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# SALES AND HIGHLIGHTS 2017

THIRD 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 6 March 2017, which is available on the AMF's website at [www.amf-france.org](http://www.amf-france.org) and on EDF's website at [www.edf.fr](http://www.edf.fr).

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Consolidated Sales



SALES BY REPORTING SEGMENT<sup>(1)</sup>

In millions of Euros	TOTAL GROUP	France – Generation and supply activities	France – Regulated activities	United Kingdom	Italy	Other International	Other activities	Inter-segment eliminations <sup>(1)</sup>
9M 2016 sales	51,966	26,303	11,269	6,841	8,066	3,811	5,155	(9,479)
Forex	(488)	-	-	(552)	-	61	3	-
Scope	(91)	-	-	56	(3)	(236)	92	-
Organic change <sup>(2)</sup>	(1,667)	(939)	65	(156)	(848)	(29)	48	192
9M 2017 sales	49,720	25,364	11,334	6,189	7,215	3,607	5,298	(9,287)

(1) As of 2016, breakdown of sales across the segments, before inter-segment sales eliminations  
 (2) Organic change at constant scope and exchange rates – financial information reflecting the new segmental reporting since 31/12/2016



CHANGE IN SALES BY REPORTING SEGMENT<sup>(1)</sup>

In millions of Euros	9M 2016	9M 2017	Δ%	Δ% org. <sup>(2)</sup>	Δ% org. <sup>(2)</sup> Excluding 2014 tariff adjustment <sup>(3)</sup>
France – Generation and supply activities	26,303	25,364	-3.6	-3.6	+0.2
France – Regulated activities <sup>(4)</sup>	11,269	11,334	+0.6	+0.6	+0.9
United Kingdom	6,841	6,189	-9.5	-2.3	-2.3
Italy	8,066	7,215	-10.6	-10.5	-10.5
Other International	3,811	3,607	-5.4	-0.8	-0.8
Other activities	5,155	5,298	+2.8	+0.9	+0.9
Inter-segment eliminations <sup>(1)</sup>	(9,479)	(9,287)	-2.0	-2.0	-2.0
<b>Group</b>	<b>51,966</b>	<b>49,720</b>	<b>-4.3</b>	<b>-3.2</b>	<b>-1.3</b>

(1) As of 2016, breakdown of sales across the segments, before inter-segment sales eliminations

(2) Organic change at constant scope and exchange rates – financial information reflecting the new segmental reporting since 31/12/2016

(3) Tariff adjustment in France for the period from 1 August 2014 to 31 July 2015 following the French State Council’s decision of 15 June 2016

(4) Regulated activities: Enedis, ÉS and island activities. Enedis is an independant subsidiary of EDF as defined by the French Energy Code



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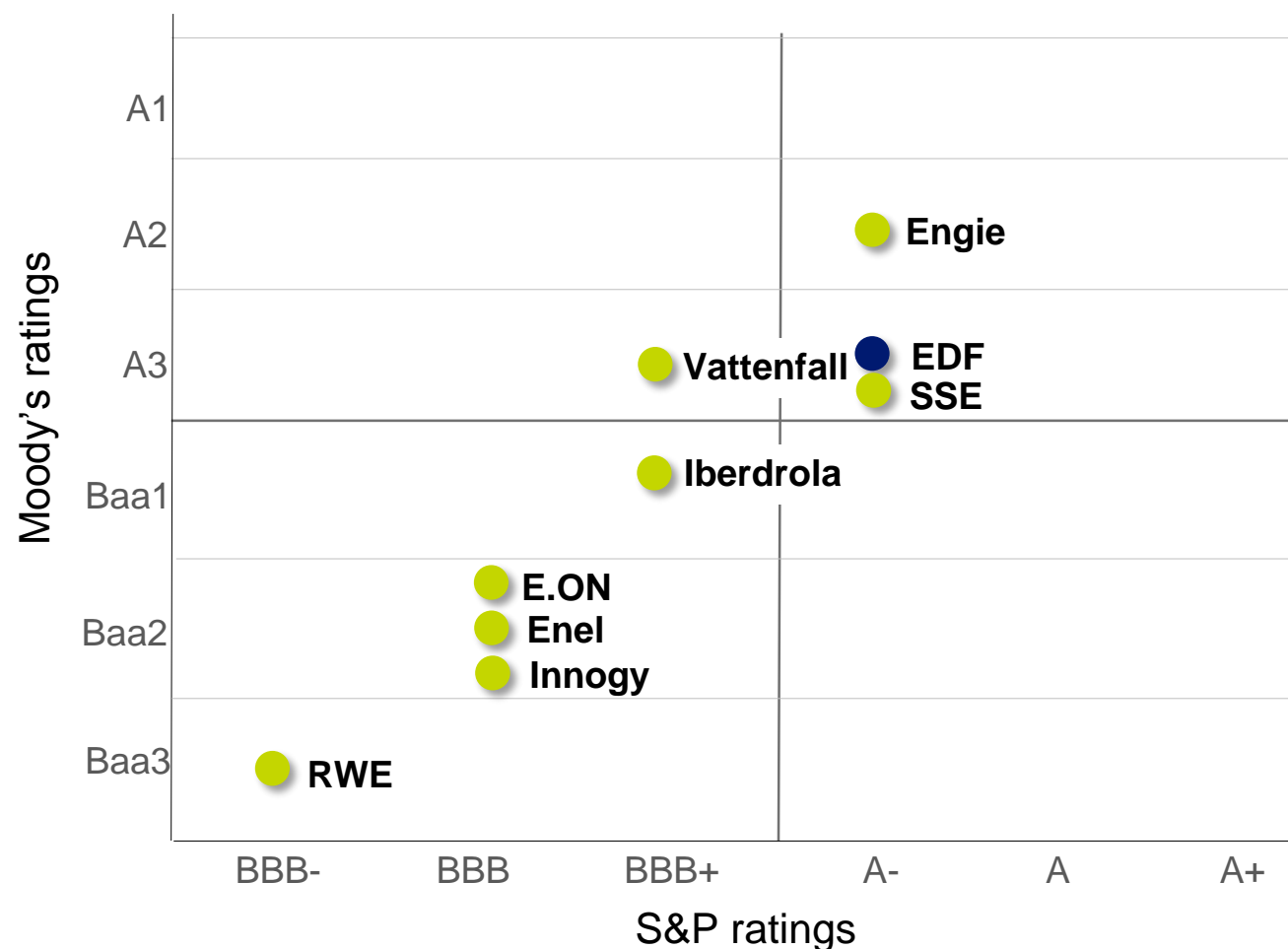
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Debt ratings





# COMPARATIVE DEBT RATINGS



	S&P Ratings	Moody's Ratings	Fitch Ratings
<b>EDF</b>	<b>A- stable<sup>(1)</sup></b>	<b>A3 stable<sup>(2)</sup></b>	<b>A- stable<sup>(3)</sup></b>
<b>Engie</b>	A- negative	A2 stable	A stable
<b>E.ON</b>	BBB stable	Baa2 stable	BBB+ stable
<b>Uniper</b>	BBB- positive	n/a	n/a
<b>Enel</b>	BBB positive	Baa2 stable	BBB+ stable
<b>RWE</b>	BBB- stable	Baa3 stable	BBB stable
<b>Iberdrola</b>	BBB+ stable	Baa1 positive	BBB+ stable
<b>SSE</b>	A- stable	A3 stable	BBB+ stable
<b>Vattenfall</b>	BBB+ stable	A3 stable	BBB+ stable
<b>Innogy</b>	BBB stable	Baa2 stable	BBB+ stable

Sources: rating agencies

(1) Update of the rating and outlook of EDF Group by S&P on 21 September 2016

(2) Update of the rating and outlook of EDF Group by Moody's on 28 September 2016

(3) Update of the rating and outlook of EDF Group by Fitch on 26 October 2016





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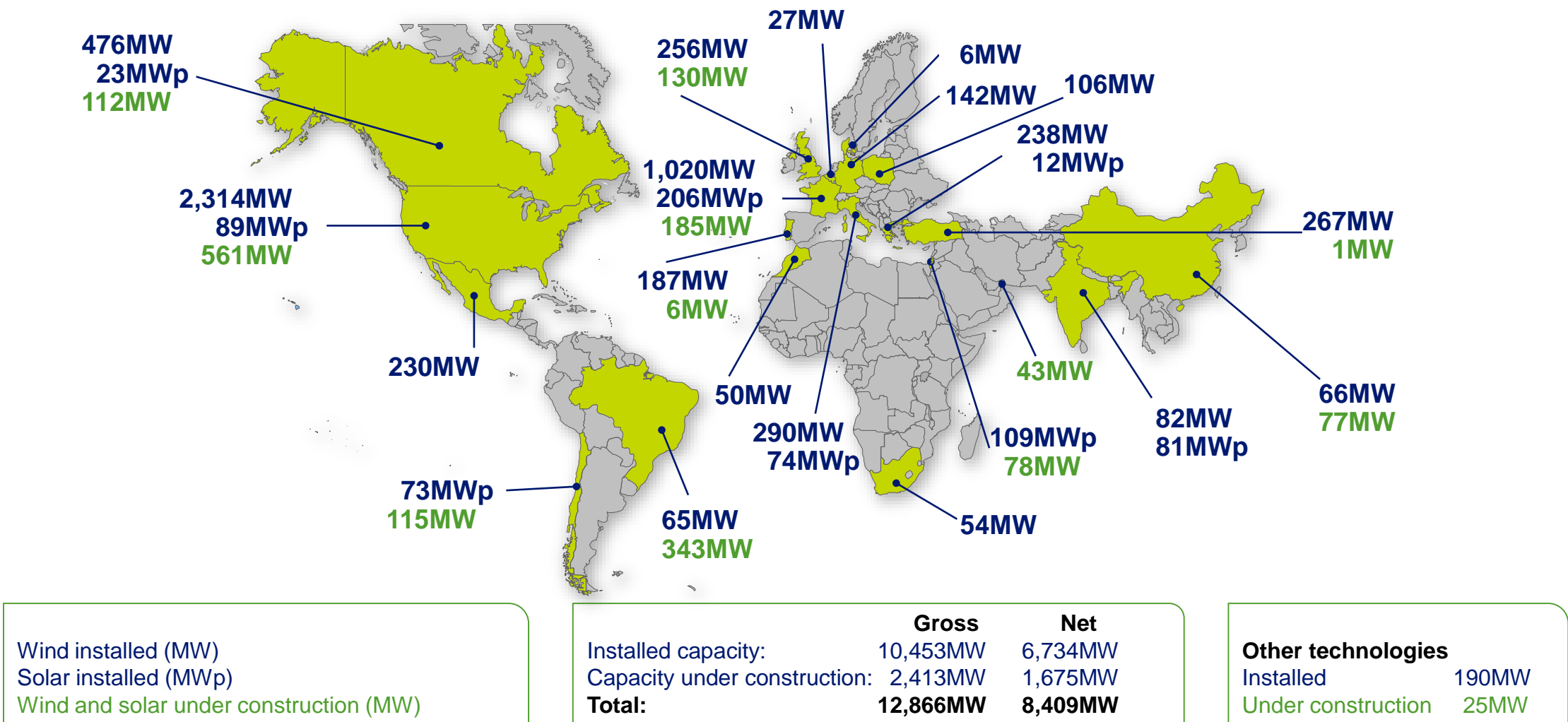
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Strategy & investments



# EDF EN: NET INSTALLED CAPACITY AS OF 30 SEPTEMBER 2017



Source: EDF Énergies Nouvelles  
Note: MWp: Megawatt peak (measure of the power under laboratory lighting and temperature conditions)



# EDF EN: INSTALLED CAPACITY AND CAPACITY UNDER CONSTRUCTION, BY TECHNOLOGY, AS OF 30 SEPTEMBER 2017

In MW	Gross <sup>(1)</sup>		Net <sup>(2)</sup>	
	31/12/2016	30/09/2017	31/12/2016	30/09/2017
Wind	8,495	9,187	5,434	5,876
Solar	900	1,074	621	668
Hydro	63	63	60	60
Biogas	70	70	70	70
Biomass	66	40	58	40
Other	20	20	20	20
<b>Total installed capacity</b>	<b>9,614</b>	<b>10,453</b>	<b>6,263</b>	<b>6,734</b>
Wind under construction	1,221	1,453	873	1,119
Solar under construction	560	911	316	532
Other under construction	-	49	-	25
<b>Total capacity under construction</b>	<b>1,780</b>	<b>2,413</b>	<b>1,188</b>	<b>1,675</b>

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

(2) Net capacity: capacity corresponding to EDF Énergies Nouvelles' stake

## FLAMANVILLE 3 EPR (1,650MW)

### Construction progress as of end of October 2017

- Main civil engineering work completed
- Progress of electromechanical erection of over 92%
- Control room and first part of pumping station transferred to the teams that will operate the reactor
- Pursuit of plant system test on schedule (reactor building and fuel building, turbo-generator unit...)

### 10 October 2017: ASN final opinion on the compliance of the Flamanville 3 EPR reactor vessel: the anomaly of the composition of the steel of the vessel's bottom and closure head "does not compromise the commissioning of the reactor pressure vessel, provided that specific checks are carried out during operation of the installation. As the feasibility of these checks cannot at present be confirmed for the closure head, the ASN considers that the current closure head cannot be used beyond 2024." (Source: ASN – Note d'information)

### Progress of the plant system performance tests for the functioning of circuits and materials (2<sup>nd</sup> milestone of the project roadmap)

- End of July 2017: end of nuclear circuit cleaning operations of the first circuit called "*chasses en cuve*"
- August 2017: start of the "open vessel" functional testing period that will continue until the end of the autumn

### Next steps of system performance tests

- 2<sup>nd</sup> half of December 2017: starting of "cold functional tests", including the water tightness test of the first circuit of the reactor
- July 2018: start of "hot functional tests" (test of equipment under temperature and pressure conditions similar to operation conditions)

### Roadmap for the Flamanville 3 project, drawn up in September 2015:

- Project cost set at €<sub>2015</sub>10.5bn<sup>(1)</sup>
- First fuel loading and start-up of the reactor expected at the end of the 4<sup>th</sup> quarter of 2018
- Ramp up 2019: connection to the grid in the 2<sup>nd</sup> quarter and then 100% capacity in the 4<sup>th</sup> quarter

(1) Excluding interim interests



## ≡ HINKLEY POINT C PROJECT

### ≡ Clarifications on Hinkley Point C project on 3 July 2017<sup>(1)</sup>

- The milestone of the first nuclear safety concrete of the building of Unit 1, scheduled for mid-2019, is confirmed once the final design, which is on a tight schedule, has been completed by the end of 2018
- Project completion costs estimated at £19.6 billion in 2015 sterling<sup>(2)</sup>
- The risk of deferral of delivery (COD) is estimated at 15 months for Unit 1 and 9 months for Unit 2. This risk would entail an additional potential cost of around 0.7 billion pounds in 2015 sterling<sup>(2)</sup>

### ≡ Project progress

- First nuclear safety concrete poured for power station galleries, handover of civils work design studies for the reactor pre-stressing gallery
- Next quarter targets: commencement installation of cooling water pipes, also known as CRF pipes, manufacturing has progressed successfully against plan

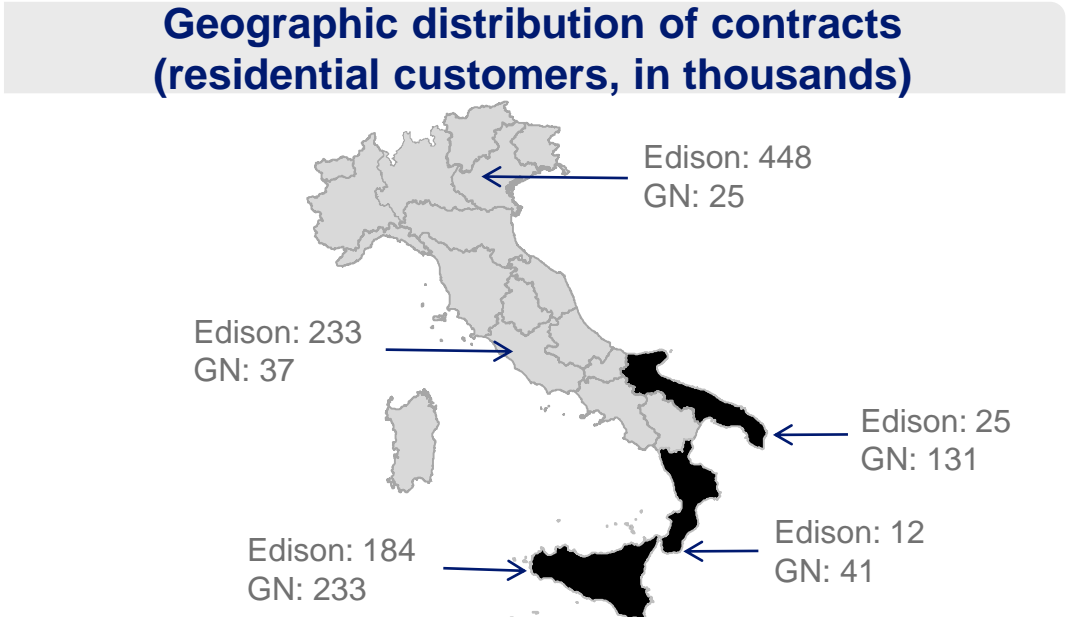
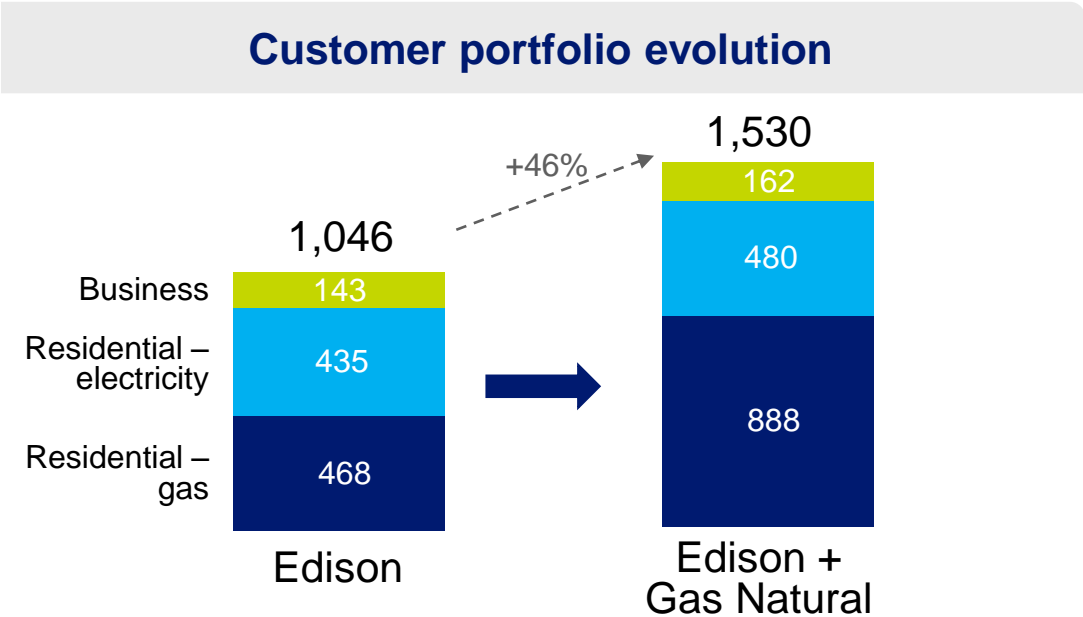
(1) Please refer to press release published by EDF on 3 July 2017

(2) Excluding interim interests and excluding forex effect versus the reference exchange rate for the project 1 Sterling = 1.23 Euro

(3) Additional costs net of action plans

# EDISON: ACQUISITION PROJECT OF GAS NATURAL'S ASSETS IN ITALY

- ⇒ An important expansion of Edison's customer portfolio, in line with the Group's strategic goals
- ⇒ Fit with Edison retail portfolio and operations
  - Customer portfolio: significant size and good quality (low churn rate and good payment record)
  - Mostly gas regulated customers, with optimal geographical fit, strengthening Edison's position in the South
- ⇒ Development of large-scale synergies





## CREATION OF « *EDF NOUVEAUX BUSINESS* »

### Missions

- ≡ Test & explore new areas of business
- ≡ Create new drivers of growth for the EDF Group
- ≡ Provide our customers with a new range of innovative offers and services
- ≡ Be the startups' preferred partner

### 5 strategic areas

- ≡ Smart cities
- ≡ Smart home
- ≡ Energy cloud
- ≡ The company of the future
- ≡ Energy efficiency

### Operation mode

- ≡ Incubation of internal/external projects
- ≡ Equity investment in external start-up and/or Joint Ventures
- ≡ Investment through Venture Capital funds
- ≡ All EDF teams involved, in an ecosystem-like operation mode

Target: €40m to invest in 10 startup/projects in 2 years

DALKIA: BUSINESS DEVELOPMENT IN THE 3<sup>RD</sup> QUARTER

Building sector

- Suresnes city: renewal of a 8-year energy management contract of municipal buildings
  - Conception-Completion-Operation-Maintenance and Energy Performance contract with performance commitment for 18% reduction in energy consumption for 62 buildings
- Centre Pompidou: contract extension for 4 years
  - Operation of air conditionning installations. Simultaneous heat and cold generation thanks to the new heat pumps of air/air technology – energy bill reduction of 20%
- Hérault Regional Council: buildings global contract of energy performance during 8 years along with construction works
  - Borehole geothermal storage system application and installation of solar photovoltaic shade houses on auto consumption parkings
  - Coaching in energy domain and commitment for 24% reduction of consumption

Health sector

- St Louis Hospital (Paris): facilities energy management
  - Heating, hot water, ventilation and air treatment facilities’ management
  - Commitment for 26% reduction of consumption, ie 4,500MWh/year

Industrial sector

- Partnership with Toyota for its target of “zero CO<sub>2</sub> by 2050”
  - Construction and operation of a gas motor cogeneration facility (4.4MW of electric and 4.4MW of thermal power)
  - Creation of a hot water network to recover the heat from motor cooling and thus to preheat the heating systems of the workshops

International

- Strengthening its presence in Poland: acquisition of Matex Controls
  - Energy efficiency solutions for commercial buildings and industry, starting from conception up to realisation
  - Development of innovative digital solutions for energy performance management of the buildings

## INTERNATIONAL STRATEGIC DEVELOPMENT

### Brazil – Sinop Project

- ≡ 400MW hydropower dam, 51% of which is held by EDF
- ≡ Commissioning scheduled for end-2018
- ≡ Installation on 30 October 2017 of the first of the two Kaplan turbines, 204MW each, among the most powerful worldwide of this kind

### Ivory Coast – ZECI Project

- ≡ Continued deployment of EDF's offgrid offer in partnership with the American company OGE
- ≡ Nearly 7,500 kits sold since November 2016

### Belgium – EDF Luminus

- ≡ Wind power capacity in continuous growth: +12% compared to end of December 2016
- ≡ Close to 330MW installed capacity at end of September 2017
- ≡ EDF Luminus, leading onshore wind operator in Belgium





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Operating data



# ELECTRICITY OUTPUT

Output from fully consolidated entities

In TWh	9M 2016		9M 2017	
Nuclear	339.2	78%	335.7	78%
Hydro <sup>(1)</sup>	37.1	9%	31.2	7%
Other Renewables	10.8	2%	11.3	3%
Gas	32.4	7%	35.9	8%
Coal	11.9	3%	14.5	3%
Fuel oil	3.5	1%	4.1	1%
Group	434.9	100%	432.7	100%

(1) Hydro output after deductions of pumped volumes is 32.2TWh for 9M 2016 and 26.1TWh for 9M 2017

# HEAT OUTPUT

Output from fully consolidated entities

In TWh	9M 2016		9M 2017	
Renewables <sup>(1)</sup>	4.2	17%	4.2	17%
Gas	14.5	59%	13.1	52%
Coal	5.8	24%	6.3	25%
Fuel oil	0.1	-	0.2	1%
Others <sup>(2)</sup>	-	-	1.3	5%
Group	24.6	100%	25.1	100%

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

(2) Category implemented in 2017, 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

In TWh	9M 2016		9M 2017	
Hydro <sup>(1)</sup>	37.1	78%	31.2	73%
Wind	8.8	18%	9.3	22%
Solar	0.4	1%	0.4	1%
Biomass	1.2	2%	1.2	3%
Marine energy	0.4	1%	0.4	1%
Total electricity Group	47.9	100%	42.5	100%
Total heat Group	4.2	100%	4.2	100%

(1) Hydro output after deduction of pumped volumes is 32.2TWh for 9M 2016 and 26.1TWh for 9M 2017

# CO<sub>2</sub> EMISSIONS

*Emissions from fully consolidated entities*

## Emissions<sup>(1)</sup> by segment

In kt

In g/kWh

	9M 2016			9M 2017		9M 2016 <sup>(2)</sup>	9M 2017
France – Generation and supply activities	4,033	13%		6,718	19%	13	21
France – Regulated activities	2,346	7%		2,314	6%	556	523
United Kingdom	3,041	14%		4,224	12%	56	75
Italy	5,656	15%		5,761	16%	229	322
Other international	12,803	38%		12,766	36%	445	453
Other activities	4,081	15%		4,100	11%	161	155
<b>Group</b>	<b>31,959</b>	<b>100%</b>		<b>35,883</b>	<b>100%</b>	<b>70</b>	<b>79</b>

Group emissions below the 100gCO<sub>2</sub>/kWh threshold

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

(2) The calculation methodology for the CO<sub>2</sub> content of EDF group in kWh evolved in 2016 to adopt a more broad-based method, taking into account electricity and heat



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France

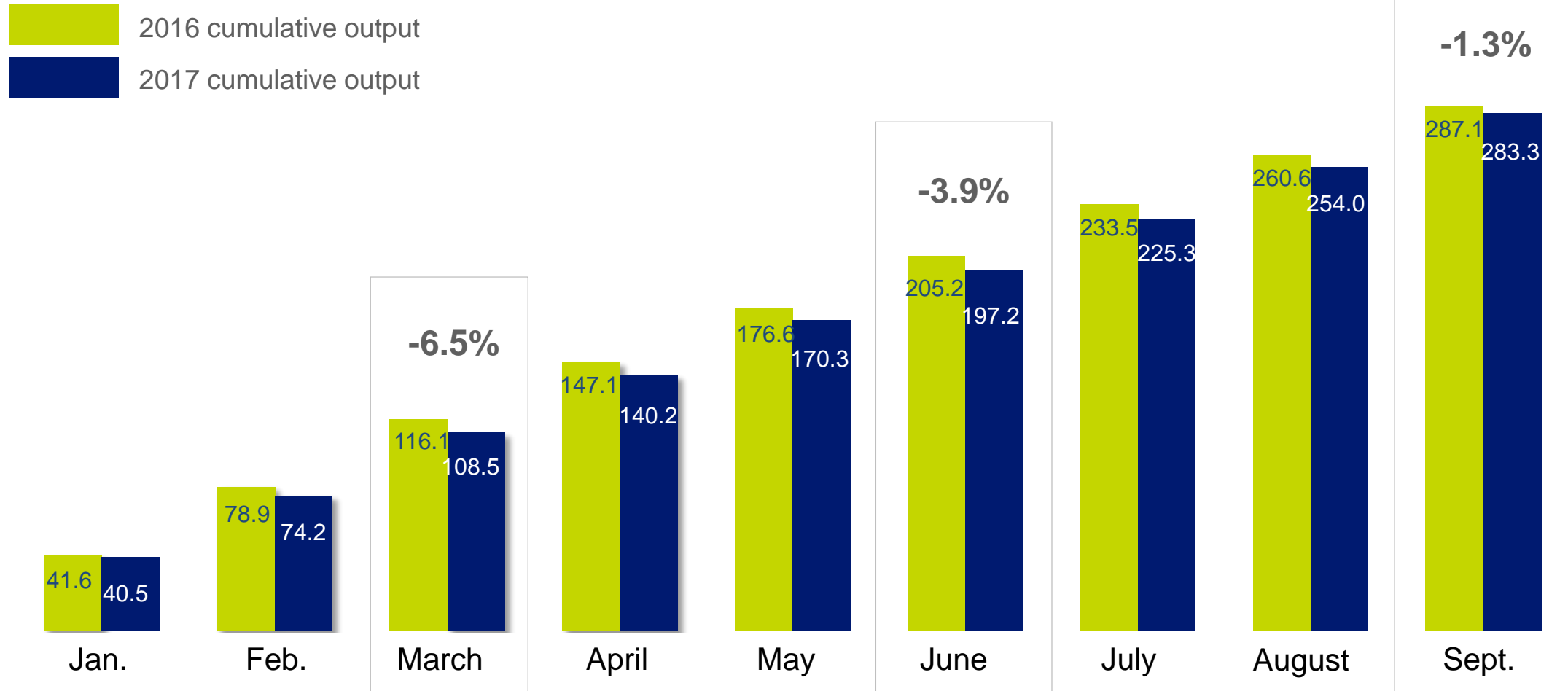






# FRANCE NUCLEAR OUTPUT

In TWh



## FRENCH NUCLEAR FLEET: QUALITY ASSURANCE ANOMALIES IN AREVA'S MANUFACTURING FILES

- AREVA's quality control audit launched in 2015 has highlighted irregularities in the manufacturing files for the parts forged in the Creusot Forge factory. The affected files had been marked at the time with one or two bars, which is why they are called "barred files".
- Mid-October 2016, EDF informed the ASN that it had completed the characterisation of the "barred files" relating to the reactors in operation and confirmed that the 88 identified irregularities had no impact on the safety of the reactors in question.

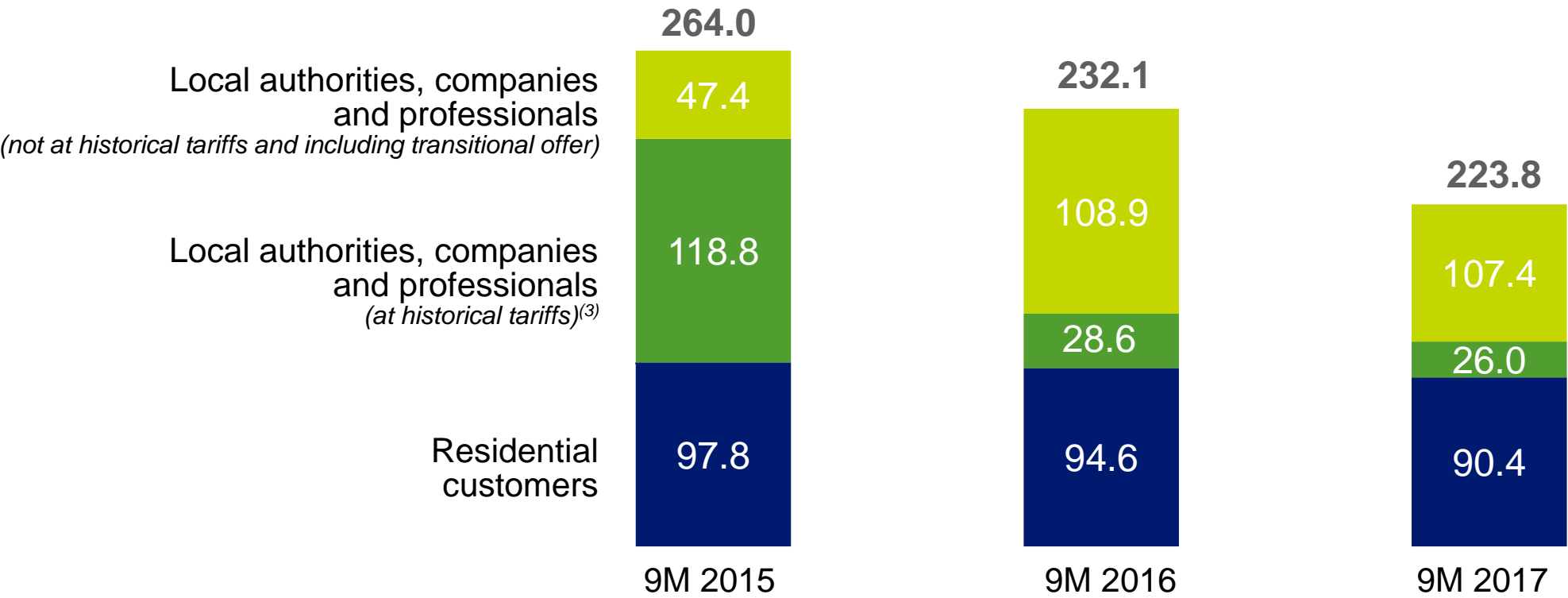
Regarding the Fessenheim 2 reactor, the noted irregularity involves the forging file for the lower part of a steam generator. In order to undertake additional investigations, EDF shut down this reactor on 13 June 2016 in advance of its planned outage. After completion of the investigations, the elements of analysis were transmitted to the ASN in July 2017. They confirm the integrity of the steam generator and its ability to operate safely. The issue is currently being investigated by the ASN.

- Beyond the "barred files", AREVA has launched an analysis programme on all the manufacturing files since the beginning of the manufacturing at this forge factory, of which c.1,600 concern the manufacturing records of components used in the currently operating fleet. EDF has committed to submit to ASN for each reactor, after completion of analysis both by EDF and Areva, a summary report for the components used, two months ahead of its restart. At end of October 2017, 12 summary reports have been sent to the ASN. **The analysis of the findings, produced by EDF and transmitted to the ASN, shows that none of the findings is to call into question the ability to operate safely the concerned components<sup>(1)</sup>.**
- Following investigations on the submitted files, ASN gave to date its green light for 5 of them.
- The comprehensive review of the manufacturing files of the Creusot Forge factory will extend until 31 December 2018.

# ELECTRICITY BUSINESS OF EDF IN FRANCE

In TWh

Sales to end customers<sup>(1)(2)</sup>



Decrease in portfolio volumes at end of September 2017 vs. end of September 2016: -8.3TWh

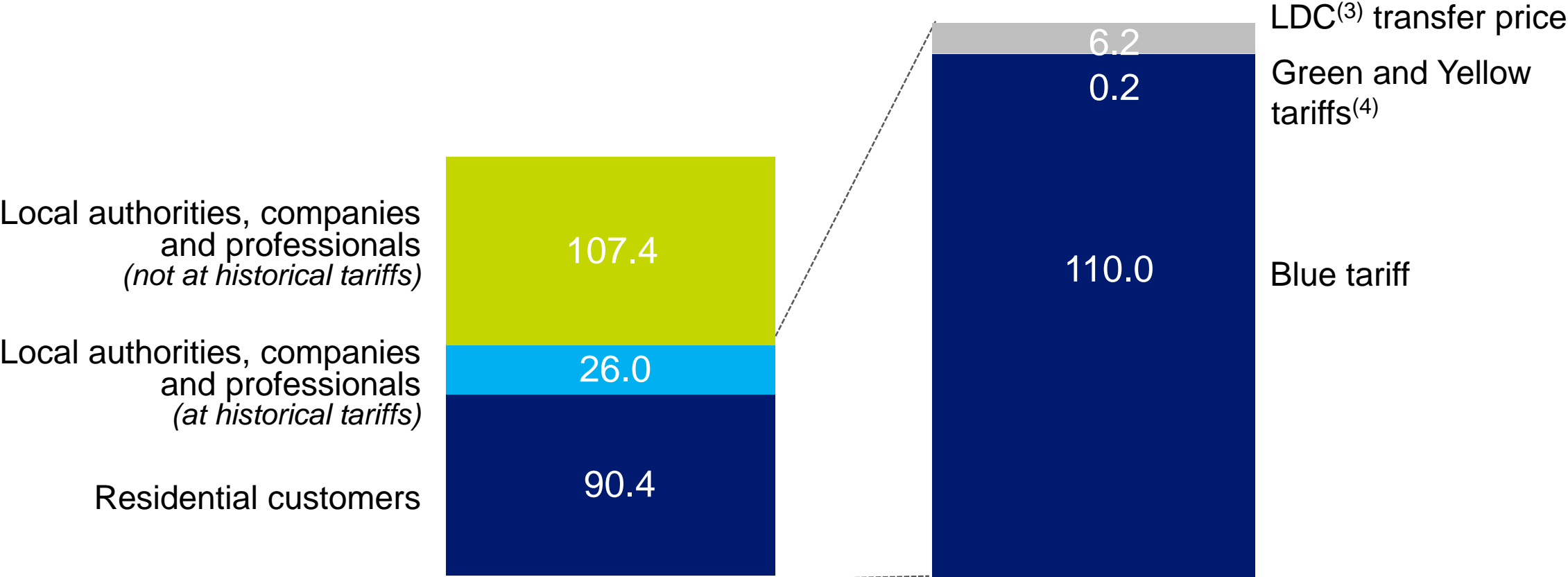
(1) Rounded to the nearest tenth  
(2) Including EDF's own consumption  
(3) Blue professional tariff, LDC (Local Distribution Companies) at transfer price and Yellow and Green tariffs, below 36kVA from 2016



# EDF IN FRANCE: ELECTRICITY BUSINESS – HISTORICAL TARIFFS SPLIT BY COLOUR

In TWh

Sales to end customers for 9M 2017<sup>(1)(2)</sup>



(1) Rounded to the nearest tenth  
(2) Including EDF's own consumption  
(3) Local Distribution Companies (LDCs)  
(4) Of which Yellow tariff for 0.065TWh and Green tariff for 0.166TWh - tariffs lower than 36 kVA that persist beyond 2015

# CAPACITY MECHANISM IN 2017 AND IMPACT FOR EDF

- In 2017, reference price was established at €10/kW (December 2016 EPEX market session). The second session took place in April at a slightly higher price (€10.42/kW)
  - ~23GW of capacity certificates were exchanged during these two sessions
  - Positive impact on 2017 EBITDA, coming on one hand from the billing of this capacity to end customers, and on the other hand, from the net sales of the capacities operated on the market. The capacity price is included in billing for customers on market-price contracts. For customers on regulated sales tariffs, the cost of capacity has been incorporated into the new tariff schedule
  
- 9 November 2017: first EPEX session for 2018 capacity
  - 11GW exchanged, with a clearing price of €9.31/kW
  - Second EPEX session is to take place on 14 December to exchange 2018 capacity, and simultaneously first market session for 2019 capacity (6 EPEX sessions will follow in 2018 for 2019 capacity)
  - EDF sales during these 2 sessions will be integrated into EBITDA 2017, even if they relate to future years
  - Major part of the EBITDA impact of the 2018 and 2019 capacity however generated by the billing of capacity to customers, thus respectively in 2018 and 2019, depending on the reference market price (*PRM* = average of the auctions before delivery year). For 2018, we should wait for the price of the 14 December session to learn the PRM and the level of expected revenues
  
- EDF has certified 77GW of capacities for 2018
  - It is not possible to determine exactly what will be the market sales, as the level of demand in December is not known and the players have the possibility to buy the capacity after the beginning of the delivery year
  - All of these capacities can not be directly priced. In particular, the ARENH subscriptions have a negative impact on the capacity revenue as the ARENH product at a level of €42/MWh includes the delivery of capacity certificates by EDF (a delivery of 100TWh of ARENH leads to a delivery of 11.4GW of capacities)

## LINKY<sup>(1)</sup> SMART METERS DEPLOYMENT

### The project

- Roll-out since the end of 2015 with a goal of 34 millions meters (ie 90% of the fleet) installed by 2021
- Investment amount estimated at €4.5bn over the deployment period 2014-2021
- Economic equilibrium based on gains made possible by the Linky project (reduction of non technical losses, reduction in the number of technical and meter-reading, optimization of network management, MDE<sup>(2)</sup> gains, etc.)

### The tariff framework of the project<sup>(3)</sup>

- Specific regulation over a 20-year period (Linky-dedicated RAB)
- Pre-tax nominal return rate of 7.25% and 3% additional premium with penalties under an incentive-based regulation model, linked to costs and delays as well as to system performance (penalties can not, however, lead to an overall rate of compensation of less than 5.25% nominal before tax)
- Application of a deferred tariff on Linky revenues until 2021, accompanied by a compensation for the costs of financial carry, and totally cleared by 2030

### Roll-out at end September 2017

- Since the first pilots and the start of the general roll-out on 1<sup>st</sup> December 2015, the installation is continuing, in line with the projected progress and cost path
- At end of September 2017, the number of clients equipped with the Linky meter was nearly 6.3m, and around 110,000 concentrators were installed in the substations; the deployment started in about 3,700 cities, in all regions of France
- The rhythm of installation of the Linky meters has risen from less than 3,000 meters/day in early 2016 to around 22,000 meters/day at end of September 2017, in accordance with the increase in the number of installers and the expected installation rate

(1) Linky is a project of Enedis, independant subsidiary of EDF under the provisions of the French Energy Code

(2) MDE: Demand-side management

(3) CRE's ruling of 17 July 2014



# TURPE 5<sup>(1)</sup> TRANSMISSION AND DISTRIBUTION: NEW TARIFF FROM 1 AUGUST 2017

- ≡ Publication by the CRE<sup>(2)</sup> of decisions on TURPE 5 HTB et HTA/BT
  - The CRE published its decision of 17 November 2016, following the opinion of the Higher Council of Energy (CSE) on 10 November 2016. They were published in the Official Journal of 28 January 2017
  - The TURPE 5 Transmission and Distribution entered into force on 1 August 2017 for a period of nearly 4 years
  - TURPE 5 Transmission includes notably an asset base remuneration of 6.125% and covers the depreciation trajectory
  - TURPE 5 Distribution remunerates the asset base of 2.6% and the regulated equity at 4.1%, and covers the depreciation trajectory
- ≡ Filing by EDF SA on 3 February 2017 of an application for annulment before the Conseil d'Etat against the decisions of the CRE concerning TURPE 5 Distribution adopted on 17 November 2016 and 19 January 2017, and published in the Official Journal of 28 January 2017
- ≡ Tariff evolutions as of 1 August 2017: +6.76% for transmission, +2.71% for distribution
- ≡ The CRE has fixed the framework for the supplier commission in its decision of 7 September 2017

(1) TURPE: Tarif d'utilisation des réseaux publics d'électricité (public electricity network access tariff)

(2) CRE: *Commission de Régulation de l'Energie*



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International & other activities

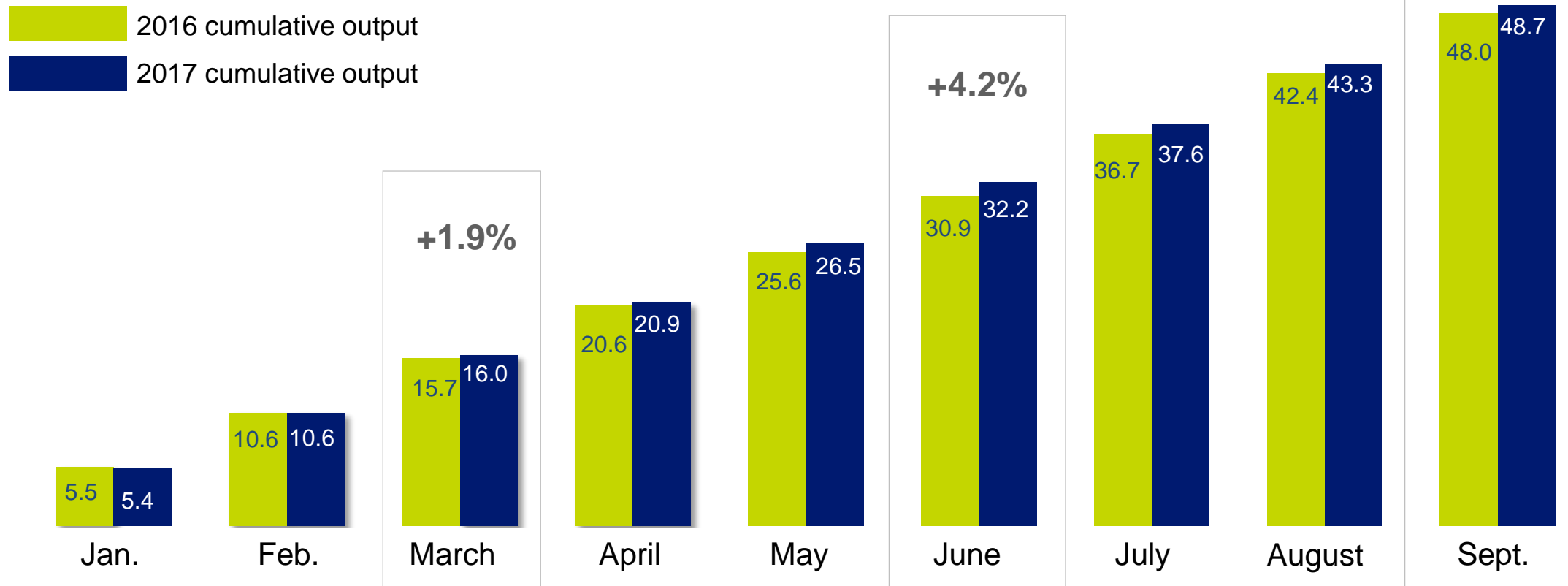






# UNITED KINGDOM: MONTHLY NUCLEAR OUTPUT

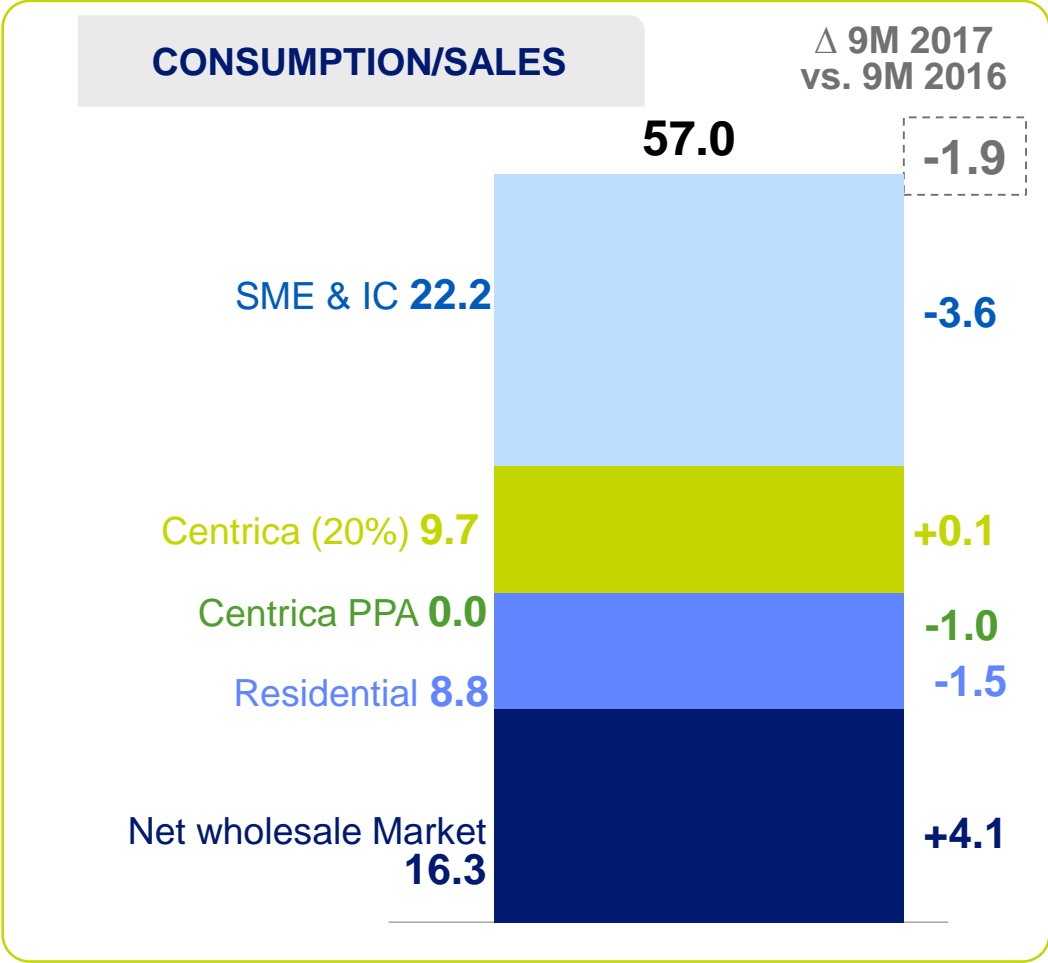
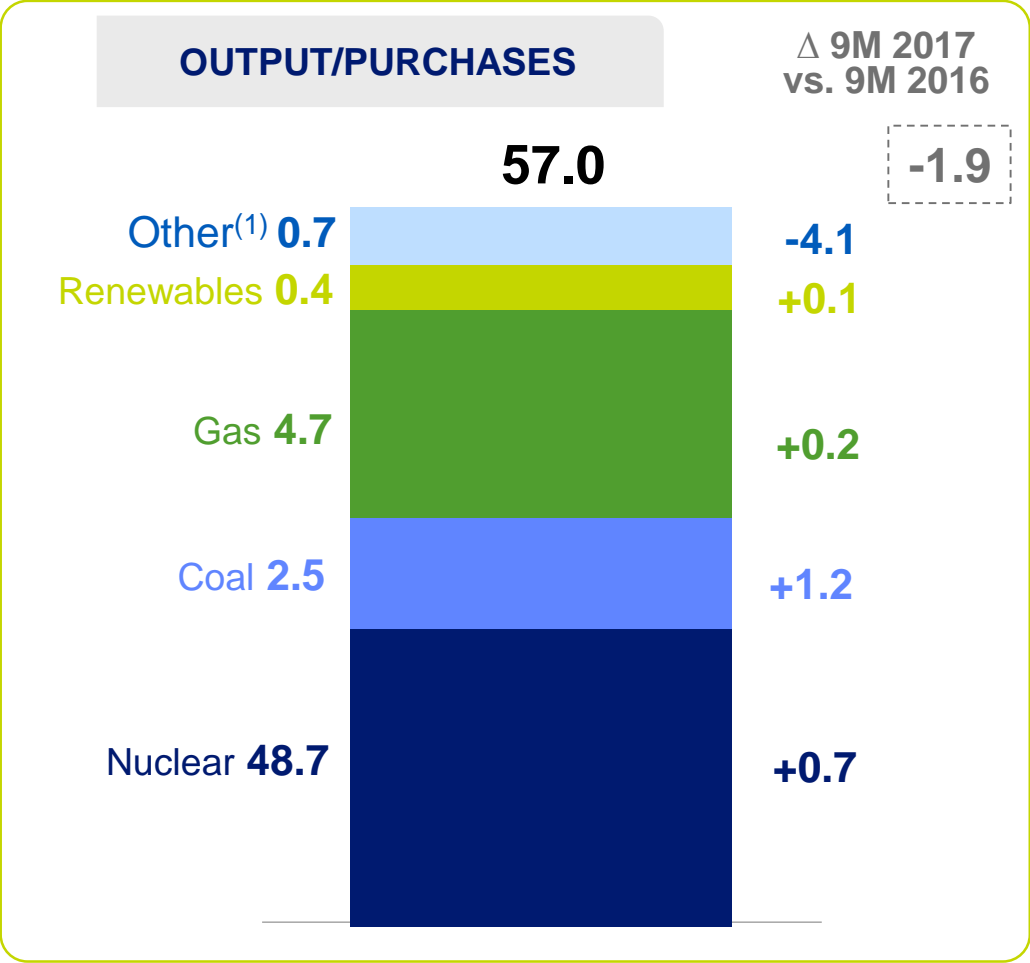
In TWh





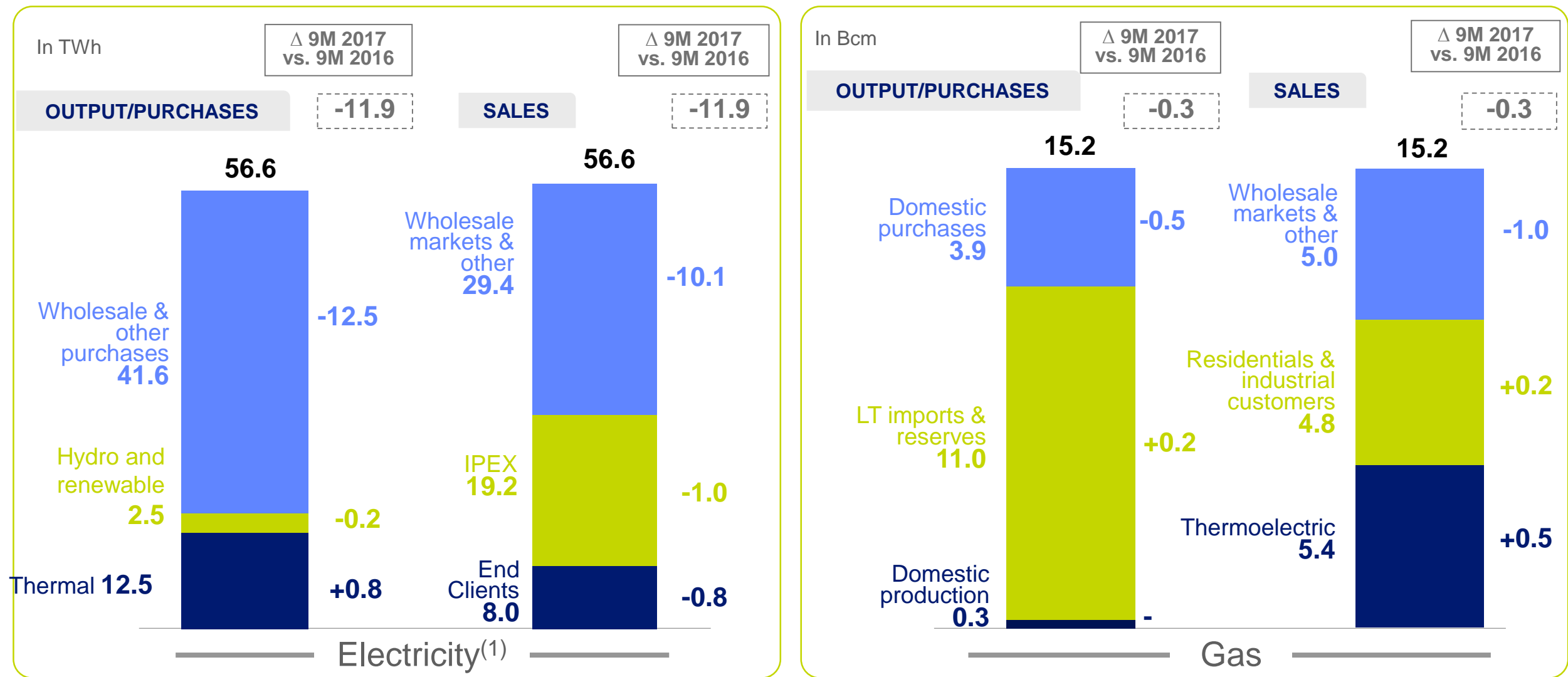
# UNITED KINGDOM: UPSTREAM/DOWNSTREAM ELECTRICITY BALANCE

In TWh



(1) Including wind output and purchase obligations

# EDISON: UPSTREAM/DOWNSTREAM ELECTRICITY AND GAS BALANCES



(1) Excluding trading volumes



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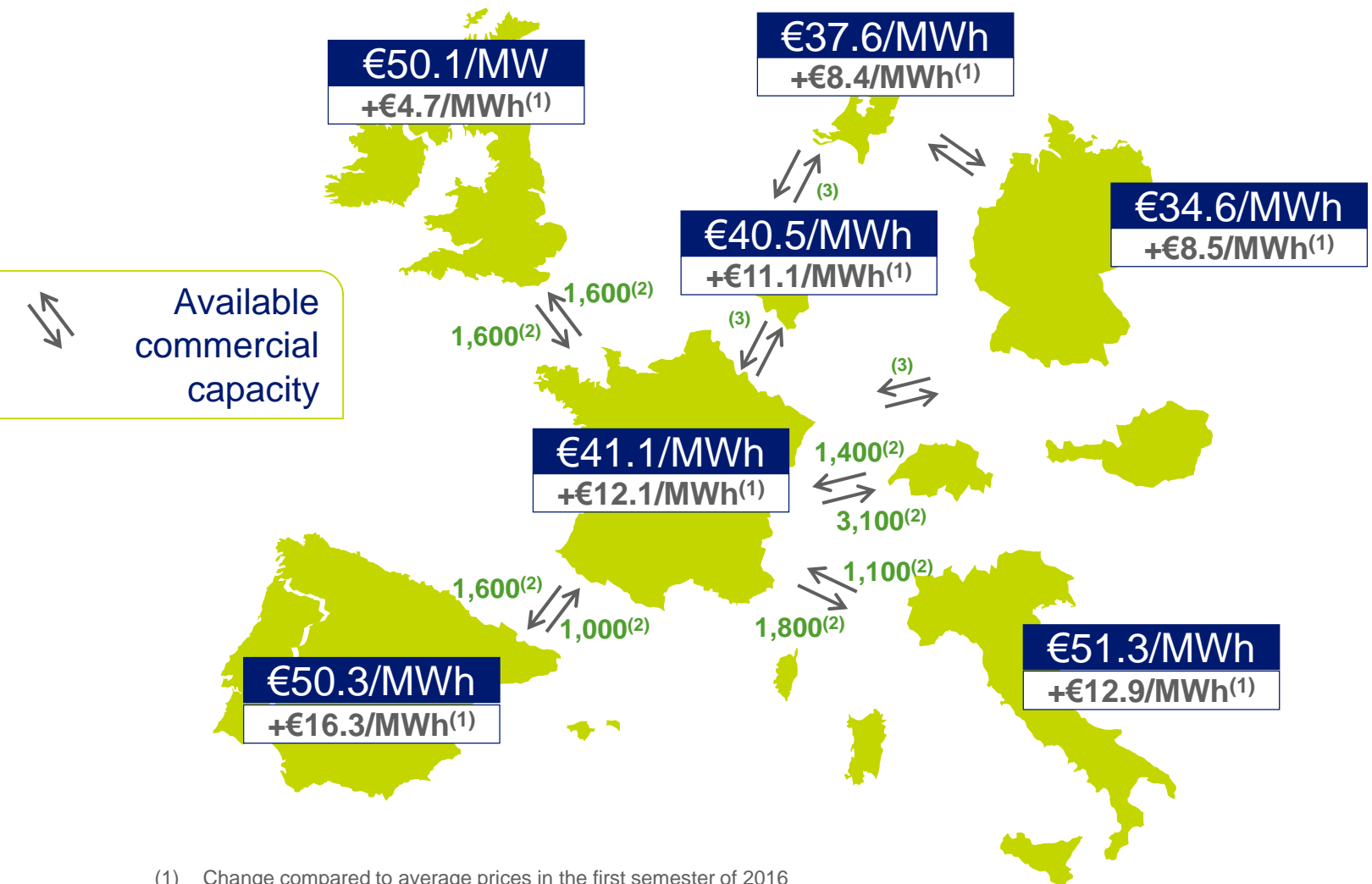
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Markets





# AVERAGE SPOT PRICES IN 9M 2017



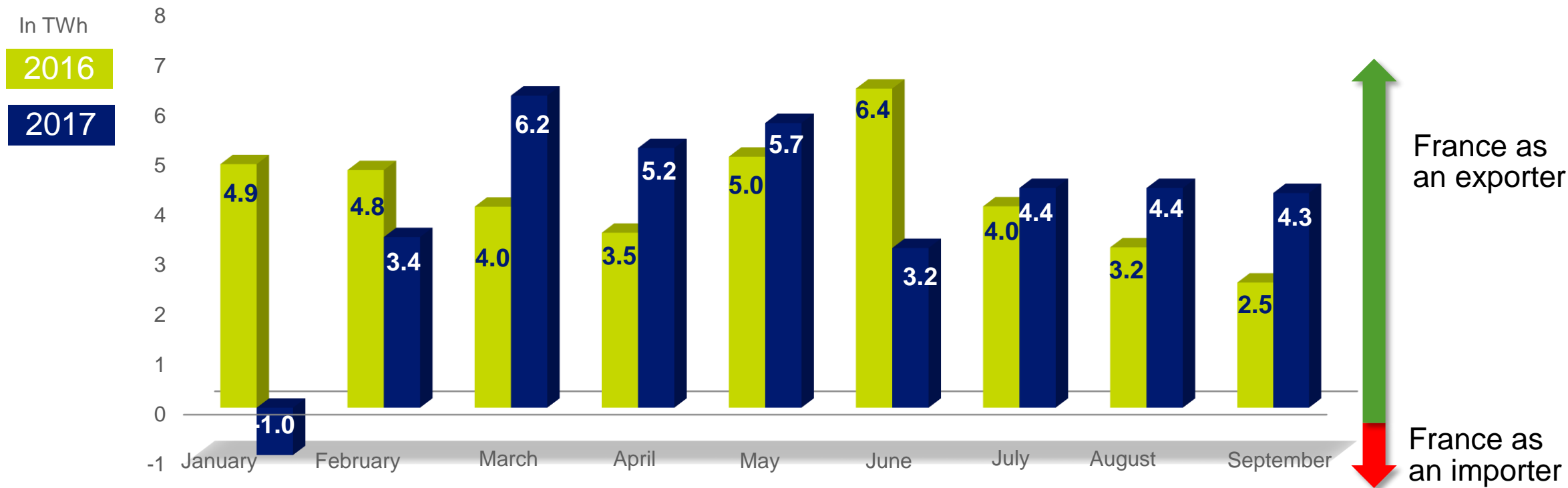
- Price increase in the first 9 months of 2017, marked by a cold wave in Europe in January, a greater reliance on thermal facilities in the first half of the year, and the rising fossil fuel prices
- Market coupling which stays limited by the available capacities at the borders

Average observed spot market price during the first 9 months in 2017:

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

(1) Change compared to average prices in the first semester of 2016  
 (2) Average annual NTC (Net Transfer Capacity) as calculated by RTE in January 2017 for 2017  
 (3) Implementation of the flow-based coupling mechanism from 21 May 2015 for all CWE (France, Benelux, Germany)

# MONTHLY CROSS-BORDER ELECTRICITY TRADE BALANCE



The balance of French cross-border exchanges stood at 35.9TWh in the first 9 months of the year, representing a decrease of 2.4TWh compared to the same period last year. Exports decreased by 1.3TWh, mainly due to a decrease of 4.2TWh in January 2017, and despite the particularly high export balance at the end of March 2017 (record export: 17.9GW on 30 March 2017). Imports increased by 1.1TWh, imports being mostly higher in January (+1.7TWh). France has been a net importer during the 9 months of 2017 from the CWE zone, and a net exporter to Italy (13.8TWh), Switzerland (6.1TWh), the United Kingdom (7.9TWh) and Spain (11.3TWh).

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

# FRENCH POWER TRADE BALANCES AT ITS BORDERS

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

		9M 2016				9M 2017			
		Q1	Q2	Q3	Total	Q1	Q2	Q3	Total
<b>CWE<sup>(2)</sup></b>	exports	1.8	5.6	2.2	<b>9.7</b>	1.5	3.6	3.0	<b>8.1</b>
	imports	4.9	2.0	3.3	<b>10.2</b>	4.6	2.7	4.0	<b>11.2</b>
	balance	-3.1	3.6	-1.0	<b>-0.6</b>	-3.1	1.0	-1.0	<b>-3.1</b>
<b>United Kingdom</b>	exports	4.3	3.9	3.5	<b>11.7</b>	2.1	3.9	3.8	<b>9.8</b>
	imports	0.3	0.2	0.8	<b>1.3</b>	0.9	0.5	0.6	<b>1.9</b>
	balance	3.9	3.7	2.7	<b>10.3</b>	1.3	3.4	3.2	<b>7.9</b>
<b>Spain</b>	exportations	2.8	2.9	4.2	<b>9.9</b>	3.8	5.2	4.9	<b>13.8</b>
	importations	1.7	1.4	0.3	<b>3.4</b>	2.0	0.4	0.2	<b>2.5</b>
	balance	1.1	1.5	3.9	<b>6.4</b>	1.8	4.8	4.7	<b>11.3</b>
<b>Italy</b>	exports	6.1	4.6	4.2	<b>14.9</b>	4.8	4.5	4.8	<b>14.2</b>
	imports	-	0.1	0.2	<b>0.3</b>	0.3	-	-	<b>0.5</b>
	balance	6.1	4.5	4	<b>14.6</b>	4.5	4.5	4.8	<b>13.8</b>
<b>Switzerland</b>	exports	6.6	4.1	2.4	<b>13.1</b>	5.6	2.8	3.6	<b>12.0</b>
	imports	0.8	2.5	2.2	<b>5.6</b>	1.4	2.1	2.3	<b>5.9</b>
	balance	5.7	1.7	0.2	<b>7.5</b>	4.3	0.6	1.3	<b>6.1</b>
<b>TOTAL</b>	exports	<b>21.5</b>	<b>21.2</b>	<b>16.6</b>	<b>59.3</b>	<b>18.0</b>	<b>19.9</b>	<b>20.1</b>	<b>58.0</b>
	imports	<b>7.8</b>	<b>6.3</b>	<b>6.8</b>	<b>20.9</b>	<b>9.2</b>	<b>5.8</b>	<b>7.0</b>	<b>22.0</b>
	Balance	<b>13.7</b>	<b>14.9</b>	<b>9.8</b>	<b>38.4</b>	<b>8.8</b>	<b>14.1</b>	<b>13.1</b>	<b>35.9</b>

Source : RTE

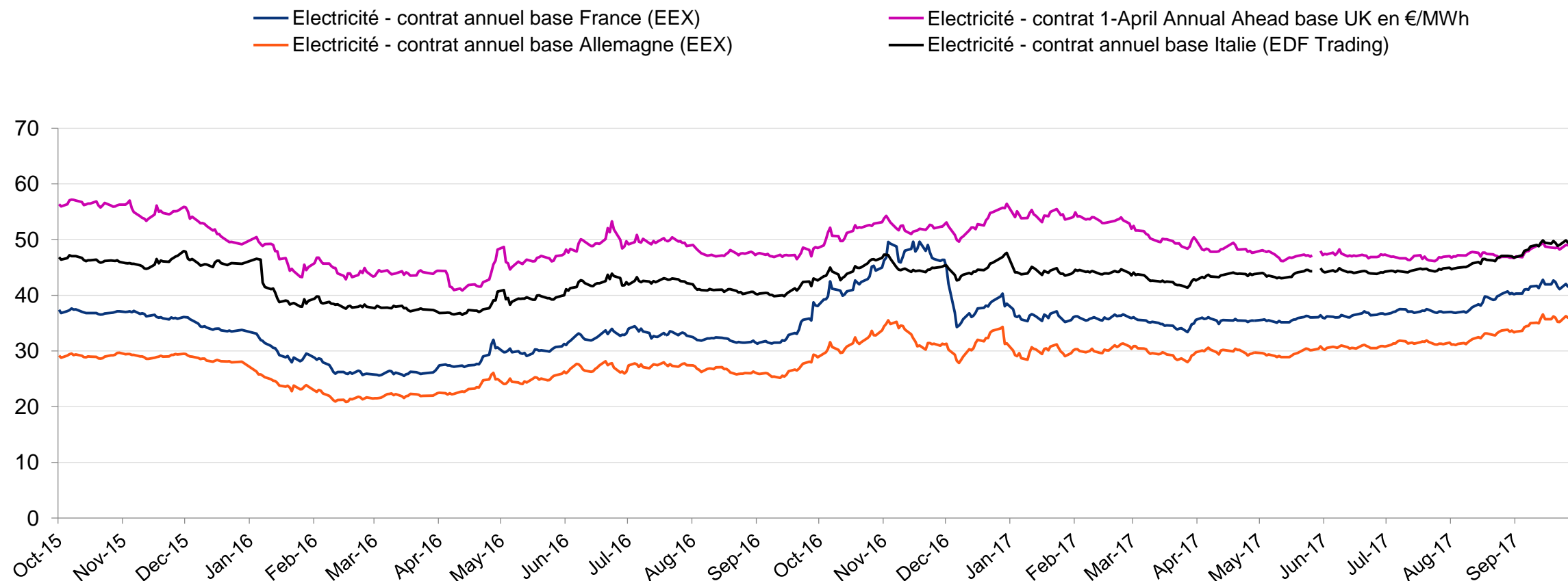
(1) Rounded to the nearest tenth

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



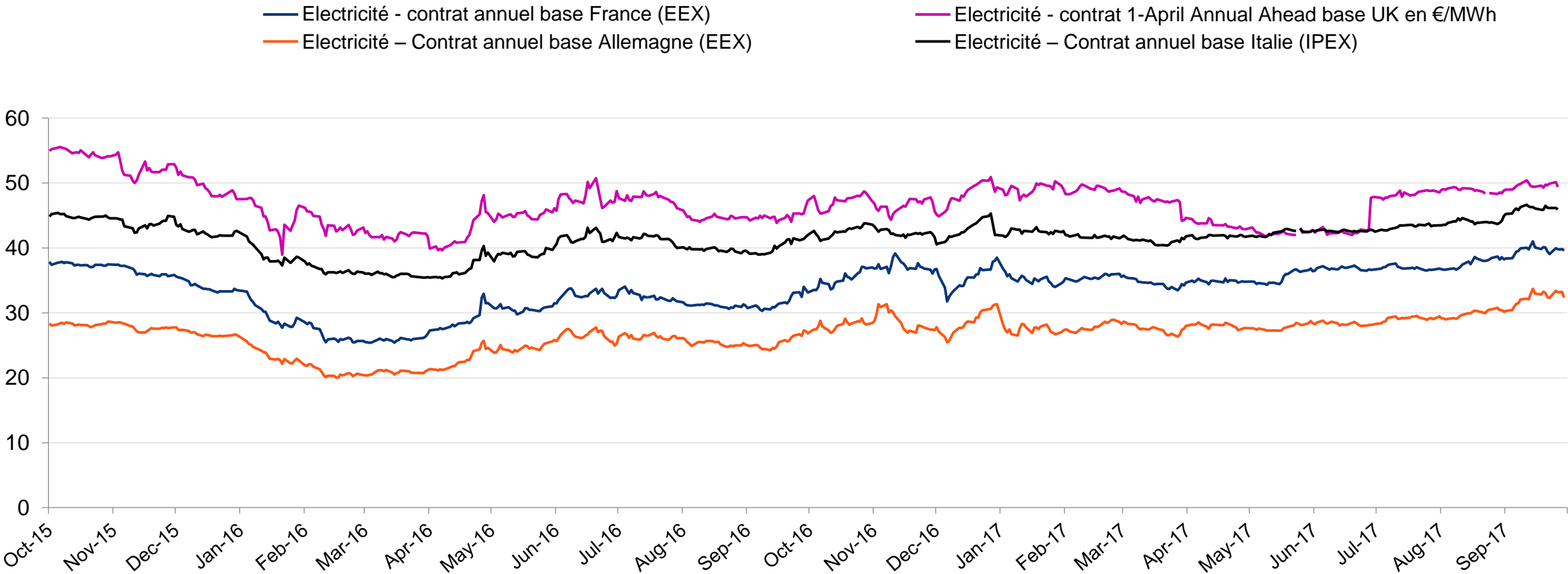
# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+1) FROM 01/10/2015 TO 30/09/2017

In €/MWh

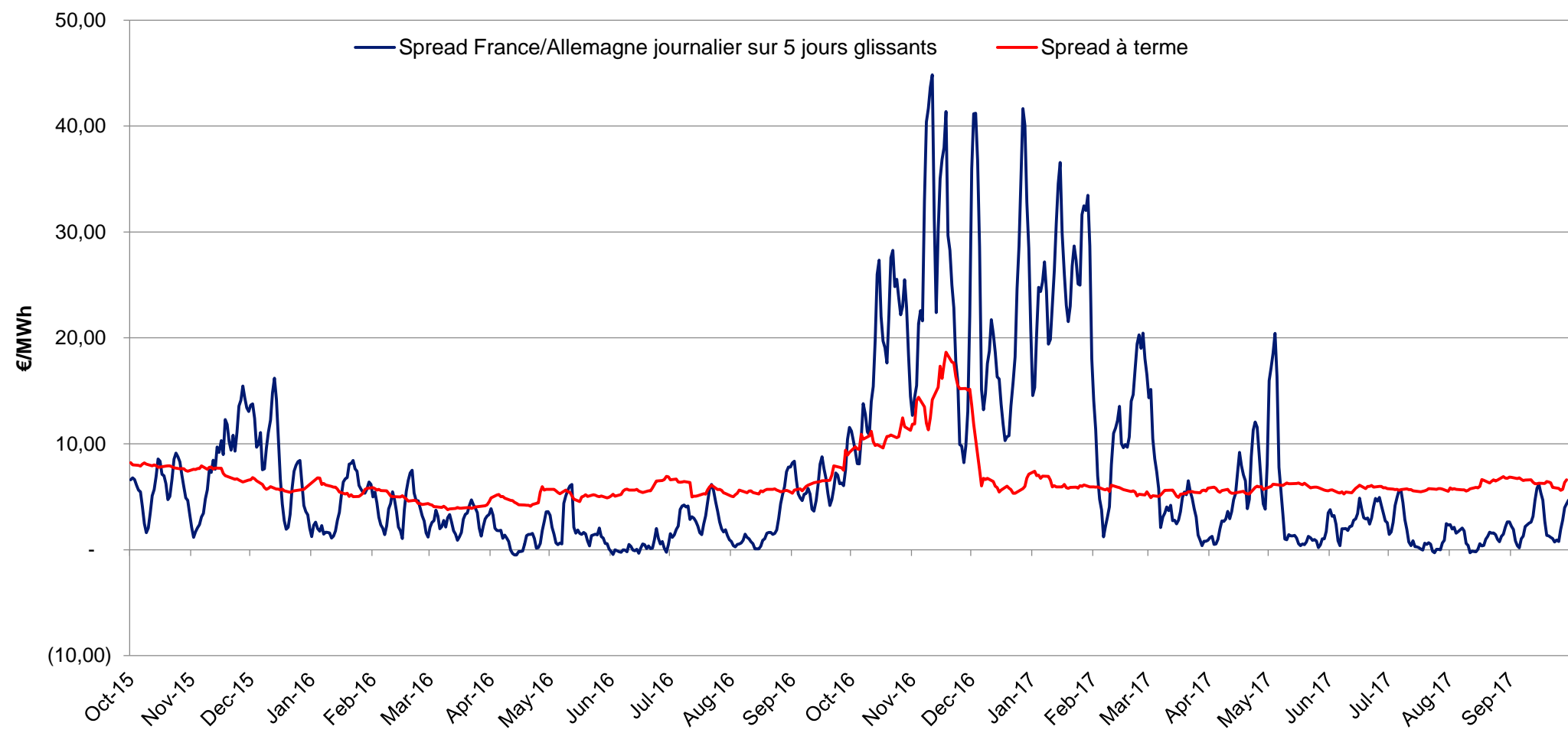


# FORWARD ELECTRICITY PRICES IN FRANCE, THE UK, ITALY AND GERMANY (Y+2) FROM 01/10/2015 TO 30/09/2017

In €/MWh

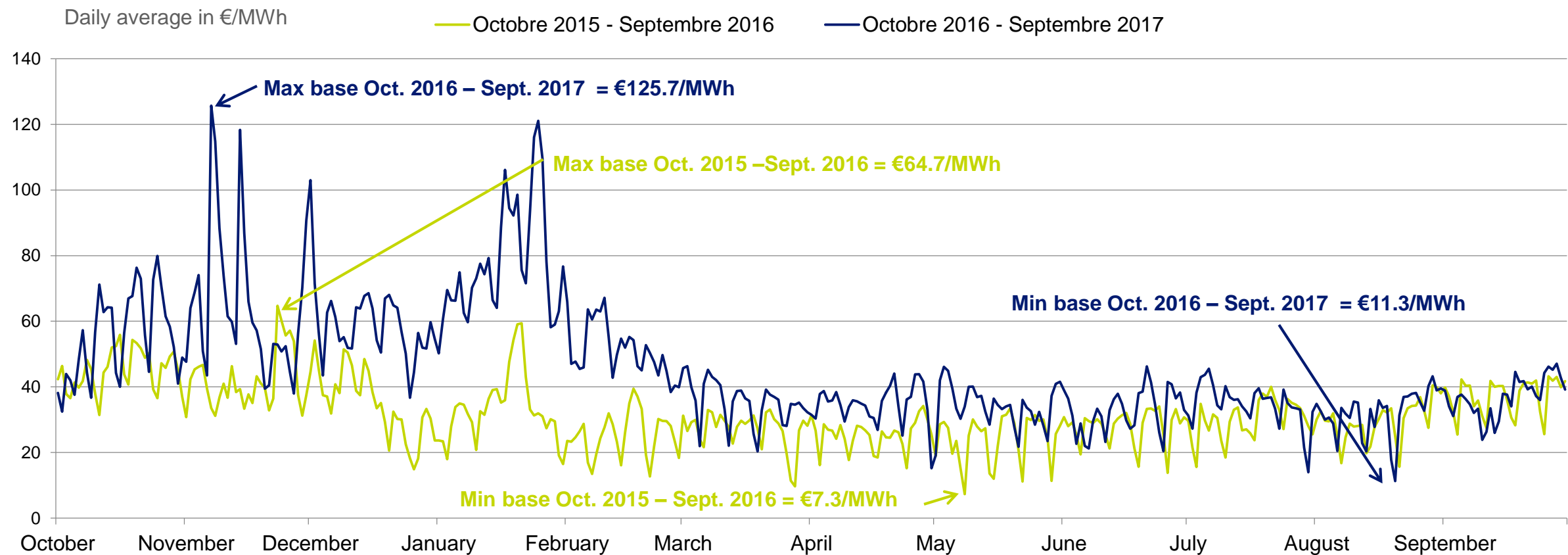


# FRANCE/GERMANY BASELOAD SPREAD FROM 01/10/2015 TO 30/09/2017



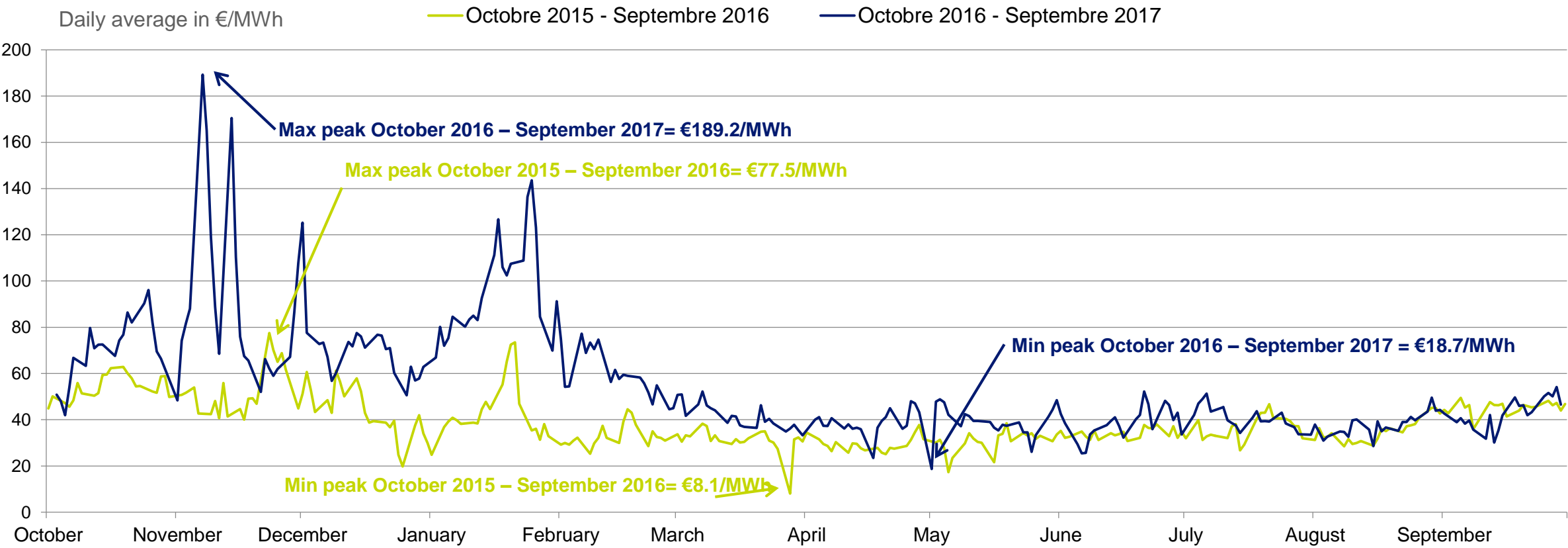


# FRANCE: BASELOAD ELECTRICITY SPOT PRICES



In 9M 2017, the average baseload spot price was up €12.0/MWh to €41.1/MWh, compared to the same period last year. The rise in prices was mainly driven by a particularly high price in the month of January of €78.0/MWh and by higher prices of fossil fuels (coal in particular)

# FRANCE: PEAKLOAD ELECTRICITY SPOT PRICES



In 9M 2017, the average peak spot price of €48.2/MWh, was up by €12.8/MWh compared to the same period last year (+36%).

Source: EPEX

# COAL PRICES (Y+1) FROM 01/10/2015 TO 30/09/2017



The price of coal for delivery in Europe in 2018 was \$69.9/t on average, up 45% (+\$21.5/t) compared to the first 9 months of 2016. This increase in coal prices was due to a rise in oil prices, which made the transport and mining of coal more expensive, and to China’s will to reduce its production by closing unprofitable mines, as well as climatic variations (cyclone in Australia, weak hydro conditions in China, strong rainfalls in Indonesia). The price of coal for delivery in Europe in 2018 at the period closing was \$77.3/t, up \$17.2/t compared to the end of September 2016.

# BRENT PRICES<sup>(1)</sup> FROM 01/10/2015 TO 30/09/2017

In \$/bbl



The price of oil was \$52.5/bbl on average, up 22% (+\$9.4/bbl) compared to the first 9 months of 2016. Prices have evolved following the multiple meetings between OPEC member countries and Russia to find an agreement to limit production and reduce overcapacity. A strong increase has been recorded in September, in particular following the IEA publication regarding the increase of world demand in 2017. The price per barrel closed end of September 2017 at \$57.5/bbl.

(1) Brent spot price (M+1)



# GAS PRICES<sup>(1)</sup> (Y+1) FROM 01/10/2015 TO 30/09/2017

In €/MWh



In 9M 2017, the annual natural gas contract averaged €16.9/MWh, an increase of 14% (+€2.0/MWh) compared to the same period of 2016, notably in August and September, led by shortage in Norway and the uncertainties of the French nuclear fleet availabilities, as well as by the oil prices increase and the announcement of joint work with Germany on the CO<sub>2</sub> price. The Gas Year contract ended the period at €17.5/MWh.

(1) Price of France PEG Nord gas

## CO<sub>2</sub> PRICES (Y+1) FROM 01/10/2015 TO 30/09/2017

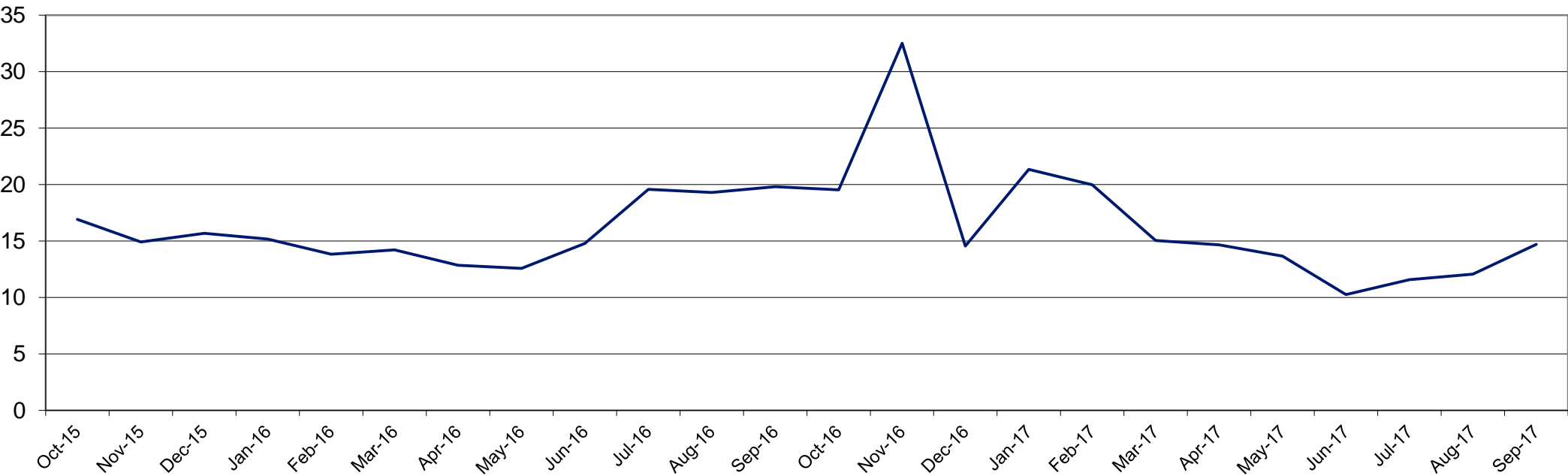
In €/t



The price of CO<sub>2</sub> emission certificates for delivery in December 2018 reached €7.1/t at the end of the period, up €2.1/t compared to the end of September 2016, benefitting from a strong increase in August and September following the ASN's communication on the review of the equipment manufacturing files of the Creusot (anticipating the increased use of the thermal fleet), French government announcement on joint reflection work with Germany, European Parliament voting for a provision to protect the carbon market in the framework of Brexit and lower availability of the nuclear fleet.

CLEAN DARK SPREAD<sup>(1)</sup> IN THE UK (DAY AHEAD)

In £/MWh



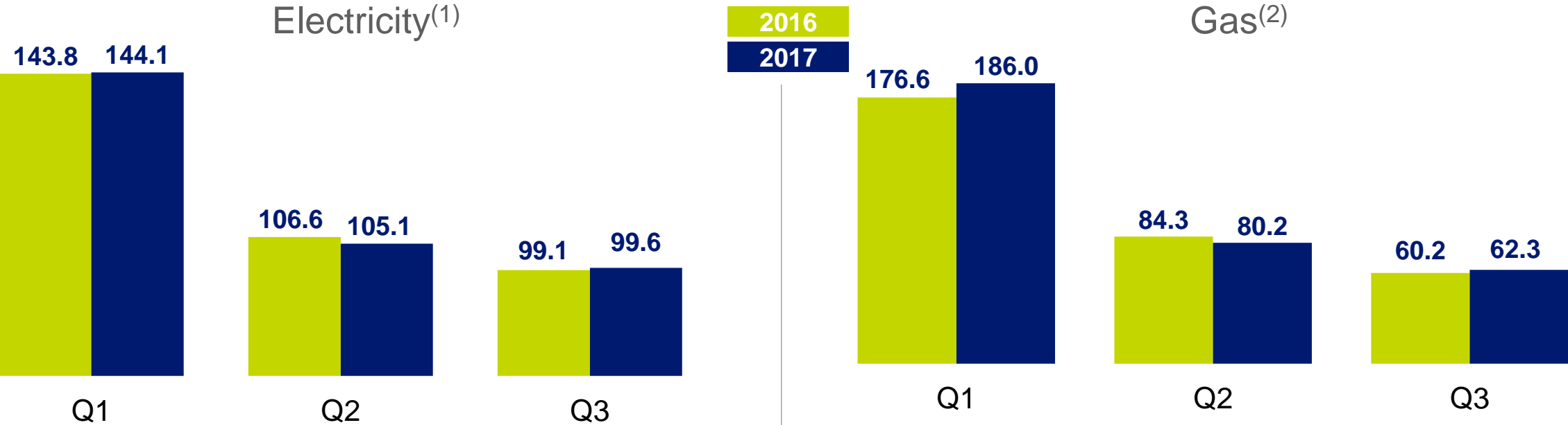
Market spread = {

- + Electricity price
- API 2 Price x market estimate of the coal volume / MWh of electricity
- (EUA price + Governmental tax price) x market estimate of carbon emissions / MWh of electricity

(1) Spread of a coal-fired plant running at full capacity, including the cost of coal and CO<sub>2</sub> emissions (excluding green certificates), assuming the market is efficient

# FRANCE: ELECTRICITY AND GAS CONSUMPTION

In TWh



Slight decrease in electricity consumption (-0.2% vs. 9M 2016) in France, mainly due to one-off items: relative changes in temperatures and the leap year in 2016

Increased demand for gas (+2.3% vs. 9M 2016), mainly due to a colder January (increased heating demand and increased demand on gas-fired power plants). Strong demand as well in September due to a colder weather than in 2016

(1) Source 2016 and 2017: RTE, August 2017 Monthly Overview (preliminary figures)

(2) Source: Base Pégase, Direction générale de l'énergie et de matières premières (DGEMP), Ministry of Ecology, development and Sea

August and September 2017: Smart GRT gaz and TIGF



# UNITED KINGDOM: ELECTRICITY AND GAS CONSUMPTION

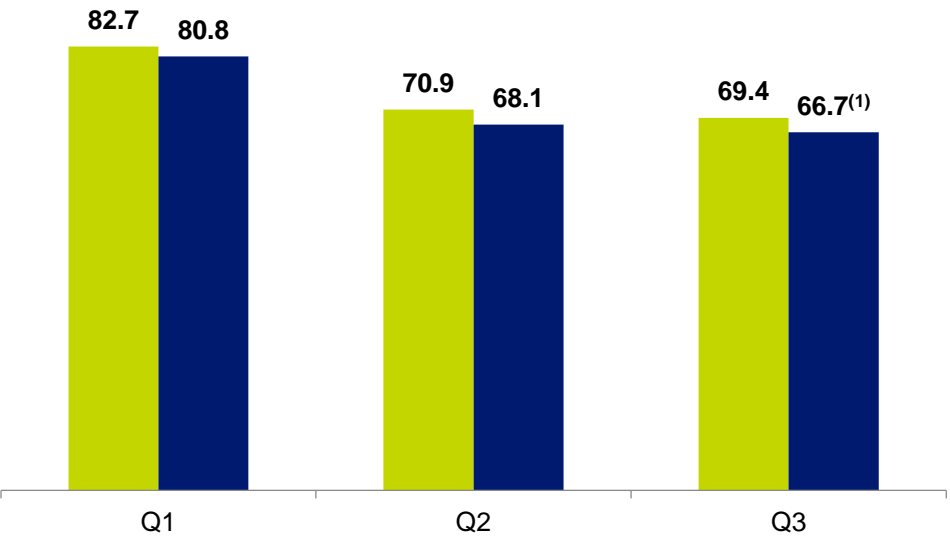
In TWh

Electricity

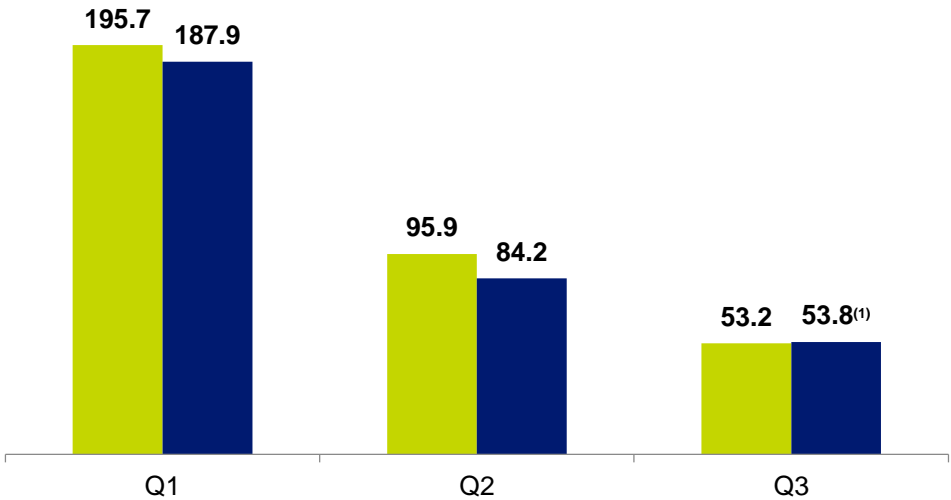
2016

2017

Gas



Throughout the year, electricity consumption has been decreasing in all sectors compared to 2016, particularly in the residential business

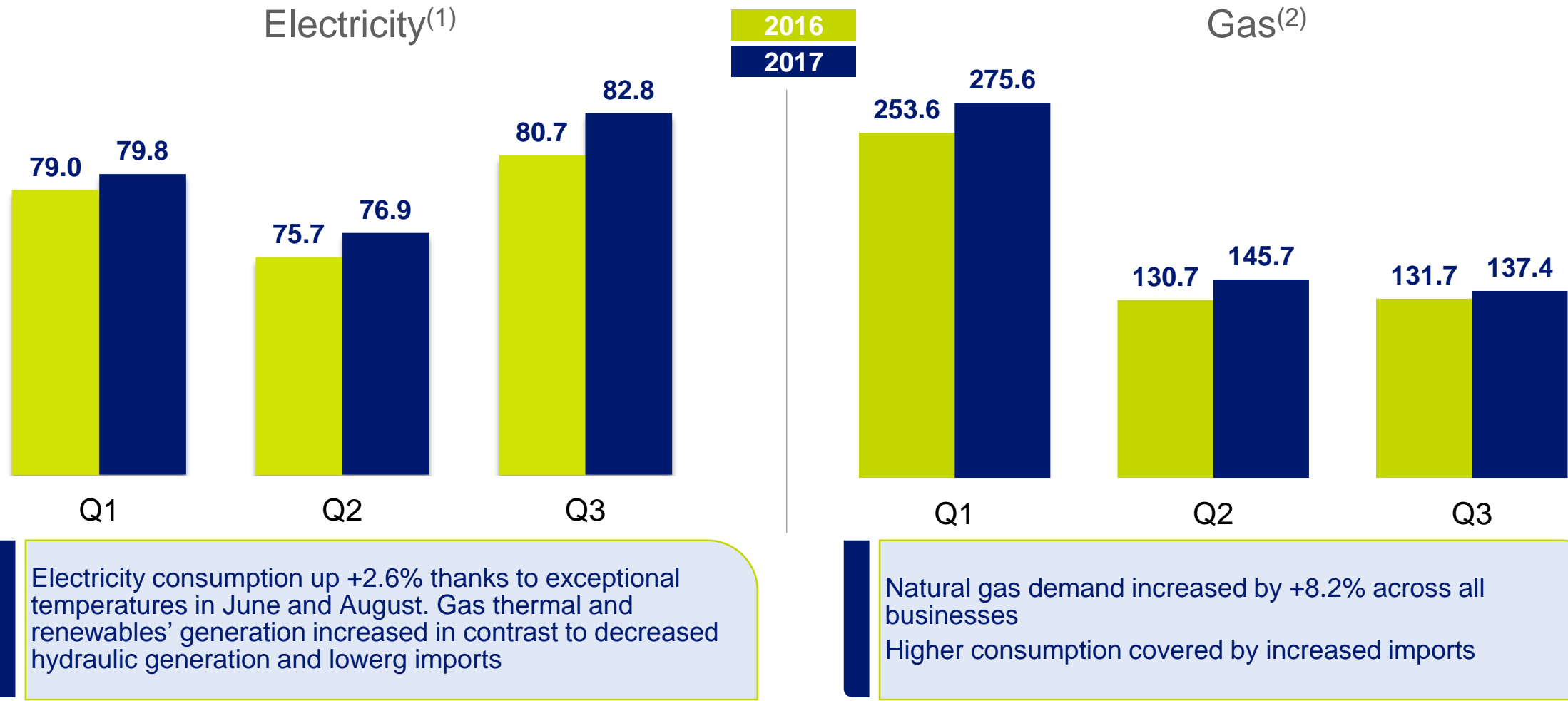


Natural gas consumption has been decreasing through 2017 compared to 2016. Q3 in line with the same period in the previous year

Source: BEIS (Historical data revised every quarter)  
(1) Estimates from EDF Energy

# ITALY: ELECTRICITY AND GAS CONSUMPTION

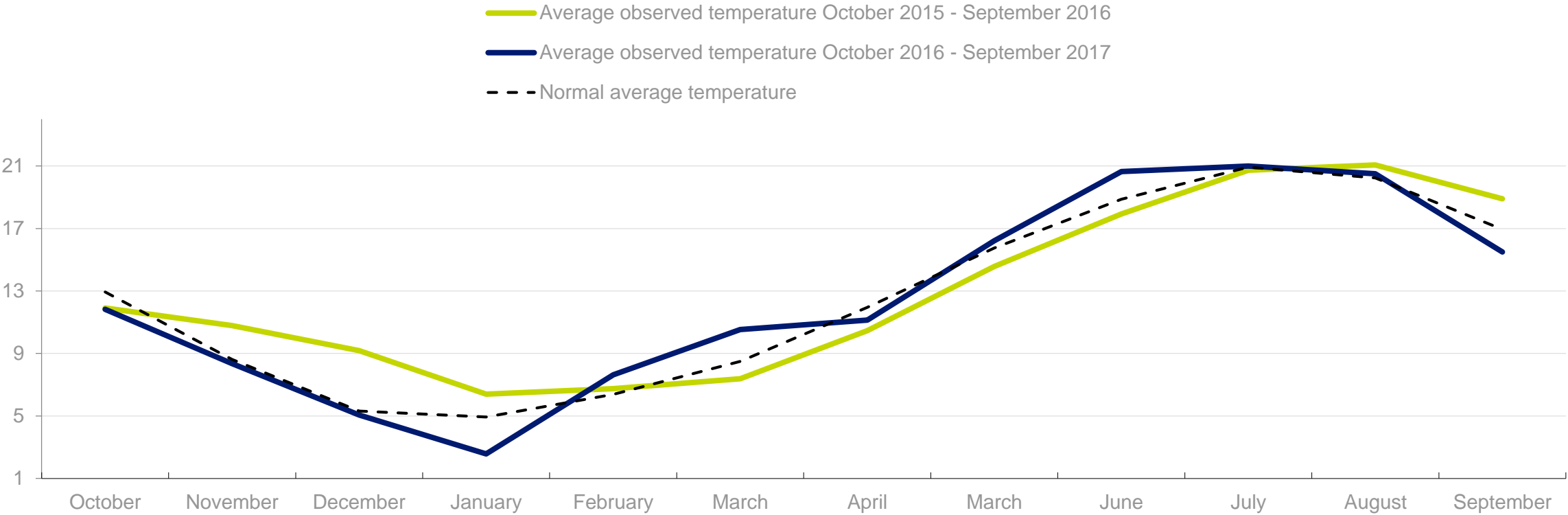
In TWh



(1) Source: Terna data restated by Edison  
(2) Source: Ministry of Economic Development (MSE), Snam Rete Gas data restated by Edison on the basis of 1 bcm = 10.76TWh

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

In °C

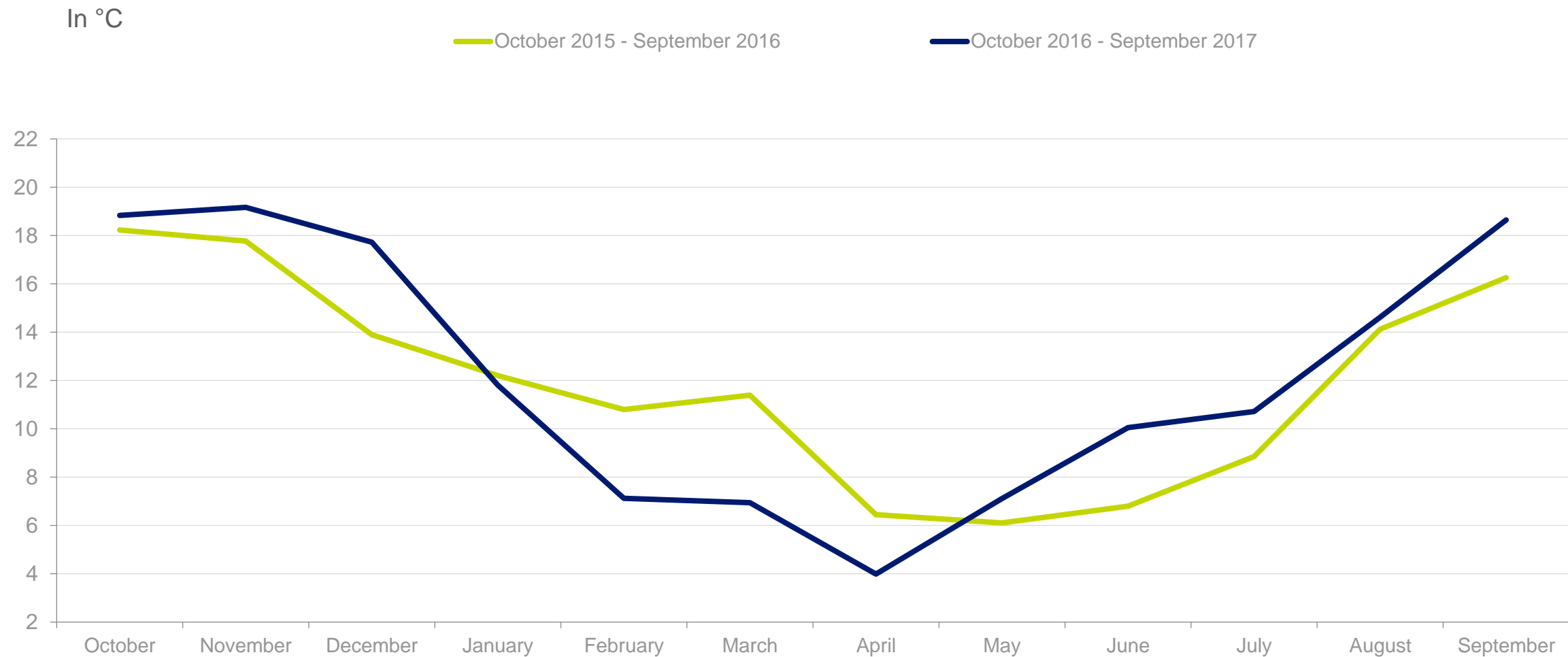


The 3<sup>rd</sup> quarter of 2017 was 0,3°C below normal. In July and August, the values were close to normal despite the heat spikes recorded from 4 to 9 July and from 17 to 19 July.

The month of September, relatively fresh, was 1,4°C below normal, ie a difference of -3,4°C compared to September 2016.

Source: Météo France  
(1) Data based on a basket of 32 cities

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



Source: Météo France  
(1) Representative of EDF Energy





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# SALES AND HIGHLIGHTS 2017

THIRD QUARTER

Appendices

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