the United States

- Ongoing developments off the coast of New Jersey
- Formed joint-venture company "Atlantic Shores Offshore Wind" with Shell
- Secured a 742 km<sup>2</sup> Lease Area 12-16 km off the shoreline in shallow water depth (~20m)
- Ocean surveys conducted and buoy deployed
- Preparing bid submittal to New Jersey RFP
- Construction planned to start in 2026
- Total potential: ~2GW

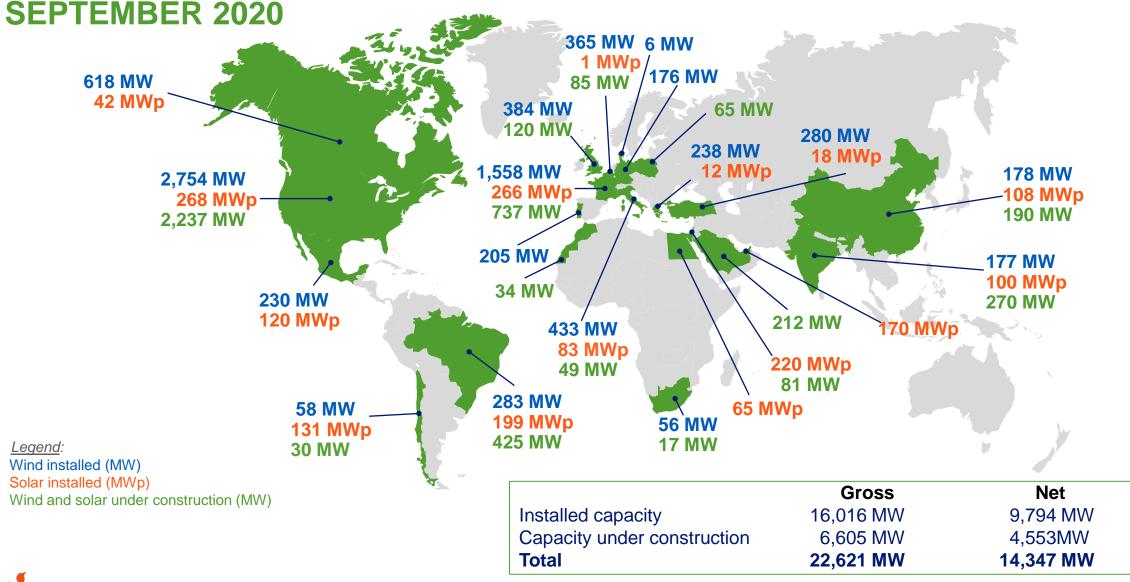


#### Dongtai IV and V projects in China

- Joint-venture with Shenhua Renewables, a subsidiary of China Energy Investment Corporation
- Total capacity: 502MW (Dongtai V: 302MW, Dongtai V: 200MW)
- Commissioning of Dongtai IV in December 2019, Dongtai V under construction (commissioning planned for 2021)



NET CAPACITY INSTALLED AND UNDER CONSTRUCTION AS OF 30





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# INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION, WIND & SOLAR, AS OF 30 SEPTEMBER 2020

(in 1/4/4/)	Gros	ss <sup>(1)</sup>	Ne	et <sup>(2)</sup>
(in MW)	31/12/2019	30/09/2020	31/12/2019	30/09/2020
Wind	12,416	12,741	7,826	7,991
Solar	2,900	3,275	1,749	1,803
Total installed capacity	15,316	16,016	9,575	9,794
Wind under construction	3,531	5,268	2,131	3,206
Solar under construction	1,525	1,336	1,166	1,347
Total capacity under construction	5,056	6,605	3,297	4,553

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



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

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



# SALES AND HIGHLIGHTS 9M 2020 OPERATIONAL DATA

# EDF'S 9M OPERATIONAL MIX-GENERATION AND CARBON PERFORMANCE REMAIN ALIGN WITH ITS NET ZERO TRAJECTORY

9M 2020 EDF Operational data : Key takeaways	Alignment with EDF net zero trajectory
Group CO <sub>2</sub> emissions are down by 12.2% and the Group carbon intensity remains stable  Continuous reduction in Group CO <sub>2</sub> emissions in all major segments, due to the overall decrease in thermal generation and despite the important decrease in nuclear production in France (-47.1 TWh vs 9M 2019)  However, the carbon intensity in France <sup>(1)</sup> remains very low with 10g/kWh	
Thermal electricity output is down by 13.6%  Key factors  • Effect of Cottam coal station power plant decommissioning (UK)  • The overall decrease in gas generation due to lower demand	
Renewables output is up by 18.1%  Key factors:  • Effect of better hydro conditions in Europe and wind conditions in the US during 9M 2020  • New wind capacity commissioning at end-September 2020 in Brazil and in France (133 MW)	
Post 9M: innovation supporting the significant increase in sustainable renewable generation  Commissioning of the Romanche Gavet plant in France on October 9th. The 97 MW hydro plant (+40% vs existing infrastructure) combines an innovative dam and an underground power plant replacing the six old plants and five old dams with a positive impact on biodiversity, and is financed by EDF's Green bonds	

(1) Generation and supply activities



# **INSTALLED CAPACITY AS OF 30 SEPTEMBER 2020**

(in GW)	Total net capacities of including shares in as joint venture	sociates and	Investments in affiliates and joint ventures	Consolidated capacities of EDF Group		
Nuclear (1)	72.4	57%	1.2	71.2	59%	
Hydro (2)	22.5	18%	1.0	21.5	18%	
ENR	10.0	8%	2.3	7.7	7%	
Gas	12.2	10%	0.2	12.0	10%	
Fuel oil	4.2	3%	0.2	4.0	3%	
Coal	5.8	4%	2.1	3.7	3%	
Total	127.1	100%	7.0	120.1	100%	

<sup>(2)</sup> Including sea energy: 0.24GW in 2019 and 2020



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

<sup>(1)</sup> Taking into consideration the shutdown of Fessenheim nuclear power plant in France in H1 2020

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### **ELECTRICITY OUTPUT**

#### Output from fully consolidated entities

(in TWh)	9M	2019	9M 20	020
Nuclear	330.0	79%	276.0	76%
Hydro (1)	30.8	7%	37.5	10%
ENR	12.9	3%	14.1	4%
Gas	36.0	9%	31.1	9%
Fioul oil	3.8	1%	3.7	1%
Coal	2.2	1%	1.5	0%
Group	415.7	100%	363.9	100%

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 394.1 GWh in 2019 and 406.2 GWh in 2020. Hydro output after deductions of pumped volumes is 26.3 TWh in 2019 and 33.0 TWh in 2020



### **HEAT OUTPUT**

#### Output from fully consolidated entities

(in TWh)	9M	2019	9M 2020		
ENR (1)	4.5	22%	4.5	22%	
Gas	12.8	61%	13.2	63%	
Fioul oil	0.2	1%	0.1	1%	
Coal	0.9	4%	0.6	3%	
Other (2)	2.5	12%	2.4	11%	
Group	20.9	100%	20.8	100%	

<sup>(2)</sup> Category combining part of the heat generation by incineration and the recovery of heat and electricity from other industrial processes



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

<sup>(1)</sup> Category corresponding to installations operating with woody biomass, landfill gas, sewage treatment plant gas and biogases

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### **RENEWABLE OUTPUT**

#### Output from fully consolidated entities

(in TWh)	9N	1 2019	9M 2020		
Hydro <sup>(1)</sup>	30.8	70%	37.5	73%	
Wind	11.4	26%	12.4	24%	
Solar	0.7	2%	0.9	2%	
Biomass	0.8	2%	0.8	1%	
Total electricity Group	43.7	100%	51.6	100%	
Total heat Group	4.5	100%	4.5	100%	

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 394.1 GWh in 2019 and 406.2 GWh in 2020. Hydro output after deductions of pumped volumes is 26.3 TWh in 2019 and 33.0 TWh in 2020.



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

#### Emissions from fully consolidated entities

Emissions from the heat and power		In	In g/kWh			
generation by segment (2)	9M	2019	9M 2	2020	9M 2019	9M 2020
France – Generation and supply activities	2,709	12%	2,704	14%	8	10
France – Island regulated activities (3)	2,469	11%	2,325	12%	558	540
Dalkia	4,399	20%	3,948	20%	205	185
United Kingdom	3,364	15%	2,279	11%	77	61
Italy	5,471	24%	4,662	24%	302	282
Other international	4,012	18%	3,764	19%	248	291
Group	22,456	100%	19,709	100%	51	51

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

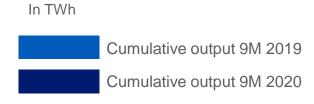
<sup>(3)</sup> Power generation in ZNI: « Zones non interconnectées » corresponding to overseas departments and Corsica - (mainly island territories)

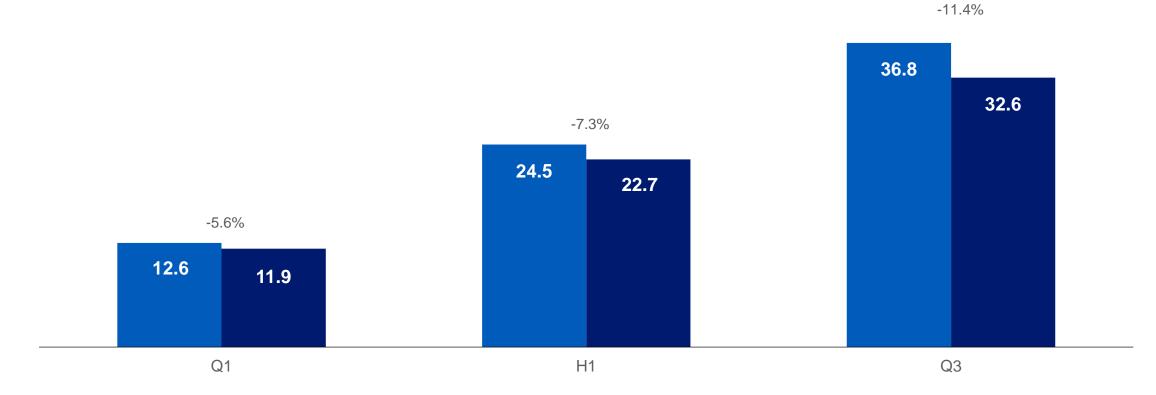


<sup>(1)</sup> Direct CO<sub>2</sub> emissions, excluding life cycle analysis (LCA) of fuel and production means

<sup>(2)</sup> Framatome contributes to 32 kt CO<sub>2</sub> in 2019 and 27 kt CO<sub>2</sub> in 2020. The direct CO<sub>2</sub> emissions from "Others activities" segments are not significant compared to Group total emissions

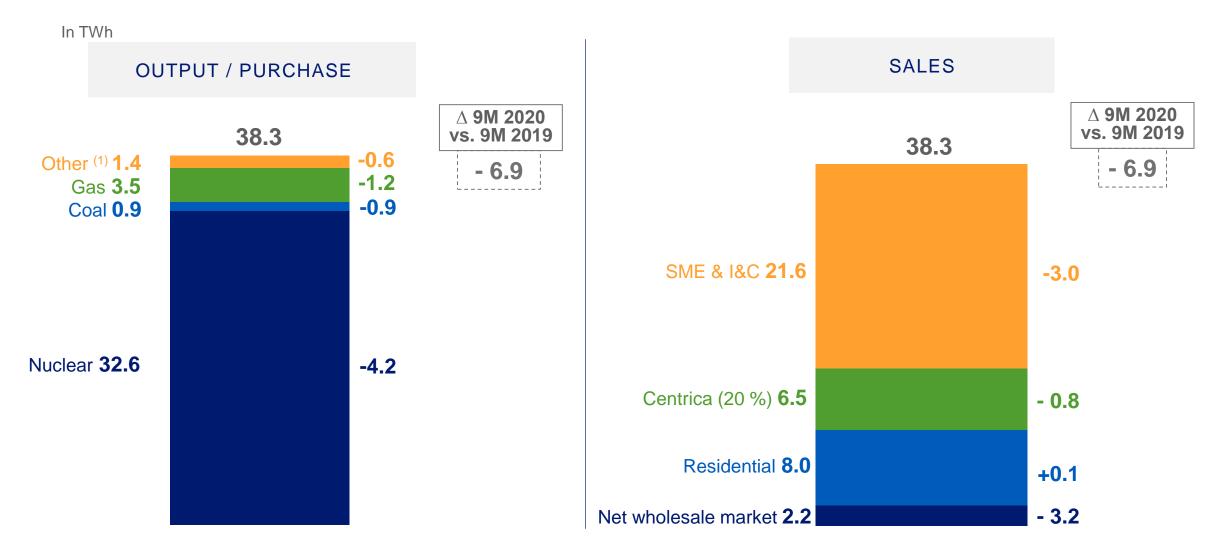
### **UNITED KINGDOM: MONTHLY NUCLEAR OUTPUT**

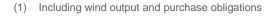






### UNITED KINGDOM: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE







### GREAT BRITAIN CAPACITY AUCTION RESULTS FOR EDF ENERGY (1)

All capacity agreements for 1 year unless otherwise stated	Clearing price £/kW/year	Nuclear	Coal	CCGT <sup>(2)</sup>	OCGT (3)	Battery	Demand-Side Response (DSR)
2014 Q4 (2018/2019)	19.4 (2012/2013 prices)	All 16 units (7.9GW)	7 of 8 units <sup>(4)</sup> (3.1GW)	All 3 units (1.2GW)	All 2 units (38MW)	N/A	N/A
2018 Q1 (2018/2019)	6.0 (no indexation)	N/A	1 unit (0.4GW)	N/A	N/A	1 unit (10.5MW) <sup>(5)</sup>	2 units (12.8MW)
2015 Q4 (2019/2020)	18.0 (2014/2015 prices)	All 16 units <sup>(6)</sup> (7.6GW)	0 unit	All 3 units (1.2GW)	All 2 units (37MW)	N/A	N/A
2016 Q4 (2020/2021)	22.5 (2015/2016 prices)	All 16 units (7.9GW)	3 of 8 units (1.3GW)	All 3 units (1.2GW)	All 2 units (38MW)	1 unit <sup>(7)</sup> (47MW)	N/A
2018 Q4 (2021/2022)	8.4 (2016/2017 prices)	All 16 units (7.9GW)	0 unit	All 3 units (1.2GW)	0 unit	N/A	5 units (32.1MW)
2020 Q3 (2022/2023)	6.4 (no indexation)	12 units (5.9GW)	0 unit	All 3 units (1.2GW)	0 unit	N/A	0 unit
2021 Q1 (2023/2024)	16.0 (2018/19 prices)	8 units (4.0GW)	0 unit	All 3 units (1.2GW)	0 unit	N/A	4 units (21.5MW)

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

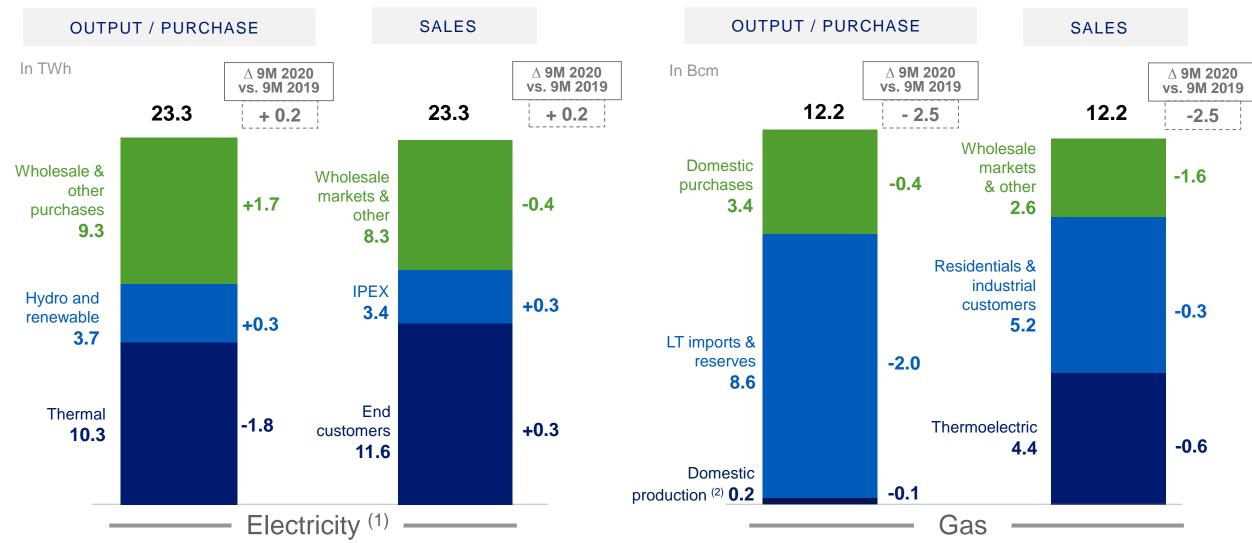
- (2) Combined Cycle Gas Turbine
- (3) Open Cycle Gas Turbine
- (4) 3 year refurbishing agreements that were reverted to 1 year agreements
- (5) Battery further de-rated to 21% from 96%
- (6) Q-4 2015 had a lower total connection capacity for Nuclear units
- (7) 15-year capacity agreement for new build battery

N/A: Not applicable

<sup>(1)</sup> Following a judgment by the General Court of the Court of Justice of the European Union which removed the European Commission's State aid approval of Great Britain's Capacity Market (CM) on 15 November 2018, the UK Government suspended the operation of the scheme. It was subsequently re-approved and reinstated on 24 October 2019.

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### EDISON: UPSTREAM/DOWNSTREAM ELECTRICITY AND GAS BALANCES





Mainly related to discontinued operations



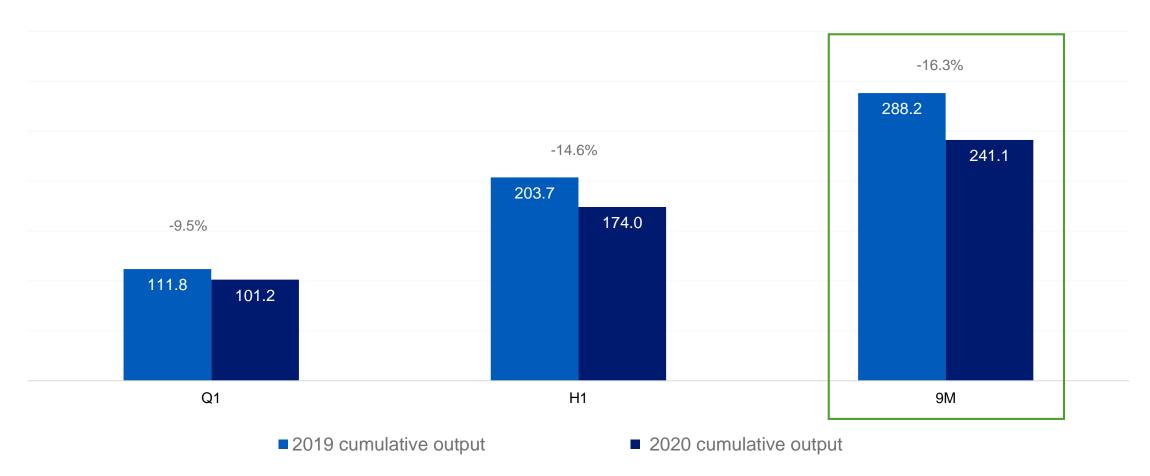


# SALES AND HIGHLIGHTS 9M 2020 FRANCE

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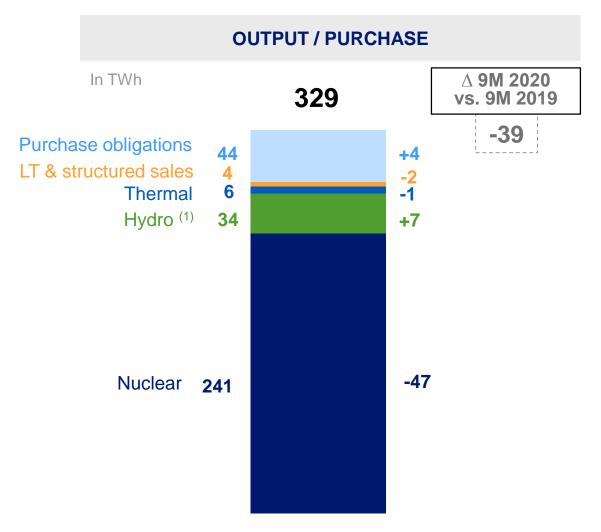
### FRANCE NUCLEAR OUTPUT

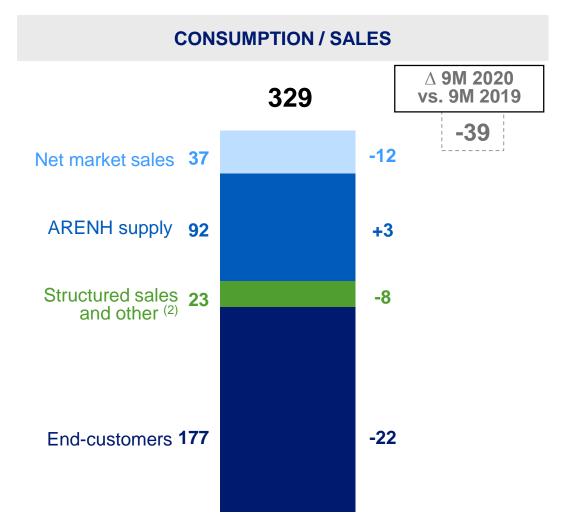
(in TWh)





### FRANCE: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE





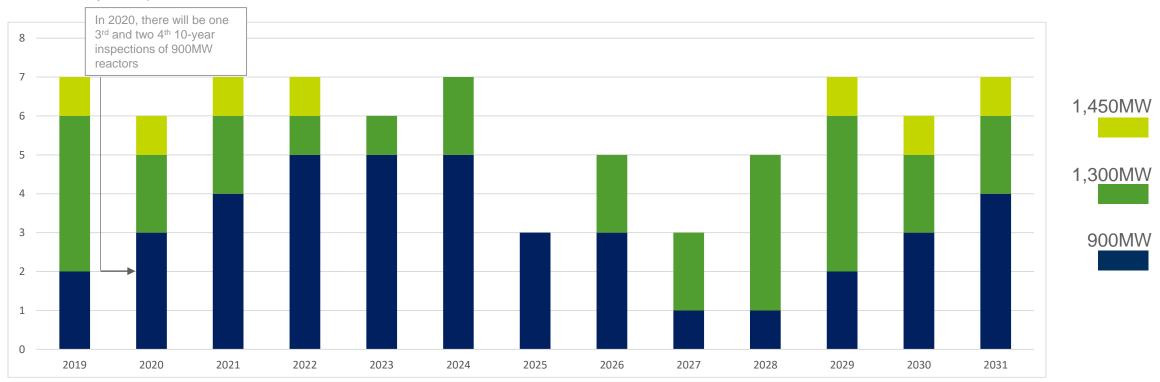
NB: EDF excluding French islands electrical activities

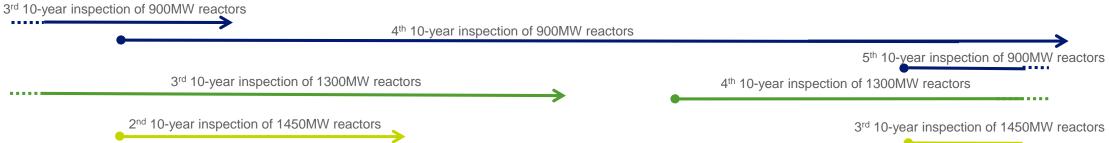
- (1) Hydro output after deduction of pumped volumes: 23.0TWh in 9M 2019 and 29.6TWH in 9M 2020
- (2) Including hydro pumped volumes of 4.4TWh on 2020 / 4.5TWH on 2019



### 10-YEAR INSPECTIONS OF THE NUCLEAR FLEET (1)

#### Number of 10-year inspections



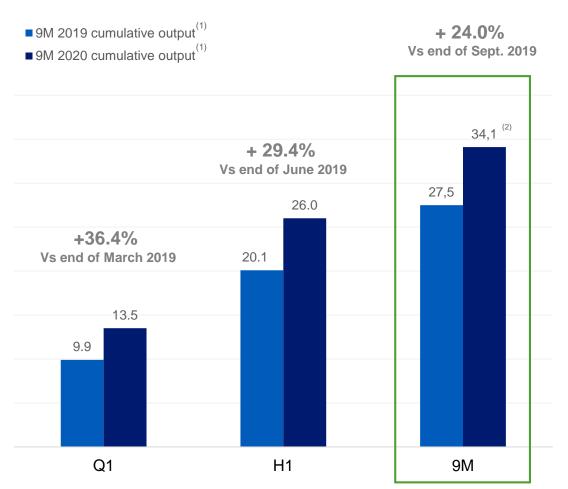


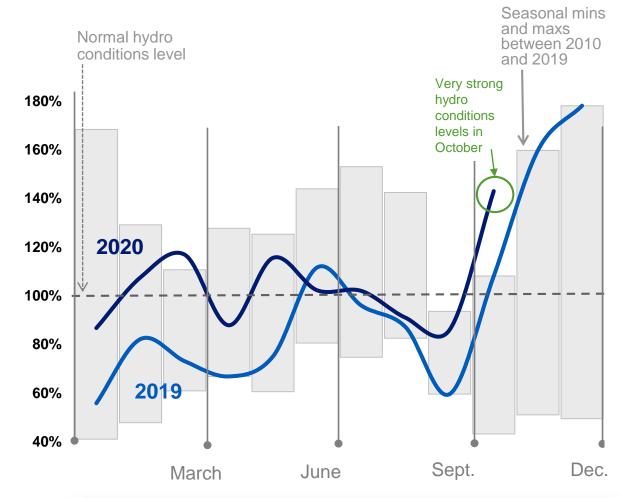
(1) Forecast data on 30 September 2020



### FRANCE HYDRO OUTPUT

(in TWh)





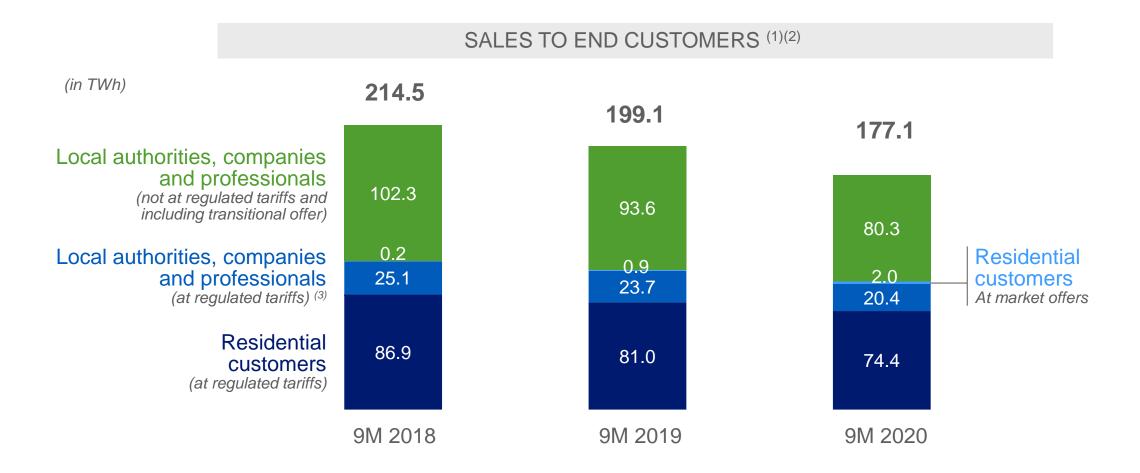




(2) Production after deduction of pumped volumes : 23.0TWh in 9M 2019, and 29.6TWh in 9M 2020 **9M 2020 SALES** 



### **ELECTRICITY SUPPLY IN FRANCE**



<sup>1)</sup> Rounded to the nearest tenth

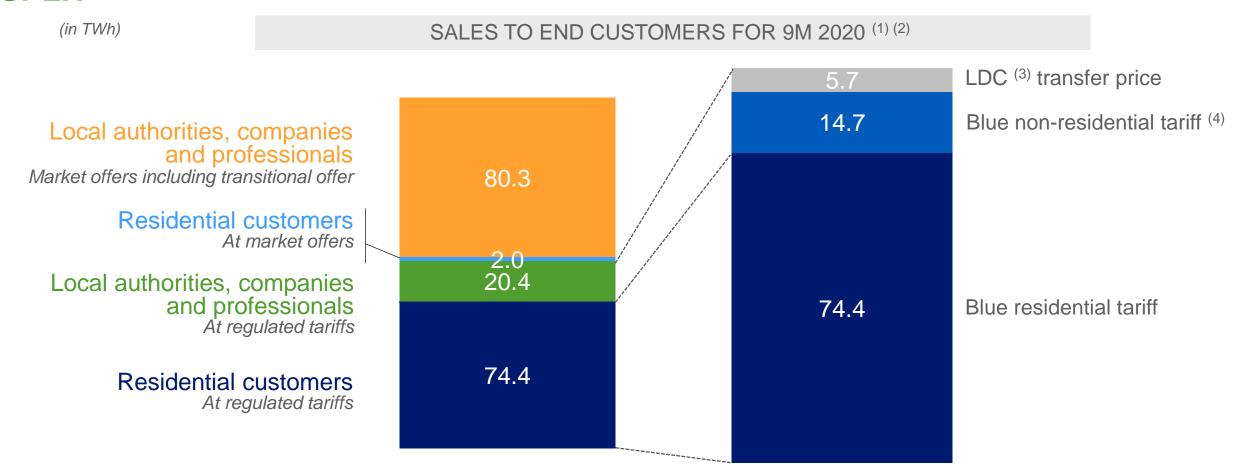
Blue professional tariff, LDC (Local Distribution Companies) at transfer price and Yellow and Green tariffs, below 36kVA that persist beyond 2015



<sup>2)</sup> Including EDF's own consumption

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### **ELECTRICITY SUPPLY IN FRANCE – SALES UNDER REGULATED TARIFFS SPLIT**



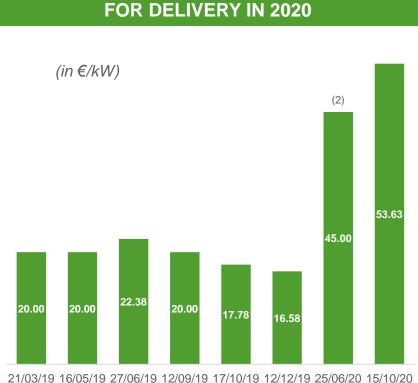
- 1) Rounded to the nearest tenth
- (2) Including EDF's own consumption
- B) Local Distribution Companies (LDCs)
- (4) Of which Yellow and Green tariffs for 0.1TWh Tariffs lower than 36 kVA



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### **CAPACITY MARKET IN FRANCE**

### CAPACITY AUCTION PRICES (1)

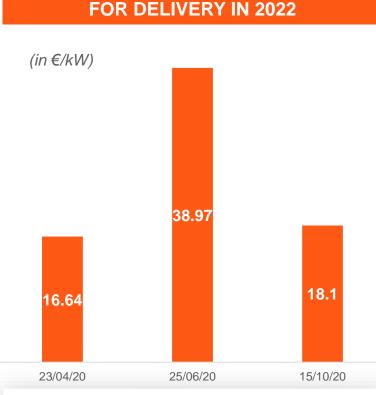


21/03/19 16/05/19 27/06/19 12/09/19 17/10/19 12/12/19 25/06/20 15/10/20

- Volume of certified EDF capacities: 64GW at end-October 2020
- ➤ Market Reference Prices: 19.46 €/kW



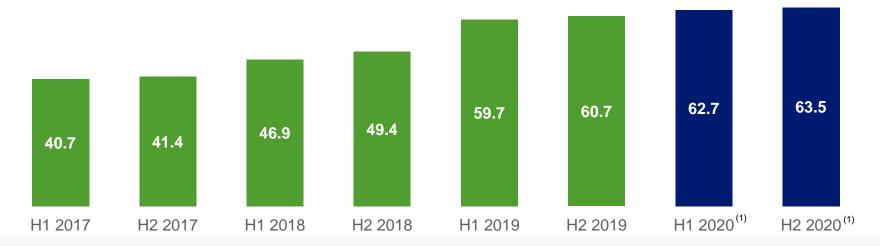
- Volume of certified EDF capacities: 71GW at end-October 2020
- ➤ 1 remaining auction in 2020 for delivery in 2021



- Volume of certified EDF capacities: 70GW at end-October 2020
- ➤ 1 remaining auction in 2020 for delivery in 2022



### **ARENH: VOLUMES ALLOCATED**



- > Maximum annual sales volume of 100TWh by EDF to alternative suppliers and ~25TWh for network losses coverage
- ➤ In November 2019, ARENH requests from alternative suppliers for 2020 amounted to 147TWh. No additional volume was requested in May 2020
- > The volume was therefore capped at the legal ceiling of 100TWh generating the "cropping effect" in the tariff
- ➤ Volume sold for 2020, including 26.2TWh sold for network losses coverage:
  - 62.7TWh for H1
  - 63.5TWh for H2
- > Pending litigation regarding the implementation of a Force Majeure in the ARENH contract between EDF and some alternative suppliers

#### Source: CRE

(1) Difference between half year estimated by EDF from the annual data provided by the CRE, and likely to change during the year through the application of legal, regulatory and contractual provisions (sub-annual window, cancellations, defaults, etc.)



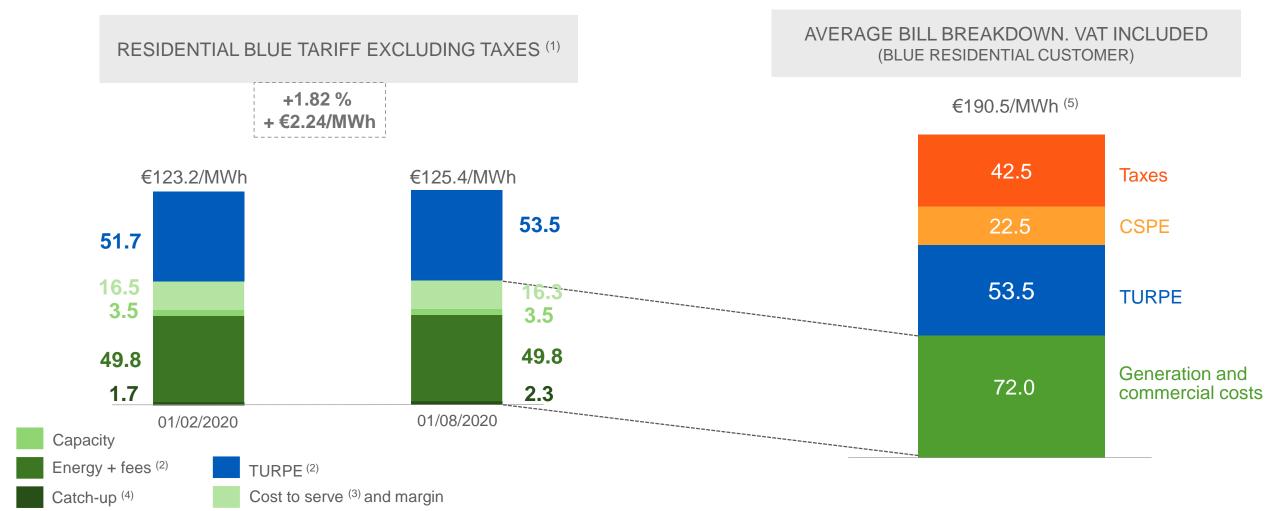
### **ARENH: FORCE MAJEURE LITIGATION**

- The Covid-19 health crisis and the emergency measures taken by the French government as of 17 March 2020, have led to a decrease in electricity consumption from non-residential customers and a decrease in electricity wholesale market prices, affecting all suppliers, including EDF
- Certain suppliers have asked the Presiding Judge of the Paris Commercial Court to order, as a matter of urgency, the total suspension of deliveries of volumes from ARENH and/or their partial suspension up to the amount of the drop in electricity consumption of their customer portfolio during the crisis, invoking the *Force Majeure* clause provided for in the ARENH framework agreement concluded with EDF
- The Summary Judge has decided that the conditions for *Force Majeure* have been met and has ordered EDF not to oppose the suspension of the agreement, entailing thereby the total interruption of the annual electricity transfer program
- EDF has appealed the ruling. On 28 July 2020, the Paris Court of Appeals upheld the urgent application judge's decision, considering that the *Force Majeure* clause in the framework agreement has an automatic effect and that *Force Majeure* could not be excluded with the evidence required in summary proceedings. EDF filed an appeal on 24 September
- To safeguard its rights, EDF announced on 2 June the termination, as a precautionary measure, of the ARENH contracts binding it to these energy suppliers, as provided for in the event of a suspension of these contracts beyond a two month period. Total Direct Energie (TDE) contested this termination before the judge in charge of summary proceedings. The latter ruled on 1 July 2020 and provisionally suspended the effects of EDF's termination announcement. EDF has appealed this ruling: the Appeals Court decision is scheduled for 19 November
- In September, an alternative supplier (Ohm Energie) also urgently appealed to the Presiding Judge of the Paris Commercial Court to suspend payments due for ARENH volumes delivered during the force majeure event, arguing that delivery should not have continued during the period of Force Majeure. On 23 October, the Summary Judge dismissed the application
- These rulings were taken under an urgent procedure, on a provisional basis; only a procedure on the merits will make it possible to establish definitively the merits of the respective positions of the parties
- Two alternative suppliers (Hydroption and Vattenfall) filed a claim against EDF before the Paris Commercial Court in order to obtain compensation for the damages allegedly caused by EDF's refusal to suspend ARENH deliveries on the basis of Force Majeure



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### **REGULATED SALES TARIFFS IN FRANCE : CHANGE IN AUGUST 2020**





<sup>(2)</sup> In February 2020, the "Energy + fees" and "TURPE" figures were based on an average calculation on customers portfolio at the Regulated Sales Tariffs at end-2018 and in August 2020 at end-2019
9M 2020 SALES

<sup>(3)</sup> Including cost of Energy Efficiency Certificates

<sup>(4)</sup> Catch-up due to tariffs freeze at the beginning of 2019

<sup>5)</sup> Half-rounded figures

## PUBLIC SERVICE COSTS: STABLE MECHANISM FOR COMPENSATING PUBLIC SERVICE COSTS AND TAXES SINCE 2016 (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 French government budget for public service costs for energy (electricity and gas) is defined for 2020 on the basis of the French Energy Regulatory Commission (CRE) deliberation of the 11<sup>th</sup> July 2019 and divided into two accounts: the "Energy Transition" special purpose account and the "Public Energy Service" account in the French general budget. The 2019 French finance act allocates €6,310 million to the special purpose account (for all operators), funded mainly by the French domestic tax on fuel and diesel (TICPE), and €2,673 million (for all operators) to the general budget
- ➤ As of 1 January 2017, the French government compensates for the cost of purchase obligation contracts, in accordance with the principle of full compensation of costs incurred by operators (€45 million a year)
- > Repayment by 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 CSPE (French contribution to electricity public service) tax is no longer automatically increased (+ €3/MWh per year between 2013 and 2016). It has remained stable at €22.5/MWh since 2016 (full rate). Since early 2017, the tax is paid into the French general budget and not to the Energy Transition special purpose account, as was the case in 2016



### CSPE: CHARGES FOR EDF (2/3)

Article L121-6 of the 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	9M 201	9	9M 2	020
Purchase obligations (1)	4,348	74%	4,923	77%
Other (2)	1,513	26%	1,464	23%
Total EDF CSPE	5,861	100%	6,387	100%

Two distinct effects explain the change in public service costs between the end of Q3 2019 and the end of Q3 2020:

- > The costs of purchase obligations in mainland France increased between the end of Q3 2019 and the end of Q3 2020. This is linked to the favourable climatic conditions for wind and solar generation as well as the development of renewable generation in France. This increase in volumes was accompanied by a €10/MWh drop in electricity spot market prices observed between the end of Q3 2019 (€39/MWh) and the end of Q3 2020 (€29/MWh), a drop in spot prices which, like the volume effect, increased expenses by accentuating the gap between the purchase obligation price and the market valuation
- Costs linked to ZNIs (3) decreased between the end of Q3 2019 and the end of Q3 2020. Indeed, the drop in electricity consumption generated by the health crisis in 2020 in the ZNIs has led to a drop in electricity generation and therefore to a drop in final CSPE costs



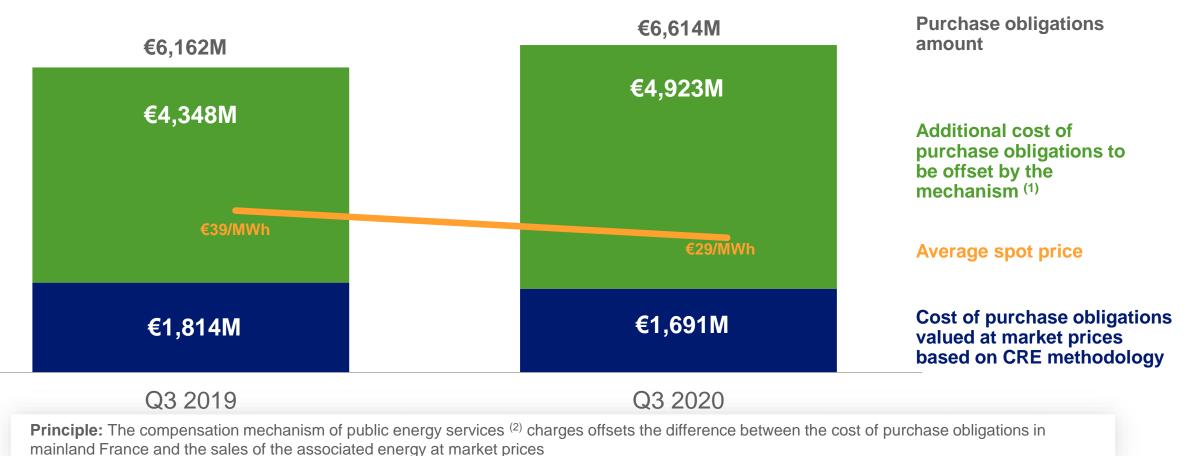
<sup>(1)</sup> Purchases obligations include electricity generated from: hydropower (less than 12MW), biomass, wind power, PV power, cogeneration, recovery of household waste and energy recovery, with the exception of ZNI (3)

<sup>(2)</sup> Additional generation costs and purchase obligations in ZNI<sup>(3)</sup>, the TPN (First Necessity Tariff) and the FSL (Housing Solidarity Fund)

<sup>(3)</sup> ZNI: Zones non interconnectées corresponding to overseas departments and Corsica and some of the Breton islands

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



(1) EDF SA excluding island activities

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



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### PUBLIC ELECTRICITY NETWORK ACCESS TARIFF (TURPE) KEY DATES OF TURPE 5BIS



Decision by the CRE <sup>(1)</sup> on 28 June 2018 <sup>(2)</sup> regarding the TURPE 5 bis HTA/BT distribution rates, which come into effect from 1 August 2018 for a period of approximately three years (not retroactive):

- Increase in regulated equity of Enedis <sup>(3)</sup> pursuant to the decision by the Council of State of 9 March 2018 totalling circa €1.6 billion. Over time, this will provide Enedis <sup>(3)</sup> with an additional income equal to, on a net present value of cash flows before tax basis, €<sub>2018</sub>750m according to the estimate by the French Energy Regulator
- Update of the corporate tax rate, resulting in an adjustment of the return rate to 4% for regulated equity and 2.5% for the margin on assets (versus 4.1% and 2.6% previously)
- No reconsideration of the other aspects of TURPE 5 HTA/BT: trajectory of operating expenses, net investments, incentive regulatory framework of TURPE 5 HTA/BT and of Linky maintained

Average change as of 1 August 2020 of +2.75%, including in particular +0.92% for inflation and +1.85% to clear the balance of the so-called CRCP, a balancing mechanism and -0.02% for the effects of the 9<sup>th</sup> March 2018 State council decision

- (1) CRE: Commission de Régulation de l'Énergie (French Energy Regulator)
- (2) Published in the Official Journal of 28 July 2018
- (3) Enedis, an independant EDF subsidiary as defined in the French Energy Code



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### PUBLIC ELECTRICITY NETWORK ACCESS TARIFF (TURPE): ESTIMATED SCHEDULE FOR TURPE 6 DISTRIBUTION

8 October 2020

16 November 2020 End-2020 / Early-2021

1 August 2021

Consultation on the CRE<sup>(1)</sup> about TURPE 6 Distribution

Consultation answers

**CRE** deliberations

implementation of TURPE 6
Distribution

1) CRE: Commission de Régulation de l'Énergie (French Energy Regulator)

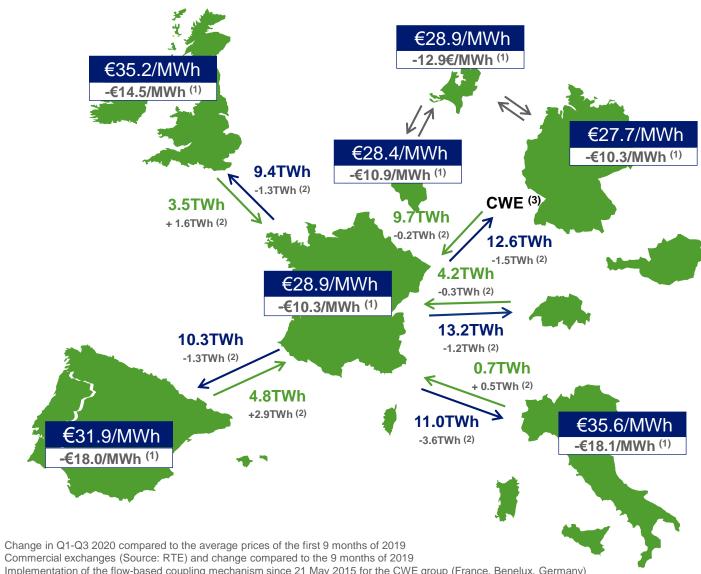




# SALES AND HIGHLIGHTS 9M 2020 MARKETS

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### **AVERAGE SPOT PRICES IN 9M 2020**



The decline was driven by H1, due to a combination of 3 effects:

- The sharp drop in demand: during the winter in France due to increased temperatures, then at the European level with the implementation of confinement measures.
- A significant drop in spot gas prices in the spring due to high storage levels, and lower demand due to the Covid crisis, driving prices down in countries where gas resources are frequently marginal, such as the United Kingdom and Italy. Prices in Q3 have partially recovered
- The increase in wind generation in France and in Europe more broadly

Market coupling remains limited by available border capacity

Average observed spot market price for 9M 2020:

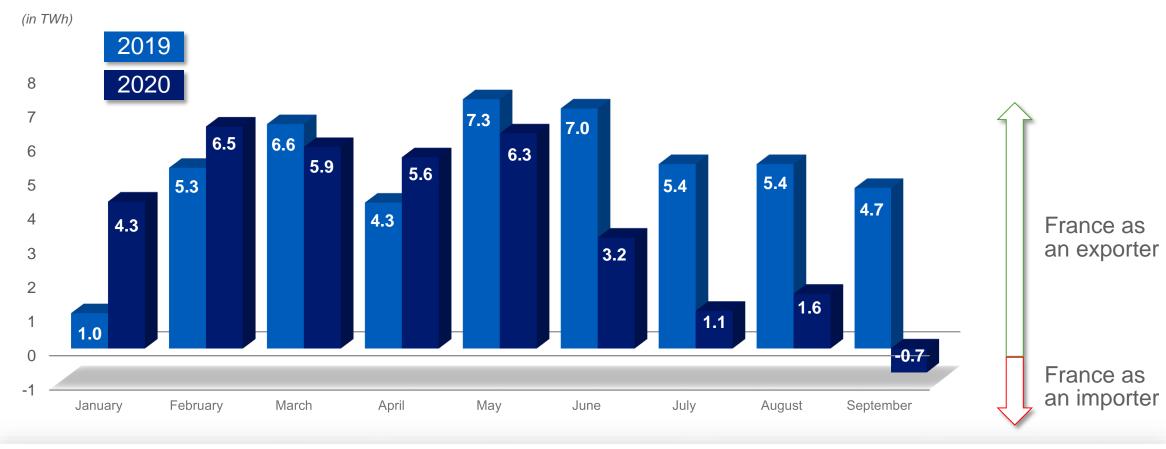
- EPEXSPOT: France & Germany
- N2EX: United-Kingdom
- OMIE: Spain
- GME: Italy (Prezzo Unico Nazionale)
- APX: Netherlands
- BELPEX: Belgium

- Implementation of the flow-based coupling mechanism since 21 May 2015 for the CWE group (France, Benelux, Germany)



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### **CROSS-BORDER ELECTRICITY TRADE BALANCE**



France's export balance stood at 33.7TWh between January and September 2020 (-13.4TWh vs. Q1-Q3 2019). This decrease is mainly due to the health crisis that has impacted the availability of the French nuclear fleet and reduced the demand for electricity from several of our neighbours. Totalling 56.6TWh over the period, exports decreased by 8.8TWh. Whereas the flow has decreased towards all borders, the decrease is most marked towards Italy (-3.6TWh). At 22.9TWh over the period (+4.5TWh vs. Q1-Q3 2019), imports increased on all borders, especially from Spain (+2.9TWh)

Source: RTE



### FRENCH POWER TRADE BALANCES AT ITS BORDERS

		9M 2019				9M 2020			
(In TWh <sup>(1)</sup> )		Q1	Q2	Q3	Total	Q1	Q2	Q3	Total
	exports	4.0	3.1	3.8	10.8	3.7	3.7	2.1	9.4
United Kingdom	imports	0.4	0.4	1.1	1.9	0.6	1.4	1.5	3.5
	balance	3.6	2.7	2.6	8.9	3.1	2.3	0.6	6.0
	exports	4.9	3.6	3.0	11.5	4.1	4.1	2.1	10.3
Spain	imports	1.1	0.4	0.4	1.9	1.2	1.2	2.5	4.8
	balance	3.9	3.3	2.6	9.6	2.9	2.9	-0.4	5.5
	exports	5.2	4.6	4.8	14.6	5.9	2.1	3.1	11.0
Italy	imports	0.1	0.0	0.0	0.1	0.1	0.2	0.4	0.7
	balance	5.1	4.6	4.8	14.5	5.8	1.9	2.6	10.3
	exports	5.4	4.8	4.2	14.4	6.4	4.8	2.0	13.2
Switzerland	imports	1.4	1.4	1.8	4.6	1.3	1.2	1.8	4.2
	balance	4.0	3.5	2.4	9.8	5.2	3.6	0.2	9.0
	exports	2.3	6.7	5.1	14.1	3.9	6.5	2.2	12.6
CWE (2)	imports	6.0	2.0	1.9	9.9	4.3	2.1	3.3	9.7
	balance	-3.6	4.7	3.2	4.2	-0.3	4.4	-1.1	2.9
	exports	21.7	22.8	20.8	65.4	24.0	21.1	11.4	56.6
TOTAL	imports	8.8	4.3	5.2	18.4	7.3	6.1	9.5	22.9
	balance	12.9	18.7	15.6	47.0	16.7	15.1	1.9	33.7

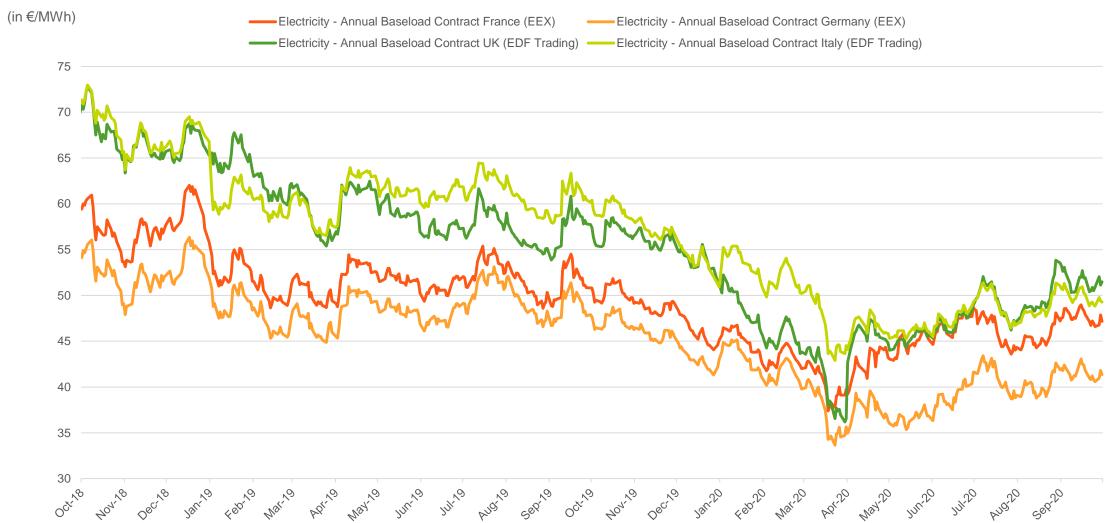
Source: RTE

<sup>(2)</sup> CWE flow-based coupling zone composed of Germany, Belgium, France, Luxembourg and Netherlands, set up in May 2015



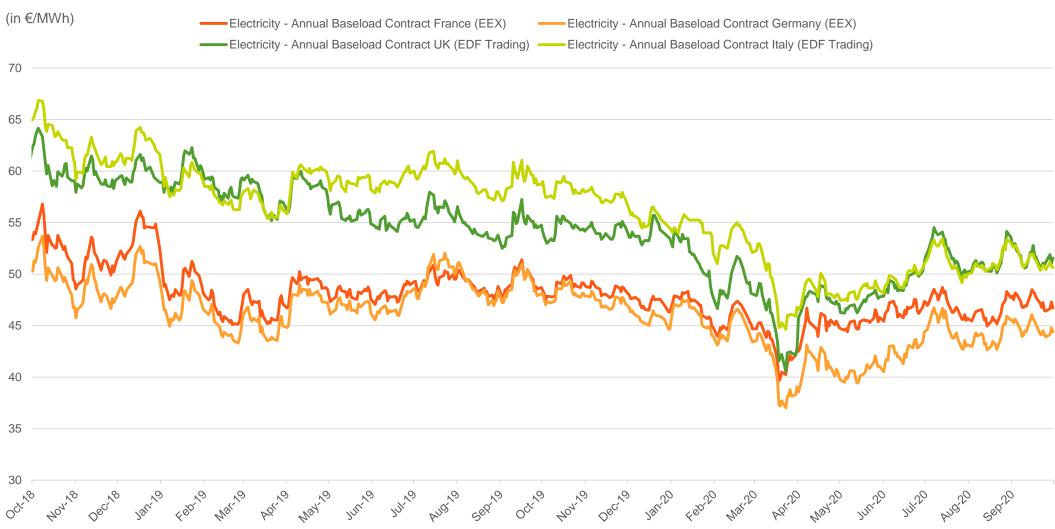
<sup>(1)</sup> Rounded to the nearest tenth

# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+1) FROM 01/10/2018 TO 30/09/2020



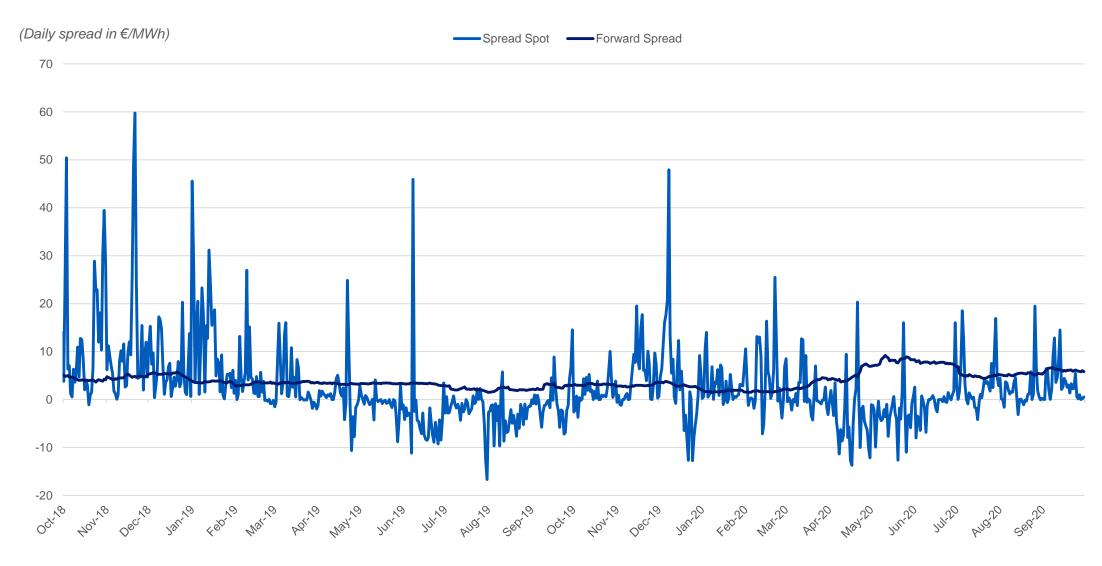


# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+2) FROM 01/10/2018 TO 30/09/2020





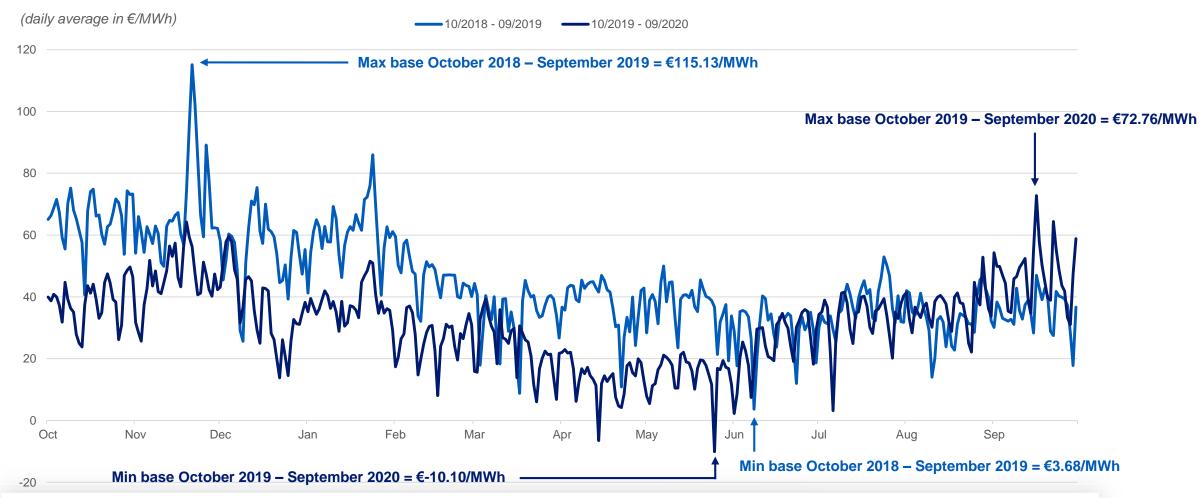
### FRANCE/GERMANY SPREAD FROM 01/10/2018 TO 30/09/2020





Note: Over the period, the France/Germany spread reached its minimum on 31 July 2019 at -€16.67/MWh, and its maximum on 21 November 2018 at €59.77/MWh

### FRANCE: BASELOAD ELECTRICITY SPOT PRICES



Between January and September 2020, spot electricity prices averaged €28.9/MWh on a base load basis (-€10.3/MWh vs. Q1-Q3 2019)

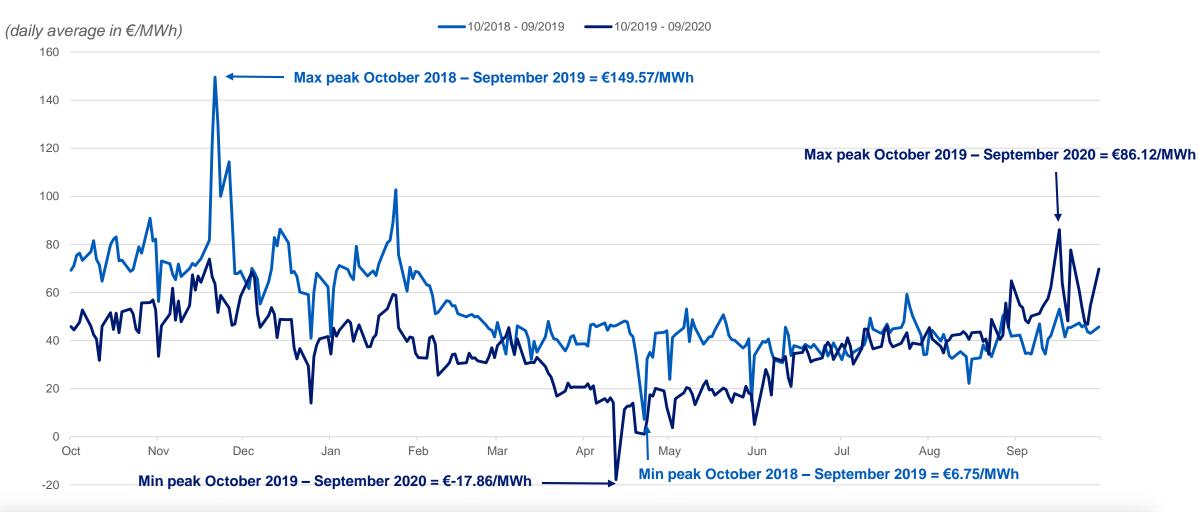
This decrease was driven by the first half of the year: the fall in commodity prices combined with the sharp drop in demand (linked to rising temperatures over the winter, then the impact of lockdown measures, followed by a sluggish upturn in activity) to drive prices down. In Q3, on the other hand, prices averaged €3.5/MWh above their 2019 level, driven by the price level in September. This was due to higher fuel prices combined with lower nuclear availability in September



Source: EPEX

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### FRANCE: PEAKLOAD ELECTRICITY SPOT PRICES



Between January and September 2020, spot electricity prices averaged €34.3/MWh on a peak load basis (-€10.9/MWh vs. Q1-Q3 2019) As with the base load and for similar reasons, this decrease is driven by the first half of the year





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### COAL PRICES (Y+1) FROM 01/10/2018 TO 30/09/2020



The price of coal for delivery to Europe in N+1 averaged \$57.1/t in Q1-Q3 2020 (-\$20.3% or -\$14.6/t vs. Q1-Q3 2019). In H1 2020, it first continued the decline that began in 2019, under the effect of sluggish demand forecasts throughout the world, combined with very high stock levels throughout Europe. The demand for coal, which had weakened due to competition from gas and to the economic slowdown, has been greatly affected by the lockdown measures and their impact on growth. However, supply was also reduced, which kept prices between \$55/t and \$60/t throughout Q3 2020. This reduction is explained by production restrictions due to a lack of profitability, as well as strikes at the Cerrejon mine, Colombia's main producer

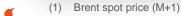


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### BRENT PRICES (1) FROM 01/10/2018 TO 30/09/2020



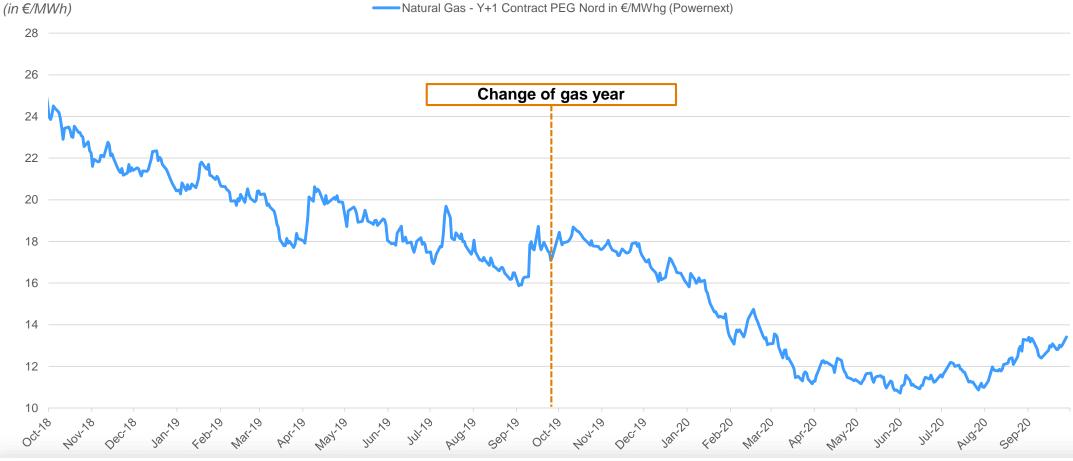
Oil prices averaged \$42.5/bbl in Q1-Q3 2020 (-34.3% or -\$22.2/bbl vs. Q1-Q3 2019). Already on a downward trend in a context of abundant supply and weakened demand, the price per barrel dropped sharply in March after the failure of negotiations between OPEC+ members and the spread of lockdown measures throughout the world. It continued to drop until reaching \$19.3/bbl on 21 April, while a barrel of WTI for May delivery was trading at negative prices. It then moved upwards, buoyed by the implementation of the production cut ultimately decided by OPEC+. However, this fragile upward trend was reversed in September due to the pessimistic outlook for medium-term demand following the increase in the number of Covid19 cases in Europe in particular





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### GAS PRICES<sup>(1)</sup> (Y+1) FROM 01/10/2018 TO 30/09/2020



The price of the annual gas contract for delivery in N+1 on PEGs averaged €12.5/MWh in Q1-Q3 2020 (-33.6% or -€6.3/MWh vs. Q1-Q3 2019). It continued the decline that began in 2019 in H1 2020. The overabundance linked to moderate global demand and to the North American support of unconventional gas production was accentuated by the Covid crisis. High stock levels and mild temperatures helped consolidate this effect in Europe. In June, the decline in prices slowed following the cancellation of LNG deliveries from the United States and the effect of closures of certain unconventional hydrocarbon production sites for economic reasons. This upward trend was confirmed in August thanks to various fortuitous or planned short-term generation interruptions in Europe



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### CO<sub>2</sub> PRICES (Y+1) FROM 01/10/2018 TO 30/09/2020



The price of CO2 emission certificates for delivery in December N+1 averaged €24.2/t in Q1-Q3 2020 (-4.3% or -€1.1/t vs. Q1-Q3 2019), continuing to remain highly volatile. It collapsed in March, losing €8.4/t in one week as lockdown measures spread across Europe. From April, however, the price recovered, reacting strongly to announcements of economic stimulus measures and favourable political signals. In particular, it exceeded €30/t twice over the period: in June, driven by speculation in a context of recovery, then in September, stimulated by the prospect of raising the EU's emission reduction targets in 2030 to 55%



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### CO<sub>2</sub> MARKET

The price of CO₂ allowances (EUA<sup>(1)</sup>) in the European Union Emissions Trading Scheme (EU ETS) rose sharply in 2018, from €7 to €25/tCO₂, in connection with the implementation of the Market Stability Reserve, which planned the gradual absorption of the market surplus

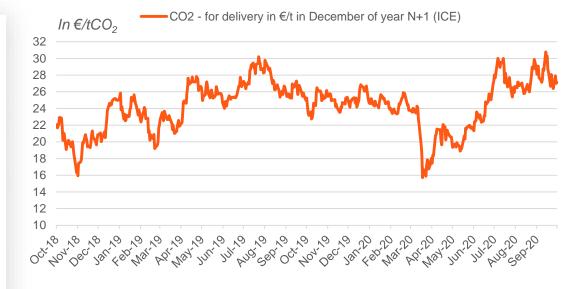
In 2019, the price of the CO₂ quota fluctuated between €18 and €30/t, following the plans to close German coal-fired power plants and on developments at Brexit, which could have relaxed or tightened the market's supply-demand balance, depending on its outcome

In 2020, the price of the quota has confirmed its volatility. It fell to €15/t in March when all markets fell, but went above €30/t several times during the year in response to positive ecological political signals

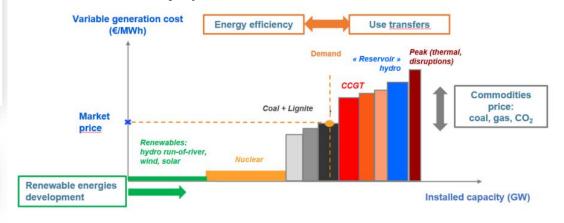
Quota demand decreases when fossil fuel-fired electricity generation declines or when industrial production or air traffic drops. The Covid-19 crisis will continue to weigh on the fluctuations of its level

The price of electricity – set at the level of the marginal cost of generation – is therefore sensitive to variations in the price of  $CO_2$  that influence the cost of generating electricity from gas and coal

Sensitivity of the wholesale price of electricity in France to the price of  $CO_2$ , currently in the order of 0.50/MWh for 1/10 for 0.50



#### Daily optimisation: the merit order

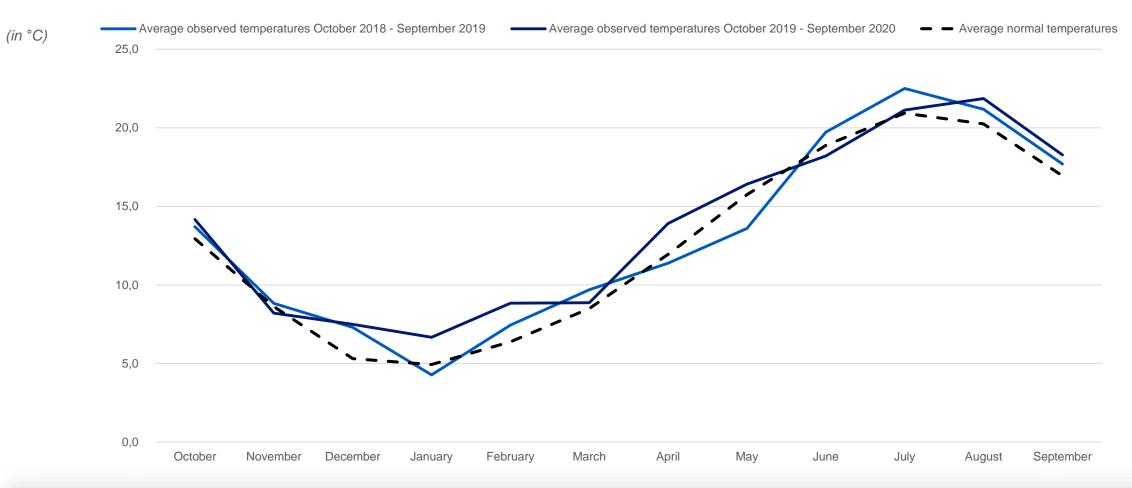




(1) EUA: EU allowance

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### **AVERAGE MONTHLY TEMPERATURES (1) IN FRANCE**



2020 (January to September) is a warm year: 1°C higher than normal and 0.7°C higher than in 2019, on average over the period. Several records have been set: the month of February ranks as the 2nd hottest February since 1980 (after February 1990), the months of April and August rank 3rd (after April 2007 and April 2011/after August 1997 and August 2003). Finally, the summer had two weeks at more than 5°C above normal (between 6 and 12 August): +5.3°C/ between 13 and 20 September: +5.0°C)

Source: Météo France

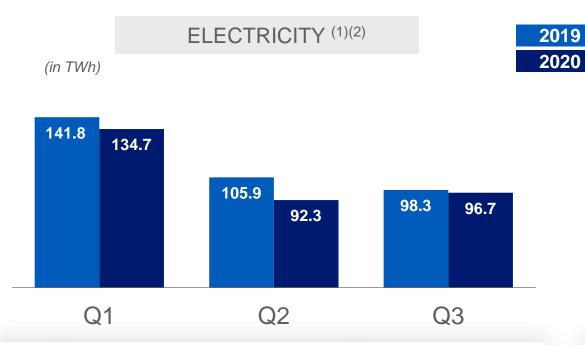
(1) Data based on a basket of 32 cities

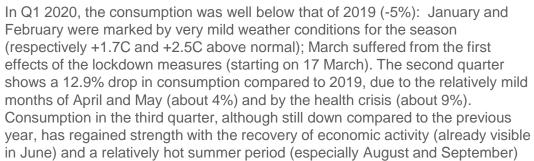


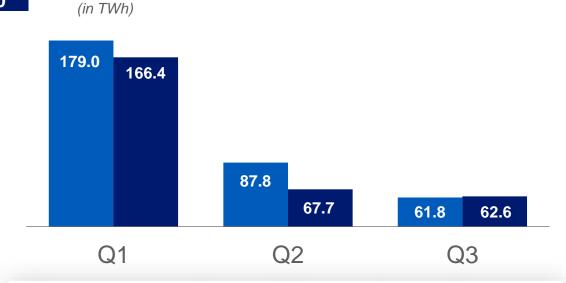
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### FRANCE: ELECTRICITY AND GAS OUTPUT







GAS (3)

While consumption in H1 2020 was significantly lower than in H1 2019 due to the Covid-19 crisis and lockdown measures, consumption in Q3 2020 is slightly higher than in Q3 2019

This increase was driven by the months of August and September. CGC output was higher than the same months in 2019. The anticipated resumption of heating in the early fall, after a few days of much lower temperatures than in 2019, also contributed to the increase in demand

- (1) Data unadjusted from weather effect, including Corsica
- Source 2019 2020 : RTE monthly overview until September 2020
- 3) Source : Ministère de la Transition Écologique et Solidaire. August and September 2020 : GRT Gaz and TEREGA



