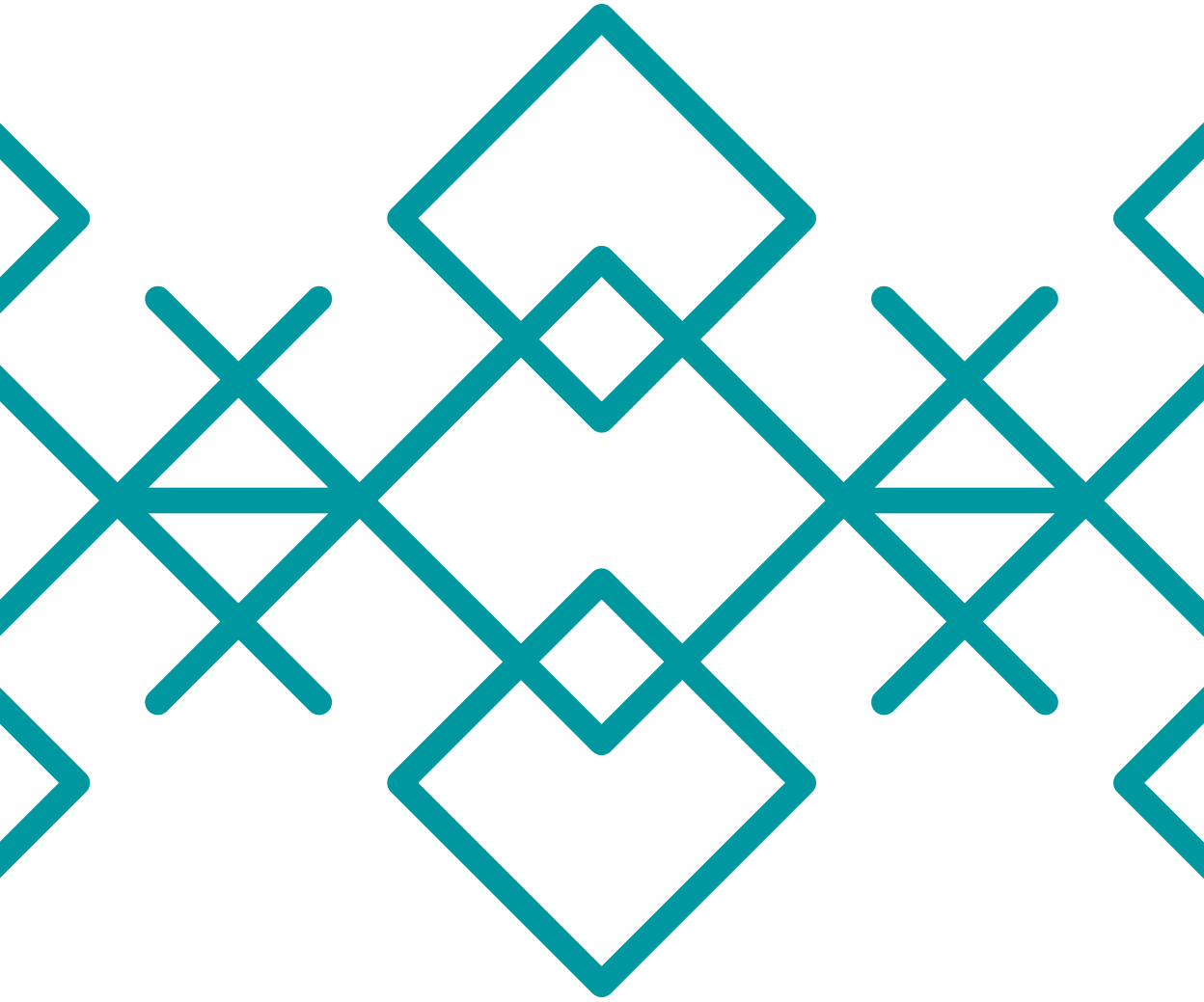
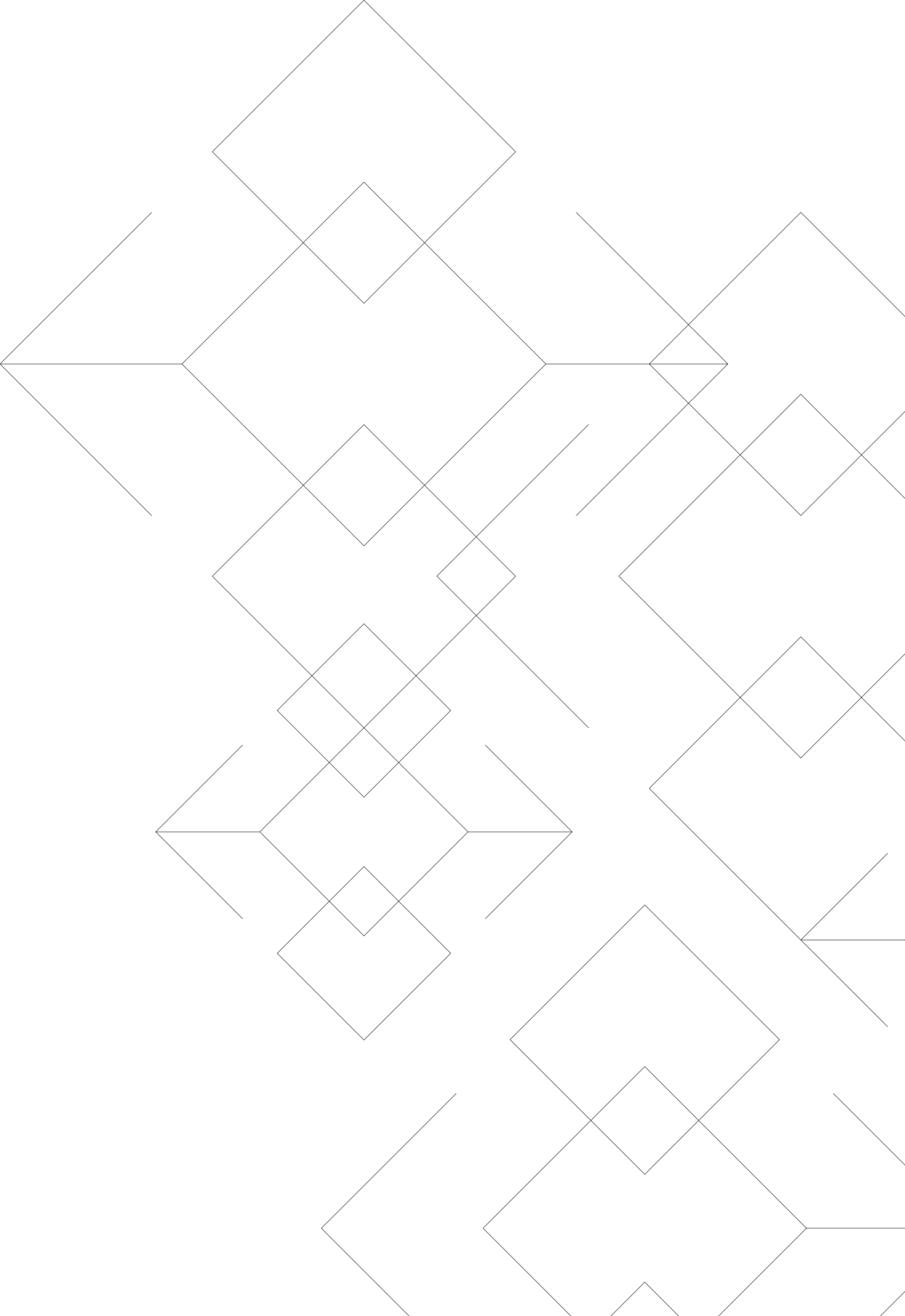
THE SPANISH ELECTRICITY SYSTEM

PRELIMINARY REPORT 2017



RED ELÉCTRICA DE ESPAÑA



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ELECTRICITY BALANCE, INSTALLED POWER CAPACITY AND TRANSMISSION GRID

In 2017, the demand for electrical energy in Spain has grown for the third consecutive year and exceeds the rate of increase registered last year

This preliminary report presents the **provisional** statistics regarding the behaviour of the Spanish electricity system during 2017. Close of year conducted with estimated data as at 13 December 2017.

The **demand for electricity** in Spain, with data estimated at year end, consolidates the positive trend initiated in 2015, after registering falls in the prior years during the economic crisis. Specifically, in 2017 demand has reached 268,505 GWh, 1.3% more than the previous year (surpassing the increase of 0.7% registered in 2016). On the other hand, generation registered little or no variation with a year-on-year growth of just 0.2%, so part of the demand was covered with the import balance of 9,220 GWh resulting from energy exchanges with other countries.

2017
NATIONAL DEMAND

268.5 TWh

2016
COMPARISON

1.3 % ↑

ANNUAL ELECTRICAL ENERGY BALANCE 2017 (1)

	Peninsular system		Non-peninsular system		National total	
	GWh	% 17/16	GWh	% 17/16	GWh	% 17/16
Hydro	20,210	-48.4	3	-15.3	20,213	-48.4
Nuclear	54,825	-2.3	-	-	54,825	-2.3
Coal	43,345	23.2	2,610	13.3	45,955	22.6
Fuel/gas (2)	-	-	7,028	3.9	7,028	3.9
Combined cycle (3)	35,459	38.0	3,441	-3.7	38,901	32.9
Hydro-wind	-	-	21	15.0	21	15.0
Wind	46,550	-1.6	392	-1.5	46,942	-1.6
Solar photovoltaic	7,945	4.8	405	1.7	8,350	4.7
Solar thermoelectric	5,375	6.0	-	-	5,375	6.0
Other renewables (4)	3,610	5.8	10	-3.3	3,621	5.7
Cogeneration	28,055	8.4	35	2.3	28,090	8.4
Waste	3,164	1.4	303	11.6	3,467	2.2
Production	**248,538**	**0.0**	**14,249**	**3.4**	**262,788**	**0.2**
Pumped storage consumption	-3,503	-27.3	-	-	-3,503	-27.3
Peninsula-Balearic Islands' link (5)	-1,173	-6.2	1,173	-6.2	0	-
International exchange balance (6)	9,220	20.3	-	-	9,220	20.3
Demand (b.c.-at power station busbars)	**253,082**	**1.2**	**15,422**	**2.6**	**268,505**	**1.3**

(1) Allocation of generation units based on primary fuel. (2) Generation from auxiliary generation units is included in the Balearic Islands' electricity system. (3) Includes operation in open cycle mode. Diesel is used as primary fuel in the Canary Islands' electricity system. (4) Includes biogas, biomass, marine energy and geothermal. (5) Positive value: incoming energy; negative value: outgoing energy. (6) Positive value: importer balance; negative value: exporter balance. The increment values are not calculated when the balances of the exchanges have different signs (+/-). // Provisional data: Close of year conducted with estimated data as at 13 December 2017.

The balance of international exchanges has been as an importer for the second consecutive year after a long period as an exporter which had begun in 2004

The total number of electricity **generating facilities** in Spain decreased in 2017 for the second consecutive year, ending the year with 104,517 MW of installed power capacity, 0.6% less than the previous year. This decrease was mainly due to the definitive closure of the Santa María de Garoña 455 MW nuclear power station, a facility that had remained inactive since the end of 2012. Variations in other technologies have been either nil or insignificant.

INSTALLED POWER CAPACITY 2017

104,517 MW

2016 COMPARISON

0.6 % ↓

INSTALLED POWER CAPACITY
AS AT 31 DECEMBER 2017

	Peninsular system		Non-peninsular system		National total	
	MW	% 17/16	MW	% 17/16	MW	% 17/16
Hydro	20,331	-0.1	1	0.0	20,332	-0.1
Nuclear	7,117	-6.0	-	-	7,117	-6.0
Coal	9,536	0.0	468	0.0	10,004	0.0
Fuel / gas	0	-	2,490	0.0	2,490	0.0
Combined cycle	24,948	0.0	1,722	0.0	26,670	0.0
Hydro-wind	-	-	11	0.0	11	0.0
Wind	22,863	-0.2	142	-9.2	23,005	-0.3
Solar photovoltaic	4,431	0.1	244	0.0	4,675	0.1
Solar thermoelectric	2,299	0.0	-	-	2,299	0.0
Other renewables (1)	743	0.0	5	0.0	748	0.0
Cogeneration	6,373	-0.7	44	0.0	6,417	-0.7
Waste	670	-1.1	77	0.0	747	-1.0
Total	**99,311**	**-0.6**	**5,206**	**-0.3**	**104,517**	**-0.6**

(1) Includes biogas, biomass, marine energy and geothermal. // Source: National Commission for Markets and Competition (CNMC) on data regarding power from: non-Hydro Management Unit (UGH), wind, solar photovoltaic, solar thermal, other renewables, cogeneration and waste.

According to provisional data, the **development of the electricity transmission grid** in Spain during 2017 registered an increase of 215 km of new circuit and 1,210 MVA of transformer capacity that enhance the reliability and the degree of meshing of the transmission grid in order to guarantee the security of supply.

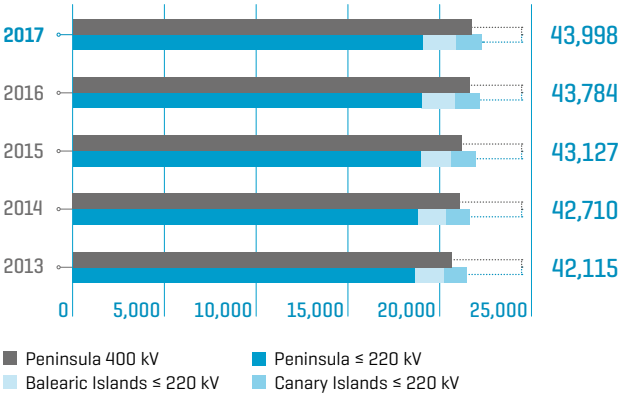
TRANSMISSION GRID

215 km

of new circuit have been commissioned

EVOLUTION OF THE ELECTRICAL ENERGY TRANSMISSION GRID IN SPAIN

km of circuit



ELECTRICITY TRANSMISSION GRID FACILITIES IN SPAIN

	400 kV	≤ 220 kV			
	Peninsula	Peninsula	Balearic Isl.	Canary Isl.	TOTAL
Total lines (km)	**21,729**	**19,040**	**1,808**	**1,422**	**43,998**
Overhead lines (km)	21,612	18,265	1,089	1,146	42,112
Submarine cable (km)	29	236	540	30	835
Underground cable (km)	88	539	179	245	1,051
Transformer capacity (MVA)	**80,208**	**613**	**3,273**	**2,560**	**86,654**

Provisional data: forecast of facilities to be commissioned made on December 4, 2017. Cumulative figures of kilometre of circuit and transformer capacity as at December 31 of each year.

PENINSULAR SYSTEM

The electricity demand on the Spanish Peninsula has maintained the positive trend of the last two years, while renewable generation decreased significantly due to the low contribution of hydro

EVOLUTION OF PENINSULAR DEMAND

Year	GWh	Δ Annual (%)	Δ Adjusted (1) annual (%)
2013	246,368	-2.2	-2.2
2014	243,544	-1.1	-0.1
2015	248,398	2.0	1.7
2016	250,099	0.7	0.0
2017	**253,082**	**1.2**	**1.7**

(1) Adjusted as a result of factoring in the effect of seasonal and working patterns.

MONTHLY VARIATION IN PENINSULAR ELECTRICITY DEMAND (2017)

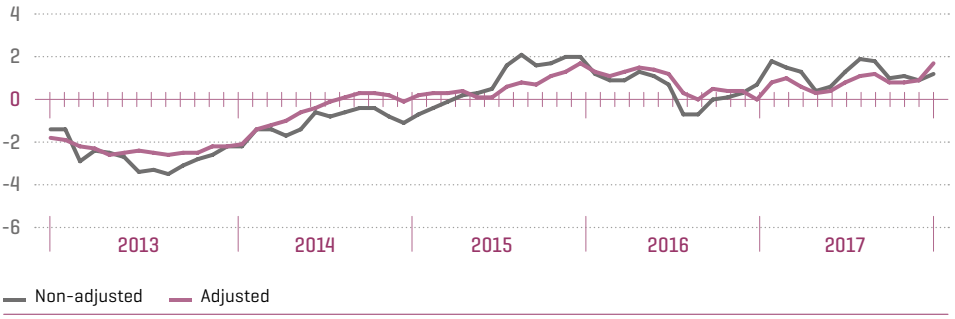
%

	J	F	M	A	M	J	J	A	S	O	N	D
Monthly	7.6	-4.5	-1.6	-5.5	2.6	7.2	0.7	1.6	-3.0	2.0	1.1	5.9
Cummulative	7.6	1.7	0.6	-0.9	-0.2	1.0	1.0	1.0	0.6	0.7	0.8	1.2

Variations as compared to same month of previous year.

ANNUAL VARIATION IN PENINSULAR ELECTRICITY DEMAND (ROLLING YEAR)

%



The electricity demand on the Spanish Peninsula, according to data estimated at year end, closed 2017 at 253,082 GWh, up 1.2% on the previous year. After having factored in seasonal and working patterns, the annual variation rate of the demand is estimated at 1.7%.

MILDER TEMPERATURES

had little impact on the variation of the demand

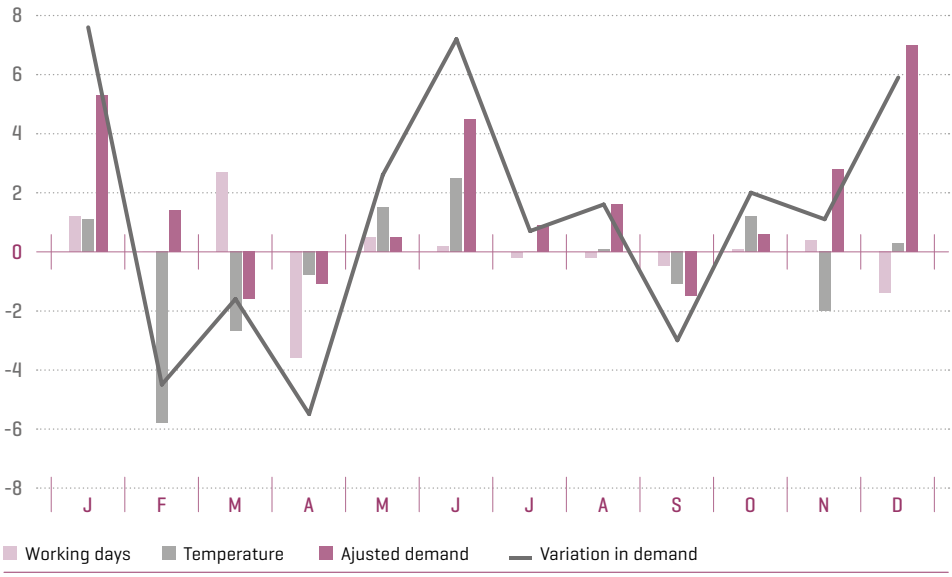
PENINSULAR DEMAND 2017

253.1 TWh

2016 COMPARISON

1.2 % ↑

COMPONENTS OF THE MONTHLY VARIATION IN PENINSULAR ELECTRICITY DEMAND (2017)



The maximum **instantaneous power,** at the time of drafting this report, was recorded on 18 January at 7:50 pm when it reached 41,381 MW, a value 2.2% higher than the previous year's maximum registered in September, but still far from the all-time record of 45,450 MW set in December 2007. The maximum hourly demand was also registered on 18 January, between 8:00 pm and 9:00 pm, when it reached 41,015 MWh, a value 2.2% higher than the maximum registered in 2016.

MAXIMUM INSTANTANEOUS POWER ON THE SPANISH PENINSULA 2017

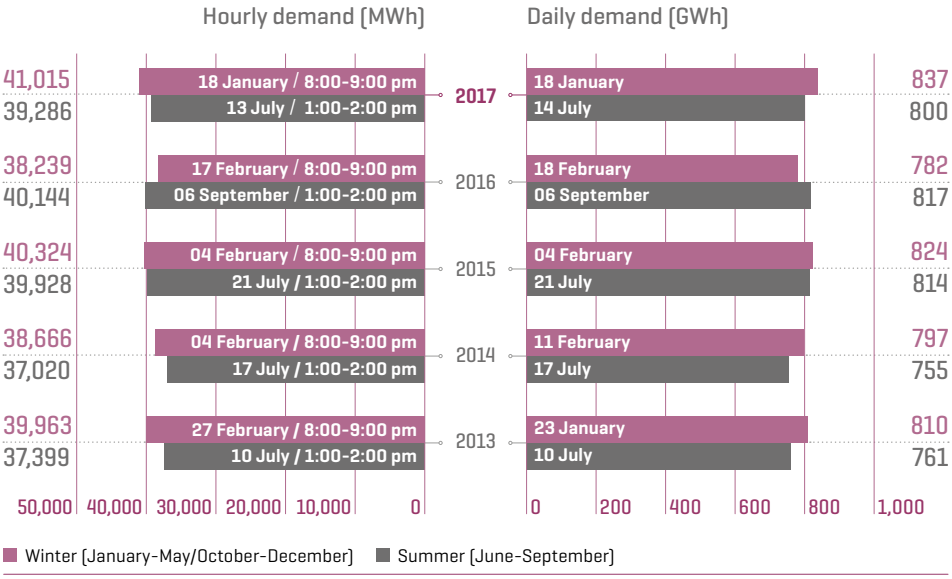
41,381 MW

18-JAN 7:50 pm

COMPARISON WITH ALL-TIME RECORD 2007

-9.0 %

MAXIMUM ANNUAL PENINSULAR DEMAND VALUES

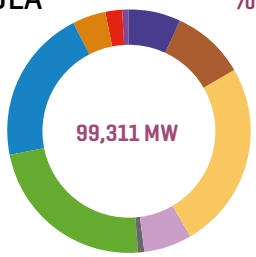


Regarding **demand coverage,** noteworthy was the decline in the contribution of hydro (7% compared to 14.2% the previous year), which has been replaced by a greater contribution of coal (17% compared to 13.9% in 2016) and combined cycle (13.9% compared to 10.2% in 2016). As for the technologies that have contributed most to demand coverage, nuclear has again ranked first with a contribution of 21.5%, followed by wind with 18.2%. It should also be noted that close to 4% of the demand has been covered with energy imported from other countries.

INSTALLED POWER CAPACITY ON THE PENINSULA AS AT 31 DECEMBER 2017

%

Nuclear	7.2	Wind	23.0
Coal	9.6	Hydro (1)	20.5
Combined cycle	25.1	Solar photovoltaic	4.5
Cogeneration	6.4	Solar thermoelectric	2.3
Waste	0.7	Other renewables	0.7

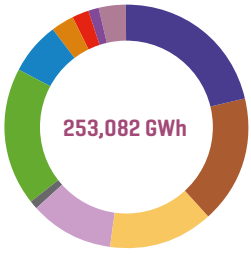


(1) Includes pure pumped storage (3,329 MW).

PENINSULAR ELECTRICITY DEMAND COVERAGE (2017)

%

Nuclear	21.5	Wind	18.2
Coal	17.0	Hydro (1)	7.0
Combined cycle	13.9	Solar photovoltaic	3.1
Cogeneration	11.0	Solar thermoelectric	2.1
Waste	1.2	Other renewables	1.4
		Importer balance regarding international exchanges	3.6

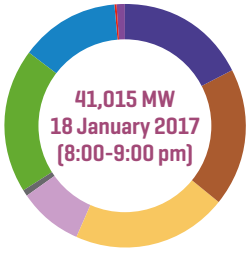


(1) Pumped storage not included.

MAXIMUM HOURLY DEMAND COVERAGE ON THE PENINSULA (2017)

%

Nuclear	17.7	Wind	19.2
Coal	18.4	Hydro (1)	13.3
Combined cycle	20.7	Solar photovoltaic	0.0
Cogeneration	8.7	Solar thermoelectric	0.1
Waste	0.8	Other renewables	1.1



(1) Pumped storage not included.

In 2017 **renewable energy** recorded its worst figures in the last five years, reducing its share in the electricity generation mix to 33.3%, compared to 40.8% in 2016. This notable decrease is a consequence of the impact of the extreme drought affecting hydroelectric production that has registered a fall of 48.4% compared to the previous year. This decline in hydroelectric production has also been accompanied by lower wind power generation (-1.6% compared to the previous year). However, it should be noted that wind power covered 60.7% of the demand at one specific moment (28 February at 3:45 am).

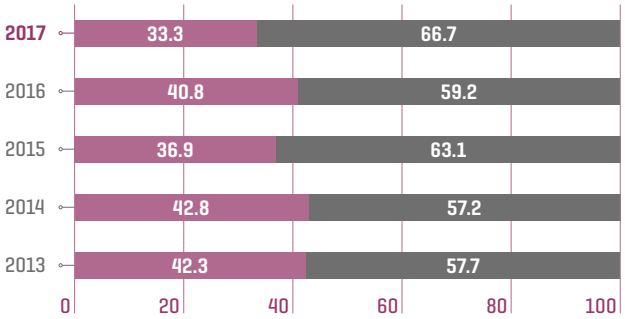
PERCENTAGE OVER TOTAL ELECTRICITY GENERATION IN THE PENINSULA

RENEW-ABLES

33.3%

EVOLUTION OF RENEWABLE AND NON-RENEWABLE PENINSULAR ELECTRICITY GENERATION

%

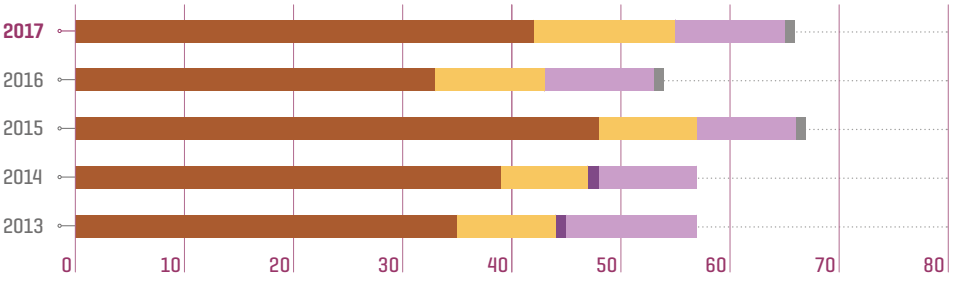


Renewable: hydro, wind, solar photovoltaic, solar thermal, other renewables and 50% obtained using urban solid waste. Pumped storage not included.

Non-renewable: nuclear, coal, fuel/gas, combined cycle, cogeneration and waste.

EVOLUTION OF CO_2 EMISSIONS ASSOCIATED WITH ELECTRICITY GENERATION IN THE PENINSULA

Mt CO_2



Increase in CO_2 emissions from electricity generation due to the lower contribution of renewable energy

EVOLUTION 2017

NON-RENEW-ABLES ↑

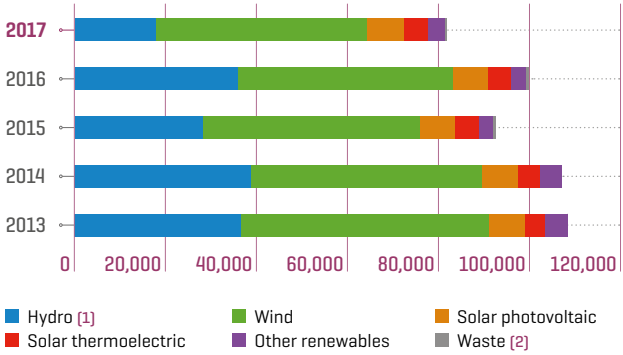
RENEW-ABLES ↓

WIND

Second source of electricity generation

EVOLUTION OF RENEWABLE ELECTRICITY GENERATION IN THE PENINSULA

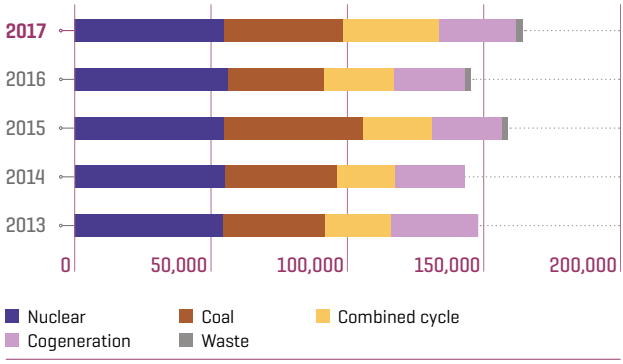
GWh



(1) Pumped storage not included. (2) 50 % of generation obtained using urban solid waste is considered as renewable.

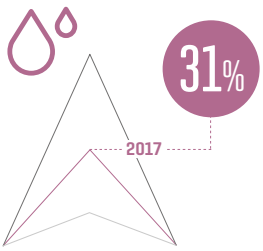
EVOLUTION OF NON-RENEWABLE ELECTRICITY GENERATION IN THE PENINSULA

GWh



According to provisional data, **producible hydroelectric** registered the lowest value for the last twelve years, 16,270 GWh, well below the average historical value and almost 53% lower than that registered in 2016. **Hydroelectric reserves** of the complete set of reservoirs closed 2017 with a fill level of close to 31% of their total capacity.

HYDRO-ELECTRIC RESERVES

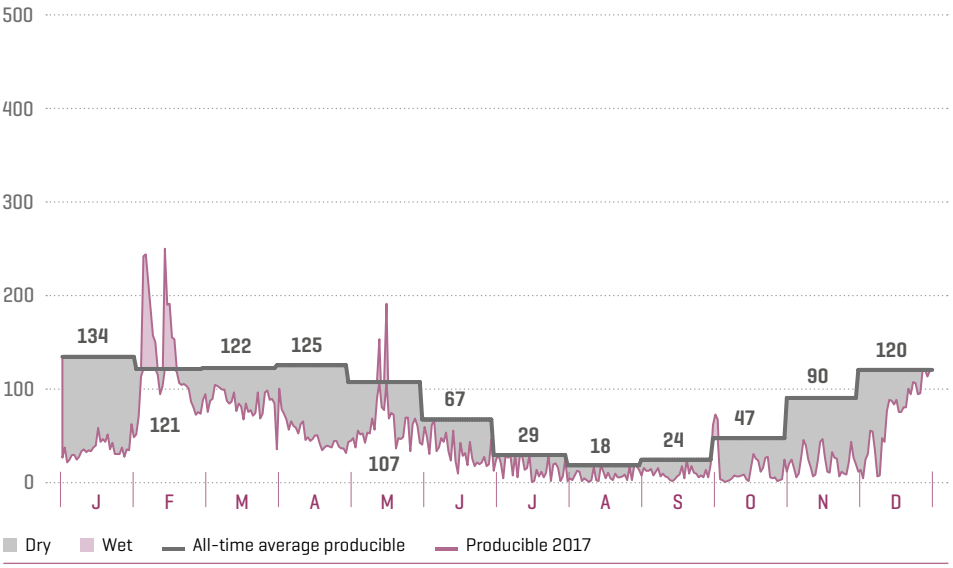


PENINSULAR PRODUCIBLE HYDROELECTRIC ENERGY

Year	GWh	Index	Probability of being exceeded (%)
2013	40,093	1.38	10
2014	39,956	1.34	15
2015	24,872	0.81	80
2016	34,428	1.12	38
2017	**16,270**	**0.54**	**99**

PENINSULAR DAILY PRODUCIBLE HYDROELECTRIC ENERGY IN 2017 COMPARED WITH THE ALL-TIME AVERAGE PRODUCIBLE

GWh



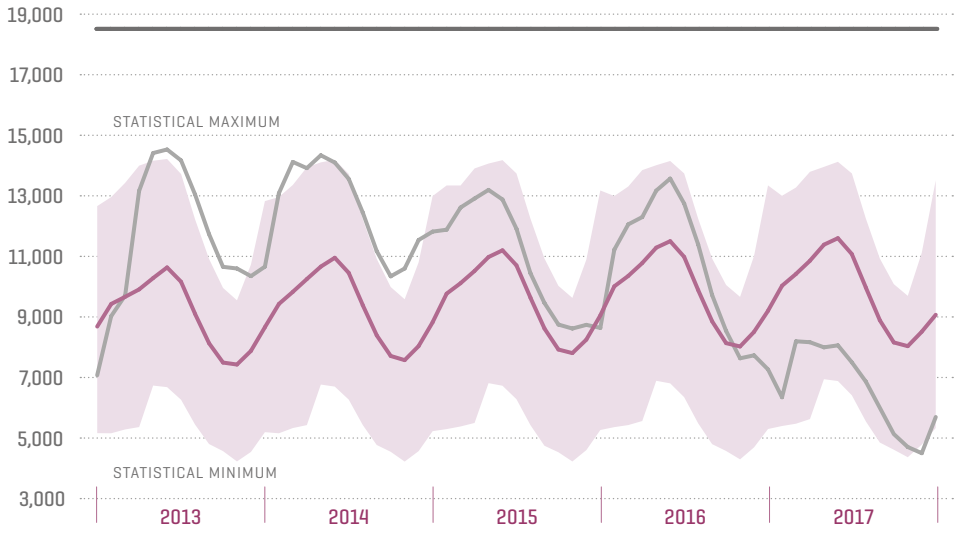
Producible hydroelectric registered a figure well below the average historical value

PENINSULAR HYDROELECTRIC RESERVES
AS AT 31 DECEMBER 2017

		2016		2017	
	Capacity	GWh	% Fill level	GWh	% Fill level
Annual regime	8,967	3,429	38.2	3,161	35.2
Hyper-annual regime	9,571	3,843	40.2	2,539	26.5
Overall	**18,538**	**7,272**	**39.2**	**5,700**	**30.7**

EVOLUTION OF PENINSULAR HYDROELECTRIC RESERVES

GWh



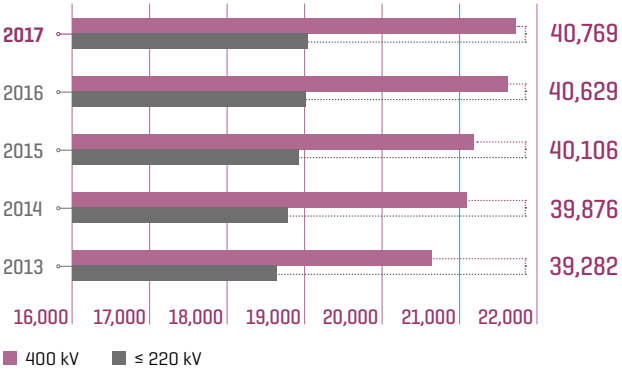
Statistical maximum and minimum: average of the maximum and minimum values of the last 20 years.

New kilometres of electricity lines for safe and efficient supply

According to provisional data, the electricity transmission grid on the Spanish Peninsula registered in 2017 an increase of 139 km of new circuit (110 km of 400 kV and 29 km of 220 kV), bringing the total km of circuit in the peninsular transmission grid at the end of the year to 40,769 km.

139 km
of new circuit in the peninsular grid system

EVOLUTION OF THE PENINSULAR TRANSMISSION GRID



FACILITIES IN THE PENINSULAR ELECTRICAL ENERGY TRANSMISSION GRID

	2013	2014	2015	2016	**2017**
Km of 400 kV circuit	20,639	21,094	21,184	21,619	**21,729**
Km of ≤ 220 kV circuit	18,643	18,782	18,922	19,010	**19,040**
Transformer capacity (MVA)	76,871	79,271	79,271	80,171	**80,821**

Provisional data: forecast of facilities to be commissioned made on December 4, 2017. Cumulative figures of kilometre of circuit and transformer capacity as at December 31 of each year.

BALANCE OF INTERNATIONAL PHYSICAL ELECTRICAL ENERGY EXCHANGES

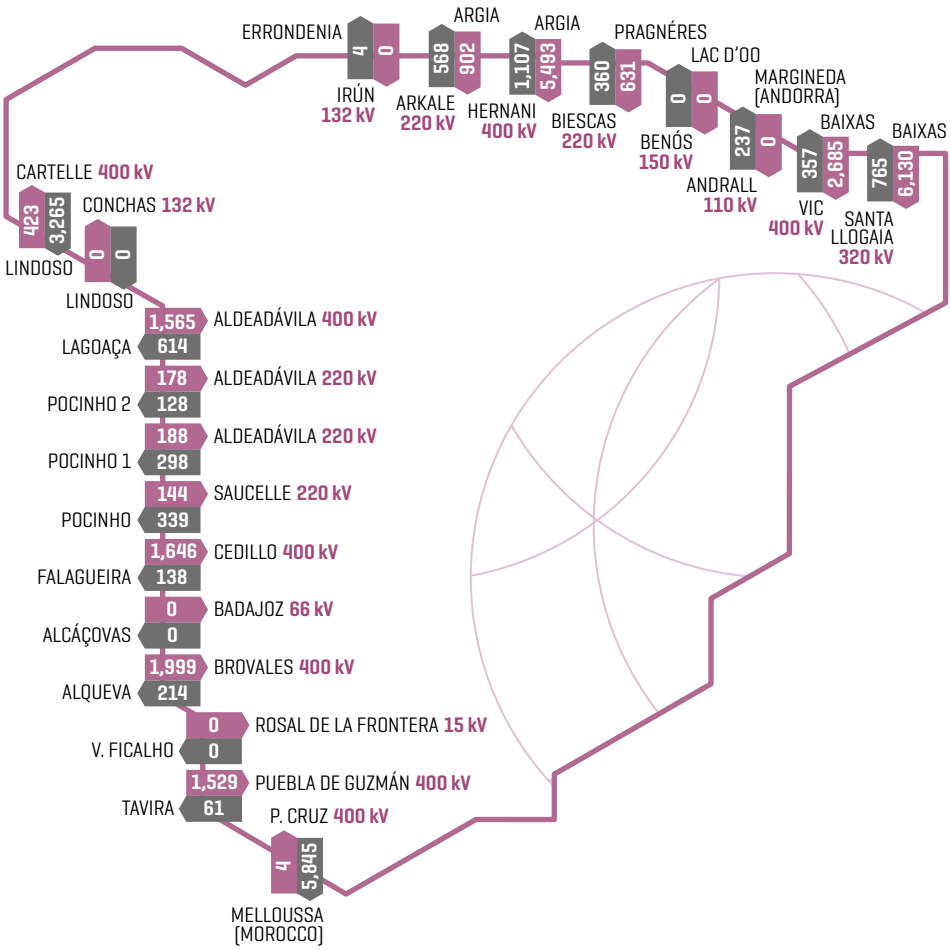
GWh

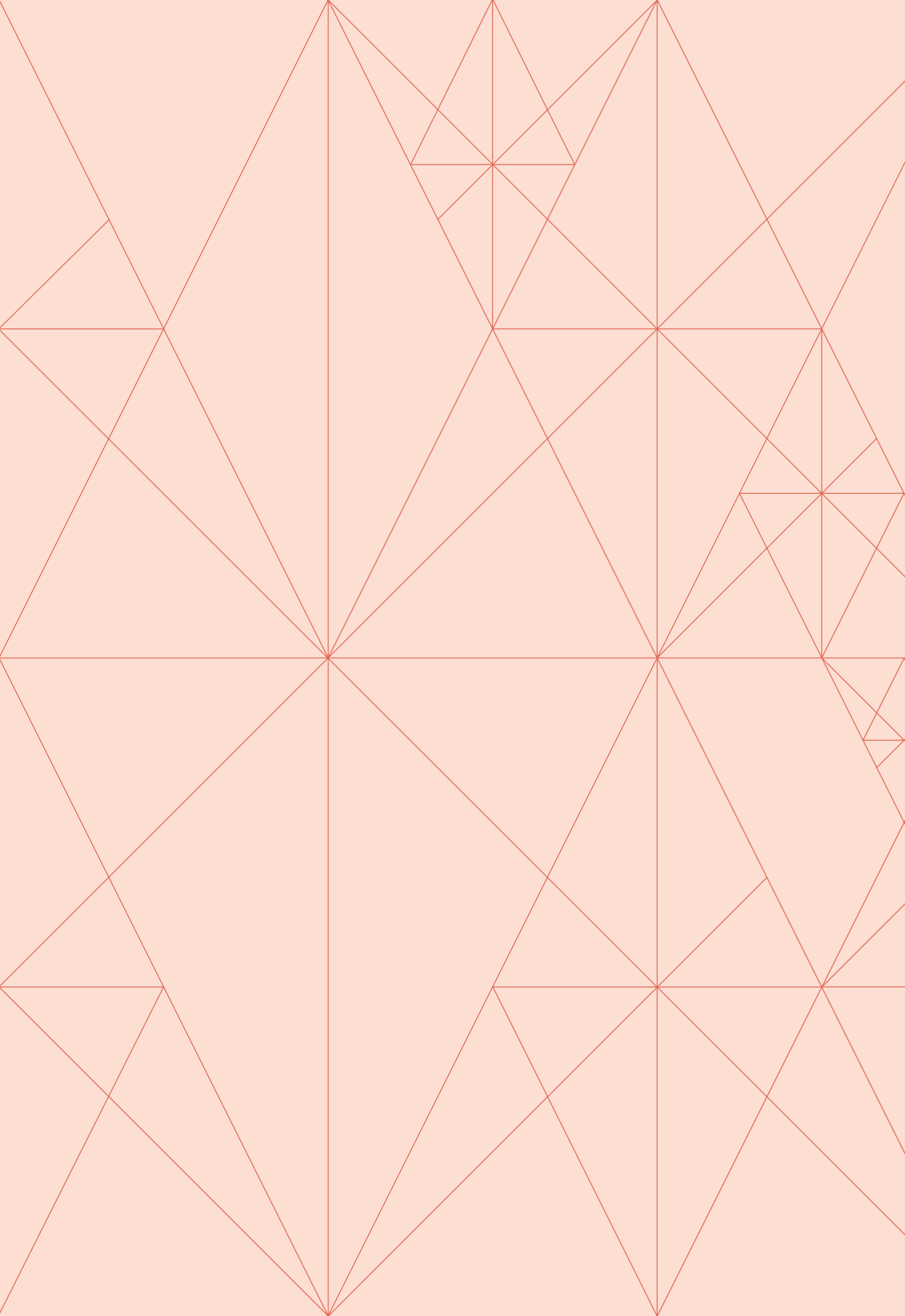
	France	Portugal	Andorra	Morocco	Total
2013	1,708	-2,777	-287	-5,376	-6,732
2014	3,567	-903	-235	-5,836	-3,406
2015	7,324	-2,266	-264	-4,927	-133
2016	7,802	5,086	-278	-4,942	7,667
2017	**12,682**	**2,617**	**-237**	**-5,841**	**9,220**

Positive value: importer balance; Negative value: exporter balance.

INTERNATIONAL PHYSICAL ELECTRICAL ENERGY EXCHANGES 2017

GWh





NON-PENINSULAR SYSTEMS

The growth in electricity demand is consolidated in most non-peninsular systems and the grid meshing in the south of Fuerteventura has been strengthened to improve the evacuation of renewable energy

Annual demand for electricity in the set of **non-peninsular systems** closed 2017, with data estimated at year end, at 15,422 GWh, representing a growth of 2.6% over the previous year. The demand by system was as follows: the Balearic Islands, the Canary Islands and Melilla grew by 3.8%, 2% and 1.1% respectively, while in Ceuta it fell by 4.1%.

ANNUAL ELECTRICITY DEMAND IN NON-PENINSULAR SYSTEMS

15,422 GWh

2016 COMPARISON

2.6 % ↑

ANNUAL ELECTRICAL ENERGY BALANCE (2017) (1)

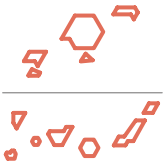
	Balearic Islands		Canary Islands		Ceuta		Melilla	
	GWh	% 17/16	GWh	% 17/16	GWh	% 17/16	GWh	% 17/16
Hydro	-	-	3	-15.3	-	-	-	-
Coal	2,610	13.3	-	-	-	-	-	-
Diesel engines	838	-13.0	2,454	10.2	202	-4.2	201	1.3
Gas turbines	532	57.1	250	-10.3	0.2	52.9	0	-95.7
Steam turbines	-	-	2,536	0.0	-	-	-	-
Fuel / gas	1,370	5.2	5,241	3.9	202	-4.1	201	1.2
Combined cycle (2)	427	-21.3	3,014	-0.6	-	-	-	-
Auxiliary generation (3)	15	46.1	-	-	-	-	-	-
Wind-hydro	-	-	21	15.0	-	-	-	-
Wind	3	-48.2	390	-0.9	-	-	-	-
Solar photovoltaic	127	5.5	278	0.1	-	-	0.1	-14.1
Other renewable (4)	2	21.1	9	-6.8	-	-	-	-
Cogeneration	35	2.3	-	-	-	-	-	-
Waste	293	12.1	-	-	-	-	10	-1.0
Production	**4,882**	**6.6**	**8,955**	**2.0**	**202**	**-4.1**	**211**	**1.1**
Peninsula-Balearic Islands' link (5)	1,173	-6.2	-	-	-	-	-	-
Demand (b.c.- at power station busbars)	**6,055**	**3.8**	**8,955**	**2.0**	**202**	**-4.1**	**211**	**1.1**

(1) Allocation of generation units based on primary fuel. (2) Includes operation in open cycle mode. Diesel used as primary fuel in the Canary Islands' electricity system. (3) Emergency generator units installed temporarily in specific zones to cover a deficit in generation. (4) Includes biogas and biomass. (5) Positive value: incoming energy; negative value: outgoing energy. // Provisional data: Close of year conducted with estimated data as at 13 December 2017.

Installed power capacity in non-peninsular systems has not shown significant variations

INSTALLED POWER CAPACITY
IN NON-PENINSULAR SYSTEMS

5,206 MW



INSTALLED POWER CAPACITY
AS AT 31 DECEMBER 2017

	Balearic Islands		Canary Islands		Ceuta		Melilla	
	MW	% 17/16	MW	% 17/16	MW	% 17/16	MW	% 17/16
Hydro	-	-	1	0.0	-	-	-	-
Coal	468	0.0	-	-	-	-	-	-
Diesel engines	182	0.0	496	0.0	78	0.0	65	0.0
Gas turbines	605	0.0	557	0.0	13	0.0	12	0.0
Steam turbines	-	-	483	0.0	-	-	-	-
Fuel / gas	787	0.0	1,536	0.0	91	0.0	76	0.0
Combined cycle	858	0.0	864	0.0	-	-	-	-
Auxiliary generation (1)	-	-	-	-	-	-	-	-
Wind-hydro	-	-	11	0.0	-	-	-	-
Wind	4	0.0	138	-9.5	-	-	-	-
Solar photovoltaic	78	0.0	167	0.0	-	-	0.1	0.0
Other renewable (2)	2	0.0	3	0.0	-	-	-	-
Cogeneration	11	0.0	33	0.0	-	-	-	-
Waste	75	0.0	0	-	-	-	2	0.0
Total	**2,283**	**0.0**	**2,754**	**-0.5**	**91**	**0.0**	**78**	**0.0**

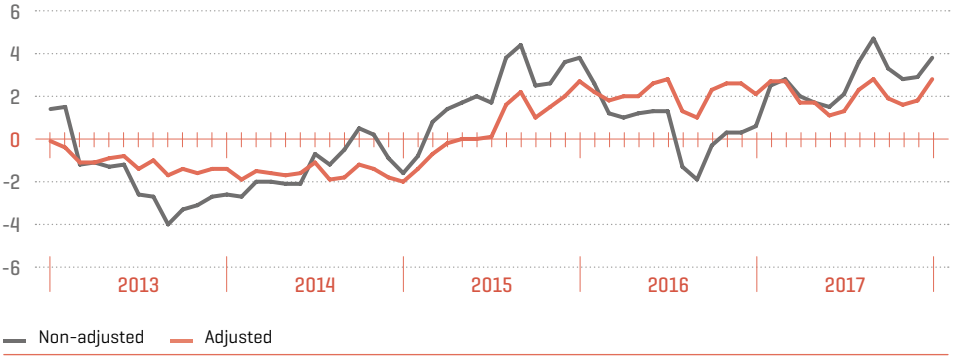
(1) Emergency generator units installed temporarily in specific zones to cover a deficit in generation. (2) Includes biogas and biomass. // Source: National Commission for Markets and Competition (CNMC) on data regarding power from: non-Hydro Management Unit (UGH), wind, solar photovoltaic, other renewables, cogeneration and waste.

EVOLUTION OF ELECTRICITY DEMAND

	Balearic Islands		Canary Islands		Ceuta		Melilla	
	GWh	Δ Annual (%)	GWh	Δ Annual (%)	GWh	Δ Annual (%)	GWh	Δ Annual (%)
2013	5,674	-2.6	8,624	-3.0	202	-4.8	210	-3.5
2014	5,585	-1.6	8,580	-0.5	212	5.1	210	0.1
2015	5,796	3.8	8,669	1.0	205	-3.2	213	1.7
2016	5,832	0.6	8,777	1.2	211	2.6	208	-2.4
2017	**6,055**	**3.8**	**8,955**	**2.0**	**202**	**-4.1**	**211**	**1.1**

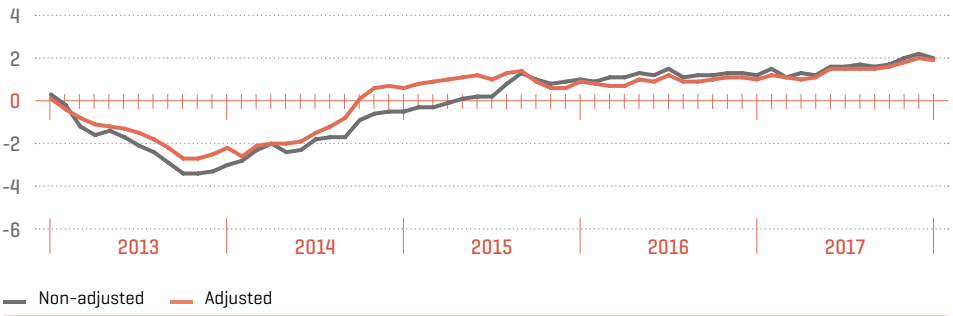
ANNUAL VARIATION OF THE ELECTRICITY DEMAND
BALEARIC ISLANDS (ROLLING YEAR)

%



ANNUAL VARIATION OF THE ELECTRICITY DEMAND
CANARY ISLANDS (ROLLING YEAR)

%



More than 19 % of the Balearic Islands' demand has been covered with energy transferred from the Spanish Peninsula

Electrical **energy demand in the Balearic Islands,** with data estimated at year end, closed 2017 at 6,055 GWh, which represents a growth of 3.8 % compared to 2016. After having factored in seasonal and working patterns, the growth in demand stood at 2.5 %.

2016 COMPARISON

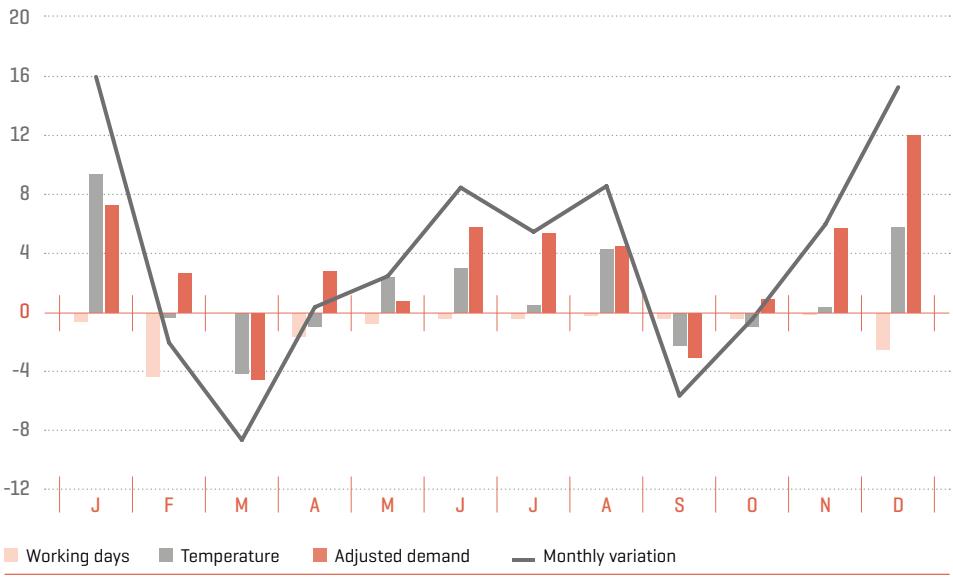
3.8 %

ELECTRICAL ENERGY DEMAND BALEARIC ISLANDS 2017

6,055 GWh

COMPONENTS OF THE VARIATION IN ELECTRICITY DEMAND 2017
BALEARIC ISLANDS

%



The **demand for electricity in the Canary Islands,** with data estimated at year end, closed 2017 at 8,955 GWh, which represents a growth of 2% compared to 2016. After having factored in seasonal and working patterns, the growth in demand is also estimated at 2%.

2016
COMPARISON

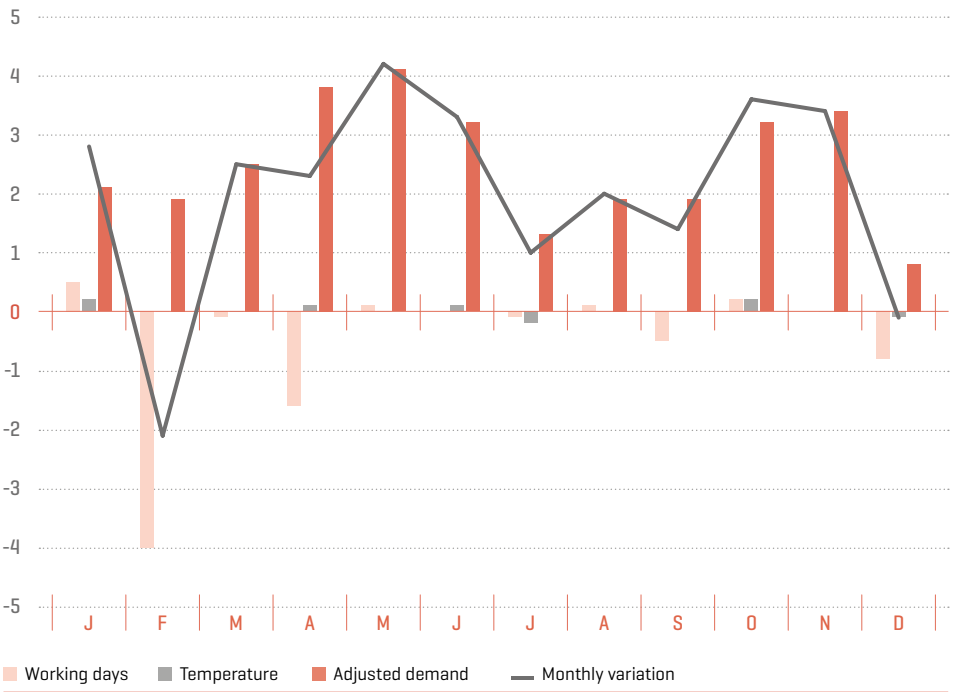
2,0 %

ELECTRICAL ENERGY DEMAND
CANARY ISLANDS 2017

8.955 GWh

COMPONENTS OF THE VARIATION IN ELECTRICITY DEMAND 2016
CANARY ISLANDS

%



The **maximum hourly demand** in the Balearic Islands took place on 3 August, between 7:00 pm 8:00 pm, when it reached 1,354 MWh, a value 17.9% higher than the 2016 maximum recorded on 4 August between 9:00 pm and 10:00 pm. The maximum hourly demand in the Canary Islands occurred on 17 October, between 8:00 pm and 9:00 pm, when it reached 1,408 MWh, a value 1.4% higher than the 2016 maximum registered on 31 December between 7:00 pm 8:00 pm.

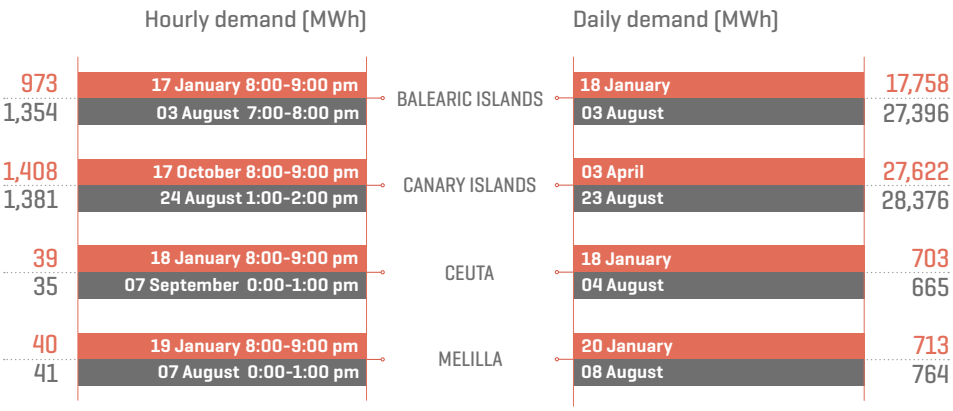
MONTHLY VARIATION OF THE ELECTRICITY DEMAND (2017)

%

	J	F	M	A	M	J	J	A	S	O	N	D
Balearic Islands	16.0	-2.0	-8.6	0.4	2.5	8.5	5.5	8.6	-5.6	-0.4	6.0	15.3
Canary Islands	2.8	-2.1	2.5	2.3	4.2	3.3	1.0	2.0	1.4	3.6	3.4	-0.1
Ceuta	7.1	-7.4	-3.5	-8.2	-2.6	1.3	-3.9	-2.7	-5.7	-10.6	-6.7	-6.4
Melilla	8.8	-3.4	0.4	-3.8	0.0	4.1	4.9	1.5	-4.7	-0.3	3.4	1.9

Variation regarding the same month the previous year.

MAXIMUM ANNUAL DEMAND VALUES 2017



Installed power capacity of non-peninsular systems remains stable in all systems, except in the Canary Islands, which registered a slight decrease of 0.5%. In terms of **demand coverage,** the most significant differences compared to the previous year is the increased share of coal-fired generation in the Balearic Islands (almost four percentage points more than in 2016). In the Canary Islands, renewable energy has covered almost 8% of the demand, a significant value for an isolated electricity system.

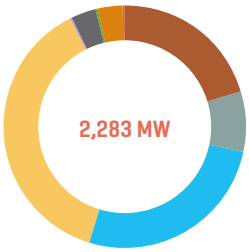
INSTALLED POWER CAPACITY AND DEMAND COVERAGE AS AT 31 DECEMBER 2017

%

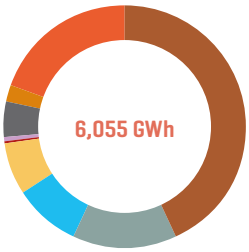
BALEARIC ISLANDS

	POWER	COVERAGE
Coal	20.4	43.3
Diesel engines	8.0	13.8
Gas turbines	26.5	8.8
Combined cycle	37.6	7.0
Auxiliary generation	0.0	0.2
Cogeneration	0.5	0.6
Waste	3.3	4.8
Wind	0.2	0.0
Solar photovoltaic	3.4	2.1
Other renewables	0.1	0.0
Peninsula-B. Islands' link	-	19.4

INSTALLED POWER CAPACITY



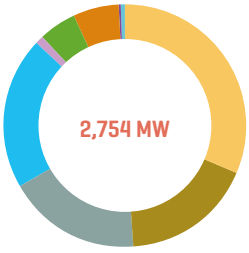
DEMAND COVERAGE



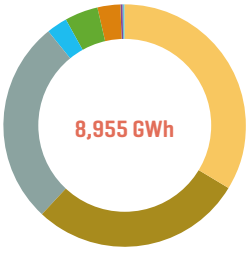
CANARY ISLANDS

	POWER	COVERAGE
Combined cycle	31.5	33.7
Steam turbines	17.5	28.3
Diesel engines	18.0	27.4
Gas turbines	20.2	2.8
Cogeneration	1.2	0.0
Wind	5.0	4.4
Solar photovoltaic	6.1	3.1
Other renewables	0.1	0.1
Hydro-wind	0.4	0.2
Hydro	0.0	0.0

INSTALLED POWER CAPACITY



DEMAND COVERAGE



Strengthening of the Fuerteventura electricity system by carrying out new projects in the transmission grid

76 km

of new circuit in the non-peninsular grid systems

The commissioning of 76 km of new circuit in non-peninsular systems is foreseen in 2017, the most significant project being the strengthening of the Gran Tarajal-Matas Blancas axis, which aims to contribute to grid meshing and the evacuation of energy generated in the southern part of the island of Fuerteventura. On the other hand, the transformer capacity of these systems at year end was, according to provisional data, 5,833 MVA (560 MVA more than in 2016).

NON-PENINSULAR ELECTRICITY TRANSMISSION GRID FACILITIES

		2013	2014	2015	2016	2017
Km of 220 kV circuit	Balearic Islands	430	431	431	432	432
	Canary Islands	163	163	216	220	220
	Total	**594**	**594**	**647**	**652**	**652**
Km of 132 kV circuit	Balearic Islands	220	220	346	472	472
	Canary Islands	-	-	-	-	66
	Total	**220**	**220**	**346**	**472**	**538**
Km of < 132 kV circuit	Balearic Islands	893	894	896	896	904
	Canary Islands	1,126	1,126	1,131	1,134	1,135
	Total	**2,019**	**2,019**	**2,027**	**2,030**	**2,039**
Transformer Capacity (MVA)	Balearic Islands	2,793	2,793	3,273	3,273	3,273
	Canary Islands	1,625	1,875	2,000	2,000	2,560
	Total	**4,418**	**4,668**	**5,273**	**5,273**	**5,833**

Provisional data: forecast of facilities to be commissioned made on December 4, 2017. Cumulative figures of kilometre of circuit and transformer capacity as at December 31 of each year.

TERMINOLOGY INDEX

HYDROELECTRIC RESERVES
The hydroelectric reserve of a reservoir is the quantity of electricity that could be produced in its own power station and in all the power stations situated downstream, with the total drainage of its current useable water reserves and providing that drainage occurs without natural contributions. The annual regime reservoirs are those in which complete drainage would take place in less than one year. Hyperannual regime reservoirs are those in which the total drainage time takes more than one year.

HYDRO UNIT (UGH)
Each set of hydroelectric power stations belonging to the same catchment basin and to the same individual holder.

INSTANTANEOUS POWER
Instantaneous power is the energy absorbed by the demand at any given moment of time.

NON-RENEWABLE ENERGIES
Includes nuclear, coal, fuel/gas, combined cycle, cogeneration and waste.

PHYSICAL ELECTRICITY EXCHANGES (INTL.)
The movements of energy which have taken place via international interconnection lines during a given period of time. It includes the loop flow of energy as a consequence of the grid design.

PRODUCIBLE HYDROELECTRIC ENERGY

Maximum quantity of electricity that theoretically could be produced considering the water supplies registered during a specific period of time, and once the supplies used for irrigation or uses other than the generation of electricity have been subtracted.

PRODUCIBLE HYDROELECTRIC INDEX

This is the quotient between the producible energy and the average producible energy, both related to the same period and to the same hydroelectric equipment.

PUMPED STORAGE CONSUMPTION

Electrical energy that the pumped storage hydroelectric power stations use to elevate water from the lower reservoir to the upper in order to generate electricity.

RENEWABLE ENERGIES

Includes hydro, hydro-wind, wind, solar photovoltaic, solar thermal, biogas, biomass, marine energy, geothermal and 50% of urban solid waste.

TRANSMISSION GRID

The complete set of lines, switchyards/facilities, transformers and other electrical elements with voltages greater than or equal to 220 kV, and those other facilities, regardless of their power, which fulfil transmission functions, international interconnections and the interconnections with the Spanish insular and non-peninsular electricity systems.

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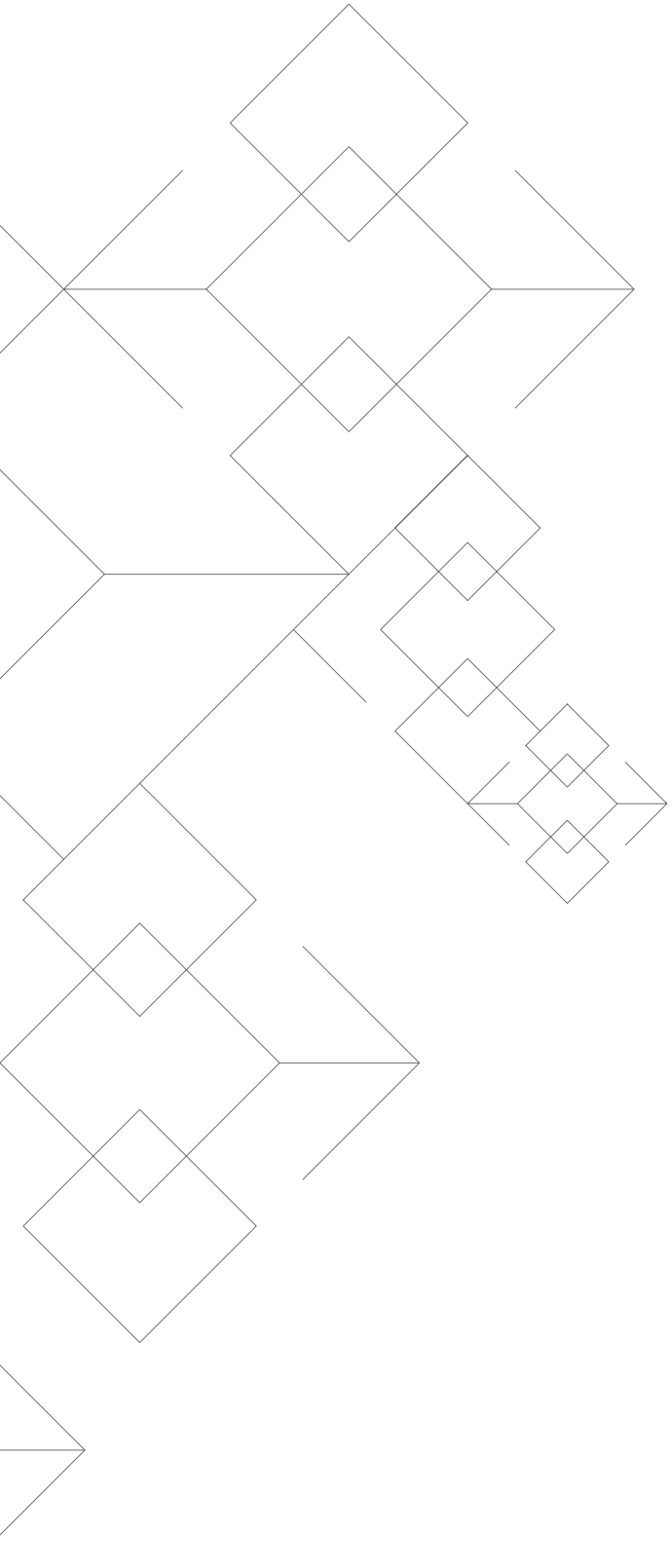

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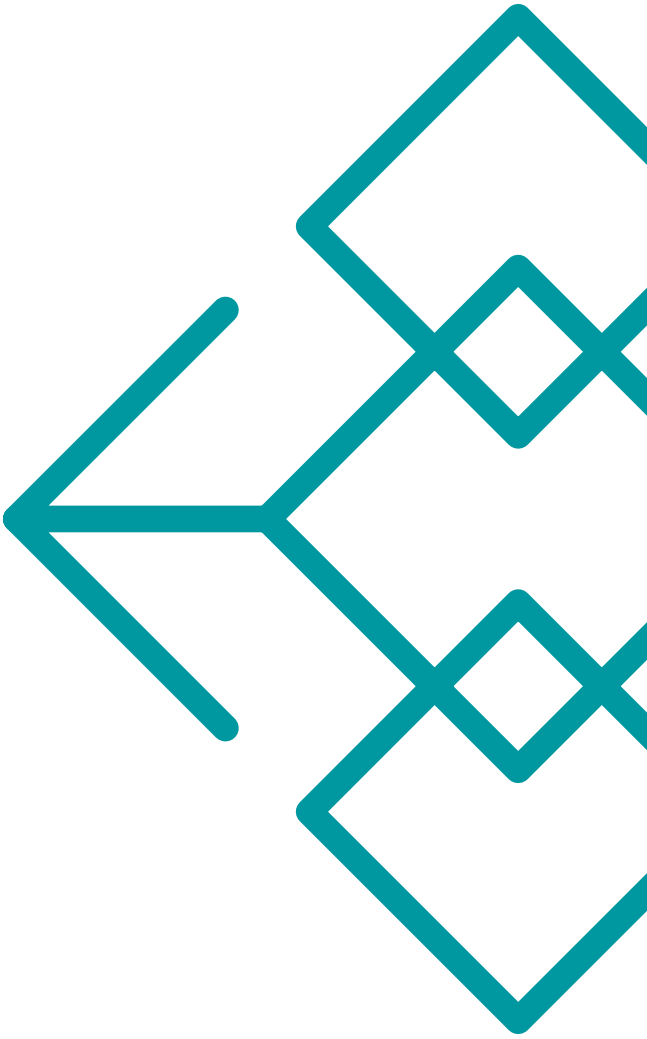

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