

**SUSTAINABLE DEVELOPMENT INDICATORS 2017**



**SUMMARY**

# Sustainable development indicators

The legal and regulatory framework covering non-financial reporting is changing rapidly. EDF, in common with other companies, is gearing up to meet the new requirements. The reporting system comes under various legal provisions, including article 116 of France's 15 May 2001 LME Act on modernising the country's economy, which requires listed companies to report on the environmental and social impacts of their business; article 225 of the 12 July 2010 Act covering the country's national commitment to the environment (Grenelle 2), which reforms companies' social and environmental reporting requirements, as well as the 24 April 2012 implementing legislation, and the decision of 13 May 2013 defining the procedures to be followed for independent third-party audits; article 173 of the 18 August 2015 Act on energy transition for green growth introducing a requirement for transparency on the climate change impact of companies' business activities and the use of the products and services that they supply; the 9 August 2016 Act on employment, the modernisation of social dialogue and the career security modifying article 225-102-1 of the French Commercial Code.

**The Group's reporting system content and form are subject to continuous improvement, over and beyond the requirements of French law.** In 2007, the Group began the process of a gradual, voluntary check on the reliability of its social and environmental data by its Statutory Auditors. Since 2013, this work has been carried out in accordance with article L. 225-102-1 of the French Commercial Code.

For 2017, the Statutory Auditors issued a report confirming that the data included the 42 corporate social responsibility (CSR) items required and was fairly presented, in accordance with the decree of 13 May 2013.

In addition, in line with the Group's commitment to transparency vis-à-vis its stakeholders, the Statutory Auditors issued an opinion indicating unconditional reasonable assurance for the indicators "Total CO2 emissions due to electricity and heat generation (including facilities not subject to quotas)" and "Total workforce by gender and age at the end of the year".

The sustainable development information published by the Group is used for assessment purposes by rating agencies and non-financial data analysis departments acting on behalf of investors.

All business, environmental and social indicators are presented in the summary of indicators section.

## Methodology

The reporting procedure for sustainable development indicators (business, environmental and social) covers the entire EDF group as defined by its financial consolidation, in line with IAS-IFRS standards. More specifically, the scope encompasses the EDF parent company and its fully consolidated subsidiaries. Data relating to companies accounted for under the equity method is not included. The results presented here are from the 2017 Reference Document.



### FOR FURTHER INFORMATION

For further information on the reporting methodology and the Statutory Auditors' report, see the Group's Reference Document (sections 3.4.2 "Methodology for social and environmental data" and 3.6 "Assurance report of the Statutory Auditors").

## Reporting scope

The scope covered by the reporting procedure is defined on the basis of:

- the consolidation scope established by the Finance Department;
- the criteria linked to relevance of the subsidiaries' activities in terms of environmental and social impact.

### Entities included in the consolidation scope at 31/12/2017

Consolidation level	Companies	Environmental Kpi scope	Social Kpi scope
<b>France – Generation and supply activities</b>	Électricité de France	X	X
	Enedis	X	X
<b>France – Regulated Activities</b>	Island Energy Systems - (SEI)	X	X
	EDF PEI	X	X
	Électricité de Strasbourg – ES	X	X
	G2S		X
<b>Other activities</b>	Socodei	X	X
	EDF Énergies Nouvelles	X	X
	Dalkia (including TIRU)	X	X
	Citelum		X
	EDF Energy Services – EES	X	
	CHAM		X
	EDF Trading		X
<b>United-Kingdom</b>	EDF Energy	X	X
<b>Italy</b>	Edison (including Fenice)	X	X
	EDF Luminus (Belgium)	X	X
	EDF Belgium (Belgium)	X	
	EDF Polska (Poland)*	X	X
<b>Other international</b>	Kogeneracja (Poland)*	X	X
	Zielona Gorá (Poland)*	X	X
	EDF Paliwa (Poland)*		X
	EDF Norte Fluminense (Brazil)	X	X
	Meco (Vietnam)	X	X
	China Holding (China)		X

\* These companies were sold on 13 November 2017.

(1) Accounting standards applied by the Group, see section 6 of the 2017 Reference Document.

(2) Full consolidation covers all companies that the Group controls.

Companies that EDF group does not control are accounted for under the equity method, and those jointly controlled by the Group and another party are proportionately consolidated.

# Summary of indicators

## Inputs and outputs of EDF's generation operations

This information is collected on the basis of the main inputs (raw materials, consumables, energy and water) and outputs (waste, by-products and emissions) of EDF's electricity generation process in France (nuclear, fossil-fired and hydro), providing more details as a complement to the Group's environmental indicators. Certain data collected in January 2018 and published in the Group's 2017 reference document have been updated.

### Raw materials, consumables, energy and cooling water linked to EDF's electricity generation in France

INPUT DATA	Unit	2017	2016	2015
<b>Nuclear reactor fuel</b>				
Nuclear fuel load	t	1,104	1,042	1,120
Coal	t	2,342,287	1,586,399	1,811,839
Heavy fuel oil	t	365,877	319,743	330,452
Domestic fuel oil	t	219,742	233,371	222,503
Non-industrial gas	MWh LHV	17,417,793	14,182,596	3,872,721
<b>Consumables</b>				
<b>Desulphurisation</b>				
Limestone for desulphurisation plant <sup>(1)</sup>	t	41,168	22,952	7,606
<b>Denitrification</b>				
Ammoniac of DeNOX	t	17,820	7,202	8,716
<b>Consumption of reagents as pure products</b>				
Boric acid (H <sub>3</sub> BO <sub>3</sub> )	t	247	298	274
Chlorhydric acid (HCl)	t	493	2,142	3,725
Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> )	t	38,366	34,218	28,858
Flocculating agents (FeCl <sub>3</sub> -, WAC)	t	281	299	253
Lime (Ca(OH) <sub>2</sub> )	t	1,442	1,222	889
Hydrazine (N <sub>2</sub> H <sub>4</sub> )	t	97	102	111
Soda (NaOH)	t	1,622	1,590	1,765
<b>Other</b>				
Oils	t	3,796	3,633	3,944
<b>Energy</b>				
Internal consumption, pumping electricity	TWh	7.0	6.7	6.8
Internal consumption, electricity	TWh	21	20	22
Total thermal energy of fuel <sup>(2)</sup>	TWh LHV	1,189	1,189	1,284
<b>Water</b>				
Cooling water drawn	10 <sup>6</sup> m <sup>3</sup>	37,616	36,761	38,704
— of which fresh water	10 <sup>6</sup> m <sup>3</sup>	15,166	15,120	16,787
— of which brackish water	10 <sup>6</sup> m <sup>3</sup>	6,038	5,667	4,939
Industrial usage water <sup>(3)</sup>	10 <sup>6</sup> m <sup>3</sup>	22	25	25

(1) Desulphurisation equipment.

(2) Thermal energy in TWh LHV: 2015 data was recalculated using the 2016 method.

(3) Indicators for which 2015 data was recalculated using the 2016 method.

NB: The following indicators have changed:

— consumption of oil: update of the 2016 value following the change in calculation method for the HEPD;

— consumption of boric acid: the total value for 2016 was adjusted as the Blayais nuclear power plant revised its figure downwards (from 36.5t to 20t).

### Waste, by-products and emissions linked to EDF's electricity generation

OUTPUT DATA	Unit	2017	2016	2015
<b>Products</b>				
Gross Energy	TWh	456	462	487
Net Energy	TWh	435	441	466
<b>By-products</b>				
<b>Ashes</b>				
Coal ashes produced	t	188,560	131,305	195,235
Coal ashes recycled	t	245,837	258,438	332,332
<b>Desulphurisation by products</b>				
Gypsum produced	t	57,934	35,793	28,624
Desulphurisation sludge	t	2,456	1,300	1,358
<b>Other</b>				
Evacuated spent nuclear fuel	t	1,161	1,170	1,216
<b>Water</b>				
Cooling water discharged	10 <sup>6</sup> m <sup>3</sup>	37,309	36,282	38,090
— of which fresh water	10 <sup>6</sup> m <sup>3</sup>	14,858	14,641	16,282
— of which brackish water	10 <sup>6</sup> m <sup>3</sup>	6,038	5,667	4,939
Cooling water evaporated	10 <sup>6</sup> m <sup>3</sup>	490	478	505
— of which fresh water	10 <sup>6</sup> m <sup>3</sup>	490	478	505
— of which brackish water	10 <sup>6</sup> m <sup>3</sup>	0	0	0
<b>Gas emissions</b>				
CO <sub>2</sub> quotas	kt	10,712	8,230	6,708
Total CO <sub>2</sub>	kt	10,741	8,264	6,720
SO <sub>2</sub>	t	6,138	4,617	13,366
N <sub>2</sub> O	kt CO <sub>2</sub> eq	46	36	27
NO <sub>x</sub>	t	17,867	14,620	18,669
CH <sub>4</sub> (methane in air)	kt CO <sub>2</sub> eq	11	9	5
SF <sub>6</sub> <sup>(1)</sup>	t CO <sub>2</sub> eq	39,555	52,178	52,543
Non-methane volatile organic compounds (NMVOCs)	t	44	32	27
<b>Air</b>				
Dust	t	346	322	793
Particulates PM10	t	337	315	695
Particulates PM2.5 <sup>(2)</sup>	t	66	65	217
Mercury	t	0.22	0.18	0.47

(1) Indicators for which 2015 data was recalculated according to the 2016 method.

(2) Values exclusively concern EDF's thermal generation.

# Summary of indicators

OUTPUT DATA (continued)	Unit	2017	2016	2015
<b>Radioactive emissions</b>				
<b>Emissions into air</b>				
Noble gases	TBq/reactor	0.586	0.324	0.418
Tritium	TBq/reactor	0.446	0.455	0.497
Carbon 14	TBq/reactor	0.150	0.159	0.172
Iodines	GBq/reactor	0.017	0.014	0.017
Other fission and activation products	GBq/reactor	0.002	0.002	0.002
<b>Emissions into water</b>				
Tritium	TBq/reactor	15.861	17.511	17.797
Carbon 14	GBq/reactor	9.673	11.897	12.910
Iodines	GBq/reactor	0.004	0.005	0.005
Other radioelements	GBq/reactor	0.172	0.189	0.226
<b>Waste</b>				
<b>Conventional waste</b>				
Total conventional waste	t	344,957	466,316	229,705
— of which recycled (excluding ash of gypsum)	t	320,690	444,536	211,316
Non-hazardous conventional industrial waste	t	320,498	437,260	201,566
Hazardous conventional industrial waste	t	24,459	29,057	28,140
<b>Radioactive waste</b>				
Solid high- and intermediate-level long-lived radioactive waste <sup>(1)</sup>	m <sup>3</sup>	300.18	299.72	374.98
Solid low- and intermediate-level short-lived radioactive waste	m <sup>3</sup>	5,627.07	5,686.95	6,842.25
Solid VLLWe waste	m <sup>3</sup>	3,685.16	3,472.13	2,488.83
VLLWe from decommissioning*	m <sup>3</sup>	1,186.09	2,171.91	1,847.22
LLLWe from decommissioning*	m <sup>3</sup>	409.95	440.94	920.76
<b>Other waste</b>				
Copper (in water)	kg	26,867	31,719	50,049
Zinc (in water)	kg	12,327	12,178	22,537

(1) Indicators for which 2016 and 2015 data was updated.  
 \* VLLW: very low-level radioactive waste. LLLW: low- and intermediate-level radioactive waste.  
 NB: Solid high- and intermediate-level long-lived radioactive waste: reporting unit in 2017 (m<sup>3</sup>). Data prior to 2015 and 2016 was adjusted based on this change.

## Environmental indicators

	Unit	2017	2016	2015	GRI ref. <sup>(1)</sup>
<b>Economic indicators – EDF</b>					
Environmental protection expenditure	€M	2,647	2,688	3,553	
— of which provisions	€M	1,756	1,848	2,560	
Compensation paid or to be paid following legal decisions on environmental matters <sup>(2)</sup>	€k	0.0	21.0	10.5	EN29
<b>Environmental management – Group</b>					
% of consolidated Group revenue covered by ISO 140001 certification <sup>(3)</sup>	%	98.4	98.0	98.1	

## Environmental indicators

The following tables summarize the main environmental indicators in the scope of the EDF group. Any other perimeter is indicated on a case by case basis.

	Unit	2017	2016	2015	GRI ref. <sup>(1)</sup>
<b>Fuel and raw materials — fuel consumed</b>					
Nuclear fuel load – EDF ●	t	1,104	1,042	1,120	EN1
Coal ●	kt	9,902	9,306	15,065	EN1
Heavy fuel oil	kt	931	885	867	EN1
Domestic fuel oil	kt	375	371	368	EN1
Natural gas	GWh LHV	106,125	110,72	100,013	EN1
Industrial gas	GWh LHV	371	335	4	EN1
Biomass	kt	2,254	2,676	3,172	EN1
<b>Water - raw materials from sources outside the company</b>					
Cooling water drawn	10 <sup>9</sup> m <sup>3</sup>	47.6	47.3	49.3	EN8
— of which fresh water	10 <sup>9</sup> m <sup>3</sup>	16.0	16.2	18.3	EN8
— of which brackish (or estuary) water	10 <sup>9</sup> m <sup>3</sup>	6.4	6.1	5.2	EN8
Cooling water discharged	10 <sup>9</sup> m <sup>3</sup>	47.0	46.8	48.7	EN22
— of which fresh water	10 <sup>9</sup> m <sup>3</sup>	15.5	15.7	17.8	EN22
— of which brackish (or estuary) water	10 <sup>9</sup> m <sup>3</sup>	6.4	6.1	5.2	EN22
Specific consumption of water in total energy generation	l/kWh	0.94	0.92	0.96	
Specific consumption of water in thermal energy generation	l/kWh	1.03	1.03	1.06	

● 2017 indicator audited for limited assurance by KPMG S.A.  
 (1) GRI: Global Reporting Initiative, version G4.  
 (2) Excluding legal fees for final court decisions.  
 (3) Excluding companies managed independently.

# Summary of indicators

(continued)	Unit	2017	2016	2015	GRI ref. <sup>(1)</sup>
<b>Air – gas emissions</b>					
Total CO <sub>2</sub> emissions (scope 1) due to electricity and heating generation (including facilities not subject to quotas) ●●	Mt	50.5	47.7	59.1	EN15
— of which CO <sub>2</sub> emissions from coal-fired power plants	Mt	21.7	19.7	32.8	EN15
Direct greenhouse gas emissions (scope 1 - EDF Group GHG Report)	Mt CO <sub>2</sub> eq	51.3	48.5	nd	EN17
Indirect greenhouse gas emissions (scope 2 - EDF Group GHG Report)	Mt CO <sub>2</sub> eq	0.5	0.6	nd	EN17
Indirect greenhouse gas emissions (scope 3 - EDF Group GHG Report)	Mt CO <sub>2</sub> eq	97.6	94.0	nd	EN17
CO <sub>2</sub> emissions due to oil and gas exploration and production	kt	134.9	57.2	127.4	EN15
SO <sub>2</sub> emissions ●	kt	31.2	37.3	70.0	EN21
NOx emissions ●	kt	63.0	59.5	92.2	EN21
Dust ●	t	4,170	2,783	4,385	EN21
PM10 particulate matter – EDF	t	337	315	695	EN21
PM10 particulate matter – Group	t	762*	1,449	2,660	EN21
PM2.5 particulate matter – EDF	t	66	65	217	EN21
VOC**	t	1,184	1,356	1,464	EN21
VOC – EDF	t	44.2	32.0	26.6	EN21
Mercury – EDF	t	0.023	0.02	0.04	EN21
Mercury	t	0.10*	0.21	0.18	EN21
CH <sub>4</sub> emissions	kt CO <sub>2</sub> eq	45.8	44.4	37.3	EN15
N <sub>2</sub> O emissions	kt CO <sub>2</sub> eq	186.9	267.1	238.9	EN15
SF <sub>6</sub> emissions – EDF	kt CO <sub>2</sub> eq	38.5	52.1	58.6	EN15
SF <sub>6</sub> emissions	kt CO <sub>2</sub> eq	53.0	67.5	80.3	EN15
CH <sub>4</sub> emissions from gas network leaks resulting from Edison's gas production/distribution activity	kt CO <sub>2</sub> eq	2.8	2.1	2.2	EN15
<b>Conventional waste</b>					
Hazardous waste	t	52,659	51,643	64,411	EN23
Non-hazardous waste	t	557,454	623,957	389,471	EN23
Conventional industrial waste recycled or transported for recycling	t	518,591	607,171	365,744	EN23
Ash produced	kt	1,105	1,205	2,657	EN23
Recycling rate	%	85.0	89.9	80.6	
Recycling rate for conventional industrial waste – EDF	%	92.9	95.3	92.0	
Recycling rate for conventional industrial waste – EDF Energy	%	96.8	99.1	99.1	
<b>Waste associated with oil and gas activities – Edison</b>					
Hazardous waste	t	411	520	530	
Non-hazardous waste <sup>(3)</sup>	t	11,957	13,476	14,952	
Total conventional waste <sup>(3)</sup>	t	12,368	13,996	15,483	
Recycled conventional industrial waste	t	102	206	261	

● 2017 indicator audited for limited assurance by KPMG S.A.  
 ●● 2017 indicator audited for reasonable assurance by KPMG S.A.

\* Data excluding some EDF Polska generation plants.  
 \*\* For Group entities other than EDF DRT and SEI, this estimate is calculated based on consumption of fuels (coal, HFO, LFO, NG, biomass) and default emission factors defined by the EEA.

(1) GRI: Global Reporting Initiative, version G4.

(2) Direct emissions excluding the life cycle analysis of generating plant and fuel.

(3) Figures adjusted to include waste treated in situ at Santa Maria a Mare.

(continued)	Unit	2017	2016	2015	GRI ref.
<b>Energy</b>					
Renewable energy: electricity generated from hydro sources (excluding marine)	GWh	40,229	46,045	43,439	
Renewable energy: electricity and heating generated from renewable resources (excluding hydro) ●	GWh	22,557	20,900	19,163	
<b>Direct energy consumption, by primary source</b>					
Internal consumption, pumping electricity	TWh	7.1	7.0	7.0	EN3
Internal consumption, heating and electricity (excluding pumping)	TWh	22.3	20.4	22.0	
<b>Rendement moyen des centrales</b>					
Gas		0.66	0.61	0.64	
Coal		0.47	0.45	0.42	

## Group Nuclear indicators in France

EDF and Socodei	Unit	2017	2016	2015	GRI Ref.
<b>Shutdowns and events</b>					
Automatic shutdowns	No. of reactors/7,000 h	0.41	0.48	0.66	
Events and incidents (INES scale level 1)	No.	66	55	67	
Events and incidents (INES scale level 2)	No.	4	0	0	
Events and incidents (INES scale level > 2)	No.	0	0	0	
<b>Dosimetry</b>					
Average collective dose	m-Sv/reactor	0.61	0.76	0.71	
Individual dose (workers exposed to more than 20 mSv)	No.	0	0	0	
Individual dose (workers exposed to more than 16 mSv)	No.	0	0	0	
Dose to the most exposed member of the public	Nb	NA	NA	NA	
<b>Radioactive effluents released into water<sup>(1)</sup></b>					
Carbon 14 ●	GBq/un. oper.	9.539	12.853 (11.712)*	12.9 (12.7)*	EN24
Tritium ●	TBq/un. oper.	15.592	17.423 (17.105)*	18.1 (17.77)*	EN24
<b>Radioactive atmospheric emissions<sup>(1)</sup></b>					
Carbon 14 ●	TBq/un. oper.	0.148	0.161 (0.156)*	0.17 (0.17)*	EN21
Tritium ●	TBq/un. oper.	0.447	0.640 (0.455)*	0.50 (0.50)*	EN21
<b>Fuel</b>					
Nuclear fuel load ●	t	1,104	1,042	1,120	EN1
Evacuated nuclear fuel	t	1,161	1,170	1,216	EN25
<b>Nuclear waste from decommissioning</b>					
Very low-level radioactive waste (VLLW) <sup>(2)</sup> ●	m <sup>3</sup>	1,186	2,171	1,847	EN25
Low- and intermediate-level radioactive waste (LILW) <sup>(2)</sup> ●	m <sup>3</sup>	410	443	914	EN25
Waste sent to Centraco processing plant	t	479	453	357	EN25
<b>Operational nuclear waste</b>					
Solid very low-level radioactive waste <sup>(2)</sup> ●	m <sup>3</sup>	3,535.9	3,472.1	(2,488.8)*	EN25
	m <sup>3</sup> /TWh	–	8.849	6.0 (5.98)*	EN25
Solid low- and intermediate-level short-lived radioactive waste <sup>(2)</sup> ●	m <sup>3</sup>	5,603.4	5,687.0	(6,842.3)*	EN25
	m <sup>3</sup> /TWh	–	14.764	16.4 (16.3)*	EN25
Solid high- and intermediate-level long-lived radioactive waste ●	m <sup>3</sup>	300	300	375	EN25
	m <sup>3</sup> /TWh	–	0.873	0.880	EN25

● 2017 indicator audited for limited assurance by KPMG S.A.

NB: To ensure consistency of measurement units, radioactive waste is converted into m<sup>3</sup>. The previous m<sup>3</sup>/TWh values are shown for information purposes.

Radioactive waste is shown by reactor and operational unit.

(1) The nuclear waste methodology was updated in 2017 (see section 3.4.2 "Methodology for social and environmental data" in the 2017 Reference Document).

(2) The methodology for nuclear waste decommissioning and operations was updated in 2016 (see section 3.4.2 "Methodology for social and environmental data" in the 2017 Reference Document).

\* Values determined in accordance with new methodologies are shown in brackets. NA: not available.

# Summary of indicators

## Group Nuclear indicators in United Kingdom

EDF ENERGY	Unit	2017	2016	2015	GRI ref.
<b>Shutdowns and events</b>					
Automatic shutdowns	No. of reactors/7,000 h	0.49	0.33	0.6	
Events and incidents (Level ≥1)	No. of reactors/year	0.4	0.267	0.467	
Events and incidents (INES scale level 1)	Nb	6	4	7	
Events and incidents (INES scale level 2)	Nb	0	0	0	
Events and incidents (INES scale level >2)	Nb	0	0	0	
<b>Dosimetry</b>					
Average collective dose – AGR <sup>(1)</sup>	m-Sv/reactor	0.02	0.021	0.067	
Average collective dose – PWR <sup>(2)</sup>	m-Sv/reactor	0.296	0.554	0.049	
Individual dose (no. of workers exposed to more than 20 mSv)	No.	0	0	0	
Individual dose (no. of workers exposed to more than 16 mSv)	No.	0	0	0	
Dose to the most exposed member of the public	mSv/year	0.0080	0.0066	0.0072	
<b>Radioactive effluents released into water</b>					
Tritium – AGR <sup>(1)</sup> ●	TBq/reactor	154.770	156.154	120	EN24
Tritium – PWR <sup>(2)</sup> ●	TBq/reactor	31.928	23.374	19	EN24
<b>Radioactive atmospheric emissions</b>					
Carbon 14 – AGR <sup>(1)</sup> ●	TBq/reactor	0.889	0.762	0.693	EN21
Carbon 14 – PWR <sup>(2)</sup> ●	TBq/reactor	0.221	0.231	0.240	EN21
Tritium – AGR <sup>(1)</sup> ●	TBq/reactor	0.614	0.674	0.714	EN21
Tritium – PWR <sup>(2)</sup> ●	TBq/reactor	0.697	0.557	0.680	EN21
<b>Fuel</b>					
Evacuated uranium ●	t	197	180	172	EN25
<b>Nuclear waste</b>					
Evacuated low-level radioactive waste ●	m <sup>3</sup>	453	774	485	EN25
Intermediate-level radioactive waste generated ●	m <sup>3</sup>	161	161	178	EN25

## Group Nuclear indicators in USA

CONSTELLATION ENERGY NUCLEAR GROUP	Unit	2017	2016	2015	GRI ref.
<b>Shutdowns and events</b>					
Automatic shutdowns	No. of reactors/7,000 h	0.4	0.8	1.0	
Events and incidents (Level ≥1)	No. of reactors/year	0.6	0.2	0.4	
<b>Dosimetry</b>					
Average collective dose – AGR <sup>(1)</sup>	m-Sv/reactor	0.745	1.310	0.823	
Average collective dose – PWR <sup>(2)</sup>	m-Sv/reactor	0.494	0.299	0.262	
Individual dose (no. of workers exposed to more than 20 mSv)	No.	0	0	0	
Individual dose (no. of workers exposed to more than 16 mSv)	No.	0	10	0	
Dose to the most exposed member of the public	mSv/year	NA	0.15	0.12	
<b>Radioactive effluents released into water</b>					
Tritium	TBq/reactor	13.11	9.96	11.63	EN24
<b>Radioactive atmospheric emissions</b>					
Tritium	TBq/reactor	2.21	2.89	4.43	EN21
Carbon 14	TBq/reactor	0.40	0.40	0.36	EN21
<b>Fuel</b>					
Uranium delivered	t	82.5	98.3	33.0	EN25
Unloaded uranium	t	84.2	96.8	40.6	EN25
<b>Nuclear waste</b>					
Evacuated low- and intermediate-level radioactive waste	m <sup>3</sup>	820	1,418	220	EN25

● 2016 data audited for reasonable assurance by one of the Statutory Auditors, appointed as an independent third party. This work is described under the formed opinion on the fair presentation of CSR information in the Statutory Auditors' report, available in EDF group's 2016 reference document.  
 (1) Advanced Gas-cooled Reactor.  
 (2) Pressurised Water Reactor.

NB: The figures for CENG are now presented in raw values. The net values, applied to certain indicators previously, took into account EDF's 49.99% stake in the company.  
 (1) Boiling water reactor: power reactors used in some American power plants.  
 (2) Pressurised water reactor: the most commonly used nuclear reactors worldwide.  
 NA: not available.

# Summary of indicators

## Social indicators

Groupe EDF	Unit	2017	2016	2015	GRI ref.
Total workforce in full-time equivalents (FTE)*		<b>148,785</b>	154,808	156,312	
Managers (as defined by French regulations)	No.	<b>45,517</b>	45,474	45,935	G4-10
Women at managerial level <sup>(1)</sup> ●	%	<b>32.5</b>	31.06	30.0	G4 LA12
Non management employees	No.	<b>106,515</b>	109,372	113,177	G4 LA12
<b>Actual no. of employees at 31/12 and breakdown</b>					
EDF	No.	<b>66,789</b>	68,464	71,580	
ENEDIS	No.	<b>38,888</b>	38,742	30,930	
TOTAL EDF Group* ●●	No.	<b>152,033</b>	154,845	159,112	G4-10
<b>Employees by age</b>					
Under 25 years ●●	%	<b>7</b>	7	8	
From 26 to 35 years ●●	%	<b>30</b>	29	28	
From 36 to 45 years ●●	%	<b>26</b>	26	25	
From 46 to 55 years ●●	%	<b>26</b>	27	28	
56 years and over ●●	%	<b>11</b>	11	11	
<b>Employees by geographical area (per head office location)</b>					
France	No.	<b>129,881</b>	129,703	133,406	
Great-Britain	No.	<b>14,753</b>	14,370	14,908	
Italy	No.	<b>5,144</b>	4,949	4,950	
Belgium	No.	<b>1,940</b>	1,708	1,583	
Rest of the world	No.	<b>315</b>	4,115	4,265	
<b>Gender Equality</b>					
Male workforce ●●	No.	<b>112,504</b>	114,503	117,295	G4 LA12
Female workforce ●●	No.	<b>39,529</b>	40,342	41,817	G4 LA12
Male managers ●	No.	<b>32,654</b>	32,941	33,383	G4 LA12
Female managers ●	No.	<b>12,863</b>	12,533	12,552	G4 LA12
<b>Hires/departures</b>					
Hires ●	No.	<b>9,398</b>	7,724	8,866	G4-LA1
Retirements/inactive employees ●	No.	<b>5,031</b>	6,591	4,722	G4-LA1
Resignations <sup>(2)</sup> ●	No.	<b>2,397</b>	2,062	2,104	G4-LA1
Redundancies, dismissals, employees made inactive ●	No.	<b>2,140</b>	1,882	1,097	G4-LA1
Turnover <sup>(3)</sup>	%	<b>6.13</b>	5.89	5.30	G4-LA1
Others arrivals <sup>(4)</sup> ●	No.	<b>9,999</b>	8,270	8,466	G4-LA1
Other departures <sup>(4)</sup> ●	No.	<b>7,825</b>	8,152	8,289	G4-LA1

This figure does not include employees from subsidiaries in Eastern Europe sold in 2017 or those of AREVA NP, now Framatome since its acquisition on 13 December 2017.

● Data audited for limited assurance by KPMG S.A.

●● Data audited for reasonable assurance by KPMG S.A.

(1) This percentage represents the number of women in managerial position/the number of female employees.

(2) The end of special contracts (including work-study employees) are counted under «Other departures», regardless of the action that may be taken. Departures during probationary periods are counted under «Other departures».

(3) Turnover is calculated as follows: entries (number of hires) + exits from the workforces (number of retirements + number of resignations + number of redundancies, dismissals, compulsory inactivity) divided by two related to the total physical workforce at the end of the period multiplied by 100.

(4) Entries and exits from scope are accounted for under: "Other arrivals" and "Other departures" respectively. Entries of work-study employees are accounted for under "Other entries".

	Unit	2017	2016	2015	GRI ref.
<b>Remuneration</b>					
Total gross remuneration	€M	<b>See note 10.1 "Personnel expense" in the 2017 Group's Reference document</b>	See note 10.1 "Personnel expense" in the 2017 Group's Reference document	See page 341 in the 2015 Group's Reference document	
Part-time employees	No.	<b>9,264</b>	10,061	11,491	G4-10
<b>Absenteeism</b>					
Average number of days lost through illness or accident per year ●	No.	<b>9.19</b>	9.55	9.2	
<b>Health and safety</b>					
Employee fatal accidents* ●	No.	<b>6</b>	1	3	G4 LA6
Employee accident frequency rate <sup>(1)</sup> ●		<b>2.7</b>	2.7	3.2	G4 LA6
Workplace accidents involving at least one lost day ●	No.	<b>613</b>	645	757	G4 LA6
Accident severity rate <sup>(2)</sup> ●		<b>0.15</b>	0.16	0.20	G4 LA6
<b>Employee relations</b>					
Employees covered by collective bargaining agreements	%	<b>89</b>	91	90	G4-11
<b>Training</b>					
Total hours of training provided ●	No.	<b>7,830,735</b>	8,306,479	9,085,028	G4 LA9
Employee benefiting from training ●	No.	<b>129,479</b>	133,130	138,839	GA LA9
<b>Employment and integration of employees with disabilities</b>					
Employees with disabilities <sup>(3)</sup> ●	No.	<b>5,279</b>	5,211	5,232	G4 LA12

\*In 2017, seven of employees and subcontractors deaths were work-related (of which two employees and five subcontractors), six in 2016 (of which three employees and three subcontractors), twelve in 2015 (of which three employees and nine subcontractors) and eleven in 2014 (of which two employees and nine subcontractors).

● Data audited for limited assurance by KPMG S.A.

(1) The frequency rate represents the number of workplace accidents involving at least one lost day for every million hours worked.

(2) The accident severity rate represents the number of days lost for every thousand hours worked.

(3) In certain subsidiaries, this data is declarative.

# Summary of indicators

EDF SA	Unit	2017	2016	2015	GRI ref.
<b>Workforce at 31/12 and breakdown</b>					
Employees covered by collective bargaining agreements	No.	62,501	64,300	67,088	G4 10
Employees under unlimited-term contracts not covered by collective bargaining agreements	No.	505	487	479	G4 10
Employees under fixed-term contracts not covered by collective bargaining agreements	No.	3,783	3,677	4,013	G4 10
Total employees not covered by collective bargaining agreements	No.	4,288	4,164	4,492	G4 10
Total workforce	No.	66,789	68,464	71,580	G4 9
Managers (as defined by French regulations)	No.	29,728	30,404	31,192	G4 LA12
Women at managerial level	%	29.4	28.6	28.4	G4 LA12
Non-management employees	No.	37,061	38,060	40,388	G4 LA12
Technicians and supervisory staff	No.	30,551	31,354	33,016	G4 LA12
Operatives	No.	6,510	6,705	7,372	G4 LA12
<b>Gender equality</b>					
Male workforce	No.	47,260	47,490	49,099	G4 LA12
Female workforce	No.	20,604	20,974	22,481	G4 LA12
Male managers	No.	20,996	21,718	22,315	G4 LA12
Female managers	No.	8,732	8,686	8,877	G4 LA12
<b>Hires/departures</b>					
Hires	No.	1,890	1,889	2,760	G4 LA1
Integration and rehiring	No.	284	278	256	G4 LA1/LA3
Other arrivals <sup>(1)</sup>	No.	2,689	2,589	2,809	G4 LA1
Retirement/inactive employees	No.	2,775	3,696	2,433	G4 LA1
Resignations	No.	158	146	110	G4 LA1
Redundancies, dismissals, employees made inactive	No.	18	27	23	G4 LA1
Deaths	No.	53	69	77	G4 LA1/LA6
Other departure	No.	3,536	3,935	3,786	G4 LA1
<b>Overtime</b>					
Overtime worked	In thousand	3,161	2,887	2,835	
<b>Outside contractors</b>					
Monthly average of temporary employees	No.	1,120	1,315	1,510	G4 10
<b>Organisation of working hours</b>					
Full-time employees	No.	61,821	62,641	64,318	G4 10
Part-time employees	No.	4,967	5,822	7,261	G4 10
Employees working shifts	No.	6,53	6,597	6,860	G4 10
<b>Absenteeism</b>					
Absenteeism	%	3.8	3.8	3.7	G4 LA6
Hours of maternity or paternity leave/hours worked	%	0.9	0.9	0.8	G4 LA6

(1) Excluding arrivals and departures on seasonal short-term contracts.

	Unit	2017	2016	2015	GRI ref.
<b>Health and safety</b>					
Work-related illness reported during the year <sup>(1)</sup>		27	29	64	G4 LA6
Fatal accidents	No.	2	0	0	G4 LA6
Employee accident frequency rate		1.9	2.28	2.6	G4 LA6
Accident severing rate		0.14	0.127	0.16	G4 LA6
Workplace accidents involving at least one lost day	No.	181	228	261	G4 LA6
<b>Remuneration – social security payments – profit-sharing</b>					
Main monthly remuneration					
Managers	Euros	4,546	4,518	4,361	G4 EC1
Technicians and supervisory staff	Euros	2,605	2,618	2,606	G4 EC1
Operative	Euros	1,888	1,889	1,871	G4 EC1
Personnel costs	€M	6,428	6,597	6,525	G4 EC1
Average covered by bargaining agreements	Euros	1,419	2,000	2,107	G4 EC1
<b>Employee relations</b>					
Collective bargaining agreements signed in France	No.	7	19	2	G4 11/ G4 LA8
Pourcentage d'employés couverts par des conventions collectives <sup>(2)</sup>	%	91	93.5	93	G4 11
<b>Training</b>					
Employee benefiting from training	No.	59,000	61,056	63,748	G4 LA9
<b>Employment and integration of employees with disabilities</b>					
Employees with disabilities	No.	2,215	2,150	2,157	G4 LA12
Employees with disabilities hired	No.	93	76	91	G4 LA12
<b>Charitable works</b>					
Committee budgets (fulfilling 1% requirement)	€M	187	182.7	201	

(1) See section 3.7.2.3. in the Group's reference document.

(2) EDF SA employees are not covered by a collective bargaining agreement in the French legal sense but by the statut des industries électriques et gazières (electricity and gas sector statutes).







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