French société anonyme
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EDF group

2016 MANAGEMENT REPORT

GROUP RESULTS

CONTENTS

1 KEY FIGURES

Pursuant to European regulation no. 1606/2002 of 19 July 2002 on the adoption of international accounting standards, the EDF group's consolidated financial statements for the year ended 31 December 2016 are prepared under the international accounting standards published by the IASB and approved by the European Union for application at 31 December 2016. These international standards are IAS (International Accounting Standards), IFRS (International Financial Reporting Standards), and SIC and IFRIC interpretations.

The Group's accounting policies are presented in note 1 to the consolidated financial statements for the year ended 31 December 2016.

The figures presented in this document are taken from the EDF group's consolidated financial statements at 31 December 2016.

The Group's key figures for 2016 are shown in the following tables.

EXTRACT FROM THE CONSOLIDATED INCOME STATEMENT

(in millions of Euros)	2016	2015	Variation	Variation (%)	Organic growth (%)
Sales	71,203	75,006	(3,803)	-5.1	-3.2
Operating profit before depreciation and amortisation (EBITDA)	16,414	17,601	(1,187)	-6.7	-4.8
Operating profit (EBIT)	7,514	4,280	3,234	+75.6	+76.6
Income before taxes of consolidated companies	4,181	1,692	2,489	+147.1	+148.0
EDF net income	2,851	1,187	1,664	+140.2	+141.4
Net income excluding non-recurring items [1]	4,085	4,822	(737)	-15.3	-15.0

(1) Net income excluding non-recurring items is not defined by IFRS, and is not directly visible in the consolidated income statement. It corresponds to the net income excluding non-recurring items and the net change in fair value on Energy and Commodity derivatives, excluding trading activities, net of tax (see section 5.9 "Net income excluding non-recurring items").

FROM EDF NET INCOME TO NET INCOME EXCLUDING NON-RECURRING ITEMS

(in millions of Euros)	2016	2015
EDF net income	2,851	1,187
Decision by the European Commission concerning the general network [1]	-	354
Other, including net changes in fair value on Energy and Commodity derivatives, excluding trading activities	233	86
Impairment	1,001	3,195
NET INCOME EXCLUDING NON-RECURRING ITEMS	**4,085**	**4,822**
Payments to bearers of perpetual subordinated bonds	(582)	(591)
NET INCOME EXCLUDING NON-RECURRING ITEMS ADJUSTED FOR PAYMENTS ON HYBRID BONDS	**3,503**	**4,231**

(1) European Commission decision on the tax treatment of provisions established between 1987 and 1996 for renewal of the general network in France.

EXTRACT FROM THE CONSOLIDATED BALANCE SHEET

(in millions of Euros)	31/12/2016	31/12/2015
Non-current assets	147,626	149,439
Inventories and trade receivables	37,397	36,973
Other assets	66,238	69,536
Cash and cash equivalents, other liquid assets, loans to RTE [1] and joint ventures	25,159	22,993
Assets held for sale (1)	5,220	–
TOTAL ASSETS	**281,640**	**278,941**
Equity (EDF share)	34,438	34,749
Equity (non-controlling interests)	6,924	5,491
Special concession liabilities	45,692	45,082
Provisions	74,966	75,327
Loans and other financial liabilities	61,230	60,388
Other liabilities	56,281	57,904
Liabilities related to assets classified as held for sale (2)	2,109	–
TOTAL EQUITY AND LIABILITIES	**281,640**	**278,941**

(1) Including €104 million of financial assets impacting net indebtedness (see below).
(2) Including €1,458 million of financial debts impacting net indebtedness (see below).

GROUP CASH FLOW

(in millions of Euros)	2016	2015	Variation	Variation (%)
Group cash flow (1)	(1,565)	(2,064)	+499	+2.2

(1) Group cash flow is not an aggregate defined by IFRS as a measure of financial performance, and is not comparable with indicators of the same name reported by other companies. It is equivalent to the operating cash flow after net change in working capital, net investments, allocations and withdrawals from dedicated assets, and dividends.

DETAILS OF NET INDEBTEDNESS

(in millions of Euros)	31/12/2016	31/12/2015	Variation	Variation (%)
Loans and other financial liabilities	65,195	64,183	1,012	+1.6
Derivatives used to hedge liabilities	(3,965)	(3,795)	(170)	+4.5
Financial liabilities reclassified as liabilities related to assets held for sale (2)	1,458	-	1,458	+100.0
Cash and cash equivalents	(2,893)	(4,182)	1,289	-30.8
Available-for-sale financial assets - Liquid assets	(22,266)	(18,141)	(4,125)	+22.7
Loan to RTE	-	(670)	670	-100.0
Financial assets reclassified as assets held for sale (2)	(104)	-	(104)	+100.0
NET INDEBTEDNESS (1)	**37,425**	**37,395**	**30**	**+0.1**

(1) Net indebtedness is not defined in the accounting standards and is not directly visible in the Group's consolidated balance sheet. It comprises total loans and financial liabilities, less cash and cash equivalents and liquid assets. Liquid assets are financial assets consisting of funds or securities with initial maturity of over three months that are readily convertible into cash and are managed according to a liquidity-oriented policy.
(2) Net indebtedness of assets held for sale in 2016 principally concerns C25 (the holding company for RTE) and Polish companies.

1. RTE is a subsidiary of EDF that is independent under the French Energy Code.

2 ECONOMIC ENVIRONNEMENT

2.1 Trend in market prices for electricity and the principal energy sources

In an increasingly interconnected European market, analysis of market prices in France and the rest of Europe provides vital context.

Spot electricity prices in Europe were generally lower in 2016 than 2015. This was essentially due to a decline in fuel prices, especially for gas and CO_2, and a particularly mild winter in 2015/2016 even though 2016 was colder overall than the previous year. The end of 2016 saw rises in spot prices, notably in response to shutdowns of several French nuclear reactors in order to carry out further tests at the request of the French Nuclear Safety Authority (ASN), and an upturn in fuel prices.

2.1.1 Spot electricity prices in Europe [1]

	France	United Kingdom	Italy	Germany	Belgium
Average baseload price for 2016 *(€/MWh)*	36.7	49.1	42.8	29.0	36.6
Variation in average baseload prices, 2016/2015	-4.5%	-11.8%	-18.2%	-8.4%	-18.0%
Average peakload price for 2016 *(€/MWh)*	45.7	57.4	48.0	35.2	46.7
Variation in average peakload prices, 2016/2015	-2.0%	-7.0%	-18.1%	-9.8%	-13.4%

The comments below concern baseload prices.

In **France**, spot electricity prices stood at an average €36.7/MWh in 2016, €1.7/MWh lower than in 2015. This decrease was mainly driven by the situation in the first quarter of the year, and to a lesser degree the second and third quarters. It resulted from first-quarter temperatures that were an average 0.7°C lower year-on-year, and falling fuel prices in the early part of the year. However, the annual average spot price was pushed upwards in the final quarter of 2016, when spot prices were €19.2/MWh higher than in the same period of 2015.

Total consumption for the year was up slightly by 1.5% [2] compared to 2015. A key contributing factor was the 6.5% year-on-year rise in the final quarter of 2016, which registered temperatures slightly below normal for the season and 2.2°C below final-quarter 2015 temperatures.

The year 2016 was also marked by the continued outages of several nuclear reactors in the second half of the year, in order to carry out ASN-requested tests of the carbon content of steam generator heads. Greater use was made of hydropower and thermal plants, especially gas-fired plants. Hydropower and solar power output was higher than in 2015, while wind power output was relatively stable. The balance of cross-border exchanges was down, but EDF remained a net exporter.

In the **United Kingdom**, spot electricity prices decreased by 11.8% compared to 2015 to an average €49.1/MWh for 2016. However, peaks were observed in spot prices between September and November, rising as high as €199/MWh on 19 September. These peaks were caused by high demand associated with lower temperatures at a time when wind power output was exceptionally low, plant availability was poor and imports more limited.

In **Italy**, average spot prices for 2016 were down by 18% from the previous year to €42.8/MWh.

In **Germany**, spot prices stood at an average €29.0/MWh, €2.6/MWh lower than in 2015, the lowest average since 2005 and the lowest registered in western Europe. Germany has Europe's largest wind power and photovoltaic solar power fleet, with close to 88GW of installed power, and experienced several episodes of negative prices under the combined effect of exceptionally low demand and high unavoidable renewable power output. There was also a peak in German wind power output at almost 37GW on 27 December, and a peak in photovoltaic solar power output at over 26GW in May. Nevertheless in mid-December, German spot prices were at a 3-year high following greater nuclear plant unavailability. As the tax on nuclear fuel was due to end from 1 January 2017, operators decided to wait for the new year to reload their nuclear reactors with fuel.

In **Belgium**, spot prices were down by €8.1/MWh compared to 2015, registering an average price of €36.6/MWh. Belgian spot prices generally followed the same downward pattern as French spot prices, and this trend was reinforced by the return to service of the Belgian reactors Doel 1, Doel 2 and Tihange 3 after a long period of unavailability in 2015. In the later part of the year, the unavailability of the Tihange 1 nuclear plant from September put upward pressure on spot prices.

1. ***France* and *Germany*:** *average previous day EPEXSPOT price for same-day delivery;*
 Belgium: *average previous day Belpex price for same-day delivery;*
 United Kingdom: *average previous day EDF Trading OTC price for same-day delivery;*
 Italy: *average previous day GME price for same-day delivery.*

2. *Source: RTE.*

2.1.2 Forward electricity prices in Europe [1]

	France	United Kingdom	Italy	Germany	Belgium
Average forward baseload price under the 2017 annual contract for 2016 *(€/MWh)*	33.3	47.9	41.2	26.6	33.4
Variation in average forward baseload price under the annual contracts, 2016/2015	-12.7%	-18.5%	-12.7%	-14.2%	-23.0%
Forward baseload price under the 2017 annual contract at 28 December 2016 *(€/MWh)*	40.3	55.7	46.9	34.3	39.6
Average forward peakload price under the 2017 annual contract for 2016 *(€/MWh)*	44.6	55.0	47.1	33.5	43.6
Variation in average forward peakload price under the annual contracts, 2016/2015	-5.2%	-17.3%	-10.7%	-14.3%	-16.1%
Forward peakload price under the 2017 annual contract at 28 December 2016 *(€/MWh)*	51.0	62.6	52.3	42.1	50.6

Average annual contract prices for baseload and peakload electricity supplies in Europe were lower than in 2015, mainly due to the decrease in fuel prices, especially for gas and CO_2. After a dip in the first quarter, prices recovered from the second quarter and saw some particularly large fluctuations in the autumn.

In **France**, the average annual contract baseload price was €33.3/MWh, down by 12.7% from 2015, primarily as a result of the lower gas and CO_2 prices. However, the 2017 annual contract baseload price ended the year 2016 at €40.3/MWh, a rise of €7.2/MWh from the start of the year. This price increase, which was essentially concentrated in the fourth quarter, is explained by initially rising coal and gas prices, and uncertainties over the nuclear fleet's availability in the first quarter of 2017 following additional steam generator inspections requested by the ASN, for which the reactors concerned must be taken offline. In early December, once the ASN had approved to restart 8 of the 12 nuclear reactors concerned by carbon segregation issues, the 2017 annual contract price lost almost €6/MWh as the price for Q1-2017 fell by nearly €12/MWh. The forward price then rose again with the increasing coal and CO_2 prices.

In the **United Kingdom**, the April Ahead contract baseload price for 1 April Y+1 to 31 March Y+2 dropped by 18.5% from its 2015 level in line with gas price trends. Prices nonetheless increased over the year 2016 as a whole by 15%, following the upward movement in British gas prices, although for euro-listed prices this was offset by the decline in the pound sterling that began on 23 June after the Brexit referendum.

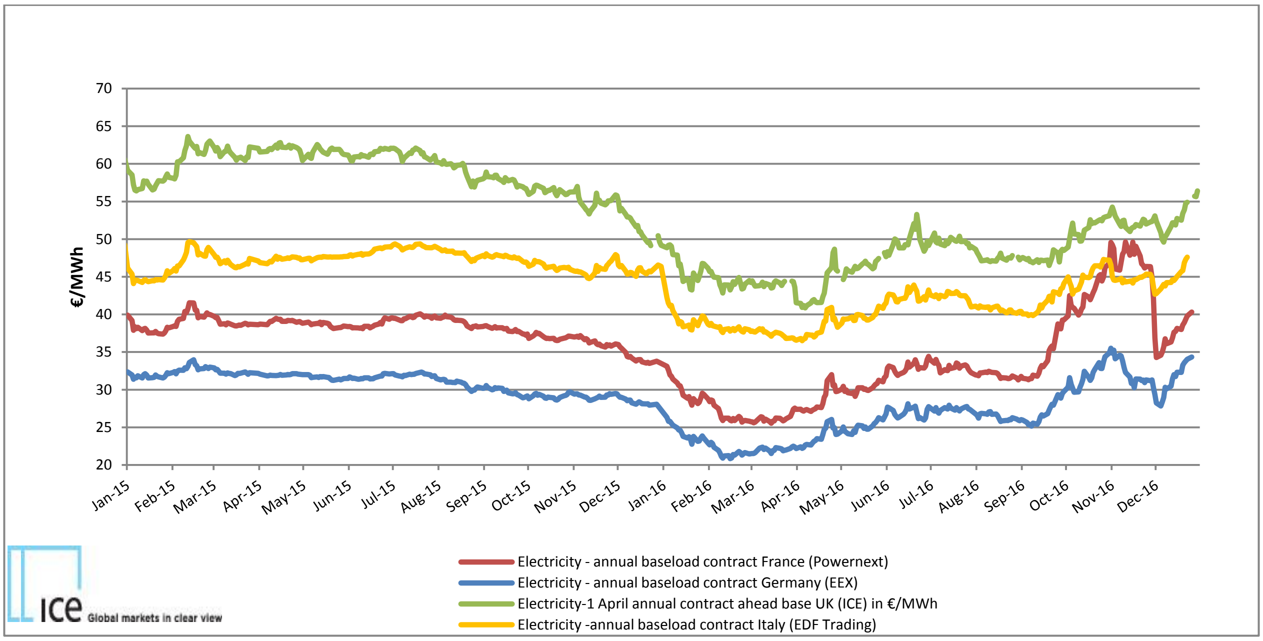
In **Italy**, the annual contract baseload price also decreased significantly, and was €6/MWh lower on average than in 2015. This downturn is explained by the fall in gas prices, since electricity generation in Italy is highly dependent on gas-fired power plants, and the progression of installed renewable energies.

In **Germany**, the annual contract baseload price was down by an average 14.2% compared to 2015. This decrease is attributable to falling fuel prices, although the Cal 2017 contract price gained €8/MWh between the start and end of the year, rising from €26.3/MWh to €34.3/MWh. German prices generally followed the same pattern as French prices, except in the final quarter. They were also more influenced by the significant increase in coal prices over the year, since coal-fired plants are a very important factor in Germany's energy mix.

In **Belgium**, the annual contract baseload price registered a 23% decrease from 2015 and stood at an average €33.4/MWh for 2016. It followed the same trends as the French contract price overall.

1. ***France and Germany**: average year-ahead EEX price;*
   ***Belgium and Italy**: average year-ahead EDF Trading price;*
   ***United Kingdom**: average ICE annual contract prices, April 2015 then April 2016 (in the UK, annual contract deliveries take place from 1 April to 31 March).*

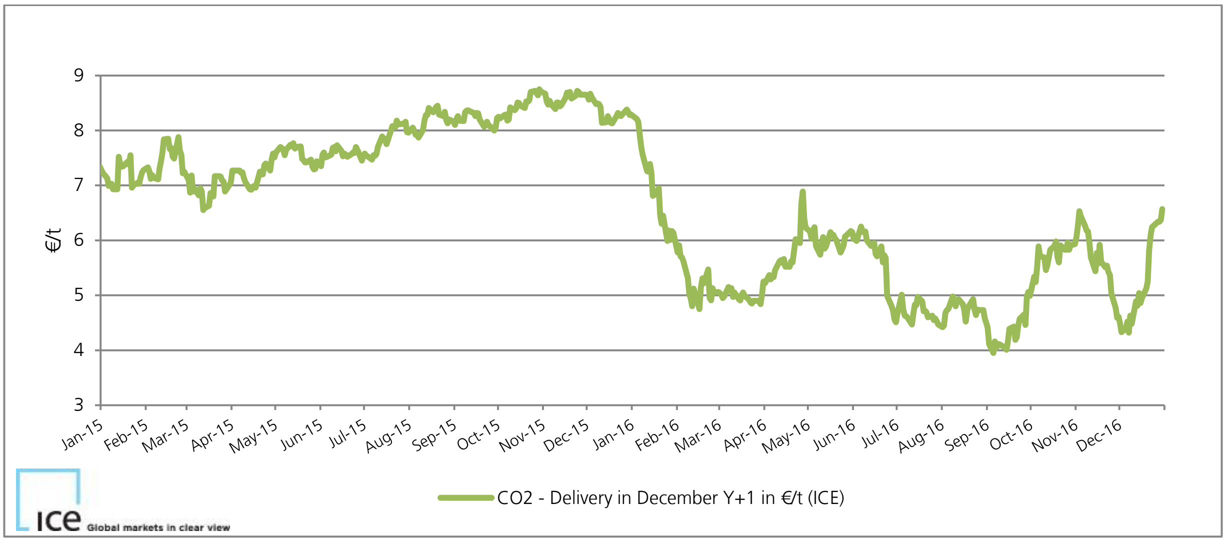
PRINCIPAL FORWARD ELECTRICITY PRICES IN EUROPE (BASELOAD)



2.1.3 CO_2 emission rights prices[1]

The price of CO_2 emission certificates for delivery in December 2017 ended the year at €6.6/t, down by €1.6/t from the start of the year. This decline masks contrasting developments during the year. The price dropped sharply at the beginning of 2016 year following a fall in demand for quotas due to downward revisions of industrial prospects in Europe, and lower forecast use of coal-fired plants. This downturn neutralised the effect of the price rise that had followed the European Parliament's adoption of the market stability reserve in July 2015. There was also a reversal in the merit order in the UK between coal-fired and gas-fired plants. Since gas-fired plants are more economic to run and produce around less than half as much CO_2 per MWh as coal-fired plants, there was a substantial decrease in forecast demand for CO_2 emission quotas. Prices then rose along with the prospects of the introduction of a carbon price floor in France, but this rise was halted by the result of the "Brexit" referendum which means that France will lose its chief ally - the UK - in the battle against greenhouse gas emissions. In the autumn, CO_2 prices then increased as French nuclear plants remained offline for the tests requested by the ASN, resulting in greater use of thermal power plants, especially plants fired by coal, gas and German lignite. Finally, a further decline in prices was observed in November as the COP22 in Marrakech failed to take practical steps for the implementation of an anti-greenhouse gas emission policy.

CO_2 EMISSION RIGHTS PRICES



1. *Average ICE prices for the annual contract, Phase III (2013-2020).*

2.1.4 Fossil fuel prices [1]

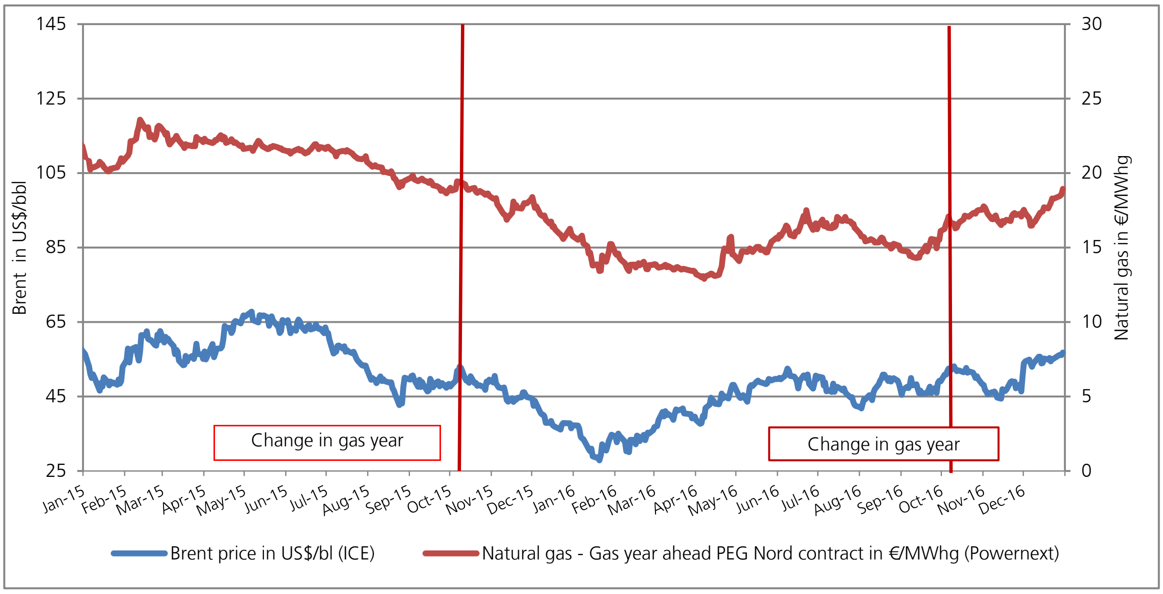
	Coal (US$/t)	Oil (US$/bbl)	Natural gas (€/MWhg)
Average price for 2016	53.7	45.1	15.5
Average price variation, 2016/2015	-1.7%	-15.7%	-24%
Highest price in 2016	77.6	56.8	18.9
Lowest price in 2016	36.5	27.9	12.9
Closing price, 2015	44.0	37.3	15.8
Closing price, 2016	70.3	56.8	18.9

Oil prices ended the year 2016 at US$56.8/bbl, up by US$19.5/bbl from the start of the year. It was a year of substantial price volatility as the market responded to geopolitical events and meetings between OPEC members and other oil-producing countries about concerted control of supply in view of depressed demand. There was a strong market slump in January due to fears concerning the Chinese economy and the prospect of a strong recovery for Iranian exports following Iran's nuclear deal with western powers: oil prices fell to their lowest point of the year on 20 January, at US$27.9/bbl. A long period of upward price movements then followed until summer, due to supply-side tensions. For example, forest fires in Canada significantly affected power generation in Alberta, there were unprecedented oil industry strikes in Kuwait, one of the world's largest producers, and several American shale oil wells were closed because they were no longer profitable at such price levels. The first attempts at a concerted reduction of oil supplies took place, notably with a meeting in Doha in April, but Iran was neither interested nor involved. From July onwards oil prices retreated once more as demand from China remained sluggish and ultimately American oil well closures were not as extensive as expected. There was an upturn between late November and early December when an agreement to cut oil production was reached in Vienna between the main OPEC countries and Russia. This agreement concerns the main oil-producing countries apart from the United States, and limits supply in response to moderate demand levels. It also accommodates Iran, allowing it to return to its 2005 production levels and reclaim its place as a key exporter on the world oil market.

Forward prices for **coal** deliveries in Europe in 2017 ended the year at US$70.3/t, up by US$26.3/t from the start of the year. The rise was practially continuous throughout the year. Prices rose faster in summer and autumn, reaching a peak on 7 November at US$77.6/t before dropping back slightly. The major factor of 2016 was China's move to cut production by closing down unprofitable mines and limiting the number of days worked by miners. The objective is to reduce local Chinese coal production by 1 billion tonnes per year, a volume that should be compared to the 200 million tonnes imported by Europe each year. Another factor was strong demand from Asian countries such as India, Vietnam and South Korea, which put additional strong pressure on prices. The rouble's appreciation against the dollar also contributed to an increase in Russia's dollar-denominated coal production costs and therefore in market prices. The prospect of more extensive use of thermal power generation, especially coal-fired plants, to compensate for lower nuclear plant availability in France also accentuated the price rise in the autumn. This was followed by a downturn in November when the Chinese supply limitation policy was relaxed and more than eight hundred mines were authorised to produce more than their quotas, and also due to expectations that certain Australian mines would be reopened in view of high market prices. Prices then started a new upward movement right at the end of the year, once again exceeding US$70/t as a result of strikes in Colombia, a major exporter to Europe, and difficult weather conditions in Russia that prevented some exports by rail and sea. The rise in oil prices, which have a strong influence on coal production prices, also intensified this trend.

The annual **gas** contract for the French PEG Nord hub traded at an average €15.5/MWh in 2016, down by €4.9/MWh (-24%) compared to 2015. However, gas prices still ended the year on an upward note. The decline over the year is explained partly by a fall in oil prices in early 2016 which pulled gas prices down in their wake via indexing of long-term contract, and partly by good gas supply levels on the European platform. Comfortable gas stocks at European level mitigated the upward price pressure associated with the Rough gas storage facility in the United Kingdom and restrictions on production by the Groningen gas field in the Netherlands. Discussions took place during the year regarding a lower cap on production in order to limit seismic risks from this field, and ultimately the Dutch government decided to reduce the authorised maximum to 24 bcm, whereas in 2014 the cap was still 42.5 bcm. In the United Kingdom, the operator of the Rough gas storage site, which accounts for two thirds of the country's storage capacity, announced in July that filling could only resume in winter 2017, and that drawings from some of its wells would be restricted. This announcement pushed forward prices up because the United Kingdom would need to use interconnections to meet its demand.

1. ***Coal**: average ICE prices for delivery in Europe (CIF ARA) for the next calendar year (US$/t);*
***Oil**:* brent *first reference crude oil barrel, IPE index (front month) (US$/barrel);*
***Natural gas**: average ICE OTC prices, for delivery starting from October of the following year in France (PEG Nord) (€/MWhg).*



2.2 Electricity [1] and gas [2] consumption

Overall electricity consumption in **France** for 2016 was 1.5% higher than in 2015. After correction for weather effects, electricity consumption in France is stable. Year-on-year, electricity consumption fell in January and February by around 4.5%, mainly as a result of mild weather, then rose in March, April and May due to cooler temperatures. Use of air conditioning in June and July was down compared to the same months of 2015 (-1.3% and -3.4% respectively), contributing to the decrease in electricity consumption. Although September temperatures were below normal in 2015 and above normal in 2016, the monthly consumption for September was practically stable, as electricity was used for air conditioning instead of heating.

Consumption late in the year was up by 6.5% as November and December were colder than the previous year.

In the **United Kingdom**, estimated electricity consumption was down by 0.8% compared to 2015, principally as a result of lower consumption and milder weather: since 2016 was in general not as cold as 2015, less electricity was consumed for heating. In **Italy**, electricity consumption was down by -2.1% compared to 2015 as a result of the unfavourable weather conditions of 2016.

Estimated natural gas consumption in **France** rose by 9.2% in 2016 from 2015. From March onwards, monthly demand was higher year-on-year in every month, with a more accentuated increase in November and December. The average temperature for the year was 12.5°C, which was 0.5°C lower than in 2015, causing an overall rise in consumption. Greater use of gas-fired power plants was another, although more minor, contributing factor to the rise in demand.

Estimated natural gas consumption in the **United Kingdom** was up by 2.6% from 2015, principally driven by higher electricity generation by gas-fired plants following coal-fired plant closures in 2016. In **Italy**, domestic demand for natural gas increased by 5.2% as a result of higher gas-fired generation output given that hydropower and coal-fired plants had reduced their production levels.

2.3 Electricity and natural gas sales tariffs

For details of recent developments concerning tariffs in France, see note 4.1 to the 2016 consolidated financial statements, "Regulated electricity sales tariffs in France".

In the United Kingdom, EDF Energy reduced its gas tariffs by 5% on 24 March 2016 due to falling gas prices on the wholesale markets. This reduction is consistent with the gas tariff cuts applied by the five other major energy suppliers in the United Kingdom between February and March 2016.

On 16 December 2016 EDF Energy announced tariff changes for 2017: a 5.2% reduction in gas tariffs from 6 January 2017, a 12.9% reduction in gas tariffs for prepayment customers from 6 January 2017, and an increase in electricity tariffs effective from 1 March 2017.

In early March 2015, new, more competitive fixed-tariff products were introduced on the B2C segment. The "Blue Price Promise June 2016" guaranteed a fixed price of £965 per year up to and including June 2016, and the "Blue Price Promise February 2017" guaranteed a fixed price of £999 per year up to and including June 2017.

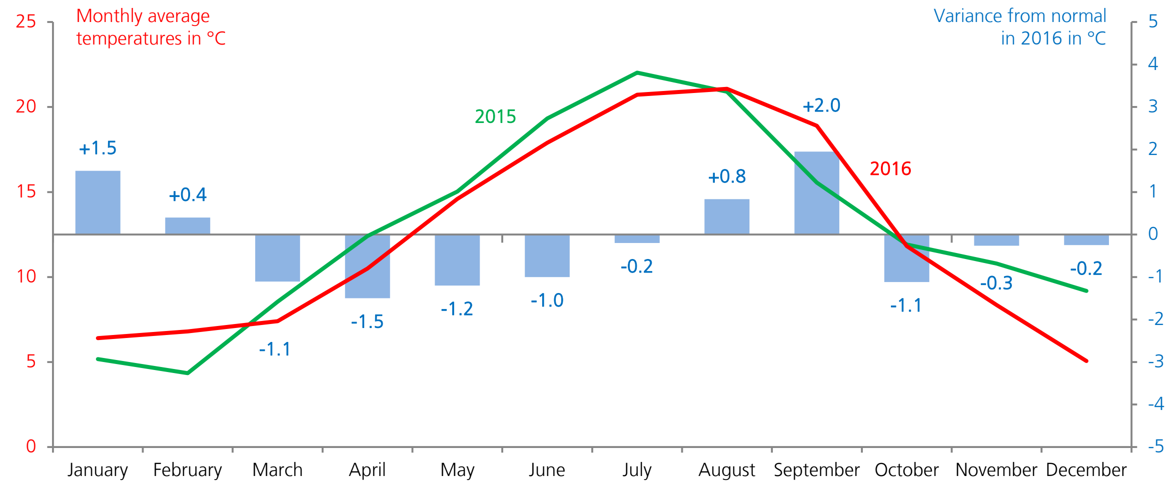
1. *Sources: **France**: unadjusted data and data adjusted for weather effects provided by RTE.*
__United Kingdom__: Department of Energy and Climate Change for the first three quarters, local subsidiary estimation for the final quarter.
__Italy__: unadjusted data and data provided by Terna, the Italian national grid operator and adjusted by Edison.
2. *Sources: **France**: unadjusted data from Smart GRTgaz.*
__United Kingdom__: Department of Energy and Climate Change data for the first three quarters, local subsidiary estimation for the final quarter.
__Italy__: Ministry for Economic Development (MSE), Snam Rete Gas data adjusted by Edison on the basis of 1Bcm = 10.76TWh.

2.4 Weather conditions: temperatures and rainfall

2016 was a colder year than 2015, with average temperatures for France that were -0.2°C below normal.

January 2016, and to a lesser degree February 2016, registered relatively mild temperatures for the season. However, cool weather often dominated in spring 2016: March, April, May and June temperatures remained between 1.0°C and 1.5°C below normal levels. There was a late summer heatwave and a generally warm month of September (an average 2°C above normal), followed by contrasting cool temperatures in October (1.1°C below normal). The year finally ended on fairly close-to-normal temperatures.

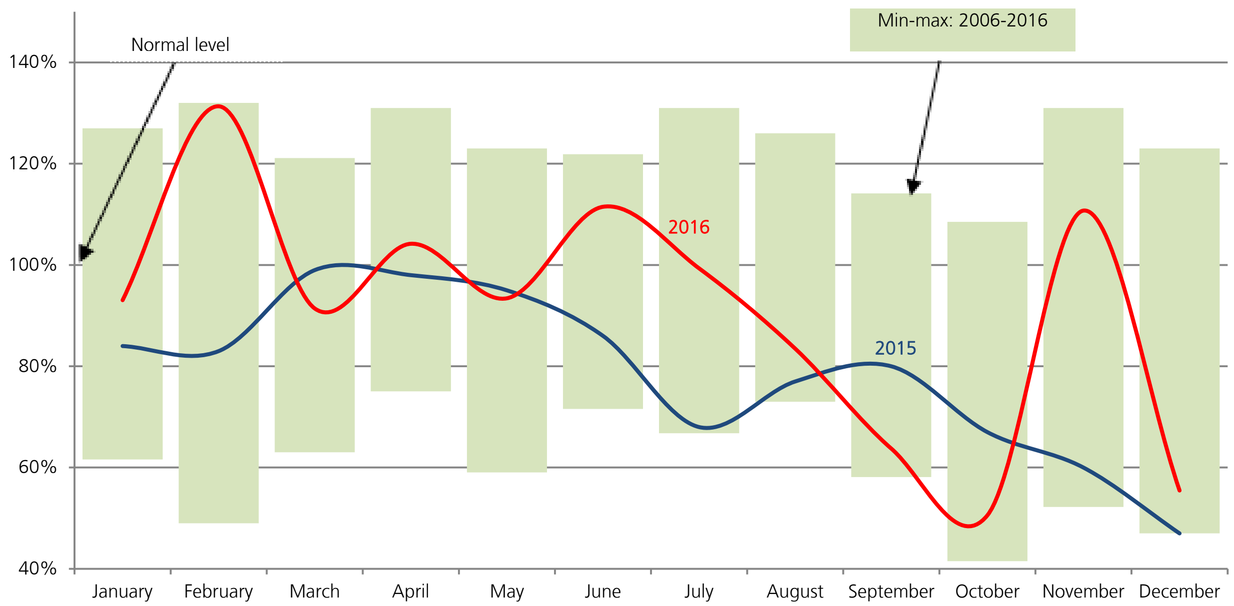
TEMPERATURES (1) (2) IN FRANCE IN 2016 AND 2015



(1) Average temperatures recorded in 32 cities weighted by electricity consumption.
(2) Source: Miréor (data from Météo-France).

2016 rainfall levels were close to normal in the western half of Europe, although some areas were short of rain (south of France, north Italy) and eastern Europe (particularly Austria, Hungary and Slovakia) had surplus rainfall. Air temperatures were higher than normal, especially in Central Europe and countries close to Russia.

WATER FLOW COEFFICIENTS IN FRANCE IN 2016 AND 2015 (1)



(1) Weekly monitoring by EDF's OSGE energy observatory of French reservoir levels (Miréor project) as far as the coast.

In France, except in the southern Alps and the eastern Pyrenees which registered shortfalls in precipitation, there was surplus precipitation everywhere in the first half of 2016, making up for the significant shortfall in water levels observed in late 2015. This led to excess snowfall on the northern Alps and the French Rhine valley. The second half of the year saw a general shortfall in precipitation, except in November.

As a consequence of these unusual weather conditions, French hydropower capacity was often above normal in the first half of 2016, but then fell below normal in the second half of the year (apart from November), with seriously low flows in September, October and December.

3 SIGNIFICANT EVENTS OF 2016

See the full list of releases available from the EDF website www.edf.fr and also note 3 “Significant events and transactions” and note 4 “Regulatory events in France” to the 2016 consolidated financial statements.

4 SUBSEQUENT EVENTS

Subsequent developments concerning EDF Polska and EDF Démász Zrt. are referred to in notes 3.5.2 “EDF: future sale of EDF Polska’s assets” and 3.5.3 “EDF and ENKSZ complete the sale of 100% of EDF DÉMÁSZ Zrt” to the 2016 consolidated financial statements.

Subsequent developments concerning changes in 2017 in the regulatory limits on the discount rate used to calculate nuclear provisions in France are referred to in note 29.1.5.1 to the 2016 consolidated financial statements “Discount rate” and in section 7.1.6 “Management of financial risk on EDF's dedicated asset portfolio”.

4.1 Board of Directors’ meeting held on 13 February 2017

During its meeting held on 13 February 2017, the Board of Directors of EDF decided to carry out a capital increase with preferential subscription rights to existing shareholders for a total amount, including issue premium, of approximately 4 billion euros, as announced on 22 April 2016.

EDF intends to launch this capital increase before the end of the first quarter of 2017, subject to market conditions and after having received the visa from the French *Autorité des marchés financiers* (AMF) on the prospectus. This transaction will be executed, after a new deliberation of the Board of Directors, in accordance with the delegation of authority which has been granted to it by the second resolution adopted at the extraordinary general meeting of the shareholders of the company held on 26 July 2016.

The French State, EDF’s largest shareholder, has committed to subscribe for new shares in an amount of 3 billion euros out of the total amount of approximately 4 billion euros.

4.2 ¥137 billion Samurai bond issue

On 20 January 2017, EDF raised ¥137 billion, i.e. around €1.1 billion, through a 4-tranche senior bond issue on the Japanese market (“Samurai bonds”) with maturities of 10 years and more:

- ¥107.9 billion bond, with a 10-year maturity and a fixed coupon of 1.088%;
- ¥19.6 billion green bond, with a 12-year maturity and a fixed coupon of 1.278%;
- ¥6.4 billion green bond, with a 15-year maturity and a fixed coupon of 1.569%;
- ¥3.1 billion bond, with a 20-year maturity and a fixed coupon of 1.870%.

With the issuance of two green tranches totalling ¥26 billion dedicated to the financing of its renewable investments, EDF has opened the Samurai green bond market, continuing its active contribution to the development of green bonds as financing instruments for the energy transition.

4.3 Proceedings concerning EDF - Action before the Paris Commercial Court by five directors of EDF SA representing employees

Five directors of EDF, who represent the employees, started proceedings against EDF before the Paris Commercial Court. They sought abrogation of the decision adopted on 28 July 2016 by EDF's Board of Directors to invest in the Hinkley Point C project, on the grounds that the directors of EDF did not have all the necessary information, and that there is a conflict of interests for certain directors. EDF denied these allegations. In a ruling of 7 February 2017, the Paris Commercial Court rejected this application.

5 ANALYSIS OF THE BUSINESS AND THE CONSOLIDATED INCOME STATEMENTS FOR 2015 AND 2016

Presentation and analysis of the consolidated income statements for 2015 and 2016 is shown at two levels of analysis for Sales and EBITDA: a first focusing on the Group, then a second reporting on the different business segments (France - Generation and supply activities, France - Regulated activities, United Kingdom, Italy, Other international and Other activities). EBIT (operating profit) and net income are analysed from a more general standpoint.

Following regulatory changes in France in late 2015 (discontinuation of the “yellow” and “green” regulated tariffs, and opening up to market offers), the Group has revised its segment reporting. The former “France” segment has been replaced by two new segments, “France - Generation and Supply” and “France - Regulated activities”. The segments used by the Group are detailed in note 6.1 to the 2016 consolidated financial statements, “Reporting by operating segment”.

(in millions of Euros)	2016	2015
Sales	**71,203**	**75,006**
Fuel and energy purchases	(36,050)	(38,775)
Other external purchases	(8,902)	(9,526)
Personnel expenses	(12,543)	(12,529)
Taxes other than income taxes	(3,656)	(3,641)
Other operating income and expenses	6,362	7,066
Operating profit before depreciation and amortisation (EBITDA)	**16,414**	**17,601**
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	(262)	175
Net depreciation and amortisation	(7,966)	(9,009)
Net increases in provisions for renewal of property, plant and equipment operated under concessions	(41)	(102)
(Impairment)/reversals	(639)	(3,500)
Other income and expenses	8	(885)
Operating profit (EBIT)	**7,514**	**4,280**
Cost of gross financial indebtedness	(1,827)	(1,994)
Discount effect	(3,417)	(2,812)
Other financial income and expenses	1,911	2,218
Financial result	**(3,333)**	**(2,588)**
Income before taxes of consolidated companies	**4,181**	**1,692**
Income taxes	(1,388)	(483)
Share in net income of associates and joint ventures	218	192
GROUP NET INCOME	**3,011**	**1,401**
EDF net income	2,851	1,187
Net income attributable to non-controlling interests	160	214
EARNINGS PER SHARE (EDF SHARE) IN EUROS		
Earnings per share	1.15	0.32
Diluted earnings per share	1.15	0.32

5.1 Sales

Consolidated sales were down by 5.1% while showing an organic decline of 3.2%.

5.1.1 Change in Group sales

(in millions of Euros)	2016	2015	Variation	Variation (%)	Organic growth (%)
Sales	**71,203**	**75,006**	**(3,803)**	**-5.1**	**-3.2**

Sales amounted to €71,203 million in 2016, down by €3,803 million (-5.1%) from 2015.

Excluding the effects of exchange rates (-€1,394 million), principally the pound sterling's decline against the Euro, and changes in the scope of consolidation (+€19 million), the organic decline in Group sales was 3.2%.

5.1.2 Change in sales by segment

The following table shows sales by segment, excluding inter-segment eliminations.

(in millions of Euros)	2016	2015	Variation	Variation (%)	Organic growth (%)
France - Generation and supply (1)	35,191	37,327	(2,136)	-5.7	-5.7
France - Regulated activities (2)	15,728	15,418	310	+2.0	+2.0
United Kingdom	9,267	11,622	(2,355)	-20.3	-9.0
Italy	11,125	11,694	(569)	-4.9	-4.5
Other International	5,286	5,827	(541)	-9.3	-6.8
Other activities	7,734	7,288	446	+6.1	+4.5
Eliminations	(13,128)	(14,170)	1,042	-7.4	-7.4
GROUP SALES	**71,203**	**75,006**	**(3,803)**	**-5.1**	**-3.2**

(1) Generation, supply and optimisation in mainland France, and sales of engineering and consulting services.

(2) Regulated activities comprise distribution in mainland France, which is carried out by Enedis, transmission, EDF's island activities and the activities of Électricité de Strasbourg (which was previously part of the "Other Activities" segment). In mainland France, distribution network activities are regulated via the network access tariff TURPE (Tarifs d'Utilisation des Réseaux Publics d'Électricité). Sales of Enedis [1] include the share delivery costs for customers of alternative suppliers in mainland France.

5.1.2.1 France - Generation and supply

Sales by the **France - Generation and Supply activities** segment amounted to €35,191 million, an organic decrease of. €2,136 million (-5.7%) from 2015.

These sales were adversely affected by unfavourable market conditions following the discontinuation of the "yellow" and "green" regulated tariffs from 1 January 2017, more intense competition and lower market prices.

The downturn in nuclear power output, mainly associated with the additional inspections requested by the ASN, caused a substantial decrease in net sales on the markets.

Sales figures include the €988 million adjustment of regulated sales tariffs for the period 1 August 2014 to 31 July 2015 following the Council of State's decision of 15 June 2016. They also benefited from favourable weather conditions (€478 million), a tariff increase (€172 million) and a positive "leap year" effect (€84 million).

Gas sales to final customers showed an increase of €89 million, largely driven by portfolio growth and favourable weather effects.

At 31 December 2016, EDF's volume market share for electricity sales to all final customers was 70%, down by -7 points from 31 December 2015. EDF's share of the natural gas market was 5.7%, a year-on-year gain of 0.7 points.

Electricity generation

Nuclear generation produced 384TWh in 2016, compared to 416.8TWh in 2015, a decrease of -32.8TWh. This decline is mainly explained by shutdowns at several nuclear reactors for additional inspections requested by the ASN.

Hydropower output stood at 42.4TWh [2], up by 3.5TWh from 2015 due to more favourable hydrological conditions (see section 2.4 "Weather conditions: temperatures and rainfall").

Thermal generation produced 11.9TWh, a rise of +5.1TWh from 2015 as greater use was made of these facilities, particularly gas-fired plants.

Sales volumes to final customers (a market segment that includes local distribution firms and excludes foreign operators) were down

1. Enedis is an independent EDF subsidiary as defined in French Energy Code.
2. After deduction of pumped-storage hydropower volumes, hydropower production stood at 35.8TWh for 2016 (32.1TWh for 2015).

by 35.1TWh, including -39.9TWh resulting from loss of customers (-30.3TWh for business customers). The impact of the temperature differential drove electricity consumption up by 5.5TWh from 2015.

As market prices were lower, no electricity was supplied under the ARENH system in 2016, compared to ARENH deliveries of 16.2TWh in 2015.

The effects of discontinuation of the VPP [1] system, which had begun in 2012, caused a 0.3TWh downturn in sales compared to 2015.

EDF was a net seller on the wholesale markets to the extent of 122.5TWh. The 36.5TWh increase in net market sales compared to 2015 is explained by a -63.2TWh decline in structured demand (essentially due to loss of customers and the absence of ARENH supplies), partly counterbalanced by a -26.8TWh decline in structured supply (notably including the -32.8TWh decrease in net nuclear output.

5.1.2.2 France - Regulated activities

Sales by the **France - Regulated activities** segment amounted to €15,728 million, an organic rise of €310 million (+2.0%) from 2015. Sales by Enedis, which account for 88% of sales by this segment, registered an organic rise of 2.1%. For the total portfolio managed by Enedis, sales increased by €288 million, primarily due to favourable weather effects and the fact that 2016 was a leap year (€207 million), plus the impact of tariff increases (€87 million).

5.1.2.3 United Kingdom

The **United Kingdom**'s contribution to Group sales amounted to €9,267 million in 2016, €2,355 million lower than in 2015. The pound sterling's decline against the euro in connection with the Brexit referendum had an unfavourable impact of €1,313 million. Excluding foreign exchange effects, the organic decrease in sales compared to 2015 was 9.0%.

The decline in UK sales is mainly explained by the lower electricity and gas prices on the wholesale markets, and the lower volumes of electricity sales to final customers, which reflect the falling customer numbers caused by a strong competition.

5.1.2.4 Italy

Italy contributed €11,125 million to consolidated sales, down by 569 million (-4.9%) from 2015 (-4.5% in organic terms).

This decrease was essentially driven by the market conditions, which were marked by downward trends for average sale prices on the electricity and gas markets, and the sharp drop in Brent oil prices.

In the electricity business, sales were down by 9.1%, principally due to lower sale prices, but also due to a decrease in volumes as demand showed a substantial downturn.

In the hydrocarbon business, in contrast, sales increased by 4.7% as a result of higher power output by combined-cycle gas plants to compensate for lower hydropower capacity. This trend, combined with a significant increase in sales volumes on the wholesale markets, more than offset the fall in gas and Brent oil prices.

5.1.2.5 Other international

The **Other international** segment principally covers operations in Europe, excluding the United Kingdom and Italy, and operations in the United States and Asia (China, Vietnam and Laos).

This segment contributed €5,286 million to Group sales in 2016, €541 million or -9.3% less than in 2015. Excluding foreign exchange effects (-€63 million) and changes in the scope of consolidation (-€79 million), sales declined by 6.8% in organic terms.

This downturn is essentially attributable to:

- **Belgium** (-€309 million organic decline), largely due to lower gas and electricity prices. This decrease was partly offset by higher volumes of electricity sold, particularly to business customers.
- **Asia** (-€196 million organic decline), where the decrease in sales is essentially explained by the handover of the Figlec concession in early September 2015.

However, sales were up in:

- **Brazil** (organic rise of +€95 million), essentially as a result of an operating performance that made it possible to take full advantage of increase in the Power Purchase Agreement (PPA) sales tariff**;**
- **Poland** (organic rise of +€43 million), thanks to higher heat sale prices, a rise in tariffs, and an increase in volumes due to favourable weather effects. Better plant availability, especially at the Rybnik plant which in 2015 was affected by extensive maintenance work, was another factor that contributed to the increase in sales.

5.1.2.6 Other activities

Other activities comprise, among other entities, EDF Énergies Nouvelles, EDF Trading, Dalkia and the gas activities.

The contribution by the **Other activities** segment to Group sales amounted to €7,734 million in 2016, an increase of €446 million from 2015. This includes a scope effect of €138 million and corresponds to an organic increase of +4.5%.

EDF Énergies Nouvelles' contribution to Group sales was €1,169 million in 2016 (an organic increase of 0.3% from 2015).

Sales by **Dalkia** contributed €3,600 million to 2016 Group sales. This organic increase of €68 million (+2.1%) is mainly explained by a favourable weather effect and the positive impact of commercial development despite the negative effect of lower gas prices.

1. Virtual Power Plant capacity auction system, generating deliveries for periods ranging from a few months to 3 years.

EDF Trading's sales [1] amounted to €1,008 million, an organic rise of €385 million (+58.2%) from 2015. This change is attributable to a return to volatility across all commodities from June 2016, an effect that was accentuated towards the end of the year by plant unavailability in France.

5.2 Operating profit before depreciation and amortisation (EBITDA)

EBITDA decreased by 6.7% while the organic decline was -4.8%.

(in millions of Euros)	2016	2015	Variation	Variation (%)	Organic growth (%)
Sales	**71,203**	**75,006**	**(3,803)**	**-5.1**	**-3.2**
Fuel and energy purchases	(36,050)	(38,775)	2,725	-7.0	-4.8
Other external expenses	(8,902)	(9,526)	624	-6.6	-6.0
Personnel expenses	(12,543)	(12,529)	(14)	+0.1	+1.0
Taxes other than income taxes	(3,656)	(3,641)	(15)	+0.4	+1.1
Other operating income and expenses	6,362	7,066	(704)	-10.0	-9.8
EBITDA	**16,414**	**17,601**	**(1,187)**	**-6.7**	**-4.8**

5.2.1 Change in consolidated EBITDA and analysis

Consolidated **EBITDA** for 2016 amounted to €16,414 million, a year-on-year decrease of 6.7%. Excluding foreign exchange effect (-€296 million) mainly caused by the decline of the pound sterling against the Euro, and changes in the scope of consolidation (-€51 million), the organic change in EBITDA was a decline of 4.8%.

The Group's **fuel and energy purchases** amounted to €36,050 million in 2016, down by €2,725 million (-7.0%) from 2015, or an organic decrease of €1,870 million (-4.8%).

- In the **France - Generation and Supply** and **France - Regulated activities** segments, fuel and energy purchases were down by €487 million (-2.9%) to €16,146 million, principally due to purchases of fuel used by the France - Generation and Supply segment.
- The organic decreases observed in the **United Kingdom** (-€633 million or -9.4%), **Belgium** (-€370 million or -13.5%) and Italy (-€411 million or -4.1%) relate to the lower market prices.

Other external expenses amounted to €8,902 million, €624 million lower than in 2015 (-6.6%) corresponding to an organic decline of €576 million (-6.0%).

- In the **France - Generation and Supply** and **France - Regulated activities** segments, other external expenses totalled €5,121 million. The organic decrease of €376 million (-6.8%) notably results from cost-cutting drives. Performance improvement plans are in application across all activities.
- In the **United Kingdom**, other external expenses totalled €939 million. The organic decline of €114 million (-9.6%) principally relates to EDF Energy's measures to reduce operating costs.
- In **Italy**, other external expenses totalled €578 million. The organic decline of €26 million (-4.2%) is mainly due to variable Marketing and Sales costs (fewer new customers) and the reduction in overheads for the exploration-production activities (lower maintenance costs in Italy and internationally).

The Group's **personnel expenses** totalled €12,543 million, up by €14 million from 2015, corresponding to an organic increase of €126 million (+1.0%).

- In the **France - Generation and Supply** segment, personnel expenses totalled €6,315 million, €74 million more than in 2015. The workforce numbers at year-end were 4.4% lower in 2016 than 2015 across all activities, and this had a favourable €70 million effect on personnel expenses. Price effects were negative at -€144 million, notably reflecting the impacts of the Agirc and Arrco complementary pension reforms (€36 million) and adjustments to employee benefit valuation, notably through use of a lower discount rate (€38 million).
- In the **France - Regulated activities** segment, personnel expenses totalled €3,106 million. The €57 million increase is chiefly explained by the lower discount rate applied to employee benefits (€20 million), and the effects of the Agirc and Arrco complementary pension reforms (€16 million). Workforce numbers were down by 0.5% from 2015.
- In the **United Kingdom**, personnel expenses amounted to €1,085 million. The organic decline of €72 million (-5.5%) reflects EDF Energy's cost control efforts, including the introduction of a new organisation structure for sales teams.

Taxes other than income taxes amounted to €3,656 million for 2016, €15 million or +0.4% more than in 2015 (+1.1% in organic terms).

- This increase mainly concerns the **France - Regulated activities** segment, where non-income taxes rose by €55 million, primarily as a result of additional contributions to the energy equalisation fund in the years 2012 to 2016.

Other operating income and expenses generated net income of €6,362 million in 2016, €704 less than in 2015 (an organic change of €693 million or -9.8%).

- In the **France - Generation and Supply** segment, the income generated by other operating income and expenses was down by €145 million, due among other factors to the higher obligation associated with energy savings certificates, particularly for energy-poor customers. CSPE subsidies rose due to the increase in renewable energy purchase obligations.

1. *EDF Trading's sales consist of its trading margin.*

- In **Italy** the organic decline in other operating income and expenses was €597 million, mainly attributable to the effects of arbitration in 2015 concerning the long-term gas contract with Libya, which was partly counterbalanced by a reduction in bad debt following action to recover outstanding payments.
- **EDF Énergies Nouvelles** registered an organic increase of €82 million (+20.0%) driven chiefly by high levels of business in Development and Sales of Structured Assets during 2016.

5.2.2 Change in consolidated EBITDA and analysis by segment

(in millions of Euros)	2016	2015	Variation	Variation (%)	Organic growth (%)
France - Generation and supply	6,156	6,936	(780)	-11.2	-11.2
France - Regulated activities	5,102	4,719	383	+8.1	+8.1
United Kingdom	1,713	2,242	(529)	-23.6	-12.3
Italy	641	1,345	(704)	-52.3	-50.6
Other International	711	609	102	+16.7	+21.2
Other activities	2,091	1,750	341	+19.5	+22.0
GROUP EBITDA	**16,414**	**17,601**	**(1,187)**	**-6.7**	**-4.8**

5.2.2.1 France - Generation and supply

EBITDA for the **France - Generation and supply** segment registered an organic decline of 11.2% to €6,156 million.

EBITDA was adversely affected by the -32.8TWh decrease in nuclear power output compared to 2015, which mainly resulted from outages and extensions of outages for the additional inspections requested by the ASN, with an estimated impact of -€1,274 million.

Meanwhile, the nuclear fleet's operating performance remained strong, with the lowest-ever volume of unscheduled outages and a record low number of automatic reactor outages.

Net purchases and sales on the markets had a negative impact estimated at close to -€500 million, and largely concerned purchases made necessary in the second half of the year due to nuclear plant unavailability.

The impacts of the change in market conditions following discontinuation of the regulated "yellow" and "green" sales tariffs, the fall in market prices, and more intense competition amount to approximately -€1,203 million.

This segment's EBITDA benefited from a positive weather effect, the "leap year" effect and tariff increases, totalling around €320 million. It also reflects the rectification of regulated sales tariffs for the period 1 August 2014 to 31 July 2015 following the Council of State's decision of 15 June 2016, amounting to €859 million.

In line with the EDF group's performance plan, operating expenses were reduced by 1.0% [1] through operating performance savings in all entities, including adjustment of commercial costs to the competitive environment, and optimisation of costs for the thermal fleet.

5.2.2.2 France - Regulated activities

EBITDA for the **France - Regulated activities** segment showed an organic increase of +8.1%. This rise is explained by favourable weather conditions in 2016 (+5.6TWh), the "leap year" effect (+1.2TWh), and a decrease, due to falling electricity market prices, in purchases to compensate for network losses. Cost optimisation campaigns are continuing.

5.2.2.3 United Kingdom

The **United Kingdom**'s contribution to Group EBITDA for 2016 was €1,713 million, down by 23.6% from 2015, or -12.3% in organic terms. The pound sterling's decline against the Euro, especially after the Brexit referendum, had an unfavourable impact of €253 million compared to 2015.

The main factor affecting EBITDA in the United Kingdom was the decline in market prices for electricity, despite the positive effect of higher nuclear power output in 2016.

Nuclear power output amounted to 65.1TWh in 2016, a rise of +4.5TWh compared to 2015. This was a record high, achieved through an excellent operating performance. 2016 nuclear generation benefited from a very good plant availability and a very low level of unscheduled outages.

EDF Energy has also begun a cost saving plan across all of its businesses, and in 2016 successfully reduced its operating expenses by 3.6% [1].

5.2.2.4 Italy

The **Italy** segment contributed €641 million to the Group's consolidated EBITDA, 52.3% less than in 2015 corresponding to an organic decrease of 50.6%.

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1. Based on 2016 exchange rates and scope of consolidation, using constant discount rates, and excluding changes in operating expenses for the service activities.

This change in EBITDA is principally explained by the positive effects in 2015 of the international arbitration court's decision in the dispute between Edison and ENI over revision of the long-term Libyan gas contract prices.

EBITDA for the electricity activities reflects an adverse trend in average sales prices, the contraction of margins on thermal power generation, and less favourable hydrological conditions than in 2015.

EBITDA was also down for the gas activities, as a result of the positive effects in 2015 of the arbitration court's decision concerning the Libyan gas contract, and the ongoing fall in Brent oil prices, which had a negative effect on exploration-production activities.

This decrease was partly offset by the positive effect of higher sales volumes for gas, and the recovery by sales margins on gas in 2016, following renegotiation of Libyan gas contract prices (end of 2015) and the Qatar gas contract with Rasgas (June 2016), which includes a price revision clause.

The cost-cutting plan is continuing, achieving a saving of -4.7% [1] compared to 2015 which partly absorbed the effect of poorer market conditions in 2016.

5.2.2.5 Other international

EBITDA for the **Other international** segment amounted to €711 million in 2016, 16.7% higher than in 2015 (an organic rise of +21.2%).

This increase was essentially attributable to:

- **Brazil** (organic growth of +€87 million), thanks to the positive effect of the annual PPA (power purchase agreement) price revision that more than covers the rise in costs, favourable market conditions during maintenance periods, and exports to Argentina;
- **Belgium** (organic growth of +€63 million), mainly due to the restart of the Doel 3 and Tihange 2 nuclear plants in December 2015, new installed wind power capacity (301MW in 2016 against 254MW in 2015) and sustained levels of business for system services, despite weather conditions that were not particularly favourable;
- **Poland** (organic growth of +€42 million), thanks to an increase in sales tariffs for heat and a favourable effect of fuel prices. This performance reflects progress in electricity and heat production due to better availability of generation assets, as modernisation work is in the final phases, favourable weather conditions and connections of new customers.

In **Asia**, however, EBITDA registered an organic decline of €68 million, essentially explained by the end of the Figlec concession in early September 2015.

5.2.2.6 Other activites

Other activities contributed €2,091 million to Group EBITDA for 2016, an organic rise of 22.0% compared to the previous year.

EDF Énergies Nouvelles' contribution to consolidated EBITDA totalled €861 million. The organic growth of €50 million (+6.1%) from 2015 was mainly driven by Development and Sales of Structured Assets, notably due to a significant volume of business in Europe and to a lesser extent in North America, and the new partnership for offshore wind farm projects in France.

Dalkia contributed €252 million to 2016 Group EBITDA, corresponding to an organic growth of €18 million from 2015, notably due to favourable weather conditions and commercial development. Operating efficiency plans compensated for negative price effects, mainly lower gas prices.

EBITDA at **EDF Trading** amounted to €729 million in 2016, an organic increase of €281 million (+56.8%) from 2015. This rise follows an improvement in the trading margin observed on sales (see section 5.1.2.6).

5.3 Operating profit (EBIT)

EBIT was up by 75.6% from 2015.

(in millions of Euros)	2016	2015	Variation	Variation (%)
EBITDA	**16,414**	**17,601**	**(1,187)**	**-6.7**
Net changes in fair value on Energy and Commodity derivatives, excluding trading activities	(262)	175	(437)	-249.7
Net depreciation and amortisation	(7,966)	(9,009)	1,043	-11.6
Net increases in provisions for renewal of property, plant and equipment operated under concessions	(41)	(102)	61	-59.8
(Impairment)/reversals	(639)	(3,500)	2,861	-81.7
Other income and expenses	8	(885)	893	-100.9
EBIT	**7,514**	**4,280**	**3,234**	**+75.6**

The Group's consolidated **EBIT** amounted to €7,514 million for 2016, up by €3,234 million from 2015. This increase is primarily explained by lower net depreciation and amortisation, lower impairment and other operating income and expenses.

1. *Based on 2016 exchange rates and scope of consolidation, using constant discount rates, and excluding changes in operating expenses for the service activities.*

5.3.1 Net changes in fair value on Energy and Commodity derivatives, excluding trading activities

The net changes in fair value on Energy and Commodity derivatives, excluding trading activities, decreased from +€175 million in 2015 to -€262 million in 2016. In **Italy**, this change was mainly attributable to settlement of financial instruments upon maturity, which generated positive results in 2015.

5.3.2 Net depreciation and amortisation

Net depreciation and amortisation was down by €1,043 million compared to 2015.

The **France - Generation and Supply** segment registered a €547 million decrease in net depreciation and amortisation, essentially explained by the extension to 50 years of the operating lifetimes of the 900MW PWR units (except Fessenheim) from 1 January 2016.

The **France - Regulated activities** segment registered a €167 million increase in net depreciation and amortisation, essentially associated with investments in distribution assets, including €149 for Enedis and the impact of the Linky [1] meter rollout.

In the **United Kingdom**, the €347 million decrease in net depreciation and amortisation (an organic decrease of €187 million) mainly relates to impairment booked on coal and gas-fired facilities at 31 December 2015.

In **Italy**, net depreciation and amortisation was down by €298 million (an organic decline of €293 million), mainly due to lower exploration expenses and the reduction in depreciation and amortisation following the recognition of impairment at 31 December 2015.

In **Belgium**, the €55 million decrease in net depreciation and amortisation essentially relates to impairment recognised in respect of thermal assets at 31 December 2015.

5.3.3 Net increases in provisions for renewal of property, plant and equipment operated under concessions

The €61 million decrease between 2015 and 2016 in net increases in provisions for renewal of property, plant and equipment operated under concessions is attributable to the **France - Generation and supply** segment.

5.3.4 Impairment/reversals

In 2016, impairment amounted to €639 million and essentially concerned operating assets (see note 13 to the 2016 consolidated financial statements, "Impairment/Reversals").

In 2015, impairment amounted to €3,500 million and principally concerned:

- The Group's thermal assets (coal, gas, gas storage) in Europe (mainly the United Kingdom, Italy, Belgium, Poland and Germany): €2,281 million;
- Edison's exploration-production assets: €551 million.

5.3.5 Other income and expenses

Other income and expenses are described in note 14 to the 2016 consolidated financial statements, "Other income and expenses".

5.4 Financial result

(in millions of Euros)	2016	2015	Variation	Variation (%)
Cost of gross financial indebtedness	(1,827)	(1,994)	167	-8.4
Discount effect	(3,417)	(2,812)	(605)	+21.5
Other financial income and expenses	1,911	2,218	(307)	-13.8
FINANCIAL RESULT	**(3,333)**	**(2,588)**	**(745)**	**+28.8**

The financial result for 2016 corresponds to a financial expense of €3,333 million, €745 million more than in 2015. This change is explained by:

- a decrease in the cost of gross financial indebtedness, as charges on the new bond issues of October 2016 were offset by the lower level of the average coupon, due notably to the positive effect of variabilisation of the debt, and a favourable foreign exchange effect that mostly concerned the pound sterling;
- an increase of €605 million in discount expenses, mainly resulting from the lower discount rate applied for nuclear provisions in France. At 31 December 2016 the discount rate was 4.2% including an average inflation rate of 1.5% (4.5% and 1.6% at 31 December 2015);
- a €307 million downturn in other financial income and expenses, chiefly caused by the lower capital gains on divestment of dedicated assets; this was partly counterbalanced by the absence in 2016 of financial interest paid following the European Commission's decision of 22 July 2015 concerning the French general electricity network.

1. Linky is a project led by Enedis, an independent EDF subsidiary as defined in French Energy Code.

5.5 Income taxes

Income taxes amounted to €1,388 million, corresponding to an effective tax rate of 33.2% in 2016 (28.5% in 2015).

This increase in the effective tax rate between 2015 and 2016 was mainly caused by lower income tax rates in France and the United Kingdom compared to 2015.

5.6 Share in net income of associates and joint ventures

The Group's share in net income of associates and joint ventures was a positive €218 million in 2016, compared to €192 million in 2015.

This change results primarily from impairment of fleets in Europe and North America in which **EDF Énergies Nouvelles** is a minority shareholder, and lower net income by **RTE**.

The share in net income of associates in 2016 includes impairment totalling €481 million. Details of this impairment are given in note 23 to the 2016 consolidated financial statements "Investments in associates and joint ventures".

5.7 Net income attributable to non-controlling interests

Net income attributable to non-controlling interests amounted to €160 million in 2016, €54 million less than in 2015. This change is essentially explained by the decrease in the United Kingdom of Centrica's revenues on nuclear generation activities, due to lower market prices for electricity.

5.8 EDF net income

EDF net income totalled €2,851 million for 2016, up by €1,664 million (+140.2%) from 2015.

5.9 Net income excluding non-recurring items

The Group's net income excluding non-recurring items [1] stood at €4,085 million for 2016, down by 15.3% from 2015.

1. Group net income excluding non-recurring items and net changes in fair value on Energy and Commodity derivatives, excluding trading activities, net of tax.

Non-recurring items and net changes in fair value on Energy and Commodity derivatives, excluding trading activities, net of tax:

- *-€1,039 million for miscellaneous risks and impairment in 2016, compared to -€3,759 million in 2015.*
- *-€195 million of net changes in fair value on Energy and Commodity derivatives, excluding trading activities, net of tax in 2016, compared to +€124 million in 2015.*

6 NET INDEBTEDNESS, CASH FLOW AND INVESTMENTS

Net indebtedness comprises total loans and financial liabilities, less cash and cash equivalents and liquid assets. Liquid assets are financial assets consisting of funds or securities with initial maturity of over three months that are readily convertible into cash and are managed according to a liquidity-oriented policy.

The Group's net indebtedness stood at €37,425 million at 31 December 2016 compared to €37,395 million at 31 December 2015.

(in millions of Euros)	2016	2015	Variation	Variation (%)
Operating profit before depreciation and amortisation (EBITDA)	**16,414**	**17,601**	**(1,187)**	**-6.7**
Cancellation of non-monetary items included in EBITDA	(1,703)	(1,610)	(93)	
Net financial expenses disbursed	(1,137)	(1,252)	115	
Income taxes paid	(838)	(1,508)	670	
Other items including dividends received from associates and joint ventures	323	271	52	
Operating cash flow (1)	**13,059**	**13,502**	**(443)**	**-3.3**
Change in working capital	(1,935)	132	(2,067)	
Net investments (2)	(11,663)	(12,672)	1,009	
Cash flow after net investments	**(539)**	**962**	**(1,501)**	
European Commission decision (3)	-	(906)	906	
Dedicated assets	10	217	(207)	
Cash flow before dividends (4)	**(529)**	**273**	**(802)**	
Dividends paid in cash	(1,036)	(2,337)	1,301	
Group cash flow	**(1,565)**	**(2,064)**	**499**	
Other monetary changes	549	(278)	827	
(Increase)/decrease in net indebtedness, excluding the impact of changes in exchange rate	**(1,016)**	**(2,342)**	**1,326**	
Effect of change in exchange rate	1,107	(951)	2,058	
Effect of other non-monetary changes	(121)	106	(227)	
(Increase)/decrease in net indebtedness	**(30)**	**(3,187)**	**3,157**	
NET INDEBTEDNESS AT BEGINNING OF PERIOD	**37,395**	**34,208**		
NET INDEBTEDNESS AT END OF PERIOD	**37,425**	**37,395**		

(1) Operating cash flow is not an aggregate defined by IFRS as a measure of financial performance, and is not directly comparable with indicators of the same name reported by other companies. This indicator, also known as Funds From Operations ("FFO"), is equivalent to net cash flow from operating activities excluding changes in working capital after adjustment where relevant for the impact of non-recurring effects, less net financial expenses disbursed and income taxes paid.

(2) Net investments are operating investments and financial investments for growth, net of disposals. They also include net debts acquired or transferred in acquisitions or disposals of securities, investment subsidies received, non-Group partner investments, Linky, new developments and asset disposals.

(3) On 22 July 2015 the European Commission issued a new decision classifying the tax treatment of provisions established between 1987 and 1996 for renewal of the General Network facilities as state aid that is incompatible with European Union rules.

(4) Cash flow before dividends is not an aggregate defined by IFRS as a measure of financial performance, and is not comparable with indicators of the same name reported by other companies. It is equal to the operating cash flow defined in note (1) after the change in working capital, net investments (see note (2)), the European Commission decision concerning the French General Electricity Network and net allocations to dedicated assets.

6.1 Operating cash flow

The operating cash flow amounted to €13,059 million in 2016 compared to €13,502 million in 2015, a decrease of €443 million (-3.3%).

This change mainly reflects:

- the lower EBITDA (-€1,187 million),
- the lower level of net financial expenses disbursed (-€1,137 million in 2016 compared to -€1,252 million in 2015), essentially explained by the lower average coupon, particularly with the positive impact of variabilisation of debt, and a favourable foreign exchange effect mainly concerning the pound sterling, despite the full-year effect in 2016 of borrowings issued in October 2015;
- a decrease in income taxes paid (-€838 million in 2016 versus -€1,508 million in 2015), essentially as a result of differences in France in the balance of income tax due for previous years.

6.2 Change in working capital

The change in working capital over 2016 amounted to -€1,935 million.

This change is mainly explained by:

- the effects of retroactive adjustment of 2014 French regulated tariffs (decrease of -€939 million);
- a cold weather effect in late 2016 (-€735 million);
- unfavourable effects of the reforms to the CSPE collection method and basis in France (approximately -€829 million);

- gains resulting from the working capital improvement plan, essentially on inventories and trade receivables (approximately +€716 million);

The difference between the 2016 and 2015 change in working capital (-€2,067 million) essentially concerns France (-€2,079 million), where it reflects the effect of the regularisation of 2014 French regulated sales tariffs (-€939 million), and the adverse effect of harsher weather in 2016 (-€893 million).

6.3 Net investments

Net investments amounted to €11,663 million in 2016 compared to €12,672 million in 2015, a decrease of €1,009 million (-8.0%). Details are as follows:

(in millions of Euros)	2016	2015 (1)	Variation	Variation (%)
France - Generation and supply	5,692	5,660	32	+0.6
France - Regulated activities	3,301	3,367	(66)	-2.0
United Kingdom	806	1,111	(305)	-27.5
Italy	458	585	(127)	-21.7
Other international	607	922	(315)	-34.2
Other activities	952	773	179	+23.2
NET INVESTMENTS EXCLUDING LINKY, NEW DEVELOPMENTS AND ASSET DISPOSALS	**11,816**	**12,418**	**(602)**	**- 4.8**
LINKY, NEW DEVELOPMENTS AND ASSET DISPOSALS	**(153)**	**254**	**(407)**	**N.A.**
NET INVESTMENTS	**11,663**	**12,672**	**(1,009)**	**- 8.0**

N.A.. = non applicable.

(1) Investments in new-generation EPRs are now included in new developments.

6.3.1 Net investments excluding Linky, new developments and asset disposals

Net investments by the **France - Generation and supply** segment rose by €32 million or +0.6%. The increase is mainly attributable to nuclear maintenance activities, and was counterbalanced by lower investments in the thermal power plant fleet.

Net investments by the **France- Regulated activities** segment were down by €66 million, primarily as a result of the commissioning of island thermal plants between 2013 and 2015, particularly Pointe Jarry in 2015.

Outside France, net investments decreased by €747 million or -28.5%.

- In the **United Kingdom**, the decrease of €305 million or -27.5% is largely explained by lower investments in coal-fired and nuclear power, combined with a favourable foreign exchange effect.
- In **Italy**, the decrease of €127 million was principally due to lower investments in exploration-production, in response to the oil and gas market environments. In 2016 Edison stepped up its involvement in renewable energies and hydropower through asset swaps and acquisition of a mini-hydropower plant.
- The decrease in the **Other International** segment (-€315 million) is notably explained by the end of the modernisation programme bringing coal-fired and cogeneration plants in Poland up to the latest standards, and lower investments in China.

In the **Other activities** segment, net investments were up by €179 million or +23.2%. This rise primarily concerned EDF Énergies Nouvelles, where subsidies received were lower in view of the types of facilities commissioned in 2016.

6.3.2 Linky, new developments and asset disposals

The Group is also continuing Investment in the Linky programme. 2016 was the first year of general rollout.

New developments correspond to the Group's new development projects, and are funded by disposals of assets. In 2016 and 2015 these new developments principally concerned New Nuclear investments in the United Kingdom, and to a smaller degree investments in offshore wind farm projects and new EPR models. They also include investments in new-generation EPRs in addition to the investments mentioned in the 2015 report.

Asset disposals essentially concerned sales of real estate property, and CGN's acquisition of a stake in new nuclear activities in the United Kingdom.

6.4 Dedicated assets

In compliance with the French Law of 28 June 2006 on the sustainable management of radioactive materials and waste, EDF has built up a portfolio of dedicated assets for secure financing of its long-term nuclear obligations which amounted to €23,471 million at 31 December 2016.

Overall, the changes in dedicated assets comprise:

- allocations to reach full coverage of obligations;

- reinvestment of financial income (dividends and interest) generated by these assets;
- withdrawals of assets corresponding to the costs incurred over the period in application of long-term nuclear obligations falling within the scope of the Law of 28 June 2006;
- exceptional withdrawals proposed to the governance bodies in charge of managing dedicated assets when the value of the portfolio exceeds the amount of the obligations to be financed; such withdrawals must be validated by these bodies.

The net movements of €10 million in 2016 correspond to the second and third types of change described above.

6.5 Cash flow before dividends

The cash flow before dividends in 2016 was negative at -€529 million (compared to a positive €273 million in 2015) and is mainly explained by the following factors:

- operating cash flow of +€13,059 million;
- an unfavourable change of -€1,935 million in working capital;
- net investments of -€11,663 million.

The -€802 million difference from 2015 is essentially due to unfavourable developments in the change in working capital (-€2,067 million), although this effect was reduced by the lower level of net investments (+€1,009 million).

6.6 Dividends paid in cash

Dividends paid in cash during 2016 (-€1,036 million) comprise:

- the balance of the 2015 dividend (-€82 million);
- the interim dividend for 2016 (-€83 million) decided by the Board of Directors on 30 September 2016 and paid on 31 October 2016 at the rate of €0.50 per share, for shareholders who did not take up the scrip dividend option;
- payments made in 2015 to bearers of perpetual subordinated bonds for the "hybrid" bond issues of January 2013 and January 2014 (-€582 million);
- dividends paid by Group subsidiaries to their minority shareholders (-€289 million).

The favourable difference of €1,301 million compared to 2015 is principally attributable to payment in the form of a scrip dividend to 92.2% of shareholders for the balance of the 2015 dividends, and 91.8% of shareholders for the interim dividend for 2016.

6.7 Group cash flow

The Group cash flow amounted to -€1,565 million, versus -€2,064 million in 2015. The €499 million improvement primarily reflects the decrease in dividends paid in cash (+€1,301 million) and the change in cash flow before dividends (-€802 million).

6.8 Effect of change in exchange rate

The foreign exchange effect (mainly resulting from a substantial decline by the pound sterling and the rise of the US dollar against the Euro [1]) had a favourable impact of +€1,107 million on the Group's net indebtedness at 31 December 2016.

6.9 Financial ratios

	2016	2015	2014
Net indebtedness/EBITDA	2.3	2.1	2.0
Net indebtedness/(Net indebtedness + equity) (1)	48%	48%	46%

(1) Equity including non-controlling interests

1. The pound sterling fell by -14.2% against the Euro, from €1.362/£1 at 31 December 2015 to €1.168 /£1 at 31 December 2016. The US dollar rose by 3.3% against the Euro, from €0.919/$1 at 31 December 2015 to €0.949/$1 at 31 December 2016.

7 MANAGEMENT AND CONTROL OF MARKET RISKS

7.1 Management and control of financial risks

This section sets forth the policies and principles for management of the Group's financial risks defined in the Strategic financial management framework (liquidity, interest rate, foreign exchange rate and equity risks), and the Group counterparty risk management policy set up by the EDF group. These principles apply only to EDF and operationally controlled subsidiaries or subsidiaries that do not benefit by law from specific guarantees of independent management such as Enedis. In compliance with IFRS 7, the following paragraphs describe the nature of risks resulting from financial instruments, based on analyses of sensitivities and credit (counterparty) risks.

Since 2002, a dedicated body - the Financial Risks Control department (*Département Contrôle des Risques Financiers et Investissements* - CRFI) - has been in charge of financial risk control at Group level, mainly by ensuring correct application of the principles of the Strategic Financial Management Framework (July 2015). This department, which has reported to the Group's Risk Division since 2008, is an independent unit that also has the task of carrying out a second-level check of the risk of counterparty default (methodology and organisation) for EDF entities and operationally controlled Group subsidiaries (excluding Enedis), and a first-level check of financing activities by EDF SA's Trading room. The CRFI department also carries out a second-level check of management activities concerning the dedicated asset portfolio.

The CRFI department issues daily and weekly monitoring reports of risk indicators relevant to activities in EDF SA's trading room.

Regular internal audits are carried out to ensure controls are actually applied and are effective.

7.1.1 Liquidity position and management of liquidity risks

7.1.1.1 Liquidity position

At 31 December 2016, the Group's liquidities, consisting of liquid assets, cash and cash equivalents, totalled €25,159 million and available credit lines amounted to €11,709 million.

For 2017, the Group's scheduled debt repayments (principal and interest) are forecast at 31 December 2016 at €13,506 million, including €5,253 million for bonds (excluding hybrid bonds).

No Group company was in default on any borrowing at 31 December 2016.

7.1.1.2 Management of liquidity risks

On 18 April 1996, EDF set up a programme to issue debt securities in the form of Euro Medium Term Notes (the "EMTN" programme). This programme was regularly renewed until May 2009, when an EMTN programme governed by French law was established for EDF's EMTN issues from that date. This second programme has also been regularly renewed since its introduction, and its current ceiling is €45 billion.

On 6 October 2016, EDF issued a senior "Formosa bond" on the Taiwanese market for a total $2,655 million, in two tranches in US dollars:

- a $491 million bond, with 30-year maturity and a coupon of 4.65%;
- a $2,164 million bond, with 40-year maturity and a coupon of 4.99%.

The same day, EDF also undertook a €3 billion multi-currency senior bond issue in four tranches:

- a €1,750 million green bond, with 10-year maturity and a fixed coupon of 1%;
- a €750 million bond with 20-year maturity and a fixed coupon of 1.875%;
- a CHF 400 million bond, with 8-year maturity and a fixed coupon of 0.3%;
- a CHF 150 million bond, with 12-year maturity and a fixed coupon of 0.65%.

The green bond issue of €1,750 million with 10-year maturity and a 1% fixed coupon is enabling EDF to continue its investments for the growth of renewable energies. This operation is based on the structure of EDF's November 2013 bond issue which is a benchmark for the market, and demonstrates EDF's ongoing commitment to development of the green bond market and its support for best practices, in line with the Green Bond Principles [1]:

- The funds raised by the green bond are exclusively dedicated to financing renewable energy projects developed by EDF Énergies Nouvelles and eligible projects of EDF's hydropower division;
- The projects funded are selected through a stringent, documented process based on ESG criteria validated by the extra-financial rating agency, Vigeo[2];
- The funds raised are managed and monitored under a strict segregation principle, from their receipt in EDF's cash until allocation to eligible green projects.

EDF will regularly report on the amounts allocated from the green bond, the portfolio of projects financed and the associated environmental benefits. A statement by Deloitte & Associés on respect of EDF's commitments will be included in the 2016 Reference Document.

1. The Green Bond Principles, updated in March 2015, are voluntary guidelines for issuance of green bonds. They recommend transparency and disclosure to support development of the green bond market and promote integrity. For more information, see http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/green-bond-principles.

2. ESG (Environmental, Social Governance) criteria cover five areas: respect for human rights and governance in the project's host country; management of environmental impacts; protection of employee health and safety; promotion of responsible relationships with suppliers; and dialogue with local stakeholders.

These operations contribute to the Group's investment strategy and are part of its policy to extend the average maturity of its debt.

Details of the Group's bond borrowings are given in note 38.2 to the 2016 consolidated financial statements "Loans and other financial liabilities".

The average maturity of Group debt was 13.4 years at 31 December 2016, compared to 13 years at 31 December 2015. For EDF SA, the average maturity of debt was 14.4 years at 31 December 2016, against 13.9 years at 31 December 2015.

At 31 December 2016, the residual maturities of financial liabilities (including interest payments) are as follows under IAS 39 (valued on the basis of exchange and interest rates at 31 December 2016):

		Hedging instruments [1]		
31 December 2016 *(in millions of Euros)*	**Debt**	**Interest rate swaps**	**Currency swaps**	**Guarantees given on bonds**
2017	13,506	(609)	(41)	259
2018-2021	21,773	(2,226)	(117)	250
2022 and later	66,970	(3,774)	(1,005)	135
TOTAL	**102,249**	**(6,609)**	**(1,163)**	**644**
Debt repayment	63,844			
Interest expense	38,405			

(1) Data on hedging instruments include both assets and liabilities.

The EDF group was able to meet its financing needs by conservative liquidity management, and has obtained financing on satisfactory terms.

A range of specific levers are used to manage the Group's liquidity risk:

- the Group's cash pooling system, which centralises cash management for controlled subsidiaries. The subsidiaries' cash balances are made available to EDF SA in return for interest, so as to optimise the Group's cash management and provide subsidiaries with a system that guarantees them market-equivalent financial terms;
- centralisation of financing for controlled subsidiaries at the level of the Group's cash management department. Changes in subsidiaries' working capital are financed by this department in the form of stand-by credit lines provided for subsidiaries, which may also be granted revolving credit from the Group. EDF SA and the investment subsidiary EDF Investissements Groupe (EDF IG), set up in partnership with the bank Natixis Belgique Investissements, also provide medium and long-term financing for EDF group operations outside France, arranged by EDF SA and EDF IG on a totally independent basis: each company sets its own terms, which are the same as the subsidiary would have in an arm's-length market transaction;
- active management and diversification of financing sources used by the Group: the Group has access to short-term resources on various markets through programmes for French commercial paper (*billets de trésorerie*), US commercial paper and Euro market commercial paper. For EDF, the ceilings for these programmes are €6 billion for its French commercial paper, $10 billion for its US commercial paper and €1.5 billion for its Euro market commercial paper.

At 31 December 2016, the amount of commercial paper outstanding was €1,674 million for French commercial paper, and $2,421 million for US commercial paper. No Euro market commercial paper was issued in 2016. EDF has access to the world's main bond markets: the Euro markets through its EMTN programme, which currently has a ceiling of €45 billion, particularly for Euro and sterling issues; and the domestic markets used for stand-alone issues in US dollars (144A bonds), yen (Samurai bonds) and Swiss francs.

The table below sets forth the Group's borrowings of more than €650 million or the equivalent value in other currencies at issue as reported in the consolidated financial statements, by type and by maturity at 31 December 2016:

Type of borrowing *(in millions of currency units)*	**Entity**	**Issue date** [1]	**Maturity**	**Nominal amount**	**Currency**	**Rate**
Bond	EDF	01/2014	01/2017	1,000	USD	1.15%
Euro MTN	EDF	02/2008	02/2018	1,500	EUR	5.00%
Bond	EDF	01/2009	01/2019	2,000	USD	6.50%
Bond	EDF	01/2014	01/2019	1,250	USD	2.15%
Bond	EDF	01/2010	01/2020	1,400	USD	4.60%
Bond	EDF	10/2015	10/2020	1,500	USD	2.35%
Euro MTN	EDF	05/2008	05/2020	1,200	EUR	5.38%
Euro MTN	EDF	01/2009	01/2021	2,000	EUR	6.25%
Euro MTN (green bond)	EDF	11/2013	04/2021	1,400	EUR	2.25%
Euro MTN	EDF	01/2012	01/2022	2,000	EUR	3.88%
Euro MTN	EDF	09/2012	03/2023	2,000	EUR	2.75%
Euro MTN	EDF	09/2009	09/2024	2,500	EUR	4.63%
Bond (green bond)	EDF	10/2015	10/2025	1,250	USD	3.63%
Euro MTN	EDF	11/2010	11/2025	750	EUR	4.00%
Euro MTN (green bond)	EDF	10/2016	10/2026	1,750	EUR	1.00%
Euro MTN	EDF	03/2012	03/2027	1,000	EUR	4.13%
Euro MTN	EDF	04/2010	04/2030	1,500	EUR	4.63%
Euro MTN	EDF	07/2001	07/2031	650	GBP	5.88%
Euro MTN	EDF	02/2003	02/2033	850	EUR	5.63%
Euro MTN	EDF	06/2009	06/2034	1,500	GBP	6.13%
Euro MTN	EDF	10/2016	10/2036	750	EUR	1.88%
Bond	EDF	01/2009	01/2039	1,750	USD	6.95%
Euro MTN	EDF	11/2010	11/2040	750	EUR	4.50%
Euro MTN	EDF	10/2011	10/2041	1,250	GBP	5.50%
Bond	EDF	01/2014	01/2044	1,000	USD	4.88%
Bond	EDF	10/2015	10/2045	1,500	USD	4.75%
Bond	EDF	10/2015	10/2045	1,150	USD	4.95%
Euro MTN	EDF	09/2010	09/2050	1,000	GBP	5.13%
Euro MTN	EDF	10/2016	10/2056	2,164	USD	4.99%
Bond	EDF	01/2014	01/2114	1,350	GBP	6.00%

(1) Date funds were received.

The €2,820 million bond issued by C25 matures in December 2017. 50.1% of this borrowing is included in “Financial assets” and 49.9% is included in “Assets held for sale” (see note 3.5.1 to the 2016 consolidated financial statements).

At 31 December 2016, EDF has an overall amount of €10,215 million in available credit facilities (syndicated credit and bilateral lines):

- the syndicated credit line amounts to €4 billion with maturities extending to November 2020. No drawings had been made on this syndicated credit line at 31 December 2016 ;
- credit lines represent an available amount of €6,085 million, with expiry dates extending to December 2019. The level of these credit facilities is regularly reviewed to ensure that the Group has sufficient back-up facilities ;
- several credit lines exist between EDF and the European Investment Bank. Three credit lines were fully drawn at 31 December 2016 for the respective amounts of €225 million, €500 million and €500 million. A fourth credit line of €200 million was drawn to the extent of €70 million at the same date.

Since September 2015, EDF Investissements Groupe has had a new syndicated credit facility for €1,000 million (maturing in September 2020). At 31 December 2016, there were no drawings on this credit facility.

7.1.2 Credit rating

The financial ratings agencies Standard & Poor’s, Moody’s and Fitch Ratings attributed the following long-term and short-term ratings to EDF group entities at 31 December 2016:

Company	Agency	Long-term rating	Short-term rating
	Standard & Poor’s	A-, stable outlook (1)	A-2
	Moody’s	A3, stable outlook (2)	P-2
EDF	Fitch Ratings	A-, stable outlook (3)	F2
EDF Trading	Moody’s	Baa2, stable outlook (4)	n.a.
EDF Energy	Standard & Poor’s	BBB-, stable outlook(5)	A-3
	Standard & Poor’s	BB+, stable outlook (6)	B
Edison	Moody’s	Baa3, stable outlook (7)	n.a.

n.a. = non applicable.

(1) S&P downgraded EDF’s rating from A to A- (with stable outlook) on 21 September 2016.

(2) Moody’s downgraded EDF’s rating from A2 to A3 (with stable outlook) on 28 September 2016. The rating for perpetual subordinated was also downgraded to Baa3.

(3) Fitch downgraded EDF’s rating from A to A- on 7 June 2016.

(4) Moody’s downgraded EDF Trading’s rating from Baa1 to Baa2on 13 May 2016. A stable outlook was added on 11 October 2016.

(5) S&P downgraded EDF Energy’s rating from A- to BBB- on 13 May 2016. A stable outlook was added on 21 September 2016.

(6) S&P downgraded Edison’s rating from BBB- to BB+ (with stable outlook) on 4 October 2016.

(7) Moody’s downgraded Edison’s rating from Baa2 to Baa3 on 13 May 2016. A stable outlook was added on 19 October 2016.

7.1.3 Management of foreign exchange risk

Due to the diversification of its activities and geographical locations, the Group is exposed to the risk of exchange rate fluctuations, which may have an impact on the translation differences affecting balance sheet items, Group financial expenses, equity and net income.

To limit exposure to foreign exchange risks, the Group has introduced the following management principles:

- local currency financing: to the extent possible given the local financial markets’ capacities, each entity finances its activities in its own accounting currency. When financing is contracted in other currencies, derivatives may be used to limit foreign exchange risk;
- matching of assets and liabilities: the net assets of subsidiaries located outside the Euro zone expose the Group to a foreign exchange risk. The foreign exchange risk in the consolidated balance sheet is managed either by matching with liabilities for acquisitions in the same currency, or by market hedging involving use of financial derivatives. Hedging of net assets in foreign currencies complies with risk/return targets, and the hedging ratio varies from 39% to 100% depending on the currency (apart from the BRL and CNY). If no hedging instruments are available, or if hedging costs are prohibitive, the foreign exchange positions remain open and the risk on such positions is monitored by sensitivity calculations;
- hedging of operating cash flows in foreign currencies: in general, the operating cash flows of EDF and its subsidiaries are in the relevant local currencies, with the exception of flows related to fuel purchases which are primarily in US dollars, and certain flows related to purchases of equipment, which concern lower amounts. Under the principles laid down in the Strategic financial management framework, EDF and the main subsidiaries concerned by foreign exchange risks (EDF Energy, EDF Trading, Edison, EDF Énergies Nouvelles) are required to hedge firm or highly probable commitments related to these future operating cash flows.

As a result of the financing and foreign exchange risk hedging policy, the Group's gross debt at 31 December 2016 breaks down as follows by currency after hedging:

GROSS DEBT STRUCTURE BY CURRENCY BEFORE AND AFTER HEDGING

31 December 2016 *(in millions of Euros)*	**Initial debt structure**	**Impact of hedging instruments** (1)	**Debt structure after hedges**	**% of debt**
EUR	31,204	20,220	51,424	79%
USD	22,239	(19,314)	2,925	4%
GBP	9,824	(827)	8,997	14%
Other currencies	1,928	(79)	1,849	3%
TOTAL DEBT	**65,195**	**-**	**65,195**	**100%**

(1) Hedges of liabilities and net assets of foreign subsidiaries.

The table below presents the impact of a variation in exchange rates on the Group's gross debt at 31 December 2016:

EXCHANGE RATE SENSITIVITY OF THE GROUP'S GROSS DEBT

31 December 2016 *(in millions of Euros)*	**Debt after hedging instruments converted into Euros**	**Impact of a 10% unfavourable variation in exchange rates**	**Debt after a 10% unfavourable variation in exchange rates**
EUR	51,424	-	51,424
USD	2,925	(293)	2,632
GBP	8,997	(900)	8,097
Other currencies	1,849	(185)	1,664
TOTAL DEBT	**65,195**	**(1,378)**	**63,817**

Due to the Group's foreign exchange risk hedging policy for liabilities, the income statement for companies controlled by the Group is marginally exposed to foreign exchange rate risk.

The table below sets forth the foreign exchange position relating to net assets in foreign currencies of the Group's subsidiaries:

NET ASSET POSITION

31 December 2016 (1) *(in millions of Euros)*	Net assets	**Bonds**	**Derivatives**	**Net assets after management**
USD	4,745	3,200	(1,312)	2,857
CHF (Switzerland)	659	600	(110)	169
HUF (Hungary)	121,000	-	121,000	-
PLN (Poland)	2,357	-	2,193	164
GBP (United Kingdom)	14,642	5,435	1,149	8,058
BRL (Brazil)	1,377	-	-	1,377
CLP (Chile)	2,607	-	-	2,607
CNY (China)	10,141	-	-	10,141

(1) Net assets as stated at 31 December 2016, except for the net position in HUF, which corresponds to the sale price for EDF DÉMÁSZ Zrt; derivatives and bonds as stated at 31 December 2016. The net positions shown exclude certain non-significant exposures.

The above table shows the assets of the Group's foreign subsidiaries in foreign currencies, adjusted for changes in the fair value of cash flow hedges and available-for-sale financial assets recorded in equity, and changes in the fair value of financial instruments recorded in income.

The following table sets forth the risk for equity of foreign exchange losses on net assets in foreign currencies of the Group's principal subsidiaries at 31 December 2016, assuming unfavourable, uniform exchange rate variations of 10% against the Euro. Net assets are converted at the closing rate and impacts are reported in absolute value.

EXCHANGE RATE SENSITIVITY OF NET ASSETS

	At 31 December 2016			At 31 December 2015		
(in millions of currencies)	Net assets after management, into currency	Net assets after management, converted into Euros	Impact on equity of a 10% variation in exchange rates	Net assets after management, in currency	Net assets after management, converted into Euros	Impact on equity of a 10% variation in exchange rates
USD	2,857	2,710	271	2,916	2,678	268
CHF (Switzerland)	169	157	16	181	167	17
HUF (Hungary)	-	-	-	62,289	197	20
PLN (Poland)	164	37	4	807	189	19
GBP (United Kingdom)	8,058	9,412	941	7,401	10,084	1,008
BRL (Brazil)	1,377	401	40	1,065	247	25
CLP (Chile)	2,607	4	-	-	-	-
CNY (China)	10,141	1,385	139	9,770	1,384	138

The foreign exchange risk on available-for-sale securities is mostly concentrated in EDF's dedicated asset portfolio, which is discussed in section 7.1.6 "Management of financial risk on EDF SA's dedicated asset portfolio".

The foreign exchange risk associated with short-term investments and operating liabilities in foreign currencies remains restricted for the Group at 31 December 2016.

7.1.4 Management of interest rate risk

The exposure of the Group's net indebtedness to interest rate fluctuations covers two types of risk: a risk of change in the net financial expenses on floating-rate financial assets and liabilities, and a risk of change in the value of financial assets invested at fixed rates. These risks are managed by monitoring the floating-rate portion of net indebtedness, defined by reference to the risk/return for net financial expenses, taking into consideration expected movements in interest rates.

Some of the debt is variabilised and the Group may use interest rate derivatives for hedging purposes. The distribution of exposure between fixed and floating rates is monitored.

The Group's debt after hedging instruments at 31 December 2016 comprised 53.6% at fixed rates and 46.4% at floating rates.

A 1% uniform annual rise in interest rates would generate an approximate €303 million increase in financial expenses at 31 December 2016, based on gross floating-rate debt after hedging.

The average cost of Group debt (weighted interest rate on outstanding amounts) was 2.73% at the end of 2016.

The table below sets forth the structure of Group debt and the impact of a 1% variation in interest rates at 31 December 2016. The impact of the change in interest rates was €7 million higher than in 2015.

STRUCTURE AND INTEREST RATE SENSITIVITY OF GROUP DEBT

31 December 2016 *(in millions of Euros)*	Initial debt structure	Impact of hedging instruments	Debt structure after hedging	Impact on income of a 1% variation in interest rates
Fixed rate	58,650	(23,710)	34,940	-
Floating rate	6,545	23,710	30,255	303
TOTAL	**65,195**	**-**	**65,195**	**303**

Concerning financial assets, the table below presents the interest rate risk on floating-rate bonds and negotiable debt securities held by EDF, and their sensitivity to interest rate risks (impact on net income).

INTEREST RATE SENSITIVITY OF FLOATING-RATE INSTRUMENTS

31 December 2016 *(in millions of Euros)*	Value	Impact on income of a 1% variation of interest rates	Value after a 1% variation in interest rates
FLOATING-RATE INSTRUMENTS	**1,497**	**(15)**	**1,482**

The Group's interest rate risk notably relates to the value of the Group's long-term nuclear commitments (see note 29 to the 2016 consolidated financial statements) and its commitments for pensions and other specific employee benefits (see note 31 to the 2016 consolidated financial statements), which are adjusted to present value using discount rates that depend on interest rates at various time horizons, and debt instruments held for the management of the dedicated assets set aside to cover these commitments (see section 7.1.6" Management of financial risk on EDF's dedicated asset portfolio").

7.1.5 Management of equity risks

The equity risk is concentrated in the following areas:

Coverage of EDF's nuclear obligations

Analysis of the equity risk is presented in section 7.1.6 "Management of financial risk on EDF SA's dedicated asset portfolio".

Coverage of employee benefit obligations for EDF SA, EDF Energy and British Energy

Assets covering EDF's employee benefit liabilities are partly invested on the international and European equities markets. Market trends therefore affect the value of these assets, and a downturn in equity prices would lead to a rise in balance sheet provisions.

30.9% of the assets covering EDF's employee benefit obligations were invested in equities at 31 December 2016, representing an amount of €3.6 billion of equities.

At 31 December 2016, the two pension funds sponsored by EDF Energy (EDF Energy Pension Scheme and EDF Energy Group Electricity Supply Pension Scheme) were invested to the extent of 37.7% in equities and 38.7% in equity funds, representing an amount of £588 million of equities.

At 31 December 2016, the British Energy pension funds were invested to the extent of 24.8% in equities and equity funds, representing an amount of £1,582 million of equities.

CENG fund

CENG is exposed to equity risks in the management of its funds established to cover nuclear decommissioning expenses.

EDF's long-term cash management

As part of its long-term cash management policy, EDF has continued its strategy to reduce the portion of equity-correlated investments, resulting in a non-significant position well below €1 million at 31 December 2016.

7.1.6 Management of financial risk on EDF's dedicated asset portfolio

Dedicated assets have been built up progressively by EDF since 1999 to secure financing of its long-term nuclear commitments. The Law of 28 June 2006 and its implementing regulations defined provisions not related to the operating cycle, which must therefore be covered by dedicated assets; they are listed in note 47 to the 2016 consolidated financial statements, "Dedicated assets".

The dedicated asset portfolio is managed under the supervision of the Board of Directors and its advisory committees (Nuclear commitments monitoring committee, Audit committee).

The **Nuclear Commitments Monitoring Committee (CSEN)** is a specialised Committee set up by EDF's Board of Directors in 2007.

A **Nuclear Commitments Financial Expertise Committee (CEFEN)** exists to assist the company and its governance bodies on questions of matching assets and liabilities and asset management. The members of this Committee are independent of EDF. They are selected for their skills and diversity of experience, particularly in the fields of asset/liability management, economic and financial research, and asset management.

Governance and management principles

The governance principles setting forth the structure of dedicated assets, and the relevant decision-making and control processes for their management, are validated by EDF's Board of Directors. These principles also lay down rules for the asset portfolio's structure, selection of financial managers, and the legal, accounting and tax structure of the funds.

Strategic asset allocation is based on asset/liability reviews carried out to define the most appropriate target portfolio for financing long-term nuclear expenses. Strategic allocation is validated by EDF's Board of Directors and reviewed every three years unless circumstances require otherwise. Since 2013, this target allocation has consisted of a financial portfolio and around one quarter of unlisted assets (the proportion of 21.9% had been reached at 31 December 2016). The unlisted assets are managed by EDF Invest (formed in 2013 following the decree of 24 July 2013) and comprise infrastructures, real estate and investment funds.

The financial portfolio contains two sub-portfolios, "equities" and "bonds", themselves divided into "secondary asset classes" or "pockets" that correspond to specific markets. The strategic allocation of the financial portfolio is 49% international equities and 51% bonds. A benchmark index is set for monitoring performance and controlling the risk on the financial portfolio: MSCI World AC DN hedged in Euros 50% (excluding emerging country currencies) for the equities sub-portfolio, and a composite index of 60% Citigroup EGBI and 40% Citigroup EuroBIG corporate for the bonds sub-portfolio.

A third "cash" sub-portfolio exists to provide secure coverage for the disbursements related to the purpose of the asset covered, and may be reinforced tactically, particularly when a conservative approach is required in the event of a market crisis.

The CSPE receivable was allocated to dedicated assets on 13 February 2013.

Tactical management of the financial portfolio has several focal areas:

- monitoring of exposure between the "equities" and "bonds" sub-portfolios;
- within each sub-portfolio, allocation by "secondary asset class";
- selection of investment funds, aiming for diversification:
  - by style (growth securities, unlisted securities, high-return securities),
  - by capitalisation (major stocks, medium and small stocks),
  - by investment process (macroeconomic and sector-based approach, selection of securities on a "quantitative" basis, etc.),
  - by investment vehicle (for compliance with maximum investment ratios);

- for bonds, a choice of securities held directly, through brokers, or via investment funds incorporating the concern for diversification:
  - by type of issue (fixed income, indexed income),
  - by type of instrument (government or supranational bonds, covered bonds and similar, corporate bonds),
  - by issuer and by maturity.

The allocation policy for the financial portfolio was developed by the Operational Management Committee [1] on the basis of the economic and financial outlook for each market and geographical area, a review of market appreciation in different markets and market segments, and risk analyses produced by the CRFI department.

Change in regulations

The decree of 19 December 2016 authorised allocation of the shares in C25, the company holding the shares of RTE, to the dedicated asset portfolio.

Changes in the portfolio during 2016

EDF Invest continued to build up its portfolio of infrastructures, real estate property and investment funds in 2016.

In October 2016, EDF Invest and the Dutch infrastructure fund DIF, as partners in a 50/50 consortium, acquired 100% of Thyssengas, Germany's third largest regulated gas transporter. Thyssengas owns and operates 4,200km of natural gas transport networks, serving industrial and residential customers in North Rhine-Westphalia.

In November 2016, the Italian group Atlantia and EDF Invest acquired a majority stake in Aéroports de la Côte d'Azur, the company that manages the French airports of Nice-Côte d'Azur, Cannes-Mandelieu and Saint Tropez, and the Sky Valet international business aviation service network.

Both of these investments have been allocated to the "infrastructures" pocket of EDF Invest alongside C25 (the company that directly holds 100% of RTE shares), TIGF, Porterbrook, MRG and Géosel.

In December 2016, EDF entered into a binding agreement with Caisse des Dépôts and CNP Assurances setting the terms and conditions for the acquisition by Caisse des Dépôts and CNP Assurances of a 49.9% indirect stake in RTE, and the modalities of a long-term partnership to promote the development of RTE (see note 3.5.1 to the 2016 consolidated financial statements).

In a first step, after the publication of decree 2016-1781 of 19 December 2016, on 23 December 2016 EDF transferred all of the shares in RTE to the new company C25, which is partly financing this operation through external debt. EDF will then sell 49.9% of the equity capital of C25 to Caisse des Dépôts and CNP Assurances. Finalisation of this second step is expected in the first half of 2017, once the relevant merger control authorities have given their approval.

The balance of EDF's stake in C25 (50.1%) will remain allocated to the portfolio of dedicated assets held to cover expenses related to the back-end of the nuclear cycle.

Changes in the financial portfolio are described in the following section, under the heading "Performance of EDF's dedicated asset portfolio".

The CSPE receivable is a financial receivable (bearing interest at 1.72%). It is to be repaid under a revised schedule extending to the end of 2020, which was set out in a decision of 2 December 2016, in compliance with a ministerial letter of 26 January 2016. In that letter the French State also acknowledged the additional shortfall that arose between 2013 and 2015, estimated at that date at €644 million and included in the revised repayment schedule, and authorised its allocation to dedicated assets. In December 2016, the total amount of this additional receivable, and some of the receivable allocated to dedicated assets, was assigned for a total of €1,538 million (see note 3.6 to the 2016 consolidated financial statements, "Partial assignment of the CSPE receivable"). The amount received for assignment of the portion of the CSPE receivable that was allocated to dedicated assets (€894 million) has been reinvested in dedicated assets.

At 31 December 2016, the degree of coverage of provisions by dedicated assets was 99.8% applying the regulatory calculations. All other things being equal, this coverage should reach 105.3% after completion of the sale of some of the shares of C25, which is planned for the first half of 2017. Without application of the regulatory limits set by decree 2007-243, the provision coverage rate is 105.4%.

Withdrawals totalled €377 million, equivalent to the payments made in respect of the long-term nuclear obligations to be covered in 2016 (€378 million in 2015). No allocations to dedicated assets took place in 2016 (allocation of €38 million in 2015). The €972 million of allocations yet to be made, as reported at 31 December 2015, no longer applied at 30 June 2016, largely due to the extension of the depreciation period for 900MW PWR plants which led to a reversal of €1,657 million from the provisions covered by dedicated assets (see note 3.1 to the 2016 consolidated financial statements, "Extension to 50 years of the depreciation periods of the 900MW PWR series in France").

However, at 31 December 2016, largely due to the decrease in the real discount rate at the year-end, increases to provisions that must be offset by allocations to dedicated assets under the Decree of 24 March 2015 amount to a total €1,095 million. EDF will allocate this amount to dedicated assets over the months following finalisation of its financial statements, in accordance with the Letter of 10 February 2017 from the Minister for the Economy and Finance, and the Minister for the Environment, Energy and the Sea.

1. A permanent internal committee for evaluation, consultation and operational decision-making in the management of dedicated assets.

Content and performance of EDF's dedicated asset portfolio

BREAKDOWN OF THE PORTFOLIO

	31/12/2016	31/12/2015
Equities sub-portfolio	31.1%	31.1%
Bonds sub-portfolio	26.8%	28.5%
Cash sub-portfolio	3.5%	1.2%
CSPE after funding	16.7%	22.3%
Unlisted assets (EDF Invest)	21.9%	16.9%
TOTAL	**100%**	**100%**

At 31 December 2016, the total value of the portfolio was €25,677 million compared to €23,480 million in 2015.

The content of the financial portfolio is also presented in note 47 to the 2016 consolidated financial statements, "Dedicated assets".

PORTFOLIO CONTENT UNDER THE CLASSIFICATION FROM ARTICLE 4, DECREE 2007-243 OF 23 FEBRUARY 2007

	31 December 2016		31 December 2015	
Categories *(in millions of Euros)*	Net book value	Realisable value	Net book value	Realisable value
OECD government bonds and similar	3,167	3,335	3,486	3,784
OECD corporate (non-government) bonds	542	593	595	630
Funds investing in the above two categories	3,910	4,058	2,701	2,840
Funds not exclusively invested in OECD bonds	6,059	7,790	5,643	7,019
Hedges, deposits, amounts receivable	(18)	(18)	7	7
TOTAL FINANCIAL PRODUCT PORTFOLIO	**13,660**	**15,758**	**12,432**	**14,280**
C25 (the holding company for RTE) (1)	3,905	3,905	2,015	2,580
Other unlisted securities and real estate assets	1,530	1,728	1,249	1,395
TOTAL EDF INVEST	**5,435**	**5,633**	**3,264**	**3,975**
CSPE after funding	4,182	4,286	5,225	5,225
TOTAL DEDICATED ASSETS	**23,277**	**25,677**	**20,921**	**23,480**

(1) In 2015, 50% of the Group's investment in RTE; in 2016, 75.9% of C25, the company that holds 100% of RTE shares.

PERFORMANCE OF EDF'S DEDICATED ASSET PORTFOLIO

The table below presents the performance by portfolio at 31 December 2016 and 31 December 2015:

(in millions of Euros)	31/12/2016 Stock market or realisable value	Performance for 2016		31/12/2015 Stock market or realisable value	Performance for 2015	
		Portfolio	Benchmark index (1)		Portfolio	Benchmark index (1)
Equities sub-portfolio	7,992	7.8%	9.8%	7,304	6.1%	4.9%
Bonds sub-portfolio	6,866	4.3%	3.8%	6,694	1.3%	0.8%
TOTAL FINANCIAL PORTFOLIO	**14,858**	**6.2%**	**6.8%**	**13,998**	**3.5%**	**3.0%**
Cash sub-portfolio	900	0.2%	-0.3%	282	0.4%	-0.1%
TOTAL FINANCIAL AND CASH PORTFOLIO	**15,758**	**5.9%**	**-**	**14,280**	**3.5%**	**-**
CSPE after funding	4,286 (3)	4.2% (3)	-	5,225	1.7%	-
EDF INVEST (2)	**5,633**	**40.1%.(5)**	**-**	**3,975**	**5.3%**	**-**
including C25 shares (4)	*3,905*	*55.4% (5)*	-	*2,580*	*4.6%*	-
including other unlisted assets (4)	*1,728*	*7.9% (6)*	-	*1,395*	*8.3%*	-
TOTAL DEDICATED ASSETS	**25,677**	**11.1%.(5).(7)**	**-**	**23,480**	**3.5%**	**-**

(1) Benchmark index: MSCI World AC DN hedged in Euros 50% (excluding emerging country currencies) for the equities sub-portfolio, composite index of 60% Citigroup EGBI and 40% Citigroup EuroBIG corporate for the bonds sub-portfolio, Eonia Capitalisé for the cash subportfolio, 49% equities index + 51% bonds index for the total financial portfolio

(2) Performance for assets held at the start of the year. By limiting the value of certain investments in compliance with articles 4 and 16 of decree 2007-243 concerning calculation of the regulatory realisable value of dedicated assets which must be equal to or greater than long-term nuclear provisions, the amount of this regulatory realisable value has been reduced to €4,266 million for EDF Invest assets and a total €24,312 million for all dedicated assets.

(3) Including a €103 million adjustment after the €22 million gain on the €872 million of receivable assigned. For the unadjusted receivable, performance is 1.7%.

(4) The portion of RTE shares allocated to the dedicated asset portfolio (50%) was included at its equity value in the consolidated financial statements until 30 June 2016. At 31 December 2016, the share of C25 (the company that directly holds 100% of RTE shares) allocated to dedicated assets, i.e. 75.9%, is adjusted to fair value.

(5) Excluding adjustments related to the C25 operation, RTE's performance was 1.6%, EDF Invest's performance was 3.8% and the overall performance by all dedicated assets was 5.2%.

(6) 9.1% after adjustment for foreign exchange effects.

(7) Including adjustments of RTE and the CSPE receivable; 4.8% without these two adjustments. The performance by dedicated assets excluding RTE is 5.7%.

The stock market began the year 2016 dominated by three sources of uncertainty: political risks (Brexit, US presidential elections, etc), central bank policies (the Fed, ECB, BoJ, BoE) and the behaviour of oil prices, which suggested that a significant slowdown or even instability was to be feared in emerging countries.

All the political risks became reality. On 23 June the United Kingdom voted to leave the European Union, setting off a period of uncertainty. The protectionist programme by the new US government could have major implications for the country's business partners if applied as announced. Nonetheless, these developments only fleetingly affected the financial markets, which preferred to focus on good news.

Regarding monetary policy, the European Central Bank introduced negative interest rates, and further relaxed its policy early in the year by increasing its asset purchases and extending them to private-issuer bonds. The ECB announced in late 2016 that this policy was to continue for another 9 months. The Federal Reserve, in contrast, began to raise base rates. Overall, fears of deflation faded and there was a recovery in growth.

As a result, long-term rates, which showed a downward trend at the start of the year, picked up substantially during the second half of the year.

Oil prices, after briefly dipping below US$30 early in the year, returned to levels of around US$50 which appears to be an equilibrium price. As well as limiting the aggravating factors for the crisis in oil-producing countries, this stabilisation of oil prices contributed to a moderate rise in inflation in the western economies.

Against this background, the markets saw high volatility in the first half of the year, followed by a substantial recovery in the second part of the year, particularly after the US presidential elections. The world equities markets (MSCI World All Countries DN index hedged in Euros 50%, excluding emerging country currencies) ended the year up by +9.8%. The European bond index (60% Citigroup EGBI and 40% Citigroup EuroBIG corporate) progressed by +3.8%.

In the very uncertain environment at the start of the year, it was decided to concentrate on a defensive portfolio positioning. This was applied to both bonds, seeking lower sensitivity than the benchmark index, and equities, with overweighting on developed country markets rather than emerging countries, and less volatile equity funds.

This allocation strategy and the underperformance of active equity management In North America and Europe resulted in below-benchmark returns on the financial portfolio, which rose by 6.2% while the benchmark index rose by 6.8%.

In 2016, the overall after-tax performance of dedicated assets (impacts on reserves and net income) was +€728 million: +€575 million on the financial portfolio and cash portfolios (+876 million before tax), +€71 million for the CSPE receivable after funding (+€108 million before tax) and +€82 million for EDF Invest (including +€38 million for the RTE shares allocated to dedicated assets).

Dedicated assets' exposure to risks

EDF is exposed to equity risks, interest rate risks and foreign exchange risks through its dedicated asset portfolio.

The market value of the equities sub-portfolio in EDF's dedicated asset portfolio was €7,992 million at 31 December 2016. The volatility of the equities sub-portfolio can be estimated through the volatility of its benchmark index, which at 31 December 2016 was 15.2% based on 52 weekly performances, compared to 15.5% at 31 December 2015. Applying this volatility to the value of equity assets at the same date, the Group estimates the annual volatility of the equities portion of dedicated assets at €1,215 million. This volatility is likely to affect the Group's equity.

At 31 December 2016, the sensitivity of the bond sub-portfolio (€6,866 million) was 4.89, i.e. a uniform 100 base point rise in interest rates would result in a €336 million decline in market value which would be recorded in consolidated equity. The sensitivity was 5.52 at the end of 2015. The sensitivity of the bond sub-portfolio was thus well below the sensitivity of the benchmark index (5.70).

7.1.7 Management of counterparty/credit risks

Counterparty risk is defined as the total loss that the EDF group would sustain on its business and market transactions if a counterparty defaulted and failed to perform its contractual obligations.

The Group has a counterparty risk management policy which applies to the parent company and all operationally controlled subsidiaries. This policy, updated in September 2014, sets out the governance associated with monitoring for this type of risk, and organisation of the counterparty risk management and monitoring (including definition of limits and Group indicators). The policy also involves monthly consolidation of the Group's exposures, updated monthly for financial and energy market activities and quarterly for other activities. The CRFI (Financial Risks Control) department closely monitors Group counterparties (daily review of alerts, special cautionary measures for certain counterparties).

The table below gives details, by rating, of the EDF group's consolidated exposure to counterparty risk. At 30 September 2016, 80% of the Group's exposure concerns "investment grade" counterparties, mainly as a result of the predominance of exposures generated by the cash and asset management activity, with most short-term investments concerning low-risk assets:

	Investment grade	Non investment grade	Unrated	Total
31/03/2016	81%	11%	8%	100%
30/09/2016	80%	11%	9%	100%

The exposure to counterparty risk by nature of activity is distributed as follows:

	Purchases	Insurance	Distribution and sales	Cash and asset management	Fuel purchases and energy trading	Total
31/03/2016	9%	0%	11%	71%	9%	100%
30/09/2016	10%	0%	11%	72%	7%	100%

Exposure in the energy trading activities is concentrated at the level of EDF Trading, where each counterparty is assigned a limit that depends on its financial robustness. A range of methods are used to reduce counterparty risk at EDF Trading, primarily position netting agreements, cash-collateral agreements and establishment of guarantees from banks or affiliates.

For counterparties dealing with EDF's trading room, the CRFI department has drawn up a framework specifying counterparty authorisation procedures and the methodology for calculation of allocated limits. The level of exposure can be consulted in real time and is systematically monitored on a daily basis. The suitability of limits is reviewed without delay in the event of an alert or unfavourable development affecting a counterparty.

As the situation in the Euro zone is still unstable, EDF has continued to apply a conservative management policy for its cash investments in non-core countries. Apart from dedicated assets, purchases of sovereign debt are restricted to maximum maturities of three years for Italy and Spain (no exposure in Portugal, Greece, Cyprus, etc.). Only "investment grade" banking counterparties are authorised, for limited amounts and maturities.

7.2 Management and control of energy market risks

7.2.1 Management and control of energy market risks

In keeping with the opening of the final customer market, the growth of wholesale markets and its international development, the EDF group is exposed to price variations on the energy market which can significantly affect its financial statements.

Consequently, the Group has an "energy markets" risk policy for all energy commodities, applicable to EDF and entities over which it has operational control.

The purpose of this policy is to:

- define the general framework for management of energy market risks, governing the various Group entities' asset portfolio management activities (energy generation, optimisation and sale), and trading for EDF Trading;
- define the responsibilities of asset managers and traders, and the various levels of control of activities;
- implement a coordinated Group-wide hedging policy that is coherent with the Group's financial commitments;
- consolidate the exposure of the various entities operationally controlled by EDF on the structured energy-related markets.

At entities not operationally controlled by EDF, the risk management framework is reviewed by the governance bodies.

7.2.2 Organisation of risk control

The process for controlling energy market risks for entities operationally controlled by the Group is based on:

- a governance and market risk exposure measurement system, clearly separating management and risk control responsibilities;
- an express delegation to each entity, defining hedging strategies and establishing the associated risk limits. This enables the Comex to set out and monitor an annual Group risk profile consistent with the financial objectives, and thus direct operational management of energy market risks over market horizons (generally three years).

The basic principle for hedging is:

- netting of upstream/downstream positions; wherever possible, sales to final customers are hedged by Internal sales;
- gradual closing of net positions before the end of the budget year, based on a predefined hedging trajectory that captures an average price, generally with overweighting in year N-1 in view of liquidity constraints on the forward markets.

On the French electricity market, EDF is exposed to very high uncertainty over its net exposure due to the fact that the ARENH system is optional. Since the volumes subscribed are only known shortly before the delivery period, EDF is obliged to use assumptions for ARENH subscriptions, which include prudence margins. EDF thus remains subject to risks that the assumptions may not correspond to reality, such that during the year it could find itself obliged to sell reserved volumes that in the end were not actually subscribed, or conversely to purchase volumes sold before the ARENH bids took place on the assumption that there would be no subscriptions. This last situation was experienced in the second half of 2016 for ARENH 2017 deliveries.

Given its close interaction with the decisions made in the generation, supply and trading activities, the energy risk management process involves Group management and is based on a risk indicator and measurement system incorporating escalation procedures in the event risk limits are exceeded.

The Group's exposure to energy market risks through operationally controlled entities is reported to the Comex on a quarterly basis. The control processes are regularly evaluated and audited.

7.2.3 Principle for operational management and control of energy market risks

The principles for operational management and control of energy market risks for the Group's operationally controlled entities are based on strict segregation of responsibilities for managing those risks, distinguishing between management of assets (generation and supply) and trading.

Managers of generation and supply assets are responsible for implementing a risk management strategy that minimises the impact of energy market risks on the variability of their financial statements (the accounting classifications of these hedges are described in note 41 to the 2016 consolidated financial statements, "Derivatives and Hedge accounting"). However, a residual risk remains that cannot be hedged on the market due to factors such as insufficient liquidity or market depth, uncertainty over volumes, etc.

For operationally controlled entities in the Group, positions on the energy markets are taken predominantly by EDF Trading, the Group's trading entity, which operates on the markets on behalf of other Group entities and for the purposes of its own trading activity associated with the Group's industrial assets. Consequently, EDF Trading is subject to a strict governance and control framework, particularly the European regulations on trading companies.

EDF Trading trades on organised or OTC markets in derivatives such as futures, forwards, swaps and options (regardless of the accounting classification applied at Group level). Its exposure on the energy markets is strictly controlled through daily limit monitoring overseen by the subsidiary's management and by the division in charge of energy market risk control at Group level. Automatic escalation procedures also exist to inform members of EDF Trading's Board of Directors of any breach of risk limits (value at risk limit) or loss limits (stop-loss limits). Value at Risk (VaR) is a statistical measure of the potential maximum loss in market value on a portfolio in the event of unfavourable market movements, over a given time horizon and with a given confidence interval [1]. Specific Capital at Risk (CaR) limits are also used in certain areas (operations on illiquid markets, long-term contracts and structured contracts) where VaR is difficult to apply. The stop-loss limit stipulates the acceptable risk for the trading business, setting a maximum level of loss over a rolling three-month period. If these limits are exceeded, EDF Trading's Board of Directors takes appropriate action, which may include closing certain positions.

During the second half of 2016, the VaR limit was raised from €36 million to €50 million in view of the significant price volatility on European markets in this period, and the CaR limit for long-term contracts was raised from €200 million to €300 million. CaR limits for operations on illiquid markets and the stop-loss were unchanged and remain at €250 million and €180 million respectively.

These limits were not exceeded in 2016, apart from two occasions of small scale and duration before the VaR and CaR limits for short-term contracts were increased. The stop-losses have never been triggered since their introduction.

For an analysis of fair value hedges of the Group's commodities, see note 41.5 to the 2016 consolidated financial statements. For details of commodity derivatives not classified as hedges by the Group, see note 42.3 to the same consolidated financial statements.

7.3 Management of insurable risks

The EDF group has insurance programmes that cover EDF SA and its controlled subsidiaries as they are integrated. The coverage, exclusions, excesses and limits are appropriate to each business and the specificities of these subsidiaries.

The main insurance programmes cover:

- **Conventional damage to Group property**: EDF is a member of the international mutual insurance company for energy operators, OIL [2]. Additional insurance coverage is provided by EDF's captive insurance subsidiary Wagram Insurance Company DAC [3], other insurers and reinsurers.
- **Damage to the EDF group's nuclear facilities**: In addition to coverage through EDF's membership of OIL, physical damage

1. EDF Trading estimates the VaR by the "Monte Carlo" method, which is based on volatilities and historical correlations measured using observed market prices over the 40 most recent business days. The VaR limit applies to the total EDF Trading portfolio.

2. Oil Insurance Limited.

3. An Irish insurance company fully-owned by EDF.

(including following a nuclear accident) to EDF's nuclear installations in France and EDF Energy's nuclear facilities in the United Kingdom, and nuclear decontamination costs, are covered by a Group insurance policy involving the French nuclear pool (Assuratome), the British atomic pool National Risk Insurers (NRI), the European Mutual Association for Nuclear Insurance (EMANI), and the insurer Northcourt.

In connection with CENG's operations in the United States, EDF Inc. is a member of NEIL [1].

- **Damage to merchandise transported.**
- **Nuclear operator's civil liability**:

  In **France**, EDF's insurance policies comply with French laws 68-943 of 30 October 1968, 90-488 of 16 June 1990 and 2006-686 of 13 June 2006 (the "TSN" law on nuclear transparency and safety) which are now part of the French Environment Code. These laws transposed the civil liability obligations imposed on nuclear facility operators by the Paris Convention.

  The Law on the Energy Transition for Green Growth enacted on 17 August 2015 amended the provisions of articles L.597-28 and L.597-32 of the French Environment Code. Among the changes, the civil liability limits for nuclear operators were raised with effect from 18 February 2016 to €700 million for nuclear facilities (€70 million for reduced-risk facilities) and €80 million for risks during transport.

  To comply with the new legal thresholds, EDF published a contract notice on 10 August 2015 entitled "EDF SA Nuclear Civil Liability Insurance" to obtain and arrange the insurance coverage needed for its nuclear civil liability and management of the associated claims from 18 February 2016.

  With the insurance obtained in response to this call for tenders, the Group meets its new obligations. The insurance is shared between the nuclear insurance market (AXA, reinsured by the French nuclear pool Assuratome) the Group's captive insurance companies, and the nuclear mutual insurance company ELINI.

  This cover took effect on 18 February 2016 for a three-year term. In view of the changes likely to be made to nuclear operators' obligations during this period (particularly the application of protocols amending the Paris and Brussels Conventions), withdrawal clauses have been included in the contract.

  Management of claims is the responsibility of ELINI, which has a computerised claim processing system, and EQUAD, which has the necessary human and network resources.

  In the **United Kingdom**, where EDF Energy operates nuclear power plants, the nuclear operator's civil liability rules are similar to French rules. On 4 May 2016 the British parliament approved the Nuclear Installations Order (for transposition of the protocols of February 2004 amending the existing conventions) which in substance makes the same changes as the French TSN law of 2006, but will mostly only come into force at the same time as the protocols.

  This Order raises the British operators' obligations from the current limit of £140 million to the equivalent of €700 million, and they will be progressively increased over a five-year period to reach a ceiling of €1.2 billion.

  EDF Energy is currently insured by ELINI and Wagram Insurance Company DAC, one of the Group's captive insurance companies. The captive insurer Océane Re also bears the risk via a reinsurance contract for Wagram Insurance Company DAC.

  The entry into force of France's Energy Transition law on 18 February 2016 led to a 40% increase in the Group's insurance premiums. Premiums are also set to rise again substantially soon, when the protocols amending the Paris and Brussels Conventions take effect.
- **General civil liability**: this programme covers the Group against the possible financial consequences for third parties of the (non-nuclear) risks inherent to the EDF group's businesses.
- **Civil liability of directors and senior executives**: EDF's insurance programme covers defence costs and other financial consequences arising from third party claims of liability against the Group's managers and key executives in connection with their duties.
- **Construction risks**: EDF takes out insurance policies covering specific worksite risks (general worksite risks/general assembly and testing risks). These policies are not part of a Group programme but are purchased on an ad hoc basis for major projects such as the Flamanville EPR and Hinkley Point C, or construction of combined cycle power plants, dams, combustion turbines, etc. This cover is subject to specific monitoring and is renegotiated for each site as necessary.
- **Exploration and production**: Edison had a specific insurance policy providing damage and civil liability coverage worth €2.2 billion for onshore and offshore assets. Through optimised use of EDF's membership of OIL, Edison was able to construct a new specific "Exploration and Production" programme from 1 January 2013 that is open to all Group subsidiaries. This programme was used by EDF Production UK, whose business has since been taken over by Edison.
- **Enedis' overhead distribution network**: to renew its insurance cover for storm and gale damage, on 27 June 2016 Enedis signed a parametric insurance contract for significant storm damage to the overhead distribution network. In the event of damage, this innovative five-year contract with total capacity of €275 million provides payouts based on a composite parametric index referring to wind speeds recorded by Météo France weather stations, weighted by the distribution network's vulnerability for each region included in the scope of Enedis' concession.

The total value of premiums for all types of coverage provided by EDF's insurance programmes and Group programmes managed by EDF Assurances was €197 million in 2016.

1. *Nuclear Electric Insurance Limited.*

8 TRANSACTIONS WITH RELATED PARTIES

The types of transaction undertaken with related parties are detailed in note 48 to the 2016 consolidated financial statements, “Related parties”.

9 SCOPE OF CONSOLIDATION

A list of all consolidated companies is presented in note 51 to the 2016 consolidated financial statements; “Scope of consolidation”.

10 PRINCIPAL RISKS AND UNCERTAINTIES

The principal risk factors to which the EDF group considers itself exposed are presented in section 2 of the 2016 Reference Document.

The Group’s policies for risk management and control are described in section 2 of the 2016 Reference Document.

This presentation of the principal risks describes the major risks and uncertainties affecting the Group. The Group remains subject to the usual risks specific to its business.

11 OUTLOOK

2017 targets

2017 will be marked by the effects of lower market prices in France and in the UK compared to 2016 and ARENH volumes subscribed at the end of 2016. Moreover, nuclear generation in France will be influenced by the outages of the Bugey 5, Fessenheim 2, Gravelines 5 and Paluel 2 reactors, by a volume of planned outages for the continuation of the “*Grand Carénage*” industrial programme.

In this context, the Group has set the following targets for 2017:

- **Nuclear output**: 390 - 400TWh ;
- **EBITDA** [1]: €13.7 to 14.3 billion ;
- **Net financial debt/EBITDA** [2]: ≤ to 2.5x;
- **Payout ratio of Net income excluding non-recurring items** [3]: 55% to 65%.

2018 targets

In 2018, EDF will benefit from additional savings arising from the performance plan, the gradual normalisation of the level of nuclear generation in France and the development of the Group’s service activities. Changing market conditions in France and the UK should have a positive effect.

The Group has set the following targets for 2018:

- **Opex** [4]: -€0.7 billion compared to 2015;
- **EBITDA** [5]**:** ≥ to €15.2 billion;
- **Net investment excluding Linky, new developments and disposals**: around €10.5 billion;
- **Cash flow** [5 6]: ≥ to 0;
- **Net financial debt/EBITDA** [5 6]: ≤ to 2.5x;
- **Payout ratio of Net income excluding non-recurring items** [3]: 50%.

Beyond 2018

- **Reduction in operational expenditures** [4]: ≥ €1 billion in 2019 versus 2015;
- **Asset disposals in 2015-2020**: at least €10 billion;
- **Payout ratio of Net income excluding non-recurring items** [3]: 45% to 50%.

1. At 2016 exchange rate.
2. At 2016 exchange rate and at an assumed discount rate on nuclear provisions of 4.1% in 2017.
3. Adjusted for the remuneration of hybrid bonds accounted for in equity.
4. At constant scope, exchange and hypothesis of pensions discount rates. Excluding change in operating expenses of service activities.
5. At 2016 exchange rate and assumption for 2018 power prices in France on volumes not hedged as of 31.12.2016 : ≥ €36/MWh.
6. At 2016 exchange rate. Cash flow excluding Linky, new developments and asset disposals, with an assumed discount rate on nuclear provisions of 4.1% in 2017 and 3.9% in 2018, excluding interim dividend for fiscal year 2018, which will be decided in half year 2018.