SALES AND HIGHLIGHTS 2019
FIRST QUARTER

Appendices
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Detailed information regarding these uncertainties and potential risks are available in the reference document (Document de référence) of EDF filed with the Autorité des marchés financiers on 15 March 2019, which is available on the AMF’s website at www.amf-france.org and on EDF’s website at www.edf.fr.

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### CHANGE IN SALES\(^{(1)}\)

<table>
<thead>
<tr>
<th>In millions of Euros</th>
<th>Q1 2018</th>
<th>Forex</th>
<th>Scope</th>
<th>Organic growth</th>
<th>Q1 2019</th>
<th>(\Delta% \text{org.})^(^{(2)})</th>
</tr>
</thead>
<tbody>
<tr>
<td>France – Generation and supply activities</td>
<td>7,956</td>
<td>-</td>
<td>12</td>
<td>177</td>
<td>8,145</td>
<td>+2.2</td>
</tr>
<tr>
<td>France – Regulated activities(^{(3)})</td>
<td>5,167</td>
<td>-</td>
<td>-</td>
<td>(134)</td>
<td>5,033</td>
<td>-2.6</td>
</tr>
<tr>
<td>Framatome</td>
<td>721</td>
<td>14</td>
<td>-</td>
<td>(29)</td>
<td>706</td>
<td>-4.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,577</td>
<td>31</td>
<td>-</td>
<td>(107)</td>
<td>2,501</td>
<td>-4.2</td>
</tr>
<tr>
<td>Italy</td>
<td>2,252</td>
<td>-</td>
<td>92</td>
<td>28</td>
<td>2,372</td>
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<tr>
<td>Other international</td>
<td>666</td>
<td>(3)</td>
<td>6</td>
<td>126</td>
<td>795</td>
<td>+18.9</td>
</tr>
<tr>
<td>EDF Renewables</td>
<td>379</td>
<td>9</td>
<td>18</td>
<td>11</td>
<td>417</td>
<td>+2.9</td>
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<tr>
<td>Dalkia</td>
<td>1,223</td>
<td>1</td>
<td>3</td>
<td>96</td>
<td>1,323</td>
<td>+7.8</td>
</tr>
<tr>
<td>Other activities</td>
<td>751</td>
<td>3</td>
<td>(11)</td>
<td>139</td>
<td>882</td>
<td>+18.5</td>
</tr>
<tr>
<td>Inter-segment eliminations</td>
<td>(1,246)</td>
<td>-</td>
<td>-</td>
<td>38</td>
<td>(1,208)</td>
<td>-3.0</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td><strong>20,446</strong></td>
<td>55</td>
<td><strong>120</strong></td>
<td><strong>345</strong></td>
<td><strong>20,966</strong></td>
<td><strong>+1.7</strong></td>
</tr>
</tbody>
</table>

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(1) Breakdown of sales 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
IFRS 16 - LEASES: EFFECTIVE 1 JANUARY 2019 (1/2)

- Date applied by the Group: 1 January 2019
- In accordance with IFRS 16, the Group has not restated the 2018 comparative information. See the note on the change in method for specific information
- All lease contracts, with the exception of two specific exemptions (short-term lease and low-value contracts < $5,000) are recognised on the balance sheet as Right of Use (ROU) assets with a corresponding lease liability
- Application of the standard leads to the recognition of impairment and financial expenses instead of lease expenses (in other external consumption in EBITDA).
- The valuation of the ROU and the liability is based on fixed lease payments, taking into account the probable term of the contract (including extension/cancellation options if it is reasonably certain they will be exercised), discounted at the lessee's marginal borrowing rate
- On the transition date, the Group used the “modified retrospective” method (calculation of the liability and the asset at 01/01/2019 applying the rates on that date)
- The main lease contracts relate to real-estate assets (tertiary and housing) and industrial facilities (land, wind farms) and, to a minor extent, to transport vehicles and various IT equipment
### Estimated impacts at 31/12/2018:

- **Debt impact:** +€4.5 billion
  - The changes are mainly due to:
    - Renewals and new contracts: +€0.7 billion
    - Debt repayment and termination of contracts: -€0.6 billion
- **EBITDA impact:** +€0.5 billion
  - Cancellation of lease charges: +€0.7 billion
  - Cancellation of capital gains portion on the sale of real estate: -€0.2 billion
- **Depreciation charge:** -€0.6 billion
- **Financial expenses:** -€0.1 billion
- **Income before taxes:** -€0.2 billion

### Reconciliation with off-balance sheet lease commitments (EHB) at 31/12/2018 with the estimated IFRS 16 liability:

- **EHB lease at 31/12/2018:** €4.4 billion
  - Exemptions from IFRS 16: -€0.1 billion
  - Differences in the terms retained related to termination and extension options: +€1.1 billion
  - Contracts signed in 2018 for assets available after 1 January 2019: -€0.3 billion
  - Others: -€0.1 billion

- **Undiscounted lease debt:** €5.0 billion
  - Impact of discounting: -€0.5 billion

- **Discounted lease debt at 31/12/2018:** €4.5 billion
**COMPARATIVE DEBT RATINGS**

<table>
<thead>
<tr>
<th>Moody's ratings</th>
<th>S&amp;P Ratings</th>
<th>Moody's Ratings</th>
<th>Fitch Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baa1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baa2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baa3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sources:**
rating agencies as of 06/05/2019

(1) Update of the rating and outlook of EDF Group by S&P on 25 February 2019
(2) Update of the rating and outlook of EDF Group by Fitch on 28 September 2016
(3) Update of the rating and outlook of EDF Group by Moody’s on 9 November 2018
Consolidated sales & IFRS 16
Strategy & investments
Operating data
France
International and other activities
Markets

FLAMANVILLE 3 EPR (1,650 MW)

Construction progress at end of March 2019
- Main civil engineering work completed
- Electromechanical assembly nearly finished, the remaining activity being carried out as the system performance tests are being performed
- 67% completion of building finish work (1)
- 51% progress of facility transfers to the operator

System performance tests
- 6 January 2018: end of “cold” tests (filling primary circuit with pressurised water) conducted, including successful completion of the leak-tightness test of the reactor’s primary circuit (2)
- 3 April 2018: end of reactor building pressurisation operations, known as the “containment building pressure test” (3)
- From 22 February 2019 to 22 March 2019: 1st phase of the “hot” tests with more than 95% of the test criteria testing compliant

Reworking of secondary system welds
In July 2018 (4), EDF decided to repair 33 welds that were found to have quality deficiencies and to completely rework 20 welds that did not meet its break preclusion requirements (5); moreover, EDF proposed a specific justification method to the ASN for 8 welds located in the reactor containment building structure.
On 3 December 2018, EDF submitted to ASN a technical file presenting the procedures for repairing and upgrading the main secondary circuit welds, which had showed deficiencies with respect to the break preclusion requirements, as well as for the specific justification method for the 8 welds located in the reactor containment building structure.
On 9 April 2019, ASN convened its Permanent Group of Experts for nuclear pressure equipment (GP ESPN) as part of the investigation into quality deviations affecting the welds located on the main steam transfer pipes covered by the break preclusion principle of the Flamanville 3 EPR. EDF has reviewed the position of the Permanent Group of experts made public on 11 April 2019. It is continuing its discussions with ASN, which will decide in a few weeks’ time on the follow-up to the investigation of this case.

Schedule and cost (6)
The recommendations made and the solutions suggested by the Permanent Group could have an impact on the commissioning schedule and construction costs.
A detailed update of the schedule and construction cost of the Flamanville EPR will be given after the ASN ruling has been published.
As a precautionary measure, EDF requested on 12 March 2019 the amendment of the construction authorisation decree for Flamanville 3 with a view to extend the deadline.

(1) Finish work aimed at a high quality standard for the facility (cleanliness, paint, weatherstripping), in accordance with the standard of an operating nuclear power plant.
(2) See EDF press releases dated 9 October 2017 and 8 January 2018
(3) See EDF press release dated 10 April 2018
(4) See EDF press release dated 25 July 2018
(5) See significant incident report (30 November 2017) on correct application of “high quality” requirements
(6) See EDF press release dated 11 April 2019
Reminder of the key points on Hinkley Point C project

- “J0” milestone: Complete the common raft (pouring of the nuclear safety concrete) for Unit 1 scheduled for mid-2019
- Project completion costs estimated at £19.6 billion in 2015 sterling, an increase of £1.5 billion in 2015 sterling compared to the initial cost, subject to the implementation of the action plans necessary to achieve this objective
- Commissioning of Unit 1 scheduled end-2025. Risk of deferral of delivery (COD) estimated at 15 months for Unit 1 and 9 months for Unit 2. The materialisation of this risk would entail an additional cost of around £0.7 billion in 2015 sterling

Project progress in line with “J0” target at this stage

- Successful completion of the design on 26 September 2018
- Handover of Unit 2 from earthworks to civils contractor in readiness for Pre-Stressing Gallery construction
- Manufacturing of pressure vessel under way at Framatome
- Electricity substation platform handed to National Grid

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(1) Please refer to press release published by EDF on 3 July 2017
(2) Given the long-term horizon of investment in the HPC project, the EDF Group is deploying a progressive strategy to hedge the risk of appreciation of the pound in its HPC investment
(3) Excluding interim interests and excluding forex effect versus the reference exchange rate for the project 1 Sterling = 1.23 Euro. The exchange rate on 31 March 2019 was 1.165 euro
(4) Additional costs net of action plans
TAISHAN 1 & 2 (EDF 30%)

Progress of the construction as of 30 April 2019

- **Unit 1**
  - Authorisation to fuel loading on 10 April 2018
  - First chain reaction on 6 June 2018
  - First grid connection on 29 June 2018
  - Commercial operation started on 13 December 2018(1)

- **Unit 2**
  - End of the primary circuit hydraulic testing of the modifications on the command control on 12 July 2018
  - End of “hot functional tests” on 25 January 2019
  - Fuel loading on 16 April 2019

Next steps communicated by CGN

- **Unit 2**
  - Commercial operation in 2019

(1) Taishan’s electricity purchase tariff was approved at RMB435/MWh (including tax) (Cf.CGN press release of 28 March 2019)
The EDF Group has been involved in civil nuclear cooperation between France and India since 2010, within the framework of bilateral agreements signed between France and India. Jaitapur is the flagship project of this collaboration. It is directly based on the energy transition objectives of the Indian government, set out during the Paris Conference in 2015, which aim to drive forward the increased share of renewable and nuclear energies in the country. Jaitapur is located in the state of Maharashtra and will be the largest nuclear power site in the world.

Acting as head of the French nuclear power sector, EDF entered into exclusive negotiations with NPCIL since 2016. On Saturday, 10 March 2018, Jean-Bernard Lévy, EDF Chairman and CEO, and Satish Kumar Sharma, Chairman and MD of Nuclear Power Corporation of India Limited (NPCIL), the government-owned Indian energy company, signed an Industrial Way Forward Agreement for the implementation of six EPR reactors at the Jaitapur site in India. Jaitapur is set to be the biggest nuclear project in the world. The agreement defines the project’s industrial framework, the roles and responsibilities of the partners, as well as a planned timetable for the next steps.

**EDF is expected to act as supplier of the EPR technology.** EDF would undertake all engineering studies and all component procurement activities for the first two reactors. For the other four units, the responsibility for some purchasing activities and studies could be assigned to local companies, through NPCIL. EDF would also provide NPCIL with its experience in the construction management of EPR reactors.

**In its capacity as owner and future operator of the Jaitapur Nuclear Power Plant, NPCIL is expected to be responsible for obtaining all authorisations and certifications required in India, and for constructing all six reactors and site infrastructures.** EDF and its industrial partners would assist NPCIL during the construction phase.

In accordance with the agreed schedule in the IWFA, signed on March 10 by Mr. Levy, in the presence of French Republic President, EDF deliver to NPCIL last December 14, 2018 a complete conditional offer. The convergence process based on this technical-commercial offer is launched with NPCIL.

The 2019 objective for NPCIL and EDF is the signature of a binding agreement (General Framework Agreement), and launch the Front End Engineering and Design work.
**SINOP HYDROELECTRIC DAM IN BRAZIL**

### Key features of the project
- 400MW hydropower facility in the State of Mato Grosso
- 2 x 200MW Kaplan turbines, which are among the most powerful and largest in the world for this technology
- Average output potential of 2,100GWh/yr and a reservoir area of 337 km²
- The project is led by Companhia Energética SINOP SA (CES), which is responsible for building, equipping and operating the dam. EDF acquired a 51% stake in the company in December 2014; the two other shareholders are Eletrobras subsidiaries: Eletronorte (24.5%) and Chesf (24.5%).
- Sale of the electricity generated under 34 Power Purchase Agreements (PPA) with distribution companies for 30-year.

### Financing structure
- Total projected project cost: c. €880 million(1)
- ~26% financing by the Brazilian Development Bank (BNDES) and a €54 million infrastructure debenture bond issuance in June 2018. The remainder is equity financed.

### Schedule
- **Q2 2018**: EDF Norte Fluminense was awarded the SINOP O&M contract
- **24 January 2019**: fill permit
- **H2 2019**: Operating license and commissioning expected

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(1) Based on 31 March 2019 exchange rates and €880 million vs. €750 million reported on 31 December 2018
(2) H2 2019 vs. Q2 2019 reported on 31 December 2018
NACHTIGAL HYDROELECTRIC DAM IN CAMEROON

Key project features

- 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
- Will be owned and operated by NHPC (Nachtigal Hydro Power Company), currently comprising EDF (40%), IFC (20%) and 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 65-km radius of the construction site. The project will generate dozens of permanent jobs.

Financing structure

- Project’s expected total cost is €1.2 billion
- Shareholders’ 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
- The largest hydropower project ever built in Africa through non-recourse project finance debt

Schedule

- Final and binding agreements signed on 8 November 2018, financial closing on 24 December 2018
- Start of construction March 2019
- Commissioning expected in 2023

420MW run-of-the-river hydropower plant

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(1) Please refer to press release published by EDF on 8 November 2018
(2) Equity consolidation method
(3) IFC – a sister organization of the World Bank and member of the World Bank Group
(4) DFI include: AfDB, IFC, CDC, European DFI coordinated by Proparco (AFD, DEG and FMO), EIB, OFID, EAF, AFC. Local banks include: Attijari/SCB, BiCEC, SG Cameroun and Standard Chartered
In April 2019, EDF announced the creation of “Hynamics”, a new subsidiary for the Group\(^{(1)}\) responsible for offering effective low-carbon hydrogen for industry and mobility.

- 95\% of hydrogen is currently produced from fossil fuels, which produces a lot of carbon dioxide. Hynamics has opted instead for water electrolysis to produce its hydrogen, a technology that emits very little CO\(_2\), as long as the electricity used itself comes from low-carbon production methods (which is the case for 96\% of the electricity generated by EDF in France).

- Hynamics offers two different low-carbon hydrogen solutions:
  - For industrial clients, for whom hydrogen is a necessity (refinery, glassware, agri-food, chemistry, etc.), Hynamics installs, runs and maintains hydrogen production plants, by investing in the necessary infrastructure;
  - For mobility providers, both public and professional, Hynamics helps link up different areas with service stations to provide hydrogen to recharge fleets of commercial vehicles, like trains, buses, bin lorries, utility vehicles and means of waterway transport. These services constitute an additional asset for the Electric Mobility Plan announced by the Group in October 2018.

- After the acquisition of EDF’s stake in the French company McPhy, a leading player in this market, the creation of this new subsidiary confirms the EDF Group’s ambition when it comes to low-carbon hydrogen, and applies it to new uses.

(1) EDF Pulse Croissance Holding is the 100\% shareholder in Hynamics.
INTERNATIONAL OFFSHORE WIND POWER DEVELOPMENTS (1/2)

Dongtai Projects (Jiangsu Province, China)

Main aspects of the project

- Partnership with Shenhua Renewables, a subsidiary of China Energy Investment Corporation
- Project capacity 502MW, consisting of 2 phases (Dongtai IV: 302MW, Dongtai V: 200MW)
- Both projects were approved by the Jiangsu provincial authorities (in 2015 and 2017 respectively). Offshore wind projects approved by the provincial authorities before 2018 (included) receive a feed-in tariff of 113€/MWh
- Expected annual output 1,400GWh (P50)
- Located about 40 km from the Jiangsu coast, average water depth 6 meters
- Dongtai IV turbines: Shanghai Electric (Siemens license) and Envision. Call for tenders under way for Dongtai V.
- Foundations: monopiles.

Key dates

- 25 March 2019: Signature in Paris of a Cooperation Agreement between EDF and China Energy Investment Corporation, concerning the projects Dongtai IV and Dongtai V.
- August 2019: Signature of the final joint venture agreements, subject to the finalisation of the commercial aspects.
- End 2019: EDF joins the project company in charge of financing, building and operating the Dongtai IV and Dongtai V projects (subject to obtaining ad hoc administrative authorisations).
Key Project Facts

- Project Capacity 448MW
- Expected output ca. 1,850GWh
- Fully Consented Project in Pre-Construction Phase
- Located in the Outer Firth of Forth (Scottish Territorial Waters)
- Ca. 37km of Offshore Export Cable and 12km onshore export cable
- Water depths of between 45 – 55m
- Contract for Difference ("CfD") 15yy from COD at £129 (2019, fully CPI Indexed)

Key Dates

- May 2018: Acquisition by EDF-ER
- December 2018: New Consent Awarded
- Target Financial Close: end Q3/ begin Q4 2019
- Start of on-shore works: Q3 2019
- Start of offshore works: 2020
- Target Commissioning Window (CfD): March 2022 – March 2023

Neart Na Gaoithe Project in Scotland

Atlantic Shores Project in the United States

Key Project Facts

- Project Capacity 1.7 to 2.4GW
- Size of the project: 742km²
- Joint Venture project with Shell, pari passu 50/50
- Water depths of 20 meters, 10 miles from shore
- Wind Turbine Generator Unit Capacity 12-15MW
- Two separate areas for the project

New Jersey Leases

- Established NJ Wind Energy Area ~57km by 20km
- North lease acquired in December 2018
- Lease area ~20km from shore and 20m depth

New York Leases

- BOEM(1) proposing up to five new Bight Sites (Areas NY 1-5)
- 85-100km from shore and 40-50m depth

Key Dates

- Atlantic Shores Offshore Wind submitted bid into the New Jersey RFP on 28 December 2018
- The New York RFP bid submitted on February 14, 2019
- Project construction is expected in 2026+ horizon

(1) Bureau Of Ocean Energy Management (BOEM), manages the competitive leasing policy and program for energy development
Successful value creation through a strategic partnership in the 3 first French offshore wind projects

**Eolien Maritime France portfolio**
- 3 offshore wind projects in France
- Over 1.4GW of combined capacity

**Highly valuable partnership with Enbridge**

**Total investment costs of c. €6bn**
- Efficiency increases with economies of scale

**Optimised financial structure**
- Partnering up to share funding, development and construction risks
- Equity method

**Innovation in floating offshore**

Innovative pilot awarded in France in November 2016
- Floating foundations allow for higher load factors as they can be placed in particularly windy areas previously untapped
- Contract awarded to EDF Renewables for the installation of three 8MW turbines on floating foundations in the Faraman area (off Fos-sur-mer)

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**On 16 April 2019**, Eolien Maritime France (EMF) announced that Siemens Gamesa Renewable Energy will supply turbines for two of its three offshore wind projects in France.

**GE Renewable Energy** will build the Haliade 150-6MW turbines for the first offshore wind project to be launched as soon as its authorizations are cleared of any claims. The following two projects will be equipped with Siemens Gamesa turbines.
LINKY(1) SMART METERS DEPLOYMENT

Key elements

- Goal of 90% of the metering fleet installed by 2021 (i.e. about 34 millions Linky meters)
- Amount of investment revalued downwards from €4.5bn to €4(3)bn over the 2014-2021 deployment period
- Specific regulation over a 20-year period (RAB and Linky-dedicated remuneration)

Key points as of 31/03/2019

- Compliance with the objectives of the regulatory incentives in terms of costs, deadlines and system performance
- ~17.7 million customers have a Linky meter and 391,000 are equipped with a concentrator
- Class action lawsuits by residential customers against the installation of Linky meters: all decisions rendered by the French high courts have been in favour of Enedis (with the exception of one of the four interim orders from the Toulouse court on the removal or non-installation of smart meters for 13 electro-sensitive customers, which has not, to date, established a precedent and which has been appealed by Enedis)
- ~1.5 million recurring subscriptions to hourly consumption data have been made by suppliers and third parties

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(1) Linky is a project led by Enedis, an independent EDF subsidiary as defined in the French energy code
(2) Estimated figures
(3) Costs at the end of the program have been revised downwards after taking into account the prices of the last equipment markets (concentrating meters) and delivery services signed
SALES AND HIGHLIGHTS
2019
FIRST QUARTER
Appendices
Operating Data
### INSTALLED CAPACITY AS OF 31 MARCH 2019

<table>
<thead>
<tr>
<th>In GWe</th>
<th>Consolidated capacities of EDF group, including shares in associates and joint ventures</th>
<th>Associates and joint ventures</th>
<th>Consolidated capacities of EDF group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>75.7&lt;sup&gt;(1)&lt;/sup&gt; 57%</td>
<td>2.8&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>72.9 58%</td>
</tr>
<tr>
<td>Coal</td>
<td>7.9 6%</td>
<td>2.2</td>
<td>5.7 5%</td>
</tr>
<tr>
<td>Fuel oil</td>
<td>4.2 3%</td>
<td>0.2</td>
<td>4.0 3%</td>
</tr>
<tr>
<td>Gas</td>
<td>13.1 10%</td>
<td>1.1</td>
<td>12.0 10%</td>
</tr>
<tr>
<td>Hydro&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>23.0 17%</td>
<td>1.5</td>
<td>21.5 17%</td>
</tr>
<tr>
<td>Other ren.</td>
<td>9.7 7%</td>
<td>0.1</td>
<td>9.6 8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>133.7 100%</strong></td>
<td><strong>7.8</strong></td>
<td><strong>125.9 100%</strong></td>
</tr>
</tbody>
</table>

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> Including EDF’s participation in the Taishan 1 EPR (525 MW).

<sup>(2)</sup> Including marine energy: 0.24 GW in 2018 and 2019.
### ELECTRICITY OUTPUT

*Output from fully consolidated entities*

<table>
<thead>
<tr>
<th>In TWh</th>
<th>T1 2018</th>
<th>T1 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>129.7</td>
<td>126.1</td>
</tr>
<tr>
<td>Hydro(^{(1)(2)})</td>
<td>15.7</td>
<td>10.8</td>
</tr>
<tr>
<td>Other Renewables</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Gas</td>
<td>13.0</td>
<td>14.5</td>
</tr>
<tr>
<td>Coal</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Fuel oil</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td><strong>168.4</strong></td>
<td><strong>159.2</strong></td>
</tr>
</tbody>
</table>

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 after deductions of pumped volumes is 14TWh in 2018 and 9.3TWh in 2019
(2) Including marine energy: 0.1TWh 2018 and 2019
## HEAT OUTPUT

**Output from fully consolidated entities**

<table>
<thead>
<tr>
<th></th>
<th>Q1 2018</th>
<th>Q1 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In TWh</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewables(^{(1)})</td>
<td>2.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Gas</td>
<td>8.9</td>
<td>8.0</td>
</tr>
<tr>
<td>Coal</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Fuel oil</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Others(^{(2)})</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>12.8</td>
<td>11.6</td>
</tr>
</tbody>
</table>

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 treatment plant gas and biogases

\(^{(2)}\) Category combining part of the heat generation by incineration and the heat recovery of heat and electricity from other industrial processes
# RENEWABLE OUTPUT

*Output from fully consolidated entities*

<table>
<thead>
<tr>
<th>In TWh</th>
<th>Q1 2018</th>
<th>Q1 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro&lt;sup&gt;(1)(2)&lt;/sup&gt;</td>
<td>15.7</td>
<td>76%</td>
</tr>
<tr>
<td>Wind</td>
<td>4.2</td>
<td>20%</td>
</tr>
<tr>
<td>Solar</td>
<td>0.3</td>
<td>2%</td>
</tr>
<tr>
<td>Biomass</td>
<td>0.3</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total electricity Group</strong></td>
<td>20.6</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total heat Group</strong></td>
<td>2.0</td>
<td>100%</td>
</tr>
</tbody>
</table>

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 after deductions of pumped volumes is 14TWh in 2018 and 9.3TWh in 2019

(2) Including marine energy: 0.1TWh in 2018 and 2019
### CO₂ EMISSIONS(1)

_Emissions from fully consolidated entities_

<table>
<thead>
<tr>
<th></th>
<th>In kt</th>
<th>In g/kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emissions from the heat and power generation by segment(2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France – Generation and supply activities</td>
<td>Q1 2018</td>
<td>Q1 2019</td>
</tr>
<tr>
<td></td>
<td>2,052</td>
<td>1,198</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>738</td>
<td>831</td>
</tr>
<tr>
<td></td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Dalkia</td>
<td>2,569</td>
<td>2,443</td>
</tr>
<tr>
<td></td>
<td>23%</td>
<td>25%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3,207</td>
<td>1,838</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>19%</td>
</tr>
<tr>
<td>Italy</td>
<td>1,589</td>
<td>2,057</td>
</tr>
<tr>
<td></td>
<td>14%</td>
<td>21%</td>
</tr>
<tr>
<td>Other international</td>
<td>1,214</td>
<td>1,480</td>
</tr>
<tr>
<td></td>
<td>11%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Group(3)</strong></td>
<td>11,368</td>
<td>9,858</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**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) Direct CO₂ emissions, excluding life cycle analysis (LCA) of generation plants and fuel
(2) The segments EDF Renewable, Framatome and Other activities are not shown because their emissions are negligible
(3) The decrease in CO₂ emissions is mainly due to a lower production from coal and oil and due to a milder winter in 2019
EVOLUTION OF CO₂ EMISSIONS(1) Q1 2018 VS. Q1 2019

Emissions from fully consolidated entities

(in Mt of CO₂)

Q1 2018
Q1 2019

<table>
<thead>
<tr>
<th>Activity</th>
<th>Q1 2018</th>
<th>Q1 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>France – Generation and supply activities</td>
<td>11.37</td>
<td>9.85</td>
</tr>
<tr>
<td>France – Regulated activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalkia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other international</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Direct CO₂ emissions, excluding life cycle analysis (LCA) of generation plants and fuel
(2) ZNI: « Zones non interconnectées » corresponding to overseas departments and Corsica - (mainly island territories)
RENEWABLES: GROUP NET(1) INSTALLED CAPACITY AS OF 31 MARCH 2019

Group net(1) installed capacity: 32.7GW

Capacity by technology:
- Wind: 8.0GW
- Solar: 1.4GW
- Other: 0.3GW
- Hydro(2): 23.0GW

(1) Net installed capacity, corresponding to consolidated data according to EDF’s percentage ownership in Group companies, including associates and joint ventures.
(2) Including marine energy: 0.24GW.
EDF RENEWABLES: NET INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION AS OF 31 MARCH 2019

Key
- Wind installed (MW)
- Solar installed (MWp)
- Wind and solar under construction (MW)

Other technologies
<table>
<thead>
<tr>
<th>Installed capacity</th>
<th>Gross</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed</td>
<td>12,943MW</td>
<td>8,267MW</td>
</tr>
<tr>
<td>Capacity under construction</td>
<td>3,487MW</td>
<td>2,424MW</td>
</tr>
<tr>
<td>Total</td>
<td>16,430MW</td>
<td>10,691MW</td>
</tr>
</tbody>
</table>

Source: EDF Énergies Nouvelles
Note: MWp: Megawatt peak (measure of the power under laboratory lighting and temperature conditions)
# EDF RENEWABLES: INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION, BY TECHNOLOGY, AS OF 31 MARCH 2019

<table>
<thead>
<tr>
<th>Technology</th>
<th>Gross (1)</th>
<th>Net (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31/12/2018</td>
<td>31/03/2019</td>
</tr>
<tr>
<td>Wind</td>
<td>10,309</td>
<td>10,272</td>
</tr>
<tr>
<td>Solar</td>
<td>2,402</td>
<td>2,542</td>
</tr>
<tr>
<td>Biogas</td>
<td>70</td>
<td>20</td>
</tr>
<tr>
<td>Biomass</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Other</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td><strong>Total installed capacity</strong></td>
<td><strong>12,891</strong></td>
<td><strong>12,943</strong></td>
</tr>
<tr>
<td>Wind under construction</td>
<td>1,095</td>
<td>2,033</td>
</tr>
<tr>
<td>Solar under construction</td>
<td>1,230</td>
<td>1,419</td>
</tr>
<tr>
<td>Other under construction</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total capacity under construction</strong></td>
<td><strong>2,360</strong></td>
<td><strong>3,487</strong></td>
</tr>
</tbody>
</table>

(1) Gross capacity: total capacity of the facilities in which EDF Renewables has a stake
(2) Net capacity: capacity corresponding to EDF Renewables’ stake
SALES AND HIGHLIGHTS
2019
FIRST QUARTER
Appendices
France
ELECTRICITY SUPPLY IN FRANCE

In TWh

Sales to end customers(1)(2)

Q1 2017  |  Q1 2018  |  Q1 2019  
---|---|---
Residential customers | Residential customers 
Regulated tariffs  | At market offers 
45.8  | 11.0  | 11.0  
Local authorities, companies and professionals  | 
Market offers including transitional offer  | 
38.6  | 33.0  | 33.0  
Local authorities, companies and professionals  | 
(at historical tariffs)(3)  | 
12.0  | 0.4  | 0.4  

(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
ELECTRICITY SUPPLY IN FRANCE – SALES UNDER REGULATED TARIFFS SPLIT BY COLOUR

In TWh

Sales to end customers for Q1 2019 (1)(2)

- Local authorities, companies and professionals
  - At regulated tariffs
  - Market offers including transitional offer
- Residential customers
  - At market offers
- Local authorities, companies and professionals
  - At regulated tariffs

- Residential customers
  - At regulated tariffs

- LDC(3) transfer price
- Blue non-residential tariff(4)
- Blue residential tariff

(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 0.1TWh - Tariffs lower than 36 kVA

Sales to end customers for Q1 2019 (1)(2)

39.8

- 33.0
- 7.9
- 3.1

- 39.8
- 11.0
- 0.4
CAPACITY MARKET IN FRANCE

Capacity auction prices\(^{(1)}\)

**For delivery in 2019**

- Volume of certified EDF capacities: 74GW
- Market Reference Price: €17.37/kW

<table>
<thead>
<tr>
<th>Date</th>
<th>Capacity Auction Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>14/12/2017</td>
<td>13.00</td>
</tr>
<tr>
<td>08/03/2018</td>
<td>18.50</td>
</tr>
<tr>
<td>26/04/2018</td>
<td>18.24</td>
</tr>
<tr>
<td>21/06/2018</td>
<td>18.50</td>
</tr>
<tr>
<td>13/09/2018</td>
<td>18.50</td>
</tr>
<tr>
<td>18/10/2018</td>
<td>16.77</td>
</tr>
<tr>
<td>13/12/2018</td>
<td>18.05</td>
</tr>
</tbody>
</table>

**For delivery in 2020**

- Volume of certified EDF capacities: 72GW

<table>
<thead>
<tr>
<th>Date</th>
<th>Capacity Auction Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>21/03/2019</td>
<td>20.00</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Data rounded to the nearest hundredth
Maximum annual sales volume by EDF for alternative suppliers: 100TWh

Volumes sold in 2018: 96.3TWh

In November 2018, ARENH requests from alternative suppliers for 2019 amounted to 132.98TWh. The volume was therefore clipped to the legal ceiling of 100TWh.

Volume sold for the year 2019, including 20.4TWh sold for network losses coverage:

- 59.7TWh for H1
- 60.7TWh for H2

Source: CRE

(1) The ARENH volumes to be delivered evolved in the first half of 2015 due to the termination of the framework agreement with 4 suppliers

(2) 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.)
<table>
<thead>
<tr>
<th>Date</th>
<th>Change in Residential Blue tariff (VAT excluded)</th>
<th>Change in Non-Residential Blue tariff (VAT excluded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/08/2016</td>
<td>-0.5%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>01/08/2017</td>
<td>+1.7%</td>
<td>+1.7%</td>
</tr>
<tr>
<td>01/02/2018</td>
<td>+0.7%</td>
<td>+1.6%</td>
</tr>
<tr>
<td>01/08/2018</td>
<td>-0.5%</td>
<td>+1.1%</td>
</tr>
</tbody>
</table>
REGULATED SALES TARIFFS IN FRANCE: CRE PROPOSAL 2019 (2/2)

Residential Blue tariff excluding taxes\(^{(1)}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Energy + fees</th>
<th>Capacity</th>
<th>Cost to serve(^{(2)}) &amp; Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/08/2018</td>
<td>15.3</td>
<td>1.4</td>
<td>42.9</td>
</tr>
<tr>
<td>2019</td>
<td>15.3</td>
<td>3.2</td>
<td>49.4</td>
</tr>
</tbody>
</table>

\(+7.7%\) \(+€8.3/MWh\)

Average bill breakdown, VAT included (Blue residential customer)

€180.5/MWh\(^{(3)}\)

- Taxes: €40.5
- CSPE: €22.5
- TURPE: €49.5
- Generation and supply costs: €68

\(\text{(1) Source: Data from the deliberation of the CRE of 7 February 2019}\)
\(\text{(2) Including cost of Energy Efficiency Certificates}\)
\(\text{(3) Half-rounded figures}\)
2018 – 2023 MULTIANNUAL ENERGY PLAN (MEP) FOR FRANCE: STATE OF PLAY

- Publication of the National Low-Carbon Strategy for France in December 2018: carbon neutrality set as the long-term objective; electricity to account for 50% of final energy consumption by 2050.

- Publication of the draft Multiannual Energy Plan for France on 25/01/2019, and the draft decree corresponding to the 5/03/2019, aligned with the national low-carbon strategy and reiterating the priority given on France’s commitment to addressing the challenges of climate change (30% is the target reduction in GHG emissions relative to 2016 levels), cutting fossil fuel consumption, maintaining the country’s nuclear basis and developing renewables.

- Main points in the draft MEP:
  - 14 nuclear reactors to close by 2035 to achieve a 50% share of the energy mix; 4 to 6 reactors (including Fessenheim) to be closed by 2028, subject to certain conditions being fulfilled. The final MEP will specify the 14 sites to be closed by 2035.
  - Between now and mid-2021: the French government will study next-generation nuclear with the industry and make its decision on scheduling construction of new plants.
  - France will close all coal-fired power plants by end-2022. No new all-fossil fuel thermal generation plants will be built.
  - Production of 14 to 22TWh of injected biogas in 2028 based on the assumption of a significant cost reduction (35 to 55 times 2017 output)
  - Doubling of installed renewable electricity generation capacity (74GW in 2023, and 102 to 113GW in 2028)
  - Increase renewable heat consumption 25% in 2023 and 40/60% in 2028 from 2016 figures (155TWh)
  - Target 20% reduction in fossil fuel consumption by 2023 and 35% in 2028 (compared with 2012)
  - 2023: Target of 2.5 million homes renovated, 10,000 coal-fired heaters replaced with renewable heat production, 9.5 million homes heated with wood, 3.4 million housing equivalents connected to a heating network
  - 1.2 million electric passenger cars in circulation (electric and plug-in hybrids) and more than 100,000 public charging points by 2023

- Indicative schedule & next steps

<table>
<thead>
<tr>
<th>January 2019</th>
<th>5 March 2019</th>
<th>Consultations</th>
<th>Summer 2019</th>
</tr>
</thead>
</table>
• Comité d’experts pour la transition énergétique  
• Autorité environnementale  
• Public | Promulgation of the energy act amending the Energy Transition and Green Growth Act (LTECV) (may be passed before consultations take place)  
 Publication of the decree setting out the Multiannual Energy Plan and triggering the six-month deadline for EDF to prepare its strategic plan |
| | | • Comité de gestion des charges de service public de l’électricité  
• Comité du système de distribution publique d’électricité | |
FRENCH NUCLEAR FLEET: QUALITY ASSURANCE ANOMALIES IN AREVA’S MANUFACTURING FILES\(^{(1)}\)

- EDF and ASN completed the exhaustive review of the manufacturing files for components from the Creusot Forge factory, installed on its nuclear reactors in operation. This review gives rise, for each reactor, to the writing of a summary report which has been transmitted to the ASN for review. As before each reactor restart, the ASN then decides on its authorisation to restart.

- Several steps are required in the sending of a summary report for each reactor: the first step aims at the inspection of all the manufacturing files concerning forged parts intended for the nuclear fleet, to identify the findings. The experts then analyse these findings in order to characterise them, that is to say, to determine during technical reviews whether they are classified as deviations. These technical reviews have now been finalised for all the manufacturing files of the fleet in operation: 100% of the files were examined, with no major discrepancies discovered (other than the one already processed and cleared\(^{(2)}\) for the steam generator at Fessenheim 2).

- As of 31 December 2018, 58 summary reports (ie all) have been sent to the ASN. In April 2019, the ASN has finished its instruction and the 58 reactors of the nuclear fleet in operation have obtained, one by one during the instruction period, the go-ahead to be able to restart at the end of their for refueling planned outage.

- In addition, EDF responded in 2018 to all the requests that appeared in ASN's decision of 15 September 2017. Among these answers was the analysis of the files of equipment manufactured by Creusot Loire (moulded parts). No significant anomalies were identified.

---

\(^{(1)}\) As of 4 January 2018, New NP, a subsidiary of AREVA NP, has become Framatome, a company whose capital is owned by the EDF group (75.5%), Mitsubishi Heavy Industries (MHI - 19.5%) and Assystem (5%). Please refer to the press release published by Framatome on 4 January 2018

\(^{(2)}\) On 12 March 2018, ASN lifted its suspension of the pressure test certificate of a steam generator N. 335 installed on reactor 2 of the nuclear plant of Fessenheim. The ASN considers that the anomaly during the forging of a shell of this steam generator did not compromise its serviceability and that its compliance with the regulations was thus demonstrated
SALES AND HIGHLIGHTS
2019
FIRST QUARTER

Appendices
International & other activities
UNITED KINGDOM: MONTHLY NUCLEAR OUTPUT

In TWh

- 2018 cumulative output
- 2019 cumulative output

<table>
<thead>
<tr>
<th>Month</th>
<th>2018 Cumulative</th>
<th>2019 Cumulative</th>
<th>Output Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>5.0</td>
<td>4.5</td>
<td>-10.0%</td>
</tr>
<tr>
<td>February</td>
<td>9.9</td>
<td>8.5</td>
<td>-14.1%</td>
</tr>
<tr>
<td>March</td>
<td>15.1</td>
<td>12.6</td>
<td>-16.6%</td>
</tr>
</tbody>
</table>
UNITED KINGDOM: UPSTREAM/DOWNSTREAM ELECTRICITY BALANCE

In TWh

**OUTPUT/PURCHASES**

- Nuclear 12.6
- Gas 1.9
- Coal 1.4
- Renewables 0.0
- Other (1) 1.5
- ∆ Q1 2019 vs. Q1 2018 = -2.6

**SALES**

- Residential 3.6
- Net wholesale market 1.9
- SME & IC 9.3
- Centrica (20%) 2.5
- ∆ Q1 2019 vs. Q1 2018 = -3.4

(1) Including wind output and purchase obligations
THE CAPACITY MARKET IN UNITED KINGDOM

The Capacity Market (CM) standstill period implemented following the November 2018 General Court decision continues to operate.

On 21 February, the European Commission announced that it would open a formal investigation into the CM, as required by the Court. This decision was published in the Official Journal on 22 March and invited comments from interested parties within one month of publication.

The UK Government continues to express the clear view that the judgment was based on the procedure that the Commission followed when approving the CM, not on the CM itself and is confident that the CM will be approved and that deferred payments to agreement holders who have met their obligations during the standstill period will be allowed.

The UK Government has proposed, and Parliament has approved, modifications to Regulations to allow the capacity market to operate as far as possible during the standstill period. These modifications ensure that deferred capacity payments can be made when the CM is reinstated, enable a top up T-1 auction to be held and set out the arrangements for suppliers to make payments to fund the scheme. The T-1 auction will be held on 11-12 June 2019, awarding capacity agreements for 2019/20 conditional on the reinstatement of the CM.

A positive decision by the Commission in October 2019 would require suppliers to make payments by December 2019, enabling deferred payments to be made to capacity providers in January 2020.
EDISON: UPSTREAM/DOWNSTREAM ELECTRICITY AND GAS BALANCES

In TWh

<table>
<thead>
<tr>
<th>OUTPUT/PURCHASES</th>
<th>+0.4</th>
<th>SALES</th>
<th>+0.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale &amp; other purchases</td>
<td>2.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydro and renewable</td>
<td>0.9</td>
<td>+0.1</td>
<td>IPEX 1.1</td>
</tr>
<tr>
<td>Thermal</td>
<td>4.3</td>
<td>+0.4</td>
<td>End customers 3.7</td>
</tr>
<tr>
<td>Electricity(1)</td>
<td>7.9</td>
<td></td>
<td>7.9</td>
</tr>
</tbody>
</table>

Δ Q1 2019 vs. Q1 2018

In Bcm

<table>
<thead>
<tr>
<th>OUTPUT/PURCHASES</th>
<th>-0.5</th>
<th>SALES</th>
<th>-0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale markets &amp; other</td>
<td>1.0</td>
<td>-0.2</td>
<td>Domestic purchases 1.6</td>
</tr>
<tr>
<td>LT imports &amp; reserves</td>
<td>3.8</td>
<td></td>
<td>Residentials &amp; industrial customers 2.7</td>
</tr>
<tr>
<td>Domestic production</td>
<td>0.1</td>
<td></td>
<td>Thermoelectric 1.8</td>
</tr>
<tr>
<td>Gas</td>
<td>5.5</td>
<td></td>
<td>5.5</td>
</tr>
</tbody>
</table>

Δ Q1 2019 vs. Q1 2018

(1) Excluding optimisation volumes in 2018 and 2019
Despite falling consumption, spot prices are up everywhere in Europe in the first quarter compared to 2018 due to:

- Rising commodity prices, mainly CO₂
- In France, lower hydro generation than in 2018 which had reached very high levels

Market coupling remains limited by available cross-border capacities

Average observed spot market price for Q1 2019:
- EPEXSPOT: France & Germany
- N2EX: United-Kingdom
- OMIE: Spain
- GME: Italy (Prezzo Unico Nazionale)
- APX: Netherlands
- BELPEX: Belgium

(1) Change compared to average prices in Q1 2018
(2) Trade (Source: ENTSO-E Transparency Website) and change compared to Q1 2018
(3) Implementation of the flow-based coupling mechanism from 21 May 2015 for all CWE (France, Benelux, Germany)
France's export balance stood at 13.1TWh in Q1 2019 (+0.2TWh vs. Q1 2018). Border trade has indeed reached levels similar to those of Q1 2018 (-0.4TWh on exports and -0.7TWh on imports). In Q1 2019, France has been a net importer of 3.6TWh from CWE and a net exporter on the rest of its borders: 5.1TWh to Italy, 4.0TWh to Switzerland, 4.0TWh to Spain and 3.6TWh to Great Britain.

Source: RTE
(1) Continental Western Europe (Germany, Belgium, France, Luxembourg and the Netherlands)
# FRENCH POWER TRADE BALANCES AT ITS BORDERS

## In TWh\(^{(1)}\)

<table>
<thead>
<tr>
<th>Zone</th>
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**Source:** RTE

(1) Rounded to the nearest tenth
(2) CWE flow-based coupling zone composed of Germany, Belgium, France, Luxembourg and the Netherlands, set up in May 2015
FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+1) FROM 01/04/2017 TO 31/03/2019

In €/MWh

- Electricity - Annual baseload contract France (EEX)
- Electricity - Annual baseload contract Germany (EEX)
- Electricity - Annual baseload contrat UK (EDF Trading)
- Electricity - Annual baseload contrat Italy (EDF Trading)
FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+2) FROM 01/04/2017 TO 31/03/2019

In €/MWh

- Electricity - Annual baseload contract France (EEX)
- Electricity - Annual baseload contract Germany (EEX)
- Electricity - Annual baseload contract UK (EDF Trading)
- Electricity - Annual baseload contract Italy (EDF Trading)
Note: Over the period, the France/Germany spread reached its minimum on 19 May 2018 at -€13.73/MWh, and its maximum on 29 October 2017 at €92.37/MWh.
In Q1 2019, the average baseload electricity spot price was €47.2/MWh, up €3.4/MWh vs. Q1 2018. This increase was mainly driven by the month of January (+€26.2/MWh in base vs. January 2018) due to temperatures close to 4°C colder than those of 2018, leading to an increase in consumption (+5.1TWh). On the other hand, prices in February and March are down (respectively -€2.1/MWh and -€14.4/MWh in base vs. 2018). This was due to strong wind production (monthly record reached in March 2019 with 4.2TWh) as well as a decrease in demand compared to 2018 (around -6TWh/month): a late cold wave at the end of February/beginning of March 2018, which led to a sharp increase in consumption.
In Q1 2019, the average peakload electricity spot price was €55.3/MWh up €3.2/MWh vs. Q1 2018. As for the base, this increase was mainly driven by the month of January (+€27.8/MWh in peak vs. January 2018) due to colder temperatures than in 2018, leading to an increase in consumption. On the other hand, prices in February and March were down (respectively -€4.3/MWh and -€16.4/MWh in peak vs. 2018) in connection with a strong wind production and a decrease in demand compared to 2018.

Source: EPEX
Coal prices for delivery in Europe in N+1 averaged $79.4/t in Q1 2019 (-2% or -1.4$/t vs. Q1 2018).

This relative stability masks significant variations in the price of coal since the end of Q1 2018. The downward trend of the last quarter of 2018 was confirmed in the first quarter of 2019 due to flagging medium-term Chinese demand and a short-term demand weaker than expected, with the winter being particularly warm.
The price of Brent averaged $63.8/bbl in Q1 2019 (-5% or -3.4$/bbl vs. Q1 2018). While it remained broadly stable in Q1 2018, the price of Brent rose sharply in Q1 2019 after coming close to $50/bbl at the end of December 2018. This increase was due to the limited production of the OPEC countries, in particular Saudi Arabia, and sanctions against Venezuelan oil. It has gone over $65/bbl since February.

(1) Brent spot price (M+1)
GAS PRICES\(^{(1)}\) (Y+1) FROM 01/04/2017 TO 31/03/2019

The price of the annual gas contract for N+1 delivery to PEG averaged €20.0/MWh in Q1 2019 (+14% or +€2.4/MWh vs. Q1 2018). This increase is mainly due to the evolution of gas prices since mid-2018. The sharp decline in the price of gas recorded since the last quarter of 2018 was confirmed in early 2019 (-€9/MWh between October 2018 and March 2019). This was due to a high level of storage throughout the winter and a very good supply of LNG in Europe, resulting from a re-optimization of LNG flows following the fall in Asian prices making Europe more attractive.

\(^{(1)}\) Price of France PEG Nord gas
The price of the CO₂ allowances for delivery in December N+1 averaged €22.7/t in Q1 2019 (+130% or +€12.8/t vs. Q1 2018). This increase is mainly due to the price increase up to September 2018. Since then, the prices have been very volatile and were affected in particular by the recommendation of the Commission on the Coal Exit in Germany at the end of January 2019, the gradual closure of the entire German lignite and coal fleet, possible decommissioning from 2022.
This first quarter of 2019 was very contrasted compared to 2018. January did not offset the months of February, March and the consumption of the 1st quarter of 2019 ended at -4.3% compared to 2018 with a temperature average for the quarter warmer than last year (+1°C).

During Q1 2019, the demand for gas in France decreased by 5.2% (-10.1TWh) compared to Q1 2018, to reach 179.0TWh. The situation is still very contrasted depending on the month. Consumption in January increased by 24.9%, while in February and March it decreased by 20.4% and 17.4% respectively.

(1) Source 2018 – 2019: RTE overview of March 2019 (provisional data)
(2) Source: Pégase database, Direction générale de l’énergie et de matières premières (DGEMP), Ministry of Ecology, energy, sustainable development and sea
March 2019: GRT gas and TIGF publications
Despite a January close to normal season, the 2018-2019 winter ranks among the 10 warmest winters since the early twentieth century (source Météo France). February, after a cold episode at the beginning of the month, experienced mild and contrasting temperatures. France experienced a peak of winter mildness in the second half of the month; from the 26th to the 28th, the peaks reached often record values. Finally, March remained mild with 1.2°C above normal. Note, significant monthly average temperature differences with the 1st quarter of 2018, respectively on January, February and March, -3.7, +4.6 and +2.3 degrees.

Source: Météo France

(1) Data based on a basket of 32 cities
SALES AND HIGHLIGHTS
2019
FIRST QUARTER

Appendices