

An aerial photograph of a crowded beach, viewed from above. The image is overlaid with vertical blue stripes of varying widths, creating a striped effect across the entire scene. People are seen walking, sitting, and playing on the sand. The ocean is visible in the background, with waves breaking. The overall color palette is dominated by the blue of the stripes and the sand, with splashes of color from the people's clothing.

# Activities Report 2018

endesa





The background is a solid blue color. On the left side, there is a large, abstract graphic composed of many thin, curved lines. These lines are primarily light blue and dark blue, with some red lines interspersed, particularly towards the bottom left. The lines curve upwards and to the right, creating a sense of movement and depth.

# Activities Report 2018





ENDESA was established in 1944 under the name Empresa Nacional de Electricidad, S.A. On 25 June 1997, the Ordinary Shareholders' Meeting changed its **name** to the current one, ENDESA, S.A.



ENDESA, S.A. is entered in the Madrid Commercial Registry, volume 323, book 1, folio 143, page M6405. Its **corporate headquarters and main offices are** at calle Ribera del Loira n.º 60, 28042 Madrid, and its **Tax Identification Number (NIF)** is A28023430.



Its **main business** is the production, distribution and marketing of electricity. The company is also a major operator in the natural gas sector and also performs other energy-related services.



ENDESA is the leading company in the Spanish electricity sector and the second operator in the Portuguese electricity sector, with **total assets** of 31.656 billion as at 31 December 2018.



As at 31 December 2018, **the share capital** of ENDESA, S.A. amounted to 1,270,502,540.40 euros and is represented by 1,058,752,117 shares with a nominal value of 1.2 euros, fully subscribed and paid up, which are fully admitted for listing on the Spanish Stock Exchanges.



In 2018, ENDESA obtained **total revenue** of 20,195 million euros, **gross operating profit** of 3.627 billion euros, **operating profit** of 1.919 billion euros and a **net profit** of 1.417 billion euros.



At the end of 2018, the Company **employed** 9,763 people in Spain and Portugal.



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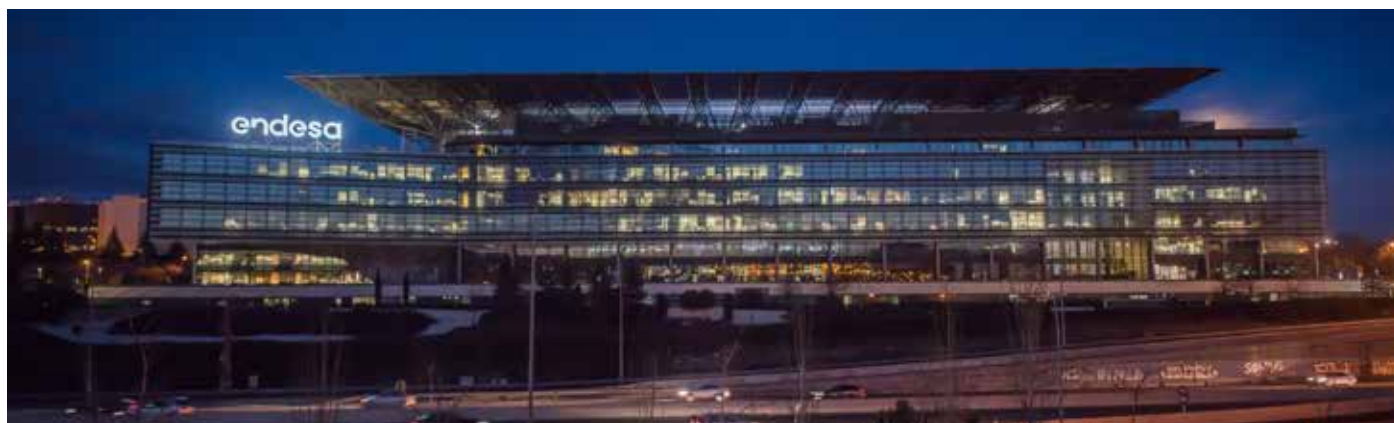
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# ENDESA is Open Power





VALUES  
2025

## VISION

Open Power to confront some of the major challenges that the world is facing..

Trust

Proactivity

## MISSION

To open up energy to more **people**.

To open up energy to **new uses**.

To open up energy to **new technologies**.

To open up new ways of managing energy for the consumer.

To open ourselves up to more **partners**.

esq



# Letter from the Chairman



**D**ear Shareholder,  
I am pleased to present to you ENDESA's Activities Report. Each year this letter gives me the opportunity to address all those people who are part of the stakeholders with whom ENDESA has a relationship and especially our shareholders, whose support is hugely relevant for the progress of our company.

A feature that very powerfully characterises the conduct of our company in recent years is the firm fulfilment of its commitments. In a constant and sustained manner, ENDESA announced, during each financial year, that the goals presented to the markets and contents in its Strategic Plans have been systematically surpassed with ease.

2018 was no exception. Therefore, at the time of presenting the Activities Re-

port for that year, I can do so with the satisfaction of announcing that we have continued that long course that makes us a company that is widely recognised for its reliability, solidity and responsibility.

The figures that certify the fulfilment of our commitments are clear and convincing: 1.417 billion euros in net profit, 3.627 billion euros in gross operating profit (EBITDA) and, above all, 1.470 billion euros dedicated to gross investments, confirming that ENDESA is the electricity company that has invested the most in Spain in the last ten years.

The solidity of these figures, firmly rooted in effective management and the development of our businesses enabling us to pass on to our 200,000 shareholders that we are in a position to propose to the ENDESA's General Shareholders'

Meeting the payment of a gross dividend of 1.427 euros per share charged to the net earnings for the financial year 2018.

This amount represents an increase of 3% with respect to the dividend paid charged to the 2017 results and 7% higher than the minimum dividend which we had promised to pay our shareholders' when, in November 2018, we presented new our 2019-2021 Strategic Plan.

I firmly believe that these and other figures detailed in a thorough and transparent manner on the pages that follow cannot be fully understood unless they are linked to the attitude and commitment shown by the 9,000 plus people who work here at ENDESA and the tens of thousands who work via our partnering companies. Without this attitude and commitment shown over time, it would







not be understandable that a company would be able, time and again, to exceed the goals it shares with its shareholders and with all its other stakeholders.

ENDESA has traced an uninterrupted course of faultless reliability in very adverse situations. To achieve this, a constant and consistent effort based on the progress already made and, above all, a clear and long-term vision, has been necessary.

Without a doubt, ENDESA has proven this. In fact, I think that the most important thing that these figures show is not only the ability to manage the present well, but to have done so knowing, at all times, how to plan for the future.

The solid track record that our company has drawn over the last ten years has enabled it to always keep in mind the new challenges faced by our sector and to prepare well in advance to overcome them.

We can currently say, with complete serenity, that this solid base places ENDESA in the best position to face one of

the most formidable challenges that our country has faced in the field of energy: the orderly transition towards a sustainable, fair and emission-free model, capable of ensuring a promising future for new generations.

ENDESA is very well positioned in each and every one of its strategic areas: its has decided to focus most of its investment effort in the development of renewable energies and in the development of smart power networks that enable the necessary integration of these facilities in the electrical system; it is the electric company that is most committed to promoting sustainable mobility, as evidenced by its extraordinary electric recharging infrastructure plan; it is making a great effort in terms of digitalisation as regards the management of its assets, its processes and the training of its people; it has undertaken, without reservation, the principle that customers are now, more than ever, the company's main value and, therefore, must be at the centre of our strategy and their expectations and needs must be met through new products and services; in short, it is also aware that the ener-

gy transition goals cannot be achieved without an increasing electrification of the energy demand, especially as regards its consumption in cities.

All this is possible, not only thanks to the excellent business management that ENDESA has recorded in recent years, but also because it has been carried out with a long-term perspective that aims to ensure the company's sustainability in the midst of the accelerations and uncertainties of our time.

ENDESA has been able to perfectly trace its path for years and has the talent, dedication and commitment of more than 9,000 employees, who are always willing to give their best. For this reason, it is a pleasure to be able to pass this Activities Report on to the shareholders who are supporting ENDESA.

**Borja Prado Eulate**  
ENDESA Chairman





# Letter from the Chief Executive Officer





**D**ear Shareholder,

The presentation of ENDESA's Activities Report is, every year, an excellent opportunity to review the work carried out during the previous fiscal year, without forgetting the achievements or difficulties and thus to be able to explain the results obtained and the goals we set for the future.

Starting with the former, I am pleased to be able to share that the results of financial year 2018 have confirmed, once again, our company's ability to effectively manage its business.

Indeed, despite the fact that last year was characterised by high prices of raw energy materials and a significant rise in CO<sub>2</sub> prices - which, in turn, led to high prices in the electricity wholesale market - ENDESA's gross operating profit (EBITDA) stood at 3.627 billion euros

and net profit amounted to 1.417 billion euros, figures that exceed the commitments we had disclosed to the markets.

The good management of the electricity business, the recovery of the margin of the gas business and the stable trend in the fixed-price market were some of the factors that made it possible for these results and other results for the year to exceed those commitments.

The wholesale market prices grew almost 10%, amounting to 57.3 euros/MWh. However, ENDESA managed to increase its gross margin in the electricity market by 327 million euros. In turn, the contribution of the gas business to the gross margin amounted to 138 million euros, accounting for an increase of 82 million euros compared with the previous year.

In addition, ENDESA once again made a great effort to contain costs, thus confirming its ability to remain one of the most efficient companies in the market. As a result, fixed operating expenses were in line with the previous year, absorbing both the impact of inflation and the growth of the company's businesses.

On the other hand, ENDESA gave a new impetus, during 2018, to its efforts to reinforce the strength of its business in the future, especially in view of the challenges facing Spain in terms of energy transition and decarbonisation of the economy.

ENDESA not only fully undertakes these goals, but they are also essential areas of its business vision, as evidenced by the Strategic Plan presented to the markets in November 2018.





Last year, 50% of the company's electricity production was free of CO<sub>2</sub> emissions and the goal is to increase that percentage to 56% by 2021, to 65% by 2030 and to 100% by 2050.

To achieve this, the company is committed to significant growth in renewable energy with a major investment effort. Thus, 39% of the investments planned by ENDESA for 2019 will be allocated to the development of renewable energy technology facilities, which will involve the incorporation of around 900 MW of new capacity; and, in the whole of the period 2018-2021, the company will have invested a total of 2 billion euros in them. This will enable it to go from the current 6.5 GW of installed capacity in renewables to 8.4 GW in 2021.

In turn, the digitalisation and modernisation of the electricity grid will be another of the major investment commitment of the company's Strategic Plan. A total of 1.9 billion will be allocated to its development. This considerable effort is essential, not only to meet the new needs for growth in demand, but, above all to enable the incorporation of the new renewable power, the roll-out of the recharging points required for the promotion of e-mobility and the accessibility to products and services designed to respond to the new needs and expectations of our customers.

Indeed, the new trends that are developing in the electricity market, from

distributed generation to sustainable mobility, through new relationships with customers, demand both a constant renewal of the business model and a special ability to detect new opportunities that arise from this accelerated process of change.

A good example of this is ENDESA's commitment to e-mobility. At the end of last year, the company announced an ambitious plan to install more than 100,000 public and private charging points for electric vehicles, with an associated investments of 65 million euros. We are going to do this through ENDESA X, which is our company's new line of business that offers new services and technological solutions in the world of energy, which include, in addition to the promotion of e-mobility, the development of efficient lighting in cities, photovoltaic installations for self-consumption, energy advisory services for companies, etc.

In the same line of renewal of its businesses, ENDESA will allocate a total of 1.3 billion euros between 2018 and 2021 to the digitalisation of its assets and processes, which will be mostly intended for the distribution network. The development of *smart grids*, i.e., the smart networks that include information and telecommunication technologies in the electricity grids, is key to improving the efficiency of the electrical system and responding to a new model in which electrical flows cease to be unidirectional - from the large power station to the consumer - and become bidirectional.

The energy transition and decarbonisation objectives are testing the ability of companies to take on long-term challenges that require a radical transformation of a good part of their businesses. To be successful in taking on these challenges, you have to have the desire, knowledge and ability to do so. In this way, desire, knowledge and ability become three essential axes of the attitude that companies must maintain to demonstrate their willingness to be an important agent in building a sustainable future.

ENDESA has decided to face these challenges firmly and decisively, given that it is obvious that they cannot be achieved without great effort, in a task for which the company has proven vision and ability: the increasing electrification of the energy demand. Without it, neither energy transition nor the decarbonisation of our economy will be possible. Therefore, with all humility, but also with full conviction, our company has decided to play the role of leader, as it should, in order to overcome this great challenge.

**José D. Bogas Gálvez**  
ENDESA Chief Executive Officer







# Key economic-financial figures

	2015	2016	2017	2018
<b>FIGURES FROM THE BALANCE SHEET</b> (millions of euros)				
Total assets	29,245	30,960	31,037	31,656
Property, plant and equipment	20,815	21,891	21,727	21,840
Total liabilities	20,206	21,872	21,844	22,475
Parent company's' equity	9,036	8,952	9,096	9,037
Non-controlling interests' equity	3	136	137	144
Net financial debt	4,323	4,938	4,985	5,770
<b>FIGURES FROM THE INCOME STATEMENT</b> (millions of euros)				
Operating revenue	20,299	18,979	20,057	20,195
Gross operating profit (EBITDA)	3,039	3,432	3,542	3,627
Operating profit (EBIT)	1,598	1,965	2,031	1,919
Net gain/(loss)	1,086	1,412	1,463	1,417
<b>MAIN ECONOMIC FLOWS</b> (millions of euros)				
Net flows from operating activities	2,656	2,995	2,438	2,420
Total investments	1,084	1,221	1,175	1,470
Dividend payments	805	1,086	1,411	1,463

# Key operational figures

	2015	2016	2017	2018
<b>Workforce</b>				
<b>Spain and Portugal</b>	<b>10,000</b>	<b>9,694</b>	<b>9,706</b>	<b>9,763</b>
<b>Capacity (MW)</b>				
<b>Spain and Portugal</b>	<b>22,164</b>	<b>23,691</b>	<b>23,678</b>	<b>23,766</b>
Hydroelectric	4,765	4,765	4,752	4,753
Conventional thermal	8,278	8,130	8,130	8,077
Thermal nuclear	3,443	3,443	3,443	3,443
Combined cycles	5,678	5,678	5,678	5,678
Renewables and cogeneration	—	1,675	1,675	1,815
<b>Production (GWh)</b>				
<b>Spain and Portugal</b>	<b>73,061</b>	<b>69,831</b>	<b>78,648</b>	<b>74,193</b>
Hydroelectric	7,176	7,173	5,004	8,339
Conventional thermal	32,634	28,100	35,346	28,997
Thermal nuclear	25,756	25,921	26,448	24,067
Combined cycles	7,495	7,425	8,409	8,957
Renewables and cogeneration	—	1,212	3,441	3,833
<b>Sales (GWh)<sup>1</sup></b>				
<b>Spain and Portugal</b>	<b>92,899</b>	<b>93,490</b>	<b>96,513</b>	<b>89,639</b>
Fixed price	14,934	13,815	12,919	12,356
Liberalised market	77,965	79,675	83,594	77,283
<b>Number of customers (thousands)<sup>2</sup></b>				
<b>Spain and Portugal</b>	<b>11,112</b>	<b>11,016</b>	<b>10,848</b>	<b>10,754</b>
Fixed price	6,029	5,593	5,255	5,029
Liberalised market	5,083	5,423	5,593	5,725
<b>Energy distributed (GWh)<sup>3</sup></b>				
<b>Spain and Portugal</b>	<b>114,190</b>	<b>115,602</b>	<b>117,961</b>	<b>117,029</b>

<sup>1</sup> Sales to end customer.

<sup>2</sup> Supply points.

<sup>3</sup> At plant bus bars.



# Economic figures

## ASSETS, LIABILITIES AND SHAREHOLDERS' EQUITY

<b>2015</b>			
Total Assets	29,245	<b>2017</b>	
Liabilities	20,206	Total Assets	31,037
Equity	9,036	Liabilities	21,844
		Equity	9,096
<b>2016</b>		<b>2018</b>	
Total Assets	30,960	Total Assets	31,656
Liabilities	21,872	Liabilities	22,475
Equity	8,952	Equity	9,037

## OPERATING REVENUE

2015	20,299
2016	18,979
2017	20,057
2018	20,195

## PROCUREMENT COSTS

2015	14,818
2016	13,327
2017	14,569
2018	14,567

## EBITDA AND EBIT

<b>2015</b>		<b>2017</b>	
EBITDA	3,039	EBITDA	3,452
EBIT	1,598	EBIT	2,031
<b>2016</b>		<b>2018</b>	
EBITDA	3,432	EBITDA	3,627
EBIT	1,965	EBIT	1,919

## OTHER EXPENSES

<b>2015</b>		<b>2017</b>	
Personnel expenses	1,332	Personnel expenses	917
Other fixed expenses	1,212	Other fixed expenses	1,251
<b>2016</b>		<b>2018</b>	
Personnel expenses	1,128	Personnel expenses	947
Other fixed expenses	1,209	Other fixed expenses	1,324

## FINANCIAL DEBT AND LEVERAGE

<b>2015</b>		<b>2017</b>	
Leverage	4,680	Leverage	4,414
Financial debt	4,323	Financial debt	4,985
<b>2016</b>		<b>2018</b>	
Leverage	4,223	Leverage	4,975
Financial debt	4,938	Financial debt	5,770



# Operational figures

STAFF (PERSONS)



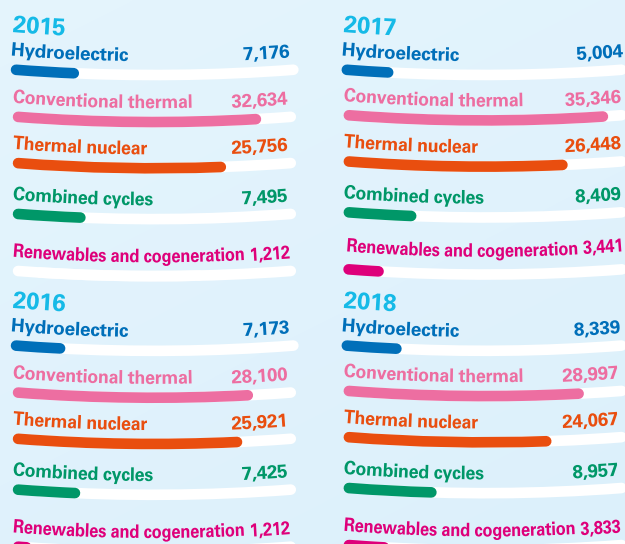
DISTRIBUTED POWER (GWh)



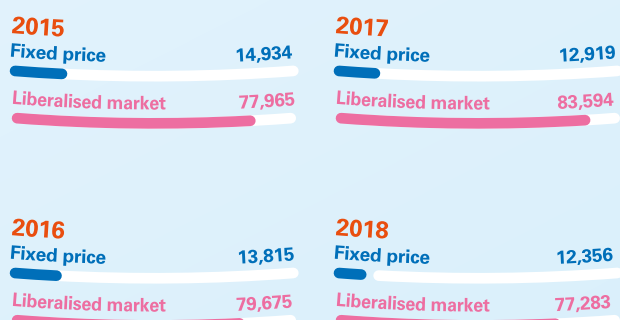
CAPACITY (MW)



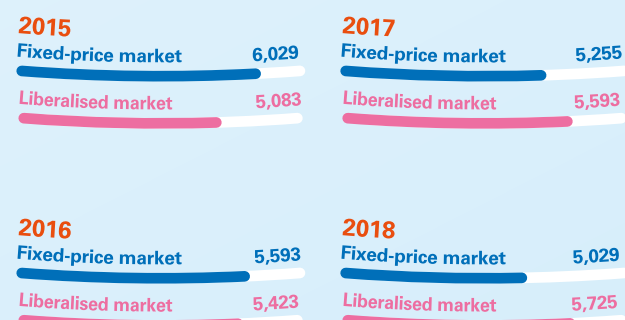
PRODUCTION (GWh)

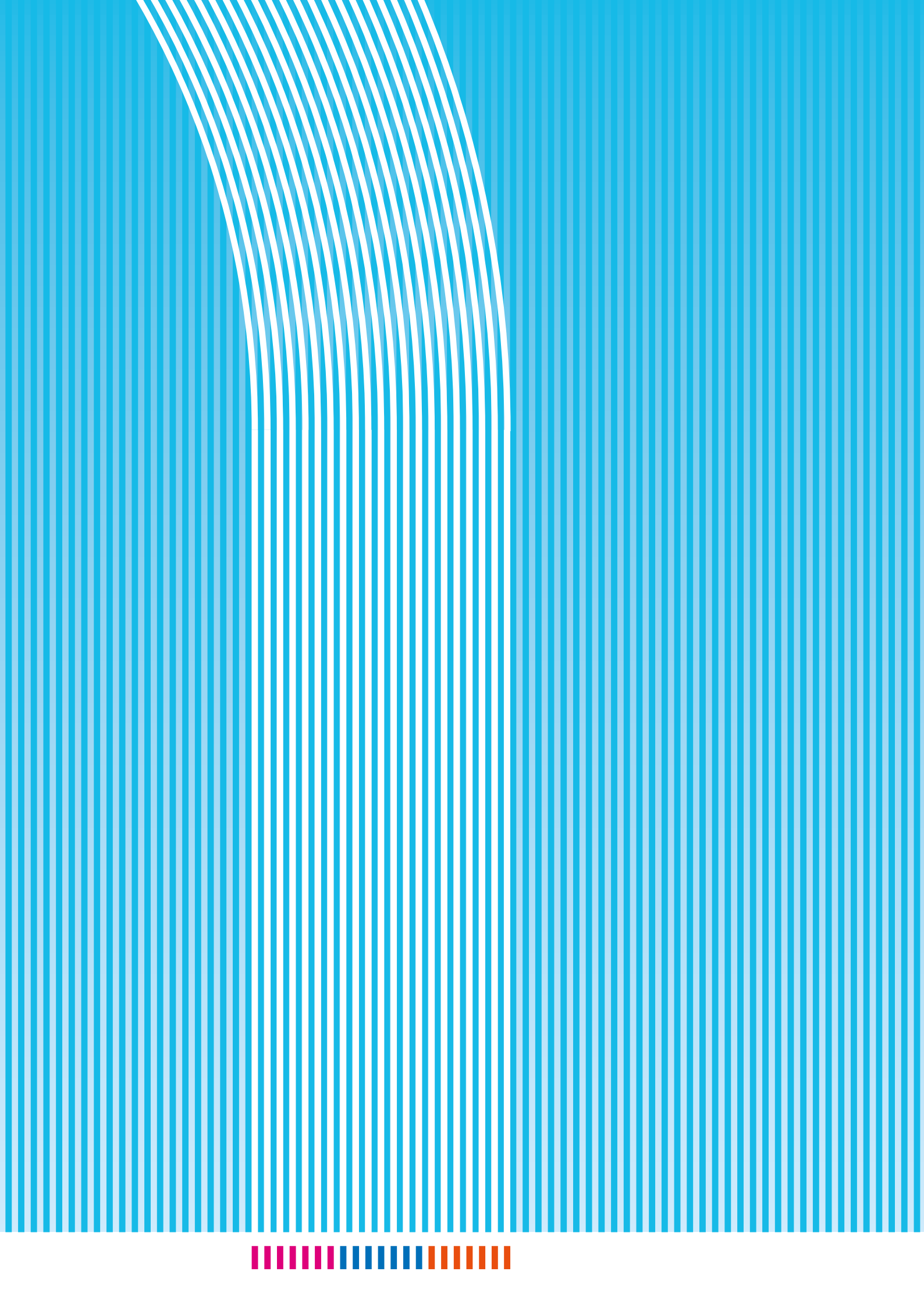


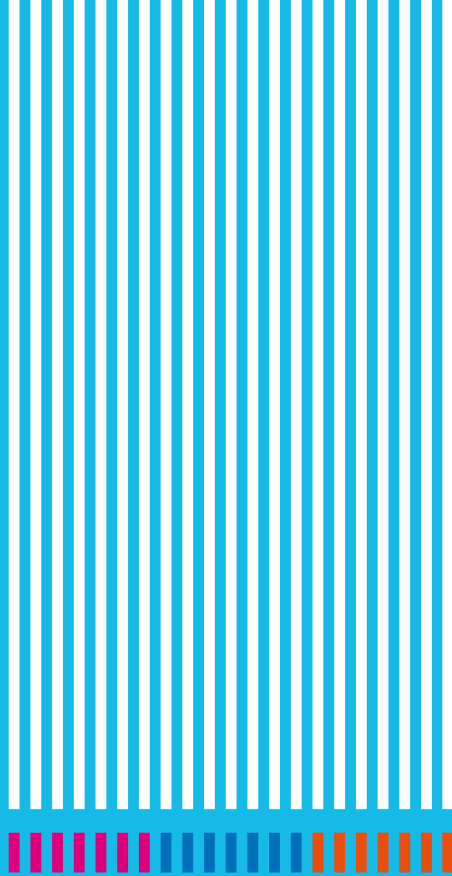
SALES TO END CUSTOMERS (GWh)



NUMBER OF CUSTOMERS (IN THOUSANDS)







01

The ENEL Group



# 1. Enel, International Leader

**W**hen we talk about ENEL we are talking about a multinational group in the energy field which owns most of the power distribution grid in its country of origin (Italy), and is also an active operator in the production, supply and sale of electricity and gas. It is a company with a presence in Europe, North America, Latin America, Africa and Asia with over 73 million end users all over the world, giving it the largest customer base among its European competitors with a net installed capacity of over 89 GW. The Enel Group's gross operating profit (EBITDA) on 31 December 2018 was 16.2 billion euros.

ENEL has been listed on the Milan stock exchange since 1999 and its main shareholder is the Italian Ministry of Economy and Finance with 25.5% of the capital. It has the largest number of shareholders of an Italian company (around 1 million minority and institutional investors).

Its shareholders include the largest international investment funds, insurance companies, pension funds and ethical funds, together with more than one million small savers, that view positively the adopting of the best international practices with regard to transparency, corporate governance, environmentally-friendly and sustainability policies and zero tolerance to corruption and its Code of Ethics.

After having consolidating its position as a multinational group, ENEL devoted itself to consolidating its acquired assets and more fully integrating its business, considering that the Group has operations in 34 countries across 5 continents, with a specific focus on Europe and Latin America.

Enel is Italy's first electricity company. It operates in the generation sector with thermal power stations and generation from renewable sources. Furthermore, ENEL manages most of the electricity distribution grid of Italy and provides integrated packages of electricity and gas products and services.

On the Iberian Peninsula, ENEL holds 70.101% of ENDESA.

In Europe, ENEL is also present in Slovakia, with its holding in the country's largest electricity generator and the second in Central and Eastern Europe. In Romania, in addition to in Greece, the ENEL Group has and operates renewable energy generation plants. In Russia, ENEL also operates in the generation sector and In France, a strategic market for the Group, ENEL performs *trading activities* in the gas and electricity markets.

ENEL is a major player in the energy market in Latin America, where it is the leading private company, both in terms of installed capacity and number of customers. In South America it operates in 5 countries, with installed power capaci-

ty from thermal and hydroelectric plants and other renewable energy sources. In the generation sector, it owns and operates power plants in Argentina, Brazil, Chile, Colombia and Peru. In the distribution sector, the Group is present in the Brazilian state of Ceará and in 5 of the main cities in South America: Rio de Janeiro, Bogotá, Buenos Aires, Santiago de Chile and Lima. In the transmission industry, the Group operates an interconnection power line between Brazil and Argentina. Chile and Brazil, as well as in Costa Rica, Guatemala, Panama and Mexico house wind power and hydroelectric power plants.

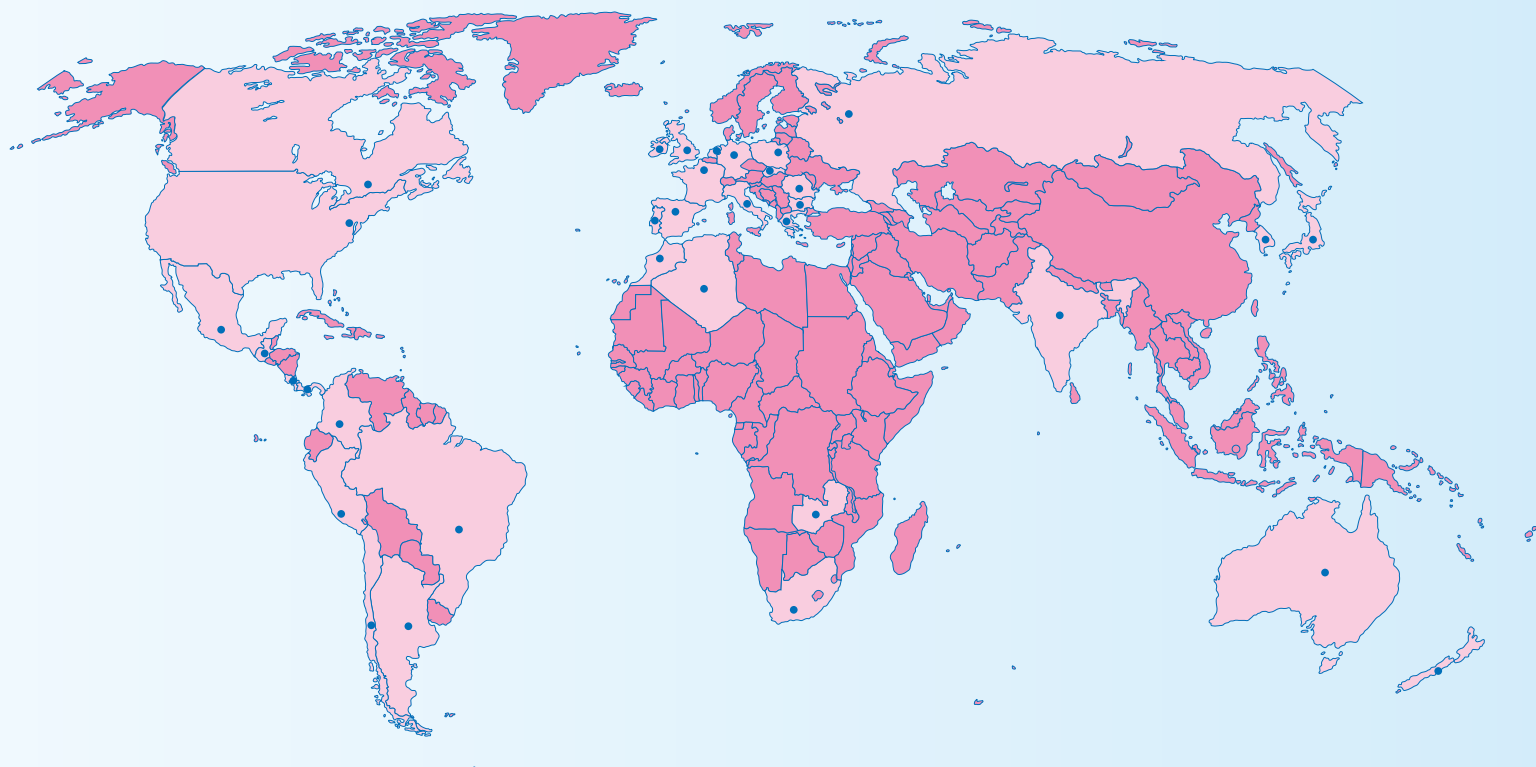
In North America, the ENEL Group has and operates hydroelectric, geothermal, wind, solar and biomass plants.

In Africa, ENEL is present in the gas exploration and production sector, developing gas fields in Algeria. Through ENDESA, ENEL also operates a thermoelectric power plant in Morocco. In South Africa, the ENEL Group operates the photovoltaic plant in Upington.

In Asia, the Group has been a presence in Indonesia and India, and has recently increased its presence in South Korea, Taiwan and Japan. In Oceania, its companies in Australia and New Zealand initiated the presence of the ENEL Group in that continent.







## AMERICA

USA  
Canada  
Guatemala  
Panama  
Mexico  
Brazil  
Chile  
Colombia  
Argentina  
Peru  
Costa Rica

## EUROPE

Italy  
Spain  
Portugal  
Russia  
Slovakia  
Romania  
France  
Bulgaria  
Greece  
Germany  
Poland  
The Netherlands  
United Kingdom  
Ireland

## AFRICA

Argelia  
Morocco  
South Africa  
Zambia

## ASIA

India  
South Korea  
Japan

## OCEANIA

Australia  
New Zealand





## 2. ENDESA in the ENEL Group

**E**NDESA forms part of the ENEL Group, which holds 70.101% of its share capital.

Through ENDESA, the ENEL Group has a strong presence in distribution, generation and sale of gas and electricity in Spain and Portugal.

Also, through ENDESA, ENEL participates in the gas sector and operates a thermal power plant in Morocco.

### Innovation and quality of service in ENEL

The ENEL group promotes technological innovation to generate electricity

more efficiently and responsibly and offers customers new solutions (from energy efficiency to *smart grids*) under a common denominator; electrical energy, the cleanest and most efficient energy vector.

ENEL was the first energy company in the world to replace traditional electro-mechanical meters with smart meters, which enable measuring consumption in real time and managing contractual relationships remotely. This innovative tool is vital for developing smart grids, smart cities and e-mobility.

ENEL took on a strong commitment to renewable energy sources and to the research and development of new ecological technologies. ENEL Green Power (EGP) is the Group company that gene-

rates renewable energy, operating sources based on hydropower, wind, geothermal, sun and biomass generation plus cogeneration in Europe, America and Africa. ENEL Green Power is the renewable energy company with the most highly-diversified smart technology of its competitors worldwide.

All of this is done providing maximum attention to quality of service and to the relationship with our liaisons with a clear policy of social responsibility, the creation of value for all our stakeholders both today and in the future.

#### OUR FUTURE COMMITMENTS



##### Our conduct

Commitment to **good governance, transparency and ethical behaviour.**



##### Our shareholders

Commitment to **value creation and profitability.**



##### Our customers

Commitment to **digital quality, commercial excellence and energy efficiency in consumption.**



##### Our people

Commitment to **personal and professional development, to diversity and conciliation, and occupational health and safety.**



##### Our associates

Commitment to the **active involvement of associates with sustainability.**



##### Society

Commitment to the **social-economic development** of the communities in which we operate.



##### The environment

Commitment to the **reduction of our environmental footprint and environmental protection.**



##### Innovation

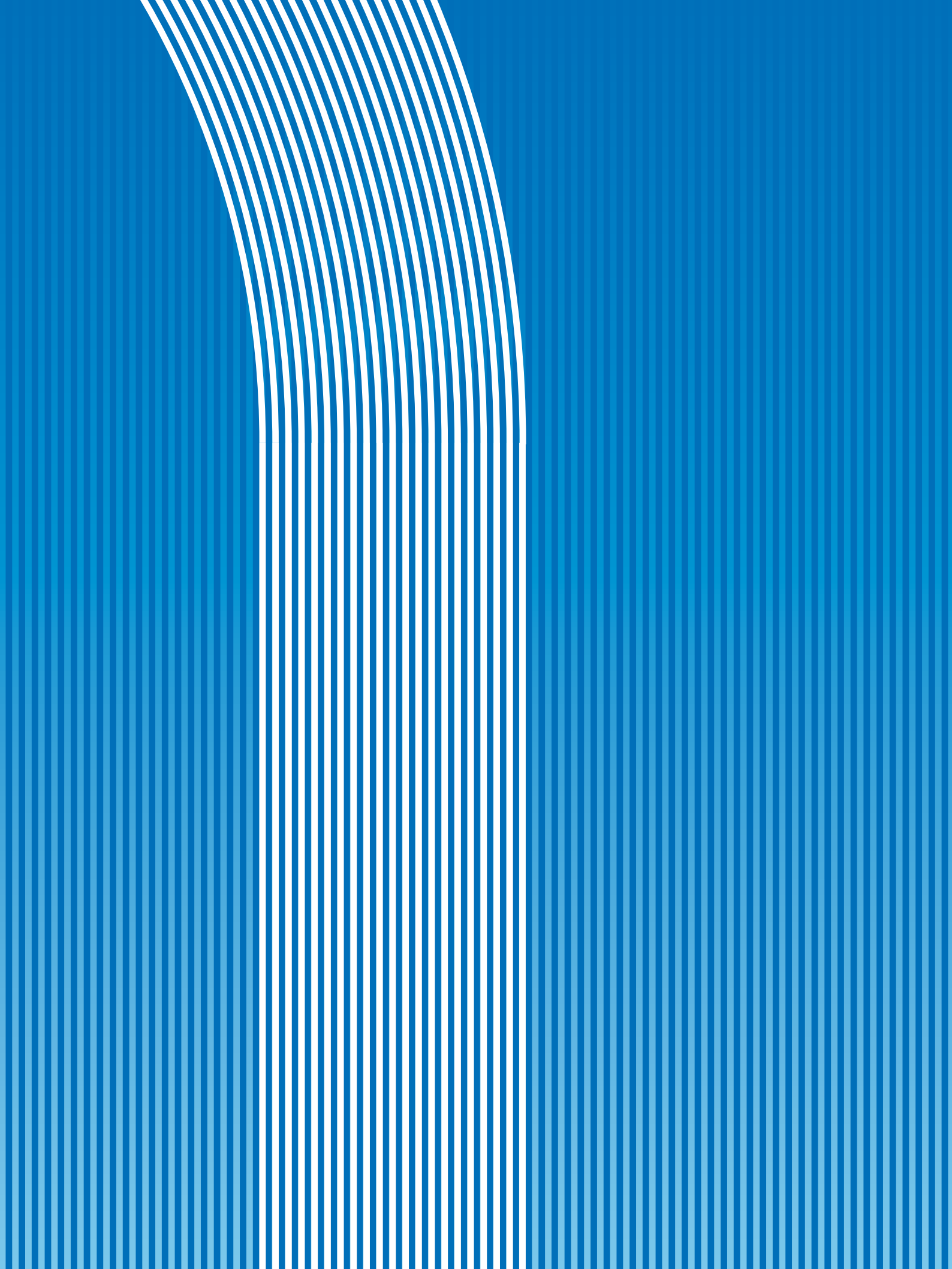
Commitment to **technological innovation and the scope of services.**

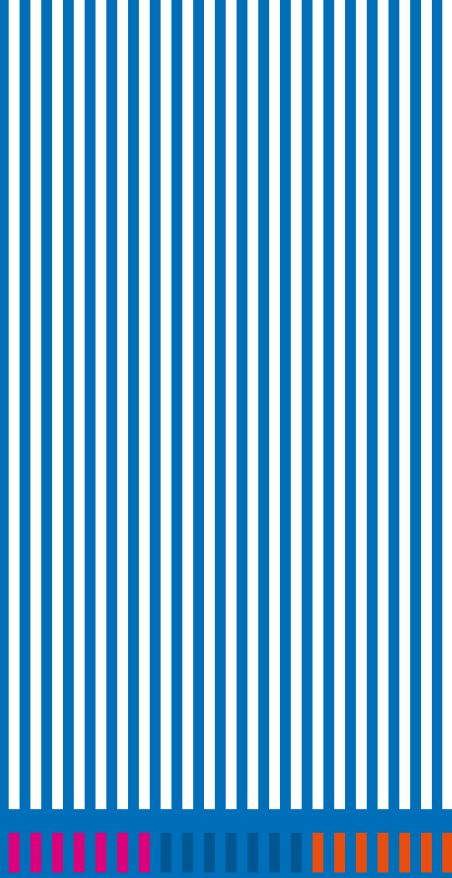


##### Institutions

Commitment to the **development of public-private alliances** for the promotion of sustainable development.







# 02

Economic, energy  
and regulatory  
environment



# 1. Key macroeconomic aspects

## 1.1. The global economy

It can be said that in 2018 the predicted weakening of the global economic expansion was confirmed, proven by the moderation in the momentum of economic activity that occurred in the second half of the year. The global economy began 2018 with a global rebound in manufacturing and international trade. However, acceleration weakened as investors lost confidence in the international economic outlook, although it maintained its annual upward trend. One reason for the slowdown was the imposition of tariffs on large economies and the measures that trading partners adopted in retaliation. The protectionist confrontation exacerbated the uncertainty surrounding trade policy and this affected investment decisions and economic development in general.

The euro remained the second most used currency in the world, with 60 countries linking their currencies to it. The latest major crisis had a negative impact on the advance of the euro against the dollar and, whilst in 2009 it accounted for 24.5% of world reserves, last year that proportion amounted to 20.1%. At the same time, the volume of foreign debt denominated in euros collapsed, declining from 40% before the crisis to 20%, essen-

tially the same level at which it started two decades ago.

In Europe, the ESI (economic sentiment indicator prepared by the European Commission, which measures the confidence of consumers and businesspeople) fell again in the final part of 2018 and caused the year to close at minimum levels, which had not been reached since January 2017. The fall of the indicator in December led to 12 months of deterioration, repeating a downward trend that had not occurred since 2011 (due to the crisis driven by sovereign debt securities).

The global decrease of 2.2 points in the value of the ESI in the Eurozone was due to the decrease of 2.3 points in confidence in the industry, a situation that is based on a pessimistic forecast by businesses as regards production expectations, current order levels and inventories of finished products. The five major economies of the Eurozone recorded decreases in confidence amongst the single currency economies, of 0.3 points in the Netherlands, 1.5 points in Italy, 2.0 points in France, 3.0 points in Spain and 1.9 points in Germany.

This decrease in ESI values is also affected by the decrease in consumer confidence (2.3 points), a situation that shows the negative perceptions of society on issues such as employment, their savings expectations and the financial and economic situation. Employment expectations worsened significantly in the construction sector and, to a less-

er extent, in services and retail trade, while remaining stable in industry.

Expectations regarding sales prices increased for retail, construction and industry, whilst consumer price expectations fell towards the end of the year.

The **Business Climate Indicator** (BCI), also published by the European Commission, fell 0.22 points in the Eurozone.

Furthermore, in the European Union (EU) as a whole, the decline in the BCI (2.0 points) was justified by the change in confidence value of the two major "non-Eurozone" economies (United Kingdom and Poland). As with the decrease in confidence in the Eurozone, expectations in industry, services, construction and retail also declined in the twenty-eight countries of the EU.

As regards **unemployment** in Europe, the recovery of the European economy continued to close the wounds of the great recession after years of growth. The unemployment rate in the countries of the Eurozone was the best in over a decade and the indicators remained stable in the European Union, where unemployment stood at 6.7%, representing its lowest percentage since they began to publish monthly data in 2000.

Just over 13 million people were looking for employment without success in the Eurozone, representing 1.13 million fewer people than in 2017. The Czech Republic (1.9%), Germany (3.3%) and Holland (3.5%) were the countries with the best employment recovery rate, whilst



Italy (10.9%), Spain (14.7%) and Greece (18.9%), were the only countries in the area that exceeded 10% of unemployed individuals. The only good news regarding this latter sector is its progression, given that the last two countries, along with Croatia, were the ones that reduced their unemployment rate most in the last year.

Although the EU economy maintained its growth trend, it was not enough to reach the improvement figures of the United States. Unemployment in the Eurozone more than doubled that of the North American country. The current expansion of the Eurozone has been going on for 22 quarters of growth in which the GDP advanced by 10%, compared with the 37 quarters of the United States, in which its economy grew by values close to 20%.

The annual rate of inflation in the Eurozone was 1.57% (versus 1.66% in the European Union), a value that enabled it to occupy the fourth place in the world with the lowest annual inflationary growth.

As regards the trend in the main countries of the Eurozone, in **Germany**, the indicators that measure the expenditure of families had a positive trend, whilst those related to industrial orders suffered a negative growth. The latter recorded significant falls in the final quarter and generated concerns in the markets regarding the reactivation of the sector.

Industrial production (which fell by 1.8% in November) was affected by automotive sector data and continued to show signs of being unable to overcome the difficulties resulting from the entry into force of the gas regulation.

Although the data for foreign trade also recorded falls in the final quarter (in both exports and imports), the trade surplus remained positive.

Private consumption (retail sales) had higher growth rates than the existing forecasts, based on the levels of confidence of families and the strength of the labour market. The annual ESI fell by close to two points and the IfO (Institut fuer Wirtschaftsforschung, business climate index that measures the development of the German economy) reached minimum values that had not been recorded since 2016.

In **France**, confidence indicators marked a significant decrease, mainly due to the impact of the “yellow-vest” protests and, in turn, in **Italy**, there was a continuous fall in its indicator in the second half of the year.





The **US** economy, which is increasingly based on the services sector, expanded in 2018 at a rate of 2.9%, due to the boost of fiscal stimulus and despite the moderation in the growth rate in the final quarter of the year. This value is seven tenths higher than that recorded the previous year and the same as that recorded in 2015. It is the first time since 2004 that the US economy exceeded 2% in all quarters of one year. The first half of last year clearly reflected how the tax cuts resulted in growth, but their effect began to wane in the final part of 2018.

Private consumption, which accounted for two thirds of US growth, maintained its growth although it slowed (by eight tenths) in the final quarter of 2018 and led, along the same lines to boosting business investment.

Unemployment continued to fall and the months of continuous job growth in the United States, which began in October 2010, has been going on for 99 months and was the longest period in its history. However, unlike other expansive phases, the hiring intensity was lower.

**Japan** closed 2018 with a 0.7% growth in its gross domestic product (GDP), which marked the seventh consecutive year with a positive increase. The last time that Japan had a negative change in its GDP was in 2011, when it suffered a strong earthquake and tsunami and, previously, the global financial crisis hit in full with a 5.4% decrease in its GDP in 2009 and with a 1.1% decrease in 2008.

Japan closed last year with inflation of 0.9%, below the 2% target set by its Central Bank. Private consumption accounted for half of Japan's economic activity.

The economies of **Asia's** developing countries kept their economic growth stable, despite the trade tensions between the United States, its partners in the region and, especially, with **China**. The trade war between the US and China did not stop and, after the imposition of tariffs on Chinese imports from the technology sector, the Asian country acted with similar measures that affected the US agricultural sector.

The Asian Development Bank said that the protectionist measures introduced in the market did not significantly reduce the strong commercial flow to and from Asia.

Whilst China's economic growth in 2018 was the lowest in the last 28 years, given that its economy grew by 6.6% in 2018, that growth rate remains high compared with the standards of Western economies.

The financial vulnerabilities of the Chinese economy were also relevant. Firstly, banks were increasingly financed in the markets (the issuance of deposit certificates in 2017 and 2018 doubled), which, along with the slowdown in deposits, rose the loan/deposit ratio to close to 1:1. Despite all this, China recorded a high estimated volume of international reserves, with a reduced volume of debt, which gave it significant leeway for action.

As regards **emerging economies**, financial tensions reflected the growing global interdependence, which accentuated the exposure of these countries to international economic and financial events. Specifically, in 2018, emerging economies were subject to the effects of trade tensions between China and the United States and to the economic measures resulting from this confrontation, which led to an appreciation of the dollar and a tightening of international financial conditions.

However, the deterioration observed in the financial indicators of the emerging economies was not homogeneous; rather, investors took into account the degree of vulnerability of the various countries in their portfolio decisions. Specifically, between April and September 2018, financial tensions especially affected economies that had high vulnerabilities, especially in terms of a weak external position, and the two countries that suffered most from this phase of instability were Argentina and Turkey.

In this group of economies, inflation decreased compared with five years ago (from 5% to 3.8%), the growth rate remained high and the situation of the banking sector was solid. In contrast, the tax margin was lower (the average deficit increased in 2018), the ratios of public debt and foreign debt increased, international reserves decreased and geostrategic risk indicators and internal political tensions increased. On the other hand, from a shorter time perspective, the vulnerability of emerging economies increased in terms of foreign trade and tax.

Brazil managed to adjust its current account deficit in recent years (from 4.4% of GDP at the beginning of 2015 to 0.5% in 2018), thus slightly reducing its foreign debt. Inflation in turn fell substantially, from 10.8%, based on average for 2015 to 4.5% in 2018. Lastly, reserves reached record highs (\$338 billion), with a very limited public sector exposure abroad.

The tax situation was also an element of vulnerability in Mexico, although the imbalances were much lower compared to Brazil: public deficit remained between 2.5% and 3% of the GDP, whilst public debt (following the increase of more than 10% between 2010 and 2016) stabilised at around 45% of GDP.



## 1.2. The Spanish economy

### 2018 in Spain

In the final months of 2018, our country reached a phase in its economy in which, regardless of the levels of inequality that perpetuate the existence of poverty, the unemployment rate decreased, social security accounts increased and wages started to slowly recover.

After starting the first half of the year with an upward trend in which the CPI reached values above 2%, inflation was significantly stable in the final part of the year and price containment was almost total, in which the trend in energy prices specifically stood out, in accordance with the correction in the price of oil.

In 2018, services incurred a slightly upward trend, given that their inflation rate increased, driven, above all, by communications, tourism and hospitality and prices associated with housing. On the other hand, transport prices increased by 0.2%, versus 1.9% the previous year, a situation affected by the moderation in fuels and combustibles. Food experienced an offsetting trend due to the growth of inflation, given that its prices increased by 1.3% (1.7% in 2017). By segment, processed foods had an annual comparison of 0.5% versus 1.2%, which contrasts with the rebound in the inflation rate for fresh foods (3.2%, the highest closing rate in six years).

The growth in GDP in 2018 stood at 2.5% (3% in 2017) and amounted to €1,206,878 million.



### The trend in the economy according to the main indicators

The consumer price index (CPI) closed 2018 with a year-on-year value of 1.2% (with core inflation, a value that does not include changes in the price of energy products or unprocessed fresh foods, which ended the year at 0.9%), following a fall of more than one percent during the last two months of the year, such that the value at the end of 2018 was one tenth more than at the end of 2017 (1.1%). In the aforementioned sub-segment, the fall in transport, clothing and healthcare products stands out,

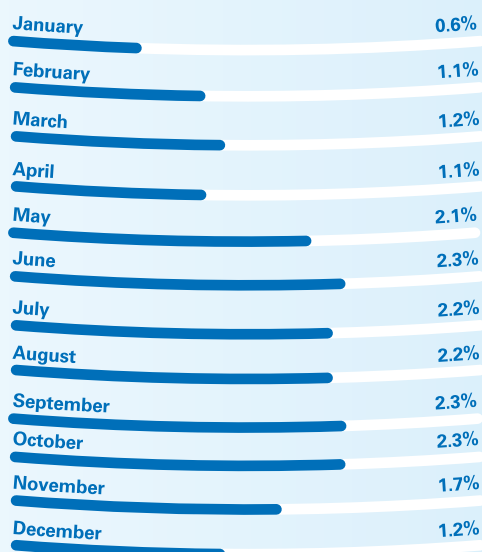
with, in contrast, an increase in medical services.

The Harmonised Index of Consumer Prices (HICP), which measures the trend in prices using the same method in all countries of the Eurozone, also ended the year at 1.2%.

The National Institute of Statistics (NIS) confirmed that the figure for the decrease in inflation at the end of the year was a result of the reduction in fuel prices, especially diesel and petrol, which consequently led to the containment of inflation in all products and services, with transportation implications. In contrast, products associated with leisure and culture increased their prices the most in the final third of the year, driven by the rise in tourism package prices.

In December 2018, the highest year-on-year inflation was recorded in the Canary Islands, Catalonia and Madrid (all at 1.4%), as well as Navarre, which also ended the year above the Spanish average (1.3%). Only Melilla ended the year

CPI TREND IN 2018



with a negative rate (-0.3%).



Furthermore, consumer confidence in Spain ended the year at 90.9 points (negative confidence), which was the lowest level in the last two years (consumer perception must be above 100 points in order to be considered positive). In 2018, consumer confidence in Spain fell by 11.5 points (in line with the decrease of the same indicator in the Eurozone by figures close to 2.3 points), following the reduction of the two components of the indicator (current situation and expectations).



## Retail Sales

The stagnation in retail sales in real terms in December 2018 confirmed the progressive loss of impetus that they had shown throughout the year, such that the annual balance sheet was the weakest since 2013 (+0.7%, three tenths less than the previous year). The slowdown in sales in 2018 was mainly due to the deterioration in food product sales.

By items, the deterioration in sales was generalised, in terms of both food and, above all, other goods, which barely grew by 0.1%. Amongst the latter, contrasting trends occurred in the rise in household appliances (by six tenths, amounting to 3.5%) with the decline in both personal appliances (−0.5%, second consecutive fall) and in other goods (−1.4%).

The worsening of retail trade (accentuated in December) also extended to all modes of distribution. On the one hand, sales in single retail stores receded (−0.3%) almost uninterruptedly since two years ago, as they did in small chains (−1.1%). In addition, although

sales increased in large chains and outlets, the rate slowed down significantly. As regards the 2018 balance sheet, all Communities ended the year at positive rates in retail sales, except for the Communities of Valencia, Castilla y León and Cantabria; specifically, the highest rates of growth were in Aragón, Murcia (+1.5% in both cases) and Madrid (+2.1%).

The development of financing capacity in 2018 was due to the lower savings generated by businesses and families. In the case of families, although their disposable income showed a recovery based on wage increases, the higher rate of growth in consumption led to a drop in savings. As regards businesses, their lower financing capacity was based on the fall in disposable income.

The financing capacity of the Spanish economy was at around 1.2% of the GDP, which was one of the worst records in recent years. The deterioration of the financial position of the economy was the result of the increase in investment, which had not happened since 2014. Considering the various economic agents, except for financial institutions, all of their balance sheets worsened compared with the same period of the previous year, especially companies and, to a lesser extent, households.

Industrial production (IPI) ended 2018 with the least progress in five years (0.3%). Almost all activities contributed to this result, but especially machinery and equipment, metal products and electricity and gas supply. In contrast, transport material and computer products slightly improved. The most dynamic activities in 2018 were transport material (+5.4%) and computer products (+7.7%), in contrast to the

decrease, of more than 4%, in water distribution. Also, the activities that had greater growth in the IPI (+0.3%) were the manufacturing and repair of machinery and equipment and transport material. However, water distribution and activities associated with motor vehicles decreased.

After five years of growth (+10.6% accumulated), the IPI is still far from pre-crisis values (almost 22% lower). Within that context, performance broken down by activity is very dissimilar: some have already recovered those levels (such as food, chemicals, refinery and pharmacy), but, in others, the difference is still significant (figures close to 60% in mining industries).

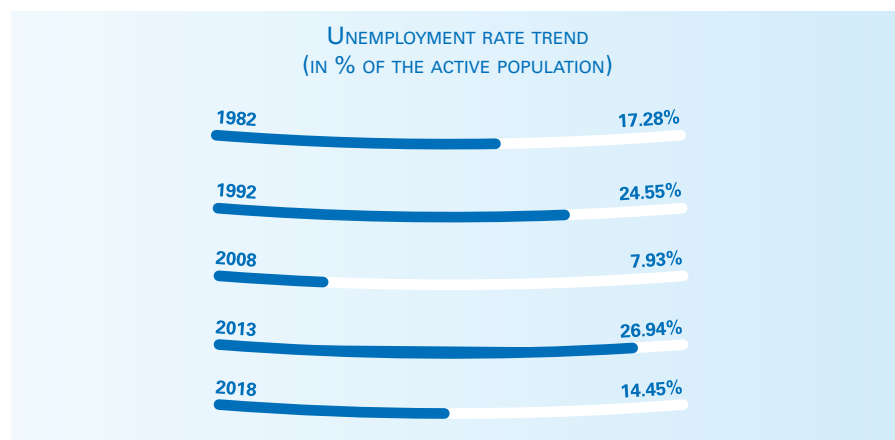


## The Spanish labour market

The year ended with a labour market performance that was better than expected. The Spanish economy did not grow, as it did at other times above 3% per annum and yet, the labour market, having generated 566,200 jobs, ended 2018 with the highest number of jobs created in the last 12 years, and with the fifth consecutive year of growth in its employment rate. This figure rose to 19.5 million people employed (data from the active population survey that places the activity rate at 58.62%) and 3.3 million people unemployed (down 462,400 people compared with the previous year); therefore, the unemployment rate stood at 14.45% (2.1% less than the previous year).

Despite these figures, the Spanish labour market has not reached the pre-crisis employment levels and, although the 19.5 million people employed and

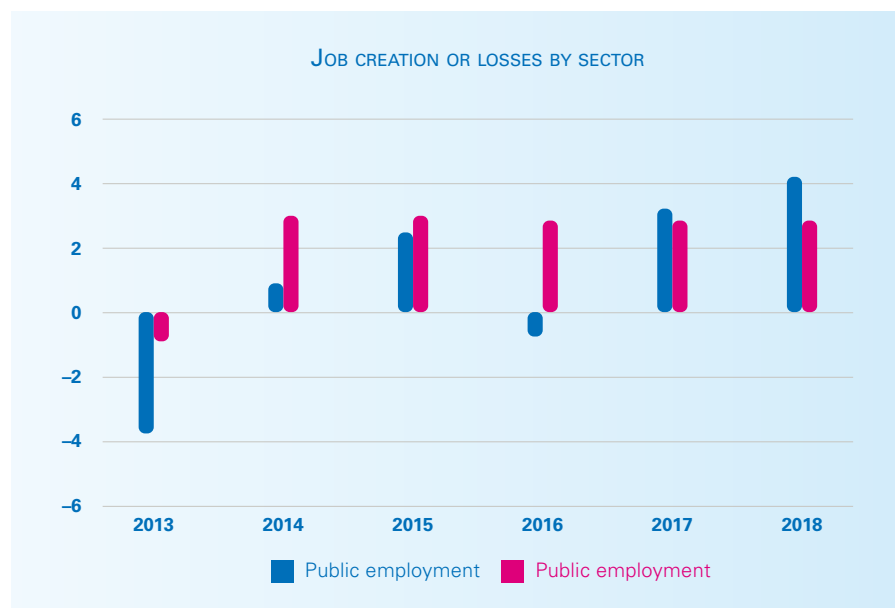
the unemployment rate of 14.45% are significant figures for the last 10 years, it can be said that the Spanish labour market is still recovering.



One of the decisive elements in the creation of employment was the public sector, which hired at a higher rate than the private sector. The number of people employed in the public sector

exceeded 136,000 workers (reaching the highest figure since 2004), whilst the private sector hired approximately 430,000 people (the best figure since 2007).

With the increase in jobs in the public sector, this sector has 8.1% more people employed than before the start of the crisis.



In the private sector, the construction sector grew the most and recorded 65,411 new workers in 2018, meaning an increase of 8.47%. Real estate activities also experienced high growth (6.88%) and, considered along with construction, showed the development of the sector (between both, they add up to one million jobs). Education was in second place with

66,716 new jobs (+7.54%). The sectors with the highest number of workers, in total and absolute terms, were trade (2.5 million), the manufacturing industry (1.8 million), health activities (1.5 million) and administrative activities, auxiliary services and the hospitality industry (1.2 million).

A specific feature of the unemployment rate is its relationship with the population's education levels, given that, in 2018, the active population with higher levels of education recorded an unemployment rate of 9%, which contrasts with the 32% of people who did not complete primary education or the 20% of those who did not complete secondary education.





Unemployment decreased in 14 autonomous communities, the main ones being Andalusia, Madrid and the Valencian Community, whilst it rose in Cantabria and La Rioja. By economic sector, according to the origin of the workers, recorded unemployment decreased in construction (–11.6%), agriculture (–6.97%) and services (–4.84%) and long-term unemployment declined by 3.66%. In contrast, increases were recorded in the Industry sector with 3,967 (1.42%) and in Construction with 9,998 (3.74%).

At the end of the year, the number of people unemployed in each of these sectors was: services, 2,231,031 people; industry, 284,130 people; construction, 277,679 people; with no previous employment, 270,686 people and agriculture 138,771 people.

As regards young people, unemployment amongst people under 25 decreased in December by 17,378 people (–6.57%) compared with the previous month and, in year-on-year terms, it declined by 21,194 people, at a rate of 7.9% (1.73 points above the global rate of decline). Amongst those aged 25

and over, unemployment decreased by 33,192 (–1.11%).

In 2018, the number of employees with an open-ended contract increased by 363,700 people, which was the best figure in the last 12 years and temporary workers (which increased by approximately 167,000 people) represent the lowest figure since 2013. Despite these encouraging figures, the proportion of temporary contracts (comparing new contracts with those existing at the beginning of 2018) shows an increase in job insecurity and the rate of temporary employment reached 26.9% (versus 73.1% of open-ended contracts), which was the worst figure since 2008.

For its part, Social Security ended 2018 with an increase of 563,965 members (representing an increase of 3.06%), its second best figure since 2006. This increase meant that the year ended with over 19 million members, a figure that represents the second best annual figure on record, exceeded only by 2007 figures. Out of this increase in new members, 91% corresponds to registrations in the General Scheme (which increased by 3.38% compared with

the previous year) and the remaining 9% correspond to registrations in the Self-Employed Workers' Scheme (representing a 1.5% increase in its year-on-year accounting).

The increase in contributors recorded in 2018 represents the fifth consecutive annual increase and is also the second highest increase since 2006, only exceeded by that in 2017.

The number of female members (8,826,470) ended the year with 3.19% more than in 2017 and the contributor/pensioner ratio grew by five tenths and ended 2018 at 2.28.

In 2018, the number of households with all their members unemployed also decreased (by 157,100 families), which was equivalent to a 13% decrease compared with 2017 and was close to half the maximum reached in 2013, when it amounted to two million families. With these figures, households with all their members unemployed stood at 1,053,400 families, representing the best figure in the last ten years (despite the existence of 593,500 households in which there is no recipient of income from any type of social assistance).



## 2. Development of interest rates and exchange rates

**D**uring 2018, sovereign debt interest rates in the main European countries decreased, except in Italy, where it increased. Yield on the 10-year Spanish bond decreased from 1.56% at the beginning of the year to 1.42% at the end of 2018, as did yield on the German bond for the same term, which declined 18 base points to 0.24%. Consequently, the country risk for Spain (the spread compared to the German 10-year bond) was 118 base points at the close of the 2018 financial year, levels similar to those at the close of financial year 2017. In other peripheral nations in the

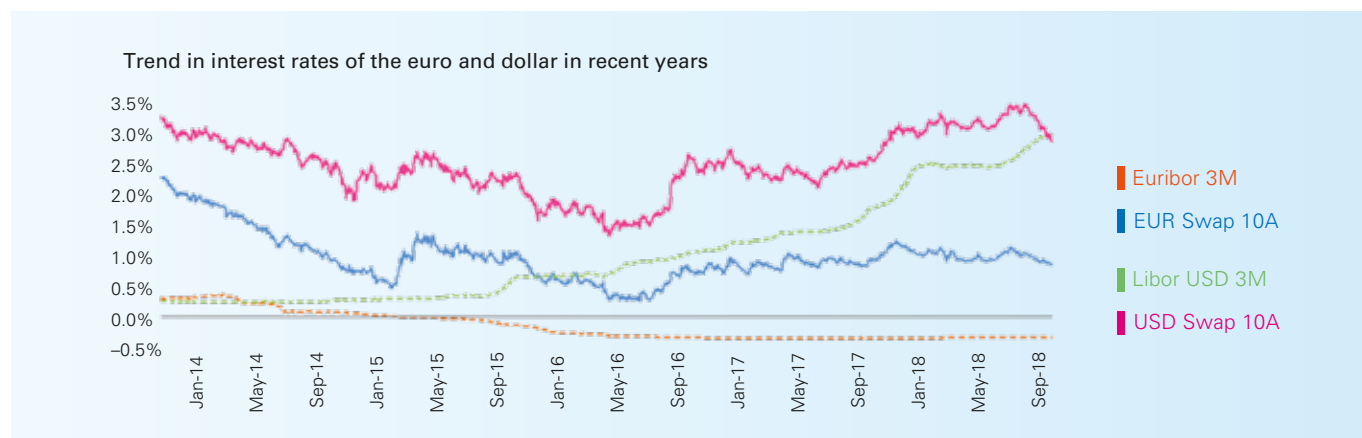
euro zone like Italy, the risk premium was 250 base points, up 92 bp from the previous year, whilst the risk premium for Portugal stood at 148 bp, the same levels as at the close of 2017.

In 2018, the European Central Bank (ECB) kept the Eurozone interest rates at their historical low of 0% and ended the debt purchase programme known as Quantitative Easing (QE) in December.

During 2018, the long-term interest rate of the euro (10-year swap) decreased, going from 0.89% at the start of the year to 0.81% at year-end. On the oth-

er hand, the short-term interest rate (3-month Euribor) remained at essentially the same levels, standing at -0.31%. The long-term interest rate for the US dollar (USD) increased during 2018 from 2.40% to 2.71%, while the 3-month interest rate on the US dollar (USD) rose in 2018 from 1.69% to 2.81%.

In 2018, the euro depreciated by 4.5% versus the US dollar (USD), with the euro/US dollar (EUR/USD) exchange rate going from 1.20 at the beginning of the year to 1.15 at the end of 2018.





## 3. International fuel and shipping market

### 3.1. Oil and oil derivatives

During 2018, Dated Brent crude oil prices continued to rise until October, exceeding \$80/bbl, then sharply declined during the final quarter, ending the year just above \$52/bbl (\$14 below its listing at the beginning of 2018). Following the agreements reached by OPEC to maintain the price of crude oil, 2019 started with an upward trend, although the price sustained by the US was above 11 MMbbl/day, versus 10 MMbbl/day in 2017.

#### Natural Gas

The price of international LNG had a trend similar to that of crude oil, being unexpectedly high in the summer months and then dropping about 25% in the final months of the year, ending at levels relatively similar to those at the beginning of 2018. For its part, the price of gas in Europe (TTF) followed a slightly different course, rising between 10% and 15% throughout 2018, supported mainly by an increase in CO<sub>2</sub> prices in Europe during the second half of the year.

In Spain, gas demand ended 2018 with a decline of 0.4% compared with the previous year, due to a 4.5% decrease in conventional demand and a decrease of 18.3% in electricity generation demand, which had grown by 26.7% the previous

year. The percentage of consumption allocated to electricity generation stood at 17.7% in 2018, after amounting to 21.6% in 2017.



### 3.2. Coal

The global demand for coal increased for the second consecutive year in 2018 and is expected to remain stable for the next five years. The declines in Europe and North America are offset by strong growth in India and Southeast Asia. Specifically, electricity generation from coal accounted for 28% of the generation of electricity worldwide in 2018.

The increase in much of Asia is due to the low prices and availability of this material. Despite this increase in their use, growth rates are slowing down due to the development of renewable energies, the abundant and growing supplies of natural gas and the use of more efficient technology in new coal power plants.

As regards China, the main player in the world coal market (representing almost half of the world's coal consumption), its demand is decreasing, due to the development of more sustainable policies, especially those associated with air quality. On the other hand, replacement between fuels or regional arbitration, such as, for example, the use of domestic coal versus imported coal, mean that any development in the Chinese coal

sector could potentially affect the prices of coal, gas and electricity worldwide.

It is predicted that the contribution of coal to the global energy mix will decrease slightly from 28% in 2018 to 25% by 2023.

Coal prices remained high throughout the year, with significant increases during the final part of the year. The API2 index (reference index for the market in Europe) had an average price in 2018 of \$91.54/mt.; the average price of the API4 index (reference index for South African coal) was \$97.97/mt. and the NEWC index (reference index in the Asian market) was \$107.51/mt. The main reasons for high prices are: the continued strong demand for coal in Asia (China and India) and supply, which is affected by: (i) a decreasing quality of coal and (ii) some supply problems during the period, in Australia, Indonesia, Colombia and South Africa due to various reasons (logistics problems, climate problems and greater domestic consumption).

In Europe, environmental policies, along with the expansion of renewables, led to the growing loss of coal in the energy "mix," especially in Western Europe.

The demand for coal remains stable in Eastern Europe, where new coal-fired power plants are being built. Its demand will not increase, given that older and less efficient power plants are being replaced.

Regarding the influence of the share of coal in the energy "mix" in Spain, it

accounts for a total of 14.5%, with a reduction of 2.6 percentage points compared with the previous year, due to the high prices of fossil fuels during much of the year and, above all, the price of CO<sub>2</sub> emission rights, which has multiplied fivefold in the last year and a half. Combined with the fact that we are exiting a long period of drought, with reservoir levels at historic lows, even with relatively high hydroelectric production it has resulted that electricity prices could not be reduced, which is what had occurred in previous years.

### 3.3. Shipping Market 2018

In 2018, ENDESA transported 7.6 million tonnes of imported coal under its portfolio of charter contracts, accounting for 76.5% of total needs. 70% of FOB purchases originated in Indonesia, 21% in Colombia and the remaining 12% in the Baltic countries and US.

The strong recovery of the shipping market started in 2017, after having reached 30-year record lows in 2016; it continued in 2018 but at a slower pace, hindered by the trade crisis between China and the US and the worsening of the world economy's growth expectations.

In fact, dry cargo demand grew in 2018 by 2.6% versus 4% in 2017; however,

the new fleet supply only increased by 2.9%, i.e., 30% less than in 2017. The lower supply enabled the Time Charter index to improve by 10% in the Cape-size sector and by 20% in the Panamax sector. In the Supramax and Handymax smaller vessels sector, the daily rental rate increased by 23% and 14%, respectively.

91% of coal was transported in Cape-size vessels (up to 180,000 tonnes) and 70% of the total is based on the BC4 Richards Bay-Rotterdam route, the price of which was revalued by 13% in 2018. This increase was mainly due to the 30% increase in the cost of fuel, which could be charged to freight by the ship-owners.





## 4. The regulatory framework in 2018

### 4.1. Main regulatory developments in Spain

The new Government, established in June 2018, began a public consultation process in November prior to the Draft Law on Climate Change and Energy Transition. In this sense, the Draft Law responds to the Government's need to carry out measures and actions against climate change that involve, not only the Public Authorities, but also the private sector and the whole of society. Throughout the first quarter of 2019, the National Integrated Energy and Climate Plan will also likely be presented, the purpose of which is to move towards an increasingly less polluting production model, in line with the commitments made by our country in the Paris Agreement.

A series of reforms have also been undertaken that affect the various activities of the electricity and gas sector, the most relevant being those discussed below.

Royal Decree-Law 15/2018, of 5 October, on urgent measures for energy transition and consumer protection, introduces the following measures: (i) to eliminate the tax on the value of electricity production for the fourth quarter of 2018 and the first quarter of 2019, as well as the special tax on hydrocarbons

for generating electricity; (ii) to extend access and connection permits to the grid and to amend the amount of its financial guarantees; (iii) to encourage self-consumption; (iv) to promote renewables and sustainable mobility; (v) to extend the rates subsidy and introduce the thermal rates subsidy; and (vi) to establish new consumer protection measures.

Royal Decree-Law 20/2018, of 7 December, on urgent measures to boost economic competitiveness in the industry and commerce sector in Spain, enables the creation of closed electricity distribution networks, considers the Electointensive Consumer figure and establishes that cogeneration facilities that use renewable fuels or natural gas and that have exceeded their regulatory useful life after 1 January 2018 may receive the payment term for the operation corresponding to their installation type by the energy they produce up to a maximum period of two years.

Royal Decree Law 1/2019, of 11 January, on urgent measures to modify the authority of the National Commission of Markets and Competition (Comisión Nacional de los Mercados y la Competencia - CNMC) to the requirements resulting from the EU law in relation to Directives 2009/72/EC and 2009/73/EC of European Parliament, of 13 July 2009, on common rules for the domestic electricity and natural gas market, aims to modify the authority of the National Commission of Markets and Competi-

tion (CNMC, for its acronym in Spanish) to EU law, following the requirements made by the EU authorities.

In accordance with this Royal Decree Law, the CNMC shall be responsible for approving, by means of circulars, aspects such as the structure, methodology and specific values of the access tolls for natural gas and electricity transportation and distribution networks, the methodology and parameters for remunerating the transportation and distribution of gas and electricity, the system operator and gas system technical manager and the rate of remuneration of transport and distribution activities within the maximum limit set by the Government.

For its part, the Ministry for Ecological Transition shall approve a series of energy policy guidelines to be taken into consideration by the CNMC, which will cover aspects such as security of supply, the economic and financial sustainability of the system, supply independence, air quality, the fight against climate change, the management of demand, future technology choices or the rational use of energy. The Ministry will have one month to report on the CNMC circulars that may affect energy policy issues, or concern tolls, remuneration of regulated activities, access and connection conditions, and operating rules of the electricity and gas system, there being, in the event of a discrepancy, a Cooperation Commission to seek an understanding.

In relation to regulated activities, the CNMC opened a public consultation on the methodology for calculating the remuneration rate for the second regulatory period 2020-2025 for activities involving Distribution, Transportation, Electrical Systems of the Non-Peninsular Territories (NPTs), and in the facilities for generating electricity with renewable technologies. After this consultation, on 30 October 2018, the CNMC issued a report proposing a remuneration rate for Distribution, Transportation and Generation activities in the Non-Peninsular Territories of 5.58% and for Renewable Generation of 7.09%.

Based on this report, on December 28, 2018, the Ministry for Ecological Transition presented a Draft Law on the 2020-2025 remuneration rate, in accordance with the values proposed by the CNMC. In this way, a rate of return for Transportation, Distribution and Generation activities in the Electrical Systems of the Non-Peninsular Territories (NPTs) is proposed of 5.58%, and of 7.09% for Renewable Generation. In addition, for renewable facilities with a primacy scheme prior to Royal Decree Law 9/2013, the current profitability of 7.389% cannot be revised in the period 2020-2031, but the compensation of arbitration awards with a final decision shall be deducted in settlements from the difference of between 7.389% and 7.09%. The facilities may waive it and adopt the general scheme.

However, Royal Decree Law 1/2019, dated 11 January, establishes that Transportation and Distribution rates shall be set by the CNMC, with the Government retaining the power to set rates in the Electrical Systems of the Non-Peninsular Territories (NPTs) and in the facilities

for generating electricity with renewable technologies.

Lastly, consolidation of the balance of the electrical rate continued during 2018, as shown in the fact that the final settlement of 2017, approved in November 2018, delivers a surplus of €150 million, which is added to the surpluses of €550 million, €469 million, and €421 million from 2014, 2015, and 2016, respectively.

This road to final tariff balance is expected to continue in financial year 2019. In fact, Order TEC/1366/2018, dated 20 December, 2018, establishing the access tolls for electricity for 2019, states, in Article 7, that the amount from the surplus income from the system that is strictly necessary to cover the temporary imbalance that may arise in 2018 and 2019 shall be used.



## 4.2. Generation

- > Renewables, cogeneration and waste.

On 25 December, Order 1380/2018 was published, establishing the basis for granting investment aids in facilities for generating electricity with wind and photovoltaic technologies in the non-peninsular territories, co-financed with EU ERDF Funds. Within the framework of the Order, on 27 December, the Institute for the Diversification and Saving of Energy (IDAE) published a Resolution making the first call for investment aid in facilities for generating electricity from wind technology located in the Canary Islands, co-financed with EU ERDF Funds. The maximum capacity to be installed is 217 MW (in projects

that must exceed 800 kW) and the budget is €80 million. The deadline for submitting applications is three months.

- > Payments for capacity.

Order TEC/1366/2018 repealed the availability service that had been provided by coal, combined cycle and hydroelectric power plants, which could be managed at the request of REE. The Order specifies that the elimination of the incentive is due to the fact that, with increasing renewable penetration and with the upcoming approval of the European Union's (EU's) Internal Energy Regulation, it makes sense to carry out an in-depth analysis of the availability service.



## 4.3. Subsidised rate

Royal Decree Law 7/2016, dated 23 December, regulating the mechanism for financing the cost of the discount rate and other measures to protect vulnerable electricity consumers, establishes that the discount rate will be financed by the parent companies of the groups with marketing activity or by the companies that carry out said activity directly.

The financing percentage shall be determined annually by the CNMC and shall be proportional to the number of customers. ENDESA took over 37.15% in 2018 and, for 2019, 36.36% of the total has been calculated.

Order ETU/361/2018, dated 6 April, set 7 October 2018 as the final date of the transitional period for beneficiaries of the discount rate prior to Royal Decree





897/2017 to be allowed renew it under the new criteria.

With the publication of Royal Decree Law 15/2018 dated 5 October, new features in Royal Decree 897/2017 of the discount rate are introduced, including, primarily: the expansion of the group of beneficiaries to single-parent families or members in situations of grade II or III dependence, the increase of the maximum consumption discounted by 15% and the flexibility of its calculation (excesses over the maximum can be offset with discounted and unused energy from the previous 12 months); the discount rate shall be applied, with retroactive effect from 8 October, to beneficiaries of the previous discount rate who meet the

requirements of the current discount rate and who so request between 8 October and 31 December.

A thermal discount rate is also created for heating, hot water or cooking expenses in the winter, financed by the General State Budgets, the beneficiaries of which shall be consumers who benefited from the electric discount rate as at 31 December the previous year.

Likewise, Royal Decree Law 15/2018 also amends Law 24/2013, of the Electricity Sector, to include a new category of essential supplies that shall be the supplies that incur non-payments on the electricity bills held by beneficiaries of the discount rate and who, for its application, have proven to be

part of a family unit in which there is at least one child aged under sixteen (16), or the holder, or a member of the family unit, is in a situation of recognised grade II or III dependence, or has a recognised disability equal to or greater than 33%, all under the terms established in the regulations. The situation of social vulnerability of these groups must be proven by means of a document issued by social services. Lastly, a 6-month deadline is set for the Government to approve a National Strategy for the Fight Against Energy Poverty, which shall analyse the effectiveness and efficiency of the instruments and shall set targets for reducing energy poverty in the medium and long term.



## 4.4. Interruptibility

The interruptibility service is an efficient demand management service that can be used by consumers that may stop their activity at times of saturation in the electricity system, obtaining economic consideration for it. This demand man-

agement tool allows flexibilising system operation and giving fast, efficient responses in the event of possible emergency situations, minimising the impact on system security.

Auctions were held during the week of 10 to 14 December 2018 to assign the interruptible power for the delivery period between 1 January and 30 June 2019, awarding total power of 2600 MW.



## 4.5. Distribution

On 30 December 2013, Spanish Royal Decree 1048/2013 of 27 December was published, setting out the methods for calculating the electricity distribution activity remuneration, containing elements that will guide the future remuneration for this activity. Following the publication of Ministerial Order IET 2660/2015, the first regulatory period began on 1 January 2016, which will

end on 31 December 2019. Ministerial Order IET/980/2016 established the remuneration of the distribution business for financial year 2016.

The ministerial orders establishing the remuneration of distribution for financial years 2017 and 2018 are still pending publication.



## 4.6. Electricity tariff

### > 2018 electricity tariff

On 27 December 2017, Order ETU/1282/2017, of 22 December was published, establishing the electricity access use charges for 2018. This





Order maintains the access tolls unchanged.

#### > 2019 electricity tariff

On 22 December 2018, Order TEC/1366/2018, of 20 December was published, establishing the electricity access tolls for 2019. This Order maintains the access tolls unchanged.



## 4.7. Gas tariff

#### > 2018 gas tariff

Order ETU/1283/2017, of 23 December, has maintained the access tolls compared to 2017, also having updated the Last Resort Tariffs (TUR) for 2018 with an increase of 4.7% for TUR 1 and 6.4% for TUR 2 due to the increase in the costs of raw materials.

#### > 2019 gas tariff

Order TEC/1367/2018, dated 20 December, kept the access tolls of 2018, with the exception of the ship discharge toll, which has been increased for 3 of the 6 plants. Likewise, the Liquefied Natural Gas (LNG) load toll for ships has also been modified and the prices for new services, intended to promote LNG bunkering, have been established. A provisional price has also been set at €/kWh/day/month for the access toll to the virtual balance point from the distribution network.

The TURs for natural gas were updated for the first quarter of 2019, with a decrease of 3.8% for TUR.1 and 4.8% for TUR.2, compared with the previous quarter, as a result of the decrease in cost of the raw material.



## 4.8. Mandatory market makers in MIBGAS

By agreement of the Council of Ministers of 10 November 2017, the business groups that hold the status of dominant operators in the natural gas sector (Naturgy and ENDESA groups) are required to submit bids to buy and sell in the organised gas market (MIBGAS). The Resolution of 11 December 2017 sets out the conditions for the provision of the mandatory market maker service by the dominant operators of the natural gas market. Since 2 January 2018, ENDESA has been performing the function of mandatory market maker in MIBGAS for the daily product and the following month.





## 4.9. Regulatory developments in Europe

In Europe, in 2018, progress continued to be made in the project to integrate the European electricity and gas markets. During this year, the Parliament and the European Council concluded negotiations on the legislative package, *Clean Energy for all Europeans*, a set of regulatory proposals and measures of the European Commission that have the aim of modernising the economy and relaunching investments in the sectors related to clean energy. Specifically, in 2018, the Directive on Energy Efficiency in Buildings 2018/844, the Directive on the Promotion of the Use of Energy from Renewable Sources 2018/2001, the Directive on Energy Efficiency 2018/2002 and the Governance Regulation 2018/1999 were published. An agreement was also reached on the final text of the Electricity Directive and Regulation. Its publication is expected for the second quarter of 2019.

The *Clean Energy for all Europeans* legislative package pursues 4 main objectives: (i) to place energy efficiency in the foreground; (ii) to accelerate the reduction of greenhouse gas emissions; (iii) to empower consumers to become active agents; and (iv) to establish a modern-

ised design of the electricity markets. The proposals that are still under negotiation are already in their final stages, therefore, it is estimated that they will enter into force in 2019.

On the other hand, in 2017, the approval of all network codes concerning the market and operation of the system was completed. 2018 was an intense year in the approval and preparation of the numerous specific developments required by the network codes, especially those related to the electrical balance network code.

It should also be noted that, in June 2018, the continuous intraday market coupling of 14 countries was initiated (Germany, Austria, Belgium, Denmark, Spain, Estonia, Finland, France, Latvia, Lithuania, Norway, the Netherlands, Portugal and Sweden), as a result of the XBID (Cross-Border Intraday) project. The bids from agents in one country can be matched with bids from agents in other countries, provided that cross-border transport capacity is available. On the first day of trading, transactions were concluded between MIBEL agents and Scandinavian agents. New countries will be joining in the future.

However, for the MIBEL, a hybrid intraday market has been defined (in addition to the XBID continuous intraday, we maintain 6 regional auctions between ES-PT).

At the same time, the European Commission published, in 2017 and 2018, the so-called *Clean Mobility Package*. The aim of these proposals is to: (i) integrate the transport sector into the climate change targets, taking into account the competitiveness of the sector; (ii) set ambitious CO<sub>2</sub> reduction objectives for 2030 for both light and heavy vehicles and vans; (iii) promote clean mobility and the infrastructure necessary for its roll out; and (iv) incentivise low-emission vehicles.

Out of all the proposals, only the proposed Regulation that introduces binding targets for reducing CO<sub>2</sub> emissions for vehicles and vans could be approved before May 2019.

Lastly, 2018 was marked by the implementation of the General Data Protection Regulation (GPDR) and by the beginning of the application of the new regulatory framework on markets and financial instruments, based on the MiFID II directive and the MiFIR regulation. Regulatory activity related to lower rank regulatory developments that affect the *commodities* and derivative financial products markets continued. On the other hand, progress was made in the proposal to review and simplify the regulation relating to over-the-counter derivatives, central counterparty entities and transaction records (EMIR).



# 5. Stock Market Performance and Investor Relations

## 5.1. ENDESA in the stock market

2018 was a negative year for most securities markets, affected by incipient signs of economic slowdown and changes in monetary policy by the Fed and the ECB that were interpreted as a possible cycle change and by factors like trade tensions, questions about conclusion of Brexit or political instability in countries like Spain and Italy.

The Spanish market was not an exception. Its premier indicator, IBEX-35, sustained high volatility and ended the year with a decrease of 14.97%, recording its worst annual result since 2010 when it dropped more than 17%.

Performance was largely similar in the other European markets. The German exchange was dogged with even worse performance, with the DAX index dropping 18.3%, hit by poor development of exporting companies faced with the threat of the USA's trade war against China and Europe. The London FTSE lost 12.48% in the United Kingdom, and the French CAC closed the year down by 10.95%.

In Italy, the FTSE MIB closed down 16.15% due to political tensions between the Italian government and the European Union due to its spending plans, which triggered risk premium for the country.

The US indices also experienced declines, albeit fewer, and only a single digit. The S&P 500 lost 6.2% and the DJIA 5.63%, while the NASDAQ 100 index finished best, losing only 1%.

The Spanish IBEX-35 began 2018 on the optimistic note with which it finished the previous year, and reached its highest level at the end of January with 10,609.5 points, managing to accumulate a revaluation close to 6%. The decline in the index was practically continuous from that point, with the exception of a brief uptick in May and June fuelled by the government change.

The Spanish market exhibited considerable volatility and a negative trend in the second half of the year. The IBEX-35 index reached its lowest point of the year on 27 December at 8,363.9 points, 17% below the start of the year, closing a few sessions later near that level at 8,539.9 points, a drop of 15% as already mentioned.

Only eight stocks on the IBEX-35 managed to close in positive territory. The biggest gains were in companies in the electric sector, stocks with defensive profiles that provide safe havens in difficult markets. ENDESA remained in second place in this ranking, with cumulative revaluation of 12.74% for the year. Conversely, the lowest positions were held largely by bank stocks, affected by the low interest rate environment that penalized their normal business margins.

The good performance by Spanish electric companies also helped the EUROSTOXX UTILITIES index finish as the second best European industry index in 2018, despite the fact that its performance was practically flat at the end of the year, revalued slightly at 0.3%. ENDESA was the fourth highest company quoted in the indicator.

Despite the track record of the IBEX-35, ENDESA stock moved from low to high in 2018, reaching its annual lowest at 16.6 euros per share at the close of the 9 February session and its highest of 21.27 euros per share in the 24 December session.

The main factor driving this growth was the sustained improvement in fundamental business parameters throughout the year, especially the improvement in hydroelectric production, renewable energy and more favourable conditions in the gas market.

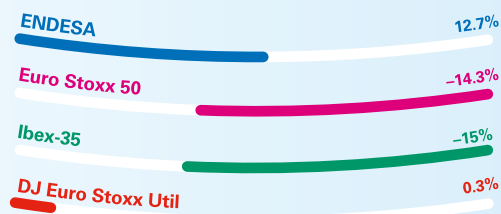
The improvement in its operating environment was combined with the government change in the second half of the year, which the market reacted favourably to. In the last quarter, ENDESA stock sustained a setback in October due to a sudden increase in perception of regulatory risk due to the political situation, but the presentation of the 2019-2021 Strategic Plan in November managed to reverse the pricing trend and it closed the year at €20.13 per share, very close to the highest levels of the year.



The €1.382 per share that the company shared as ordinary dividends charged to the 2017 profits, which provided an additional profit from dividends of 7.74%, were added to the 12.74% positive cumulative market profitability for the

ENDESA shares in 2018. All in all, total profitability for shareholders calculated as the total of stock market profitability and profit from dividends came to 20.48% in 2018.

#### ENDESA'S PERFORMANCE ON THE MADRID STOCK EXCHANGE AND COMPARISON WITH THE MAIN BENCHMARK INDICES. 2018



ENDESA closing market capitalisation for the year was 21,313 million euros, the 9<sup>th</sup> highest capitalisation on the Ibex-35.

#### EVOLUTION OF ENDESA'S STOCK MARKET CAPITALISATION (2014-2018) (M€)



#### Main statistical data of ENDESA shares in 2018

Continuous market	Maximum	Minimum	Average	Close	% Annual revaluation	% Total Profitability	Volume of shares traded
ENDESA (€/share)	21.270	16.600	18.938	20.130	12.7%	20.5%	547,343,953

Source: Madrid Stock Exchange.



## 5.2. Dividend

In line with the Dividends Policy approved by ENDESA's Board of Directors on 21 November 2017 for the 2017-2020 period, ENDESA's General Shareholders' Meeting held on 23 April 2018 approved the distribution of a total ordinary dividend charged against the closing profits for 2017, at a gross amount of 1.382 euros per share, a figure equalling 1.463 billion euros. This dividend was paid to the shareholders in two cash payments made on 02 January 2018 for 0.7 euros gross per share (741 million euros in total) and on 02 July 2018 for 0.682 euros per share (722 million euros). For the coming years, the Dividend Policy for the 2018-2021 period ap-

proved by the Company's Board of Directors in its session of 20 November 2018 establishes that the Board of Directors will ensure that the ordinary dividend per share agreed to be paid out for financial years 2018-2020 is equal to 100% of the ordinary net earnings of the Parent Company in the consolidated financial statements of the Group that it heads.

For the financial year 2021, the Board of Directors will ensure that the ordinary dividend per share agreed to pay out for that year is equal to 80% of the ordinary net earnings attributed to the Parent Company in the consolidated financial statements of the Group.

It is the intention of the Board of Directors that payment of the ordinary dividend shall be made exclusively in cash, by payment in two instalments

(January and July) on the specific date that is to be determined in each case and which shall be appropriately communicated.

As for the ordinary dividends charged against the profits for 2018, the ENDESA, S.A. Board of Directors has resolved to distribute a dividend to its shareholders in the gross amount of 0.70 euros per share.

Payment of this dividend, involving an outlay of 741 million euros, was made on 2 January 2019.



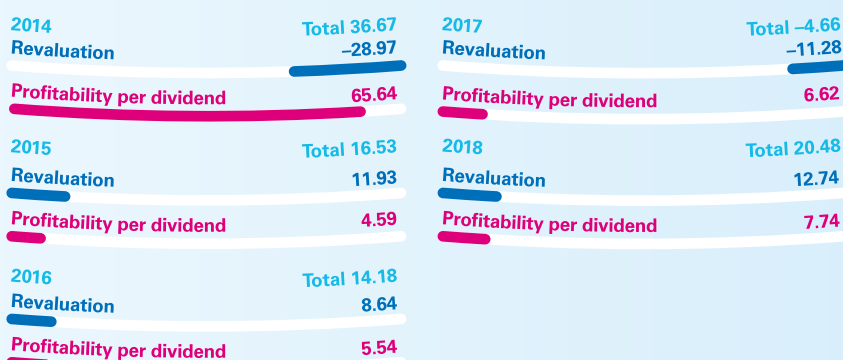
## 5.3. Total profitability for the shareholders

Total profitability for ENDESA shareholders was 20.48% in financial year 2018, since the profitability of 7.74% allocated based on dividends paid in the

year was added to the 12.74% revaluation of the stock.

During the last five years, the average total profitability for ENDESA's shareholders has been 16.6%.

PERFORMANCE OF ENDESA'S TOTAL SHAREHOLDER PROFITABILITY 2014-2018 (%)







## 5.4. ENDESA in the IBEX 35

Since its return to the IBEX-35 in November 2014, ENDESA is weighted in the index with a coefficient of 40% of its capital, given that its floating capital (*free float*) is 29.9%, within the 20-30% tranche.

With consideration of this weighting, ENDESA shares ended 2018 in 16<sup>th</sup> place on the IBEX-35 based on capitalisation level adjusted for free float.



## 5.5. Liquidity

The mean daily share figure of ENDESA shares traded in 2018, considering trading in the Continuous Market and including the blocks and special operations, amounted to 2,146,447 shares, 2% more than 2017, which was 2,105,074 shares.

The total volume traded in 2018 was a rotation 0.52 times the company capital. However, this rotation was 1.73 times considering only the number of real shares in circulation at year-end, some 29.9% of the capital after the initial public offering carried out in 2014.



## 5.6. ENDESA's rating

In financial year 2018, volatility returned strongly to yields and fixed income prices. In the public debt international markets, a wide gap opened between the 10-year US and European rates. In the euro area bond markets, the predominant tension was dominated by

Italian bonds, the risk premium of which against the German 10-year benchmark bonds increased to 300 basis points.

The Spanish risk premium, comparing Spanish bonds with German ones, ended the year at 118 base points, 4 more than at the beginning of 2018. The annual maximum was recorded on 29 May, standing at 134.4 basis points, due to the political instability generated by the presentation of the vote of no confidence that led to a change of government. In the following days, it recovered, amounting to below 100 basis points.

This scenario of relative calm was endorsed by the main rating agencies. In this regard, on 19 January 2018, Fitch Ratings improved its sovereign rating to A-, with a Stable outlook. On 23 March 2018, Standard & Poor's also improved Spain's sovereign rating to A-/A-2, with a Positive outlook. In the case of Moody's, the agency improved Spain's sovereign rating to Baa1, with a Stable outlook.

With regard to the Electrical Sector, its fundamentals remained healthy both in terms of stability of demand and tariff sufficiency.

In the case of ENDESA, it should be noted that, on 19 February 2018, Fitch Ratings confirmed the BBB+ rating with a Stable outlook. Likewise, on 1 August 2018, Moody's reaffirmed its Baa2 rating, also with a Stable outlook.

Developments in ENDESA's credit ratings in financial year 2018 were as follows:

ENDESA's credit rating is subject to that of its parent company, ENEL, in accordance with the methodologies used by the rating agencies and, as at 31 December 2018, it fell within the "investment grade" category, according to all rating agencies.

ENDESA works to maintain its investment grade credit rating to be able to efficiently access money markets and bank funding, and to obtain preferential terms from its main suppliers.



## 5.7. Relations with investors and activities of the Shareholders' Office

ENDESA maintains a constant relationship with its shareholders, private and institutional investors and leading stock market analysts, providing them with a steady stream of detailed information through the Investor Relations Department and the Shareholders' Office in Madrid.

In this regard, on 11 November 2015, the ENDESA Board of Directors, in accordance with the Code of Good Governance of Listed Companies, approved the 'Policy of communication and contact with shareholders, institu-

	Credit Rating					
	31 December 2018 <sup>1</sup>			31 December 2017 <sup>1</sup>		
	Long Term	Short Term	Outlook	Long Term	Short Term	Outlook
Standard & Poor's	BBB+	A-2	Stable	BBB+	A-2	Stable
Moody's	Baa2	P-2	Stable	Baa2	P-2	Stable
Fitch Ratings	BBB+	F2	Stable	BBB+	F2	Stable

<sup>1</sup> On the respective formulation dates of the Consolidated Management Report.

tional investors and vote advisers'. The main objective of this Policy is that the Company maintains transparent, complete and truthful information, providing permanent attention to relations with its shareholders and institutional investors.

The general principles governing this policy are transparency, immediacy, continued information, equality of treatment, affinity to company interests and compliance with regulations.

The Auditing and Compliance Committee is the body responsible for supervising the communications strategy and shareholder and investor relations, including small and medium shareholders. In compliance with this policy, the Auditing and Compliance Committee supervised its Strategy for Communication and Relations with Shareholders, Investors and Other Stakeholders in its meeting of 17 December 2018 for the year 2018.

The conclusions of the Committee indicate that the channels for dissemination of ENDESA information are operating properly and it is being performed in accordance with the general principles of ENDESA policy and in compliance with best corporate governance practices.



## 5.7.1. Relations with investors

Among the activities performed by the Investor Relations Department in 2018, we should emphasize making public presentations to analysts and investors on the company's quarterly profits and its strategic plan.

In this regard, on 21 November 2018, ENDESA presented the market with an update of its strategic plan for the 2019-2021 period.

ENDESA conducted two Non-Deal Road Shows during 2018. The first was held in Europe and the United States in March, after presentation of the profits for 2017. The second, also held in Europe and the United States, was held in November after presenting the updated 2019-2021 Strategic plan, with the aim of informing the Company's main investors about the update of the plan in depth. In these two Roadshows, ENDESA visited a total of 17 cities, meeting with 149 investors. ENDESA also participated in 5 Reverse Roadshows, meeting with 61 investors in Madrid.

Furthermore, ENDESA's Investor Relations Department attended a total of 7 international conferences on the sector, where it was able to meet with 91 investors.

It should also be noted that as part of its daily activity, the Investor Relations Department responded to a total of 1,158 queries from analysts, investors and rating agencies by telephone, e-mail or in face-to-face meetings.

Finally, on 23 April 2018, at its headquarters in Madrid, ENDESA held its Ordinary General Shareholders' Meeting, at which all the items on the agenda were approved, with a quorum of 81.731% of the share capital being present.



## 5.7.2. Shareholders' Office

One of the most significant channels that the company places at the disposal of its private shareholders is the "Information for Shareholders and Investors" included on its corporate website ([www.endesa.com](http://www.endesa.com)).

During 2018, ENDESA's Shareholders' Office responded to 1,761 telephone calls and received 88 visits, and 1,042 documentation deliveries were performed.

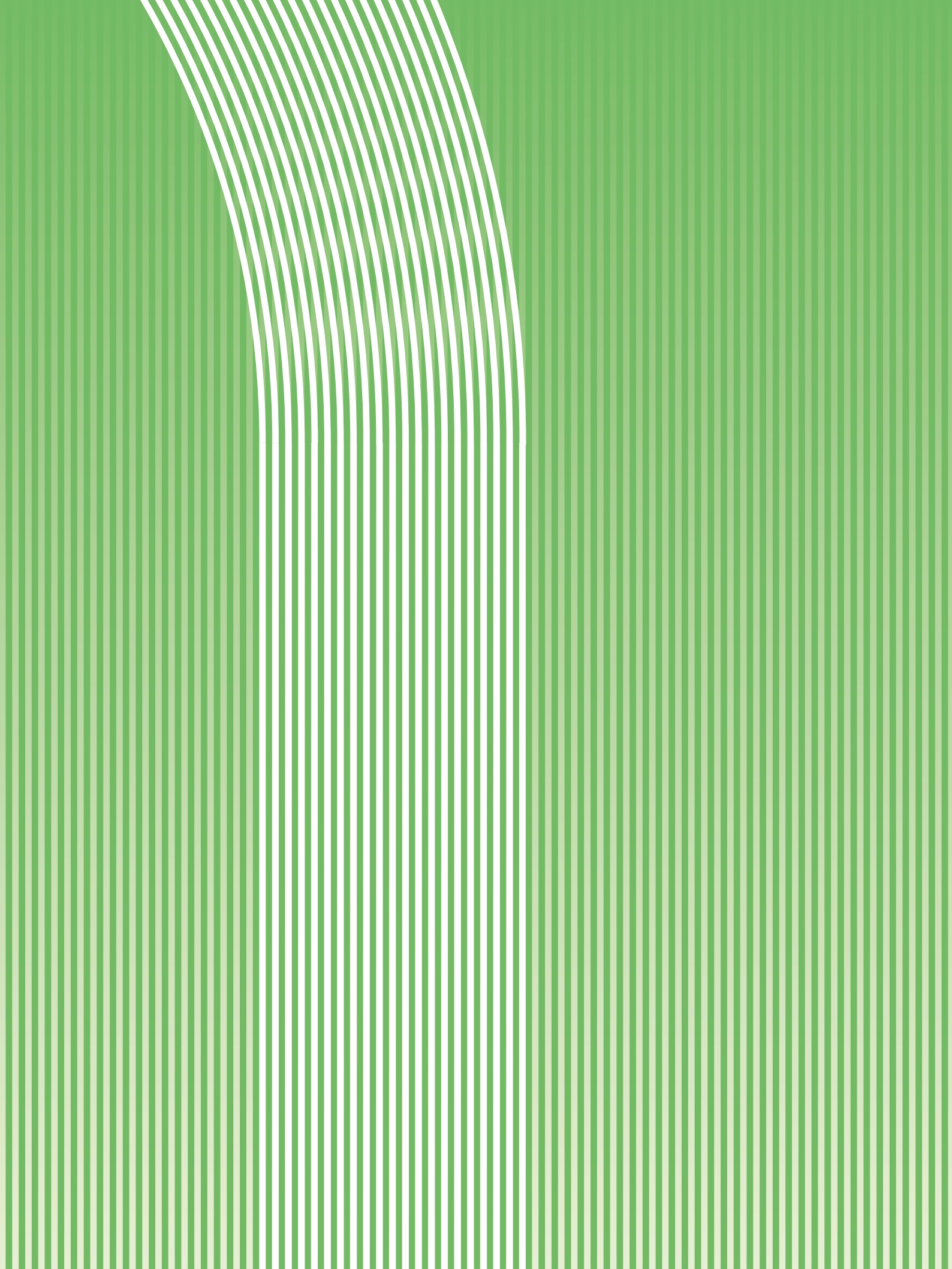


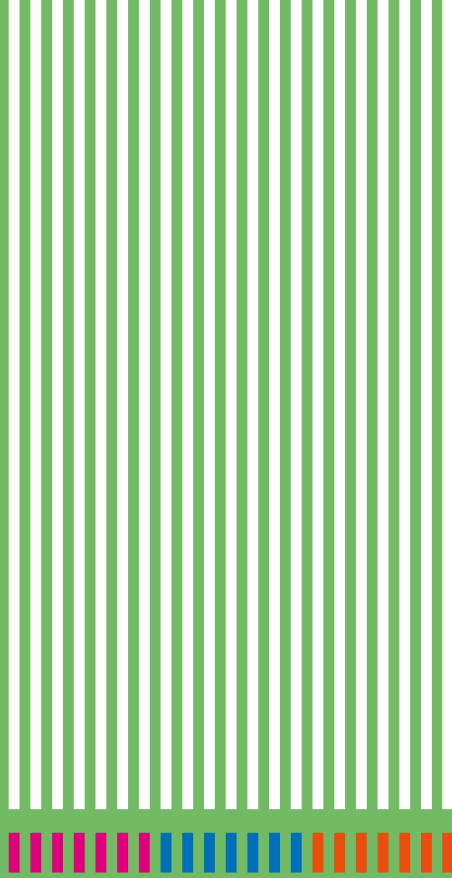
**2,891 requests from shareholders were handled by the Shareholder's Office**

TYPE OF INFORMATION REQUESTED FROM ENDESA'S SHAREHOLDERS' INFORMATION OFFICE IN 2018









# 03

Governing bodies  
of the Company



# Governing bodies of the Company

## Executive Committee



### CHAIRMAN

Mr Borja Prado Eulate

### BOARD MEMBERS

Mr Francesco Starace

Mr José D. Bogas Gálvez

Mr Alberto de Paoli

Mr Miquel Roca Junyent

Mr Ignacio Garralda Ruiz de Velasco

Mr Alejandro Echevarría Busquet

### SECRETARY

Mr Francisco Borja Acha Besga

## Appointment and Compensation Committee



### CHAIRMAN

Mr Miquel Roca Junyent

### BOARD MEMBERS

Mr Alberto de Paoli

Mr Ignacio Garralda Ruiz de Velasco

Mr Francisco de Lacerda

Ms Helena Revoredo Delvecchio

Mr Alejandro Echevarría Busquet

### SECRETARY

Mr Francisco Borja Acha Besga

## Board of Directors



### CHAIRMAN

Mr Borja Prado Eulate

### VICE-PRESIDENT

Mr Francesco Starace

### CHIEF EXECUTIVE OFFICER

Mr José D. Bogas Gálvez

### BOARD MEMBERS

Mr Alberto de Paoli

Mr Miquel Roca Junyent

Mr Alejandro Echevarría Busquet

Ms María Patrizia Grieco

Mr Enrico Viale

Ms Helena Revoredo Delvecchio

Mr Ignacio Garralda Ruiz de Velasco

Mr Francisco de Lacerda

### SECRETARY

Mr Francisco Borja Acha Besga

## Auditing and Compliance Committee



### CHAIRMAN

Mr Ignacio Garralda Ruiz de Velasco

### BOARD MEMBERS

Mr Alejandro Echevarría Busquet

Mr Alberto de Paoli

Mr Miquel Roca Junyent

Mr Francisco de Lacerda

Ms Helena Revoredo Delvecchio

### SECRETARY

Mr Francisco Borja Acha Besga

## Executive Management Committee



### CHIEF EXECUTIVE OFFICER

Mr José D. Bogas Gálvez

### GENERAL MANAGER - MARKETING

Mr Javier Uriarte Monereo

### GENERAL MANAGER - ENERGY MANAGEMENT

Mr Juan María Moreno Mellado

### GENERAL MANAGER - COMMUNICATION

Mr Alberto Fernández Torres

### GENERAL MANAGER - NUCLEAR

Mr Gonzalo Carbó de Haya

### GENERAL MANAGER - RENEWABLE ENERGIES

Mr Rafael González Sánchez

### GENERAL MANAGER - ADMINISTRATION, FINANCE AND CONTROL

Mr Luca Passa

### GENERAL MANAGER - MEDIA

Mr. José Luis Puche Castillejo

### GENERAL MANAGER - INSTITUTIONAL RELATIONS AND REGULATION

Mr José Casas Marín

### GENERAL MANAGER - PURCHASING

Mr Pablo Azcoitia Lorente

### GENERAL MANAGER - ICT

Mr Manuel Fernando Marín Guzmán

### GENERAL MANAGER - THERMAL GENERATION

Mr Paolo Bondi

### GENERAL MANAGER - INFRASTRUCTURE AND GRID

Mr Gianluca Caccialupi

### GENERAL SECRETARY TO THE BOARD OF DIRECTORS AND GENERAL MANAGER - LEGAL AND CORPORATE MATTERS

Mr Francisco Borja Acha Besga

### GENERAL MANAGER - AUDITING

Mr Luca Minzolini<sup>1</sup>

### GENERAL MANAGER - PEOPLE AND ORGANIZATION

Mr Andrea Lo Faso

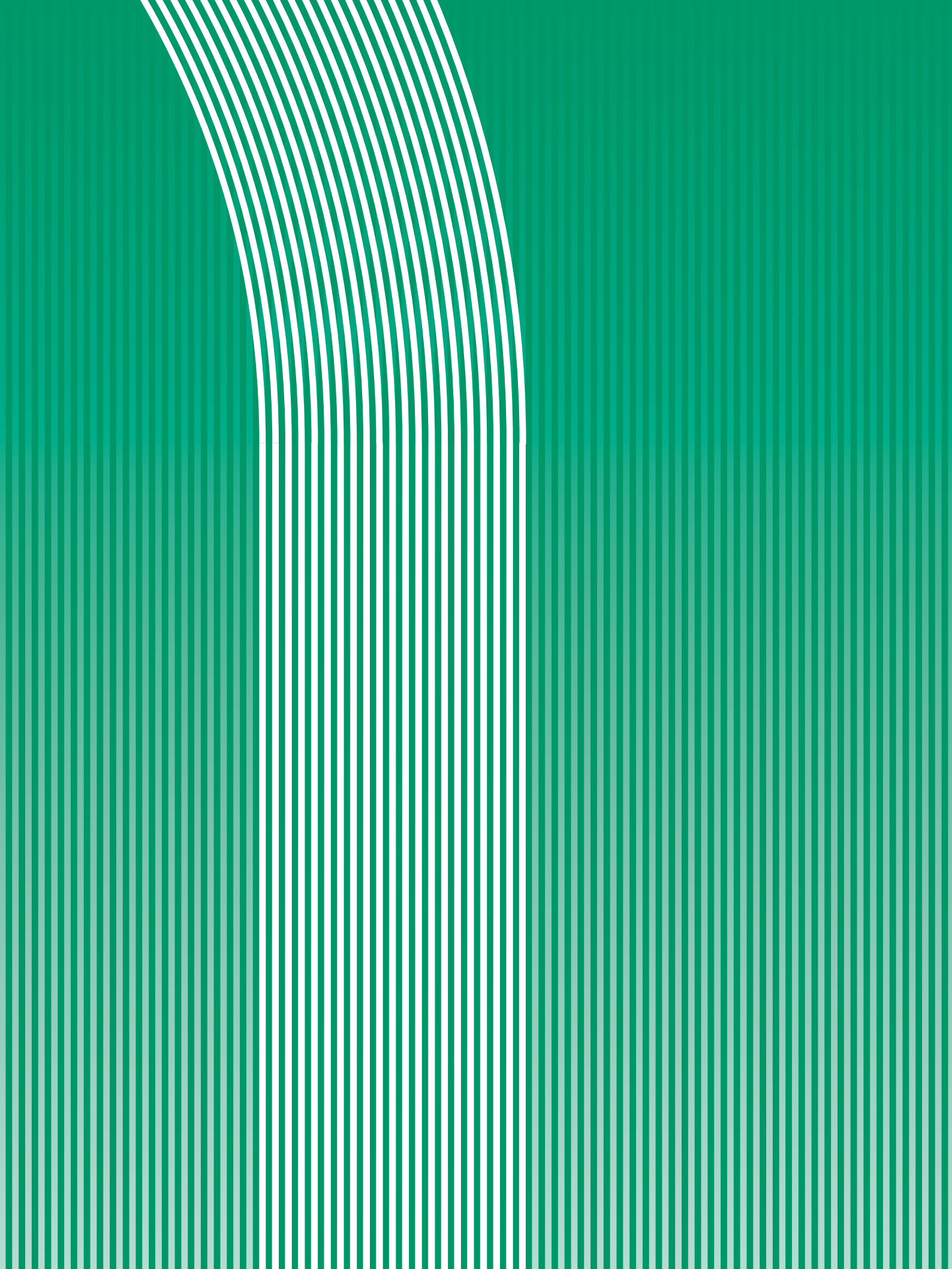
### GENERAL MANAGER - SUSTAINABILITY

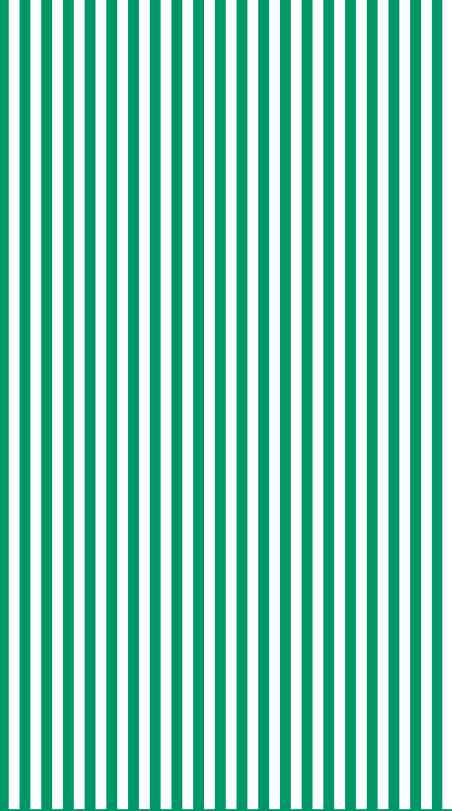
Ms María Malaxechevarría Grande

### GENERAL MANAGER - ENDESA X

Mr Josep Trabado Farré

<sup>1</sup> Without prejudice to the functional dependency on the Auditing and Compliance Committee.





# 04

## Strategy





# ENDESA's Industrial Plan

## Energy Policy

During 2018, ENDESA has continued advancing in its commitment to develop toward a more sustainable, dynamic and efficient business model aligned with the strategic vision of being the player that leads the energy transformation that Spain is facing and in taking advantage of new opportunities that may arise as a result of this huge challenge.

The European Union has assumed a clear commitment in the struggle against global warming, setting a goal of an 80% reduction in carbon dioxide (CO<sub>2</sub>) emissions by 2050 compared with 1990. To achieve this goal, specific and very ambitious energy policy targets have been defined to which all member countries are committed and that have been recently been reset higher.

The transposition of these goals to Spanish legislation is in the discussion phase through the Climate Change Bill which, if approved, will assume an even higher level of ambition in these environmental goals. By 2030, the proposed bill would include setting a goal of reduction of greenhouse gas emissions (GHG) from 20% compared to those from 1990 to reach 35% of final renewable energies consumption from the current approximately 17% and to promote energy efficiency by reducing consumption of final energy

by 35% with regard to the trending scenario established in 2007.

ENDESA estimates that meeting the decarbonisation objectives in Spain will entail facing huge challenges between 2018 and 2030:

- > Increasing electrification of final energy demand from the current 24% to approximately 33% in 2030. Electricity is between 3 and 5 times more efficient than fossil fuels in transport or heating and cooling, therefore, electrification of the final energy demand facilitates meeting the three environmental objectives (reduction of carbon dioxide (CO<sub>2</sub>) emissions, penetration of renewable energies and energy efficiency).
- > Promoting the development of the electricity generation mix until production levels reach approximately 70% from renewable sources, which will suppose an increase in the necessary renewable capacity, estimated between 55 GW and 60 GW.
- > Promoting energy efficiency measures.

But to achieve these objectives, contributions from all of the energy consumer sectors will be necessary:

- > In road transport, about 30% of the total kilometres travelled by light vehicles would be carried out by battery electric vehicles (BEV) or plug-in hybrid electric vehicles (PHEV) by the year 2030, thus reducing energy consumption and emissions from the sector.

- > In the residential and services, sector, the objective is to increase final renewable energy consumption and promote the use of heat pumps for heating. It will be necessary to support remodeling of buildings into those which are more efficient.
- > In the industrial sector, measures to introduce renewable energies as well as electrification of processes, where technically feasible, will be necessary.

Ultimately, the path to decarbonisation would be to significantly increase electric demand and radically modify the electric production mix, giving very relevant weight to renewable energies. Some key initiatives to consider in the Electrical Sector are:

- > Introduction of new smart rates to promote increased demand during low consumption hours in order to minimize demand peaks.
- > To maintain sufficient thermal capacity to guarantee future supply security since these technologies provide reliable reserve capacity at a competitive cost. In this aspect, it is important to mention the role of nuclear power generation, which is emission-free and provides basic load capacity, reducing the wholesale market price and furthering stability of the system.
- > Introducing capacity market mechanisms that guarantee future supply security while enabling profitability from the necessary

equipment. 4) Finally, automation and digitalisation of the power grids will be a key factor in driving electrification of demand. With regard to transmission and distribution networks, it is estimated that between 29 and 34 billion euros in network infrastructure will be needed by 2030 in order to make it a smart network that supports transformation of the energy model. These investments will be mainly intended for modernisation and digitalisation of network assets, electrification of energy consumption and the emission-free generation connection, and will require regulation that is attractive to the network operators.



## Strategic pillars

Taking into consideration the trends and new challenges faced by the sector, ENDESA has updated its Strategic Plan totally in line with the new energy paradigm, with the objective of capturing new growth opportunities associated with the energy transition and to continue consolidating the current leadership position. This Plan is based on the following priorities:

1. Decarbonisation of generation capacity while maintaining security of the supply and driving a growth very relevant to renewables.
2. Development and operation of more efficient grids with the goal of being the digital network operator that achieves excellence in the sector.
3. Management based on customer value, consolidating the electricity, gas

and ENDESA X businesses through innovation and digitalisation.

4. Investment in digitalisation which is considered as the key engine for improvement of efficiency.

Furthermore, all the objectives of ENDESA's Strategic Plan are fully aligned with the sustainable development commitments incorporated in its Sustainability Plan (see *Section 8. Sustainability Plan* from the *Consolidated Management Report*).



### 1. Decarbonisation of generation capacity maintaining the security of the supply

ENDESA's commitment to the gradual reduction of emissions to reach the final goal of zero emissions in 2050 is reflected in the following strategic initiatives:

Significant growth of estimated investments in renewables during the 2018-2021 period, which amount to 2 billion euros and double the amount of estimated investments in the previous plan. In 2021, ENDESA will have increased its installed renewable capacity by nearly 30% and before the end of 2019, it has the goal of commissioning 879 MW awarded in the capacity auctions held in 2017 and considers adding additional capacity of 1 GW by the 2021 fiscal year. With this commitment to renewable energies, ENDESA takes yet another step toward decarbonisation of its generation mix to address the energy transition framework.

> Long-term operation of nuclear power plants under secure conditions and with efficiency in costs, in order to guarantee the security of the supply.

> Environmental upgrades and improvement in availability of certain coal-fired power plants that are necessary to maintain the balance of the Peninsular Electricity System, avoiding cost increases, a rise in emissions and a spike in energy prices. Likewise, the efficiency of these plants will be optimised by development of new storage technologies.

> Investment in generation facilities in Non-Peninsular Territories to maintain an asset base and guarantee security of supply, as well as the launch of new storage projects in the Canary Islands.

### 2. Development and operation of more efficient grids

Development of the power grid is also a fundamental pillar in ENDESA's strategy. The forecast investment, driven by electrification of demand and integration of renewable energies, has the objective of improving the quality and efficiency of the grid while reducing the operating cost and increasing asset value through investment in smart grids and the search for excellence.

To that effect, ENDESA aspires to convert to a digital operator, dedicating 1 billion euros to automation and modernisation of the grid during the 2018-2021 period. This amount assumes approximately 53% of the 1.9 billion euros in





total investments planned for this business in the plan.

These digitalisation initiatives will contribute to improving the reliability of the grid and the quality of service. Specifically, ENDESA anticipates reducing interruptions by 26%, losses on the grid by 0.4 percentage points and operating costs per customer by 9% in 3 years.



### 3. Management based on customer value, to consolidate the electricity and gas businesses through innovation and digitalisation

Customer orientation will involve developing the following activities:

- > Consolidating the current position of ENDESA in the gas and electricity marketing business in Spain through active management based on customer value in the Business to Consumer (B2C) and Business to Business (B2B) segments.
- > To achieve greater knowledge of ENDESA's customer base through development of analytical capacities that allow maintaining and increasing its business margin.
- > Implementation of new commercial strategies that further retaining customers in both electricity and gas while solutions will be developed to allow acquiring more sophisticated profiles for Business to Business (B2B) customers.

- > Reinforcing operating efficiency and excellence in customer relationships with a growing focus on digitalisation and automation of the processes.
- > ENDESA X will supplement our focus on the customer through development of innovative, efficient and sophisticated products and services in four areas: industry, home, city and mobility.

Regarding mobility, ENDESA submitted a plan to promote e-mobility that has the objective of deploying a total of 41,000 public and private recharging points throughout the Spanish territory by 2021.



### 4. Investment in digitalisation, which is considered as the key engine for improvement of efficiency.

ENDESA has a strong commitment to digitalisation and the continuous search for efficiency, and this plan involves an important advance in implementation of the Digitalisation Plan which it has been working on in recent years. To that end, investments plans in digitalisation in all of its businesses are forecast in the amount of 1.3 billion euros between 2018 and 2021, which will involve benefits and cost savings estimated at 260 million by 2021. The greatest effort will be made in Distribution, which will dedicate one billion euros in digitalisation of the business, approximately 80% of the investments announced during the period.

These savings generated by digitalisation are produced mainly through:

- > Smart grids that enable customers to have active participation in the energy market.
- > Automation of construction processes, such as with renewable energies, significantly reducing the general costs, neutralising risk of overruns and thus providing greater value creation and less development time.
- > Thermal capacity, developing into the Electric Plant of the Future with a substantial improvement in flexibility and reliability of assets.

Regarding strategic efficiency objectives, ENDESA persists in its strong commitment to the continuous search for savings, and the major plans being developed in this area are the following:

- > **Generation:** continuous development of improvement programmes in all technologies and optimisation of fuel management. Specifically with regard to renewable energies, obtaining synergies in costs, thanks largely to unified operation management and maintenance of all the plants.
- > **Distribution:** digitalisation initiatives along with increased yield on assets and improvement in the quality of the service that will allow greater efficiency and reduce the unit cost per customer by 22% compared to 2015 levels.
- > **Marketing:** initiatives in the digitalisation chapter will contribute to a relevant reduction in the cost of serving customers, which will be reduced by 22% compared to 2015 levels and actions to reduce the cost of customer acquisition will result in an improvement in the turnover rate of our customers portfolio.



# Main financial indicators

The Industrial Plan approved by ENDESA, S.A.'s Board of Directors on 14 November 2018 envisages an investment target, net of grants and assets assigned by customers, of 6.4 billion euros in the 2018-2021 period, distributed, by type, in:

- > Investment in asset development (52%).
- > Investment in asset maintenance (37%).
- > Investment in customers (11%).

The distribution of said investment plan by Business Lines is as follows:

- > **Generation (59%)**, with investments in renewables (31%), in peninsular assets (19%) and in Non-Peninsular Territories (9%). Investment in renewable generation will concentrate on the development of new capacity of approximately 1.9 GW. The peninsular investments fundamentally include recurring maintenance invest-

ments and selective environmental investments in the imported coal-fired power plants aimed at compliance with EU emissions legislation. With regard to the Non-Peninsular Territories, investments related to maintenance, environmental protection and selective capacity replacements are anticipated.

- > **Distribution (30%)**, with investments in maintenance and investments in growth intended to increase the level of automation and digitalisation of the grid with relevant projects such as the Quality Plan or Grid Remote Control.
- > **Marketing (11%)**, with investments dedicated to developing new software tools supporting customer digitalisation and development of new products and services.

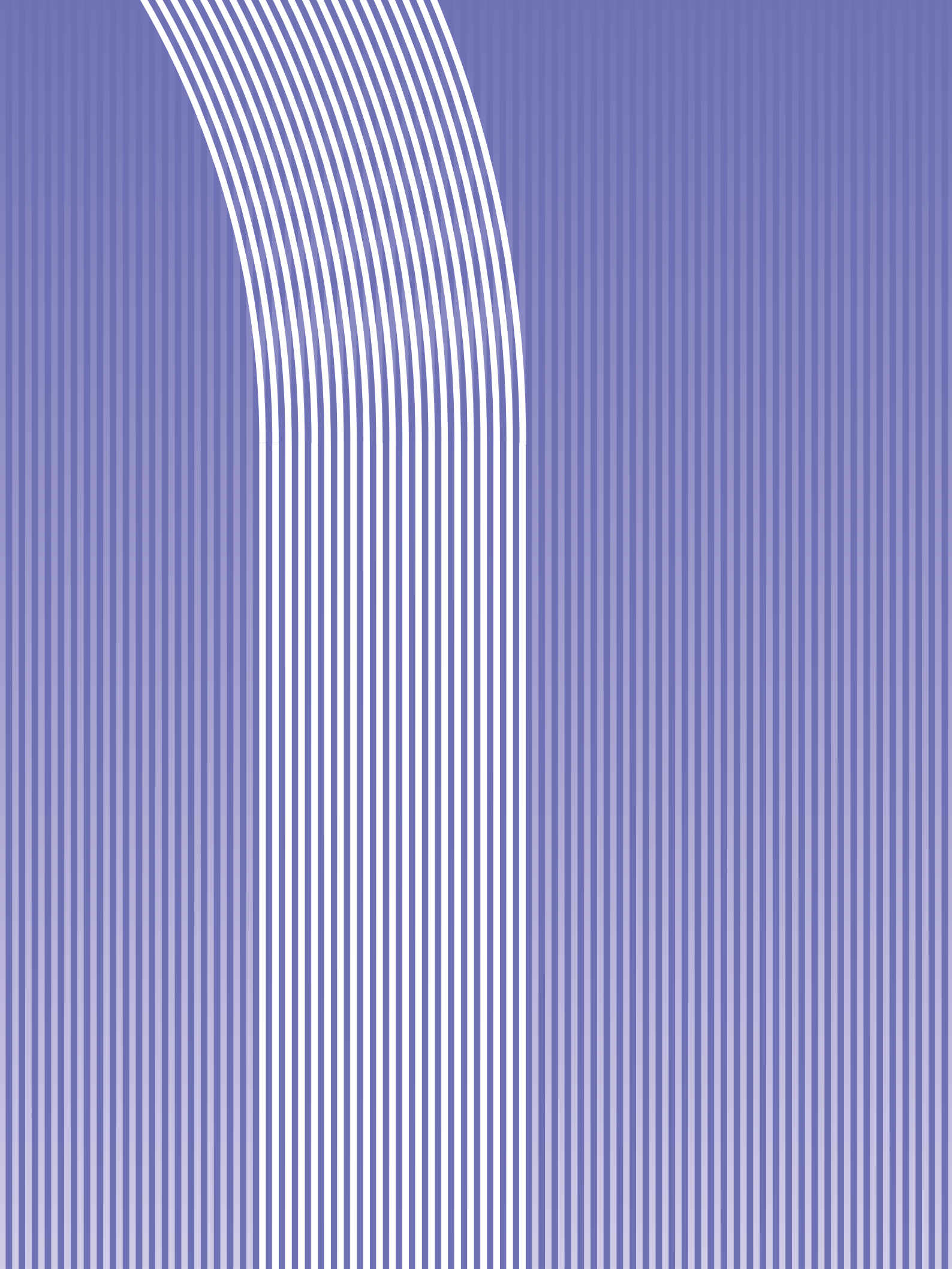
Based on the strategic pillars described in the previous paragraphs, and considering the estimates of economic, market and regulatory indicators in the coming years, ENDESA has prepared a business plan that includes, among other parameters, forecasts on economic

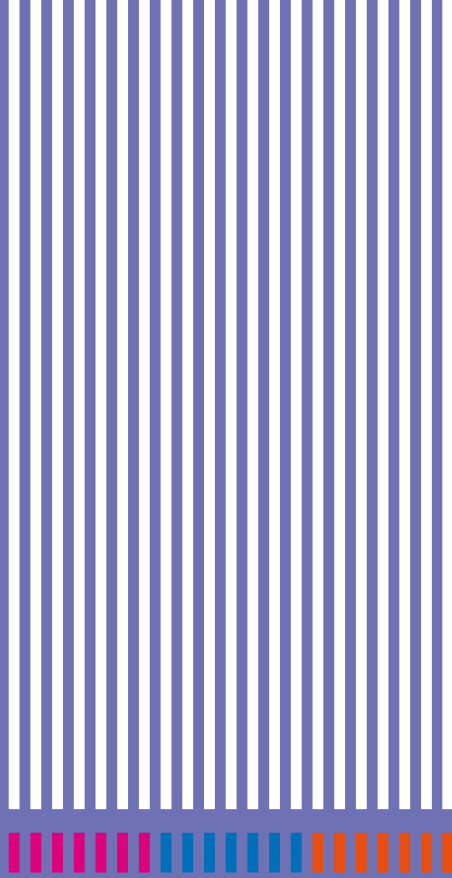
indicators of the Group's consolidated results. According to it, ENDESA expects a positive evolution in:

- > Gross operating profit (EBITDA): 4.0 billion euros during the 2021 fiscal year.
- > Net result: 1.8 billion euros during the 2021 fiscal year.
- > Net cash flow from operating activities, which will reach 8.4 billion euros during the 2019-2021 period and will enable ENDESA to adopt an investment plan and maintain an attractive shareholder compensation policy.

Notwithstanding the foregoing, prospective information cannot be considered a guarantee of the Company's future performance in that plans and forecasts are subject to risks and uncertainties, which could result in ENDESA's future performance not matching the initial forecasts (see *Section 7. Main risks and uncertainties in connection with ENDESA's activity from the Consolidated Management Report*).







05

Economic-financial  
results





# 1. Economic-financial results

## 1.1. Consolidated key figures

### 1.1.1. Net profit

ENEA obtained a net gain/(loss) of 1.417 billion euros in 2018, which represents a 3% drop with respect to the previous fiscal year (1.463 billion in 2017), al-

though still above its target earnings for the year of 1.4 billion euros.

The net gain/(loss) was affected by the allocation of losses due to impairment for the Alcudiaplant, a decision adopted after analysing the current regulatory and market conditions that have affected the useful life of the plant. Excluding

this provision, the net ordinary gain increased by 4.1% to 1.511 billion euros (1.452 billion in 2017).

The distribution of net profit and ordinary net profit for 2018 for all ENEA business and its variation from the previous fiscal year is displayed below:

	Net gain/(loss)				Ordinary net profit <sup>2</sup>			
	2018	2017	% Var.	% Contribution to total	2018	2017	% Var.	% Contribution to total
Generation and marketing	396	263	50.6	27.9	490	263	86.3	32.4
Distribution	1,046	1,048	(0.2)	73.8	1,046	1,037	0.9	69.2
Structure and other <sup>1</sup>	(25)	152	(116.4)	(1.7)	(25)	152	(116.4)	(1.6)
<b>Total</b>	<b>1,417</b>	<b>1,463</b>	<b>(3.1)</b>	<b>100.0</b>	<b>1,511</b>	<b>1,452</b>	<b>4.1</b>	<b>100.0</b>

<sup>1</sup> Structure, services and adjustments.

<sup>2</sup> Ordinary Net Result = Profit for the Fiscal Year for the Parent Company - Net Result from Sales of Non-Financial Assets (higher than 10 million euros) - Net Losses from Impairment of Non-Financial Assets (higher than 10 million euros).

Below is a breakdown of the most relevant figures for ENDESA's Consolidated Income Statement for the 2018 fiscal year and its variation compared to the previous fiscal year.

	Most Relevant Figures from the Consolidated Income Statement			
	2018	2017	Difference	% Var.
Income	20,195	20,057	138	0.7
Contribution margin	5,628	5,488	140	2.6
Gross operating profit (EBITDA) <sup>1</sup>	3,627	3,542	85	2.4
Operating profit (EBIT) <sup>2</sup>	1,919	2,031	(112)	(5.5)
Net financial result <sup>3</sup>	(139)	(123)	(16)	13.0
Profit/(loss) before tax	1,818	1,900	(82)	(4.3)
Net gain/(loss)	1,417	1,463	(46)	(3.1)
Ordinary net profit <sup>4</sup>	1,511	1,452	59	4.1

<sup>1</sup> Gross Operating Profit (EBITDA) = Income – Procurements and Services + Work Carried Out by the Group for its Assets – Personnel Expenses – Other Fixed Operating Expenses.

<sup>2</sup> Operating profit (EBIT) = Gross operating profit (EBITDA) - Amortisations and Impairment Losses.

<sup>3</sup> Net Financial Income = Financial Income – Finance Expense + Net Exchange Differences.

<sup>4</sup> Ordinary Net Result = Profit for the Fiscal Year for the Parent Company - Net Result from Sales of Non-Financial Assets (higher than 10 million euros) - Net Losses from Impairment of Non-Financial Assets (higher than 10 million euros).



## 1.1.2. Analysis of results

ENEA reported gross operating profit (EBITDA) of 3,627 million euros in 2018 (+2.4%). To analyse its evolution during the 2018 financial year, the following factors must be taken into consideration:

- > The reduction in cost of energy purchases (−3.0%) and fuel consumption (−1.1%) due primarily to lower thermal (−13.3%) and nuclear (−9.0%) produc-

tion for the year, despite the increase in cumulative arithmetic price in the wholesale electricity market (57.3 €/MWh; +9.7%).

- > The lower expense recorded in fiscal year 2017 for the rates subsidy of 222 million euros in accordance with Order ETU/929/2017 of 28 September and Order ETU/1288/2017 of 22 December, for which the various judgments in this respect were executed.

Operating profit (EBIT) for 2018 decreased 5.5% from the previous fiscal year, resulting in 1.919 billion euros, pri-

marily due to the allocation of losses of 158 million euros reflecting impairment for the Alcudia Thermal Power Plant (Balearic Islands).

## Income

In 2018, income totalled 20.195 billion euros, up by 138 million euros (+0.7%) compared with 2017. The breakdown for Income for the 2018 financial year and its variation compared to the previous fiscal year are presented below:

Millions of Euros				
	Income			
	2018 <sup>1</sup>	2017	Difference	% Var.
Sales	19,555	19,556	(1)	(0.0)
Other operating revenue	640	501	139	27.7
<b>Total</b>	<b>20,195</b>	<b>20,057</b>	<b>138</b>	<b>0.7</b>

<sup>1</sup> Includes income from Parques Eólicos Gestinver Gestión, S.L.U. (19 million euros) and Empresa de Alumbrado Eléctrico de Ceuta, S.A. (17 million euros) from their respective dates of taking control (see Section 2.5. Consolidation Scope from the Consolidated Management Report).

## Market Environment

During the 2018 fiscal year, the electric power demand demonstrated the following evolution:

- > Accumulated peninsular electric power demand increased 0.4% compared to the previous year (+0.3%, corrected for the effects of industrial activity and temperature).
- > The electric power demand in Non-Peninsular Territories ended in 2018 with an increase in 0.6% in the Balearic Islands and a reduction of 1.0% in the Canary Islands compared to the previous year (+0.2% and −1.0%, respectively, corrected for the effects of industrial activity and temperature).

The 2018 fiscal year was characterised by higher prices, placing the accumulated arithmetic price in the wholesale electricity market at 57.3 €/MWh (+9.7%), mainly as a result of the price increase of carbon dioxide emission (CO<sub>2</sub>) rights and the evolution of the raw material prices.

## Sales

The breakdown for Sales for the 2018 financial year and their variation compared to the previous fiscal year are presented below:





## Millions of Euros

	Sales			
	2018 <sup>1</sup>	2017	Difference	% Var.
Electricity sales	14,137	14,451	(314)	(2.2)
Liberalised market sales	9,236	9,533	(297)	(3.1)
Liberalised Spanish market sales	8,227	8,457	(230)	(2.7)
Liberalised market sales outside of Spain	1,009	1,076	(67)	(6.2)
Sales at regulated prices	2,339	2,460	(121)	(4.9)
Wholesale market sales	1,130	1,137	(7)	(0.6)
Non-Peninsular Territories compensation	1,318	1,215	103	8.5
Compensation for Investment in renewable energies	96	95	1	1.1
Other electricity sales	18	11	7	63.6
Gas sales	2,554	2,233	321	14.4
Liberalised market sales	2,469	2,150	319	14.8
Sales at regulated prices	85	83	2	2.4
Regulated revenue from distribution of electricity	2,209	2,231	(22)	(1.0)
Other sales and service provision	655	641	14	2.2
<b>Total</b>	<b>19,555</b>	<b>19,556</b>	<b>(1)</b>	<b>(0.0)</b>

<sup>1</sup> Includes sales from Parques Eólicos Gestinver Gestión, S.L.U. (19 million euros) and Empresa de Alumbrado Eléctrico de Ceuta, S.A. (17 million euros) from their respective dates of taking control (see Section 2.5. Consolidation Scope from the Consolidated Management Report).

The distribution of sales and other operating revenue among ENDESA's businesses during the 2018 fiscal year and their variation compared to the previous fiscal year are shown below:

## Millions of Euros

	Sales				Other operating revenue			
	2018	2017	% Var.	% Contribution to total	2018	2017	% Var.	% Contribution to total
Generation and marketing	17,203	17,223	(0.1)	88.0	418	286	46.2	65.3
Non-Peninsular Territories	2,106	1,943	8.4	10.8	9	9	—	1.4
Other generation and marketing	16,118	16,204	(0.5)	82.4	409	277	47.7	63.9
Adjustments	(1,021)	(924)	10.5	(5.2)	—	—	—	—
Distribution	2,509	2,492	0.7	12.8	275	258	6.6	43.0
Structure and other <sup>1</sup>	(157)	(159)	(1.3)	(0.8)	(53)	(43)	23.3	(8.3)
<b>Total</b>	<b>19,555</b>	<b>19,556</b>	<b>(0.0)</b>	<b>100.0</b>	<b>640</b>	<b>501</b>	<b>27.7</b>	<b>100.0</b>

<sup>1</sup> Structure, services and adjustments.



## Other operating revenue

During the 2018 fiscal year, the amount of other operating revenue increased to 640 million euros, 139 million euros (27.7%) higher compared to the 2017

fiscal year mainly as a result of the increase of 136 million euros (+86.1%) in income due to valuation and liquidation of fuel stock derivatives. The breakdown of other operating revenue for the 2018 fiscal year and its variation compared to the previous fiscal year are presented below:

## Millions of Euros

	Other operating revenue			
	2018	2017	Difference	% Var.
Changes in fuel stock derivatives	294	158	136	86.1
Amount taken to income for grants <sup>1</sup>	21	30	(9)	(30.0)
Amount taken to income for customer contract liabilities	157	153	4	2.6
Service provision at plants	6	10	(4)	(40.0)
Contract rights	42	45	(3)	(6.7)
Third-party compensation	31	20	11	55.0
Other	89	85	4	4.7
<b>Total</b>	<b>640</b>	<b>501</b>	<b>139</b>	<b>27.7</b>

<sup>1</sup>Includes grants related to assets in the amount of 18 million euros during the 2018 fiscal year (22 million euros during the 2017 fiscal year) see Notes 16 and 25.2 of the Notes to the Consolidated Financial Statements pertaining to the financial year ending 31 December 2018).



## Operating costs

Operating expenses totalled 18,546 million euros in 2018, up by 1.6% against the previous fiscal year. The breakdown of operating expenses for financial year 2018 and their variation compared to the previous fiscal year are presented below:

## Millions of Euros

	Operating costs			
	2018 <sup>1</sup>	2017	Difference	% Var.
Procurement and services	14,567	14,569	(2)	(0.0)
Energy purchases	4,784	4,933	(149)	(3.0)
Fuel consumption	2,269	2,294	(25)	(1.1)
Transportation expenses	5,463	5,652	(189)	(3.3)
Other variable procurements and services	2,051	1,690	361	21.4
Personnel expenses	947	917	30	3.3
Other fixed operating expenses	1,324	1,251	73	5.8
Amortisations and impairment losses	1,708	1,511	197	13.0
<b>Total</b>	<b>18,546</b>	<b>18,248</b>	<b>298</b>	<b>1.6</b>

<sup>1</sup> Includes operating expenses from Parques Eólicos Gestinver Gestión, S.L.U. (1 million euros) and Empresa de Alumbrado Eléctrico de Ceuta, S.A. (9 million euros) from their respective dates of taking control (see Section 2.5. Consolidation Scope from the Consolidated Management Report).



## Procurement and services

Procurements and services (variable costs) for the 2018 fiscal year went up to 14.567 billion euros compared with the previous fiscal year. Details of these costs for the 2018 fiscal year are as follows:

- > Energy purchases and fuel consumed decreased by 174 million (–2.4%), due to the lower thermal (–13.3%) and nuclear (–9.0%) production during the fiscal year, despite the increase in the cumulative price in the wholesale electricity market (€57.3/MWh; +9.7%).
- > The epigraph 'Other Variable Procurements and Services' from the Consolidated Income Statement amounted to 2.051 billion euros, 361 million euros higher (+21.4%) compared to the 2017 fiscal year.  
The variation is caused primarily by:
  - a) The 229 million euro increase for Rates Subsidy, mainly due to the low-





er expense recorded during the 2017 fiscal year in the amount of 222 million euros in accordance with Order ETU/929/2017 of 28 September and Order ETU/1288/2017 of 22 December, for which the various judgements in this respect were executed.

- b) The 147 million euro increase (+68.7%) in the cost of carbon dioxide (CO<sub>2</sub>) emission rights, despite the lower thermal production (-13.3%), as a result of the increase in market prices.
- c) The 65 million euros increase (35.7%) in expenses for fuel stocks derivatives, which was compensated for by the 136 million euros (86.1%) in income for the same item.
- d) The 61 million euro reduction (-95.3%) resulting from activation, as of 1 January 2018, of the incremental costs incurred in obtaining contracts with customers by application of the NIIF 15 'Ordinary Income from Contracts with Customers'.
- e) The 28 million euro increase (+18.5%) in costs associated with new products and services resulting from higher invoicing for this activity (32 million euros).

## Personnel expenses

Personnel expenses for the financial year 2018 went up to 947 million euros, an increase of 30 million euros (+3.3%) compared to the 2017 fiscal year. To analyse the evolution of personnel expenses during the financial year 2018, the following factors must be considered:

- a) The evolution of the updating of the provisions for workforce reduction plans in effect and contract suspension agreements (-4 million euros in 2018 and +27 million euros in 2017, respectively).
- b) The net allocation of provisions to cope with the workforce relief plans, voluntary departure agreements, compensation and other risks of a fiscal and labour nature (0 million euros in 2018 and 16 million euros in 2017).

Aside from these effects, personnel expenses for the 2018 fiscal year increased by 15 million euros (+1.6%).



## Other fixed operating expenses

Other fixed operating expenses in the financial year 2018 amounted to 1.324 billion euros, an increase of 73 million euros (+5.8%) compared to the 2017 fiscal year.

This amount reflects an increase of sanction filings in the amount of 12 million euros. Aside from this effect, other fixed operating expenses for the 2018 fiscal year would have increased by 61 million euros (+4.9%) compared to the previous fiscal year, mainly as a result of the increase in telecommunications services in the amount of 47 million euros, in line with the strategic digitalisation objective.

## Amortisations and impairment losses



Amortisations and impairment losses for the financial year 2018 were 1.708

billion euros, with an increase of 197 million euros (+13.0%) with respect to 2017. The following effects must be considered in analysing the evolution in amortisations and impairment losses during the 2018 fiscal year:

- a) During the 2018 fiscal year, impairment losses were allocated as a result of publication of the Order TEC/1158/2018 of 29 October relating to the additional compensation system for electric power production facilities in the Non-Peninsular Territories that must make additional investments derived from compliance with the community or state regulations to continue in operation, not including the AlcudiaThermal Power Plant (Balearic Islands) coal groups.

Non-recognition of this additional compensation system meant that on 27 December 2018 the Company submitted a request to the General Directorate of Energy and Climate Change of the Balearic Government for authorisation to close Groups 1 and 2 of the AlcudiaThermal Power Plant (Balearic Islands) and also a reduction in the estimate of the useful life of Groups 3 and 4 of that plant.

As a result, the recoverable amount of these assets was lower than their value on the books, therefore, it was recorded in the Consolidated income statement as an impairment loss in the amount of 158 million euros.

- b) On 1 January 2018, an amount of 54 million euros was recorded in Non-Current Assets on the Consolidated Statement of Financial Position for the incremental costs incurred in obtaining contracts with customers

according to NIIF 15 'Ordinary Revenue from Contracts with Customers' as an amortisations expense for this item.

- c) During the 2017 fiscal year, there was also a reversal of impairment losses on property, plant and equipment in previous fiscal years on certain land in the amount of 14 million euros.

Without taking into consideration the effects described in the above paragraphs, amortisations and impairment losses for the 2018 fiscal year were reduced by 29 million euros (-1.9%) respecting the 2017 fiscal year,



## Net financial result

The net financial result for the 2018 and 2017 fiscal years was negative in the amount of 139 million euros and 123 million euros, respectively. The breakdown of the net financial result for the 2018 fiscal year and its variation compared to the previous fiscal year are presented below:

In 2018, the net financial expenses amounted to 137 million euros, 10 million euros more (+7.9%) than the previous fiscal year. During the 2018 fiscal year, the net exchange differences were negative in the amount of 2 million euros (4 million euros, positive, during the 2017 fiscal year).

To analyse the evolution of net financial expenses during the 2018 fiscal year, the following factors must be considered:

- a) During the 2018 and 2017 fiscal years, an update was made to provisions relating to obligations derived from workforce reduction plans in effect and contract suspension agreements, dismantling of facilities and impairment in the value of financial assets according to NIIF 9 'Financial Instruments' (see *Section 2.2. Changes in Accounting Principles* from the *Consolidated Management Report*) by a net amount of 8 million euros and 5 million euros, both negative, respectively.
- b) During the 2018 fiscal year, financial income related to the adjustment of interest by the financing of reve-

nue shortfall from activities regulated in Spain for the 2013 fiscal year amounted to 7 million euros (see *Section 3. Regulatory Framework* of the *Consolidated Management Report*) whilst in the 2017 fiscal year financial income was recognised relating to the Supreme Court's Order regarding the execution of the ruling filed by ENEA relating to the rates subsidy in the amount of 15 million euros.

Without considering the impact indicated in the above paragraphs, net financial expense for the 2018 financial year was reduced by 1 million euros (-0.7%) due to the combination of lower average costs of gross financial debt, which went from 2.1% in the 2017 fiscal year to 1.9% in the 2018 fiscal year, and to the increase in average gross financial debt that has evolved from 6.082 billion euros in 2017 to 6.777 billion euros in 2018.



## Net worth

On 31 December 2018, ENEA, S.A.'s share capital is 1,270,502,540.40 euros and is represented by 1,058,752,117 shares of 1.2 euros nominal value, totally subscribed and paid up which are fully admitted to be listed on the Spanish Stock exchanges. This figure has not changed in 2018 and 2017.

### Millions of Euros

	Net financial result <sup>1</sup>			
	2018 <sup>2</sup>	2017	Difference	% Var.
Financial income	36	51	(15)	(29.4)
Financial expense	(173)	(178)	5	(2.8)
Net exchange differences	(2)	4	(6)	(150.0)
<b>Total</b>	<b>(139)</b>	<b>(123)</b>	<b>(16)</b>	<b>13.0</b>

<sup>1</sup> Net Financial Income = Financial Income – Finance Expense + Net Exchange Differences.

<sup>2</sup> Includes net financial result from Parques Eólicos Gestinver Gestión, S.L.U. (-3 million euros) from the date of taking control).







On 31 December 2018 and 2017, the ENEL Group held 70.101% of the share capital in ENDESA, S.A., through ENEL Iberia, S.L.U. On these same dates, no other shareholder held shares worth more than 10% of ENDESA, S.A.'s share capital.

On 31 December 2018 and 2017, its composition was as follows:

**Millions of Euros**

	<b>31 December 2018</b>	<b>31 December 2017</b>
<b>Total equity of the parent company</b>	<b>9,037</b>	<b>9,096</b>
Share capital	1,271	1,271
Share premium	89	89
Legal reserve	254	254
Revaluation reserve	404	404
Other reserves	106	106
Adjustments for changes in value	(67)	(52)
Conversion differences	1	—
Unrealised valuation adjustments	(68)	(52)
Reserve for actuarial gains and losses	(686)	(657)
Retained earnings	8,407	8,422
Interim dividend	(741)	(741)
<b>Total Equity of non-controlling interests</b>	<b>144</b>	<b>137</b>
<b>Total equity</b>	<b>9,181</b>	<b>9,233</b>



## 2. Financial management

### 2.1. Evolution of debt level and average cost of the debt

ENDESA's net financial debt was 5,770 million euros on 31 December 2018, an increase of 785 million euros compared to the close of the previous financial year. The average cost of ENDESA's debt was 1.9% in 2018. At year-end, the gross financial debt was denominated in euros 100%. The total volume of gross fixed rate financial debt was 59% on 31 December 2018, whilst the remaining 41% was variable interest rate. The average life of the gross financial debt of

ENDESA was equal to 5.3 years in December 2018.

The liquidity rose to 3,040 million euros, of which 2,796 million corresponded to amounts unconditionally available in lines of credit, from which 1,000 million corresponded to a line of credit with ENEL Finance International, N.V. This liquidity level allows having a coverage equal to 26 months in debt maturity.

Millions of Euros.

**Structure of ENDESA's gross financial debt**

	31 December 2018	31 December 2017	Difference	% Var.
Euro	6,021	5,392	629	11.7
<b>Total</b>	<b>6,021</b>	<b>5,392</b>	<b>629</b>	<b>11.7</b>
Fixed rate	3,550	3,611	-61	(1.7)
Variable rate	2,471	1,781	690	38.7
<b>Total</b>	<b>6,021</b>	<b>5,392</b>	<b>629</b>	<b>11.7</b>
Average life (no. of years)	5.3	6.1		
Average cost (%)	1.9	2.1		



### 2.2. Credit rating

At the time of presenting the report, ENDESA's long-term credit ratings are 'BBB+' at Standard & Poor's with stable outlook, 'Baa2' in Moody's and 'BBB+' at Fitch, both with stable outlook

#### > Leverage ratio

ENDESA's leverage ratio on 31 December 2018 came to 62.85% compared with 53.99% of 31 December 2017.

#### > Main financial operations

The following operations can be highlighted from among those performed in 2018:

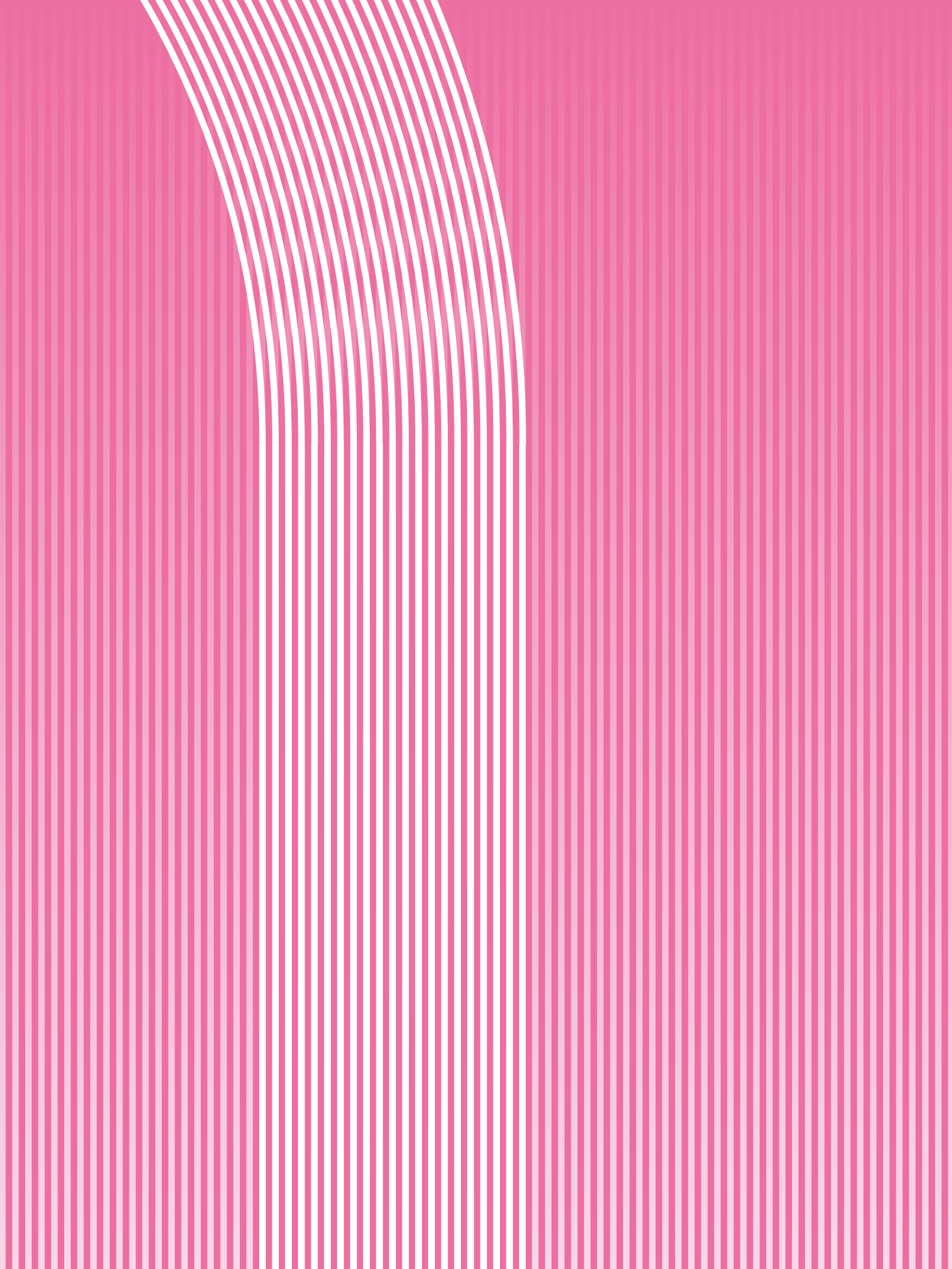
- Within ENDESA's Network Modernisation financial operating framework subscribed with the European Investment Bank (EIB) during the 2017 fiscal year dated 29 May 2018, the amount of 500 million euros was available. This provision has a variable rate, maturing in 12 months, amortisable commencing in 2022.
- During the 2018 fiscal year, ENDESA signed extensions of lines of credit with various financial entities, maturing in March 2020 (160 million euros) and March 2021 (1.825 billion euros).

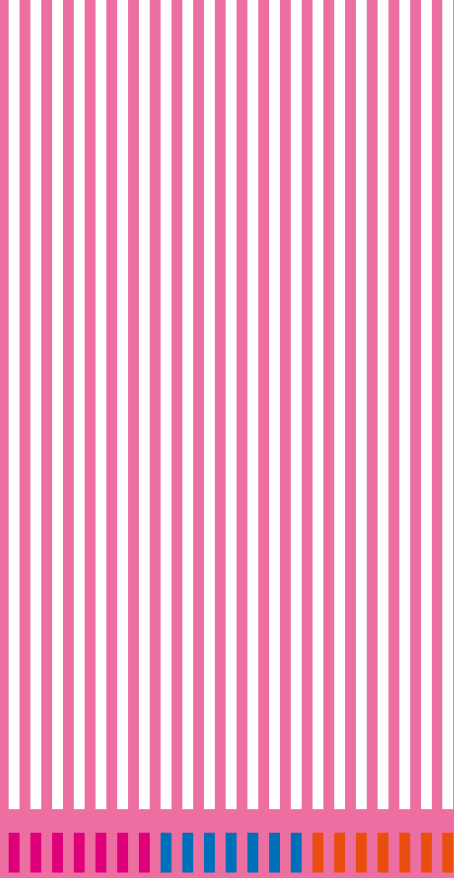


- During the 2018 fiscal year, ENDESA also paid off bank financing under the Project Finance Format for certain branches of ENEL Green Power España, S.L.U. (EGPE) for a total amount of 160 million euros. This financing existed prior to the acquisition of other companies and was refinanced with corporate funds under more competitive conditions.
- On 21 December 2018, ENDESA S.A. signed a financing arrangement pending disbursement with the European Investment Bank (EIB) in the amount of 335 million euros, with a term of 15 years and a three-year grace period.
- During the 2018 fiscal year, ENDESA maintained the Euro Commercial Paper (ECP) emissions programme through International ENDESA, B.V., and the outstanding balance at 31 December 2018 was 905 million euros, supported by irrevocable lines of bank credit.
- On 28 December 2018, the uncommitted inter-company credit line was not renewed, signed between ENDESA and ENEL Finance International N.V. in the amount of 1.5 billion euros.









06

Business





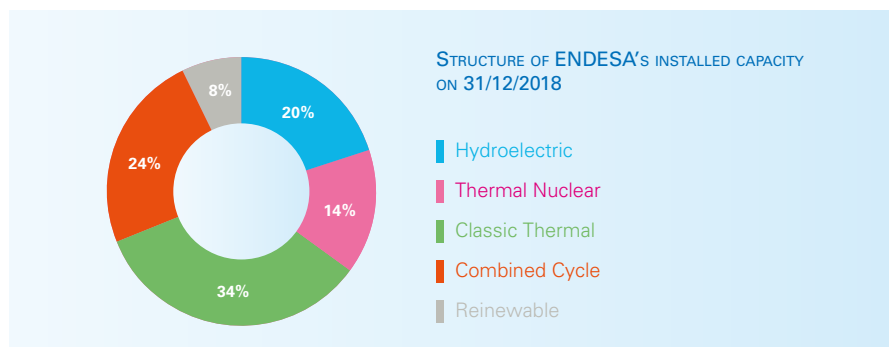
# 1. Generation business

**E** NDESA's total installed capacity at 2018 year-end came to 23,766 MW. Of that amount, 18,696 MW were in the mainland electricity system, 5,070 MW in the non-mainland systems (Balearic Islands, Canary Islands, Ceuta and Melilla). These figures include 6,528 MW in renewable energy (ENEL Green Power España S.L.U.) in the peninsula and 40 MW in the non-mainland electrical systems.

During 2018, electricity demand in Spain experienced an increase of 0.3% compared with the previous year (corrected for working days and temperature effect). Electric power demand is maintaining positive development over the last three years.

The increase in hydroelectric contribution is a major feature in coverage of demand, replacing production with coal and combined cycles. Nuclear production is one of the technologies that have contributed to covering the demand, contributing 21% of the generation, followed by wind power, with 19%. It should be noted that 4% of the demand has been covered by energy imported from other countries (Source: REE).

In this environment, ENDESA's generation capacity amounted to a total production of 74,193 GWh in 2018, 5.7% less than the amount recorded in the previous year. Of this amount, 57,623 GWh corresponded to generation in the ordinary system in the Peninsula, 7.3% less than in 2017, and 12,737 GWh corresponded to generation under the ordinary system in non-mainland electricity systems, representing a decrease



**ENDESA's electricity Production in power plant busbars (GWh)**

	2018	2017	% change	% of Total
Hydroelectric	8,339	5,004	66.6%	11.2%
Nuclear	24,067	26,448	-9.0%	32.4%
Domestic Coal	4,973	7,835	-36.5%	6.7%
Imported Coal	14,951	14,468	3.3%	20.2%
Combined cycles	5,293	8,409	-37.1%	7.1%
<b>Total mainland</b>	<b>57,623</b>	<b>62,164</b>	<b>-7.3%</b>	<b>77.7%</b>
Non-mainland Electric Systems (SENP)	12,737	13,043	-2.3%	17.2%
Renewables and Cogeneration	3,833	3,441	11.4%	5.2%
<b>Total</b>	<b>74,193</b>	<b>78,648</b>	<b>-5.7%</b>	<b>100.0%</b>

of 2.3%. In addition, renewable energy production of 3,833 GWh was recorded, 11.4% more than in 2017.

As regards production from conventional sources, the higher contribution from hydroelectric production compared with the previous year (+66.6%) is worth noting. On the other hand, there was lower production using Domestic Coal (-36.5%) and Combined Cycles (-37.1%). Production using Imported Coal, however, was slightly higher than in the previous year (+3.3%).

## Renewable energy generation

At the end of 2018, ENDESA had 6,568 MW gross of installed renewable power, of which 4,753 MW corresponded to large hydroelectric, 51 MW to small hydroelectric, 1,750 MW to wind power, 13 MW to photovoltaic and 0.5 MW to biogas plants. In 2018, ENDESA generated 12,172 GWh from renewable energy sources. Of that figure, 8,339 GWh corresponded to large hydroelectric, 120 GWh to small hydroelectric, 3,688 GWh to wind power, 24 GWh to photovoltaic and 1 GWh to biogas plants.

## Wind farm constructions. May 2017 Auction

On 16 May 2017, ENDESA's renewable energies branch, ENEL Green Power España, was awarded a total of 540 MW of power for the installation of new wind power production farms. This new capacity was assigned after bidding on 2,000 MW of renewable energy (which could be expanded up to 3,000 MW), which the Spanish government launched to achieve the objective of covering 20% of the country's energy consumption with renewable energies in 2020.

These wind power projects are located in the regions of Aragon, Andalusia, Castille and Leon and Galicia, Autonomous Communities that already have wind power resources. When they go into operation, the wind power facilities will generate approximately 1,750 GWh per year and will avoid emissions of approximately 1,050,000 tons of CO<sub>2</sub> to the atmosphere.

The construction of most of the wind farms began during the year 2018, in order to reach the authorised capacity of 540 MW. Specifically, 18 projects were selected from the portfolio of projects that were submitted to the auction. At the end of 2018, construction agreements were signed and construction work was begun on 11 parks, with a total authorised capacity of 370 MW. The construction work on the remaining parks will begin during the first months of 2019, once all the necessary administrative authorisations have been obtained.



## Photovoltaic plant construction. June 2017 Auction

On 26 June 2017, OMIE held a second auction that had the objective of reaching 3,000 MW of new capacity in renewable energies. ENDESA, through its renewable energies branch, ENEL Green Power España, was awarded 339 MW of photovoltaic solar capacity in Spain. This awarded solar capacity is in addition to the 540 MW of wind power that was awarded in May.

During 2018, the construction of all the solar plants began in order to reach the authorised capacity of 339 MW. Specifically, 7 projects were selected from the portfolio of projects that were submitted to the auction. At the end of 2018, construction agreements were signed and construction work started on 7 plants, with a total authorised capacity of 338.4 MW.

These solar plant projects are located in the regions of Murcia and Badajoz. When they become operational, they will generate approximately 640 GWh per year and will avoid around 348,000 tons of CO<sub>2</sub> emissions into the atmosphere.

In total, ENDESA will invest approximately 820 million Euros in the construction of wind and solar power that was awarded to it in the 2017 auctions. This new capacity is expected to become operational during 2019.



## Acquisition of Gestinver S.L. in 2018

On 2 February 2018, ENEL Green Power España S.L.U. acquired 100% of the capital of the company Parques Eólicos Gestinver S.L., a company that owns five wind farms with a combined capacity of 131.5 MW, distributed over 5 facilities in Galicia and Catalonia. The sale and purchase agreement was closed on 3 April, once all the preceding conditions had been met. Since then, these assets have been consolidated under ENEL Green Power España S.L.U. and generated 176 GWh during 9 months of 2018.



## Expansion of the portfolio in 2018

In addition, in 2018 work was also carried out to increase the "pipeline" of wind and solar projects, as well as the progress and development of those currently in the portfolio: projects that will be completed over the coming years as new capacity. This ensures the continuous growth of renewable capacity in the future and increases the possibility of concluding commercial agreements in the sale of renewable energy.



## Conventional generation

As at 31 December 2018, ENDESA had 17,199 MW of conventional power installed, of which 3,443 MW correspond-



ed to nuclear power generation, 5,412 MW to thermal generation facilities using coal and the rest to combined cycles, fuel oil and gas oil. These figures include Elecgas's Combined Cycle, amounting to 855 MW, located in Portugal.



## New facilities and operating improvements in conventional generation

The main electrical infrastructures projects commenced, developed or completed during 2018 in Spain were the following:

### | Mainland system

- > Start-up of the NOx emission reduction systems of Units 1, 2, 3 and 4 of the Puentes Thermal Power Plant (La Coruña), by installing NSCR (Non Selective Catalytic Reduction) systems to comply with BREF emission limits.
- > Development of engineering works, construction work and assembly of the SO<sub>2</sub> emission reduction system in the 4 Units of the Puentes Thermal Power Plant (La Coruña).
- > Launch of the life extension works in the main equipment of the Puentes Thermal Power Plant, mainly by re-winding the electricity generators and main transformers.
- > Evaluation, development and implementation of life extending activities in equipment and main systems of the Litoral Thermal Production Unit (Almería).

- > Launch of the design, construction, assembly and start-up of a new waste water treatment plant in the Litoral Thermal Power Plant, using ZLD "Zero Liquid Discharge" technology, which will completely eliminate this type of liquid waste from the plant's gas cleaning process.
- > Performance of works for the demolition of the Foix Thermal Power Plant.
- > Upgrading of the Integrated Environmental Authorisation of Besós 3, due to its location in the Barcelona metropolitan area. The emission limits have been reduced to below 70% in the combined cycle.



### | Non-mainland system

- > Development of the control system modernisation works of Units 3 and 4 of the Alcudia Thermal Production Unit (Majorca).
- > Execution of the works for the partial closure of the ash landfill of the Alcudia Thermal Production Unit (Majorca).
- > Completion of the project to improve non-mainland generation, with 675 actions implemented by 2018 and another 26 actions in progress in mechanical and electrical equipment, lines and protections, control systems, maintenance and training plans in the 10 power plants located in isolated grids, with generation solely dependent on the Power Plant.
- > Development and sequential implementation of zero electrical output simulators in eight power plants in the Balearic Islands, the Canary Islands, Ceuta and Melilla, with regular training procedures for the operation and maintenance staff to exit electric zero point conditions quickly and reliably.
- > Tender and obtaining of authorisations for the installation of a cutting-edge energy storage system with a capacity of 4 MW, using second-hand batteries from electric cars in the Melilla Diesel Power Plant. This system will contribute to providing backup and security to the autonomous city's electricity supply, a stand-alone energy system and a sustainable and economic solution.
- > Launch of agreements to adapt the Mahón, Barranco de Tirajana and Granadilla power plants to the new emission limit values set by the DEI and BREFs.
- > Inerting fuel oil tanks in the Ibiza Diesel Power Plant.
- > Development of the contingency plan in 80 MW steam units of the Granadilla and Barranco de Tirajana thermal power plants, which consists of the implementation of primary measures (OFAs) and injection of urea in the boiler to reach the NOx limits required by the DEI. The project will become commercially operational at the end of 2019.
- > BREF adaptation in the 80 MW steam units of the Granadilla and Barranco de Tirajana thermal power plants, consisting of the catalytic reduction of NOx in the boiler exhaust gases. The project will become commercially operational in August 2021.
- > Construction, installation, legalisation and operation of a new 4,000 m<sup>3</sup> fuel oil tank in the Los Guinchos Diesel Power Plant, which will allow the expansion of the strategic reserve of fuel oil in the plant. The tank will become commercially operational before 2020.
- > Partnership with the University of La Laguna in the development of a project to predict the generation of photovoltaic energy depending on the cloud cover in the island of Tenerife.

- > Development of R&D projects for the installation of a stabilisation system based on the storage of energy in 1MW/3h Ion Lithium batteries in the auxiliary systems of the Llanos Blancos Power Plant and a thermal recovery and storage pilot system in cement to be installed in the Salinas Power Plant.
- > Launch of the virtual gas pipeline project for the Mahón Power Plant, with the aim of analysing the possibilities of the passage of gas from the P&W aeroderivative turbines.
- > Renewal of the emission control stations in Menorca and Ibiza.
- > Startup of the new seawater desalination system in the Ibiza Power Plant.

## Mining

ENDESA's coal mining activity in Spain took place in four mining centres: As Pontes (La Coruña) and Andorra (Teruel) belonging to ENDESA Generación and Puertollano (Ciudad Real) and Peñarroya (Córdoba) via the company ENCASUR. Since 2016, there has been no coal production since the mining activity ceased the previous year. However, coal is being produced in the mining operations belonging to ENDESA Generación with the authorisation to cease work (administrative closure) and those of ENCASUR in the restoration and closure phase. Despite the closing of mining activity at the end of 2015, at the last mining operation that ENDESA kept operational, the Emma mine (ENCASUR), continued commercial activity with the Puente Nuevo Thermal Power Plant (Córdoba), selling coal from ENCASUR stockpiles. During 2018, 314,118 tonnes were sold, the equivalent of 991 million therms of P.C.I. These sales took place within the scope of the supply agreements signed by ENCASUR with VIESGO in January 2016 and July 2018.

In 2018, activity in the Puertollano mining plant was focused on restoration work, with the filling of the emergency washing plant, removal of coal stocks, transportation of topsoil, revegetation (sowing and planting) and sale of mining facilities and equipment.

As regards the As Pontes mining centre, in 2018, the formalisation of the agreement for the transfer of land and facilities to the As Pontes Council continued following the authorisation for the final shutdown of operations in 2017.

On 11 April 2018, ENCASUR obtained the authorisation to partially shut down the EMMA mine (Ciudad Real) on part of the land, facilities and infrastructure of the Mining Project.

In Corta Ballesta Este (Córdoba), restoration works were completed in 2018 and ENCASUR requested authorisation for the final shutdown of works. Maintenance and environmental monitoring work is continuing until the final resolution is obtained.

As of 1 January 2019, the Puertollano mining plant has continued to involve itself in the work envisaged on the closure plan: restoration, management of coal stocks, management of the sale of fixed assets and execution of the end-of-business plan.

## ENDESA in the wholesale markets

### The Spanish wholesale market

During 2018, energy allocated in the Peninsula for sales to electricity market end customers via distributors and

resellers and to exports and coverage of own system consumption (network losses, auxiliary consumption by plants and pump consumption) amounted to 253 TWh. Pump consumption, the export balance and the Peninsula-Balearic Islands link amounted to 6.7 TWh during the year. (Source: REE)

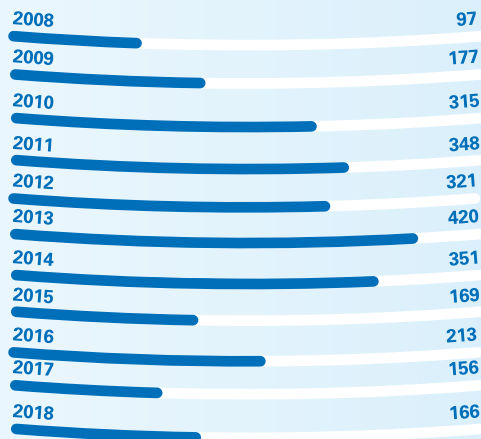
57% of demand was covered by conventional thermal power generation, 40% by renewable energies and 3% by the importer balance of international exchanges, peninsula-Balearic Islands link and pump consumption.

During 2018, a volume of approximately 166 TWh was traded in the forward markets, 6% more than in 2017. Of the total volume traded, 11 TWh were transacted in Organised Markets (OMIP and EEX). Of the remaining 155 TWh (volume traded in OTC), 124 TWh were recorded in the three clearing houses that operate in Spain: EEX (100 TWh), OMIClear (12 TWh) and MEFFPower (12 TWh). The percentage of the total volume in the clearing house (both continuous market and *clearing*) increased substantially compared with the previous year, from 69% to 81%. It should also be mentioned that, out of the total amount traded, around 13 TWh come from long-term products, amounting up to an additional 6 for the year, which had not been traded in previous years.

In the gas market (PVB), a volume of approximately 110 TWh was traded this year, a figure which entails a 57% increase compared with the previous year. In the regulated gas market MIB-GAS, 23.6 TWh were traded, 21% of the volume with respect to 79% of OTC transactions. On 24 April, the MIBGAS DERIVATIVES futures market began to operate, in which products are traded beyond the following month, although liquidity is limited beyond that guarantee by the Market Maker.



#### VOLUME TRADED IN FORWARD MARKETS. SPAIN(TWh)



## Evolution of the prices in the wholesale market

In 2018, the arithmetic mean of the day-ahead market was €57.3/MWh, compared with €52.2/MWh of the previous year (+9.7%). The average weighted prices were €58.0/MWh in 2018 and €53.6/MWh in 2017.

As in 2018 overruns for the system added €3.9/MWh to the price of day-ahead market and the capacity payments €1.6/MWh, the price at the end of the financial year was €63.5/MWh.



#### PRICE COMPOSITION (€/MWh)

1998	Total 35.1
Day-ahead market	26.09
Downstream market	1.3
Power guarantee	7.75
1999	Total 34.8
Day-ahead market	26.3
Downstream market	1.0
Power guarantee	7.46
2000	Total 39.4
Day-ahead market	31.9
Downstream market	2.0
Power guarantee	5.5
2001	Total 38.8
Day-ahead market	31.5
Downstream market	2.7
Power guarantee	4.6
2002	Total 45.8
Day-ahead market	38.9
Downstream market	2.5
Power guarantee	4.5
2003	Total 33.3
Day-ahead market	30.3
Downstream market	2.5
Power guarantee	4.5
2004	Total 35.7
Day-ahead market	28.7
Downstream market	2.5
Power guarantee	4.4

2005	Total 62.9
Day-ahead market	56.0
Downstream market	2.4
Power guarantee	4.5
2006	Total 64.8
Day-ahead market	56.4
Downstream market	4.0
Power guarantee	4.5
2007	Total 46.4
Day-ahead market	40.8
Downstream market	2.5
Power guarantee	3.0
2008	Total 70.8
Day-ahead market	65.7
Downstream market	2.9
Power guarantee	2.3
2009	Total 42.5
Day-ahead market	37.7
Downstream market	2.9
Power guarantee	1.8
2010	Total 43.6
Day-ahead market	37.9
Downstream market	3.9
Power guarantee	1.8
2011	Total 56.3
Day-ahead market	50.8
Downstream market	3.3
Power guarantee	2.2

2012	Total 56.6
Day-ahead market	49.2
Downstream market	4.3
Power guarantee	3.1
2013	Total 51.6
Day-ahead market	44.4
Downstream market	4.9
Power guarantee	2.3
2014	Total 49.7
Day-ahead market	42.0
Downstream market	6.3
Power guarantee	1.43
2015	Total 58.3
Day-ahead market	51.7
Downstream market	5.2
Power guarantee	1.34
2016	Total 46.2
Day-ahead market	40.8
Downstream market	4.9
Power guarantee	1.36
2017	Total 59.9
Day-ahead market	53.6
Downstream market	4.8
Power guarantee	1.52
2018	Total 63.5
Day-ahead market	58.0
Downstream market	3.9
Power guarantee	1.6

Note: For calculating the graph units, the revenues of the rest of the markets and power guarantee have been calculated in proportion to the energy contracted in OMEL in the day-ahead market.  
Net unit revenues of the generation units calculated over contracted energy without including pumping purchases.



## Average Daily Price

The year 2018 was characterised by a significant increase in the cost of fuels, highlighting the growth in the cost of CO<sub>2</sub> emission rights and gas. This significantly influenced the rise in the arithmetic average price of the electricity market, resulting in an average of €57.3/MWh, representing a 9.7% increase over the 2017 price (€52.2/MWh).

The rise in the market price was partially mitigated by high hydroelectric production of the system, 88% more than in the previous year, as well as by the elimination of the generation tax in the final quarter of the year.

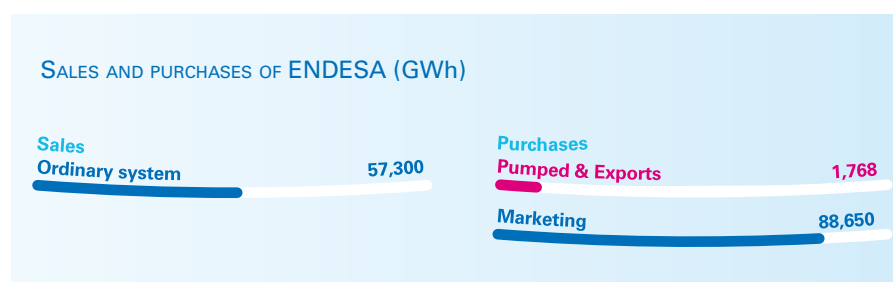
The price recorded a monthly minimum in March, with €40.2/MWh, driven by high hydroelectric and wind production. From that point an upward trend began, mainly due to the aforementioned increase in the cost of emission rights, reaching a monthly maximum in September with €71.3/MWh. The elimination of the generation tax in the final quarter of the year, as well as a moderation in gas prices, helped to moderate prices, resulting in an average price of €63.0/MWh in the quarter.

## Purchases and sales in the wholesale electricity market

In 2018, ENDESA sold over 57 TWh in the wholesale market, 36% of the total offer of the ordinary system and imports.

Approximately 56% of the company's total sales were made by bilateral contracts and the rest were sold in the OMEL and REE regulated markets.

For energy purchases, ENDESA purchased 88,419 GWh in the wholesale market, of which 98% were allocated to resale and the rest to pumping consumption and exports.



## Purchases and Sales in the Wholesale Gas Market

For 2018, ENDESA purchased a total of 11.6 TWh of gas on the short-term wholesale natural gas market to supply to its customers in Spain and Portugal. During the same period, sales of natural gas in the wholesale market amounted to 4.16 TWh.

In 2019, the most notable features were the consolidation of the wholesale market in PVB, the trading volume of which continues to increase, as well as the start-up of the MEFF clearing house for natural gas, which will contribute towards the development of this market.



## CO<sub>2</sub> market: approval of ETS reforms

During 2018, the CO<sub>2</sub> Market in Europe was marked by speculation regarding the consequences of the possible Brexit scenarios, given that the United Kingdom is a country that clearly imports emission rights and in which the continuity of the scheme is in question. The price trend was clearly upwards, with the year starting at around €8/t to reach a maximum of €25/t towards October. In the final quarter, volatility was high, with prices moving within a wide range, from €16 to €25/t.

It is expected that, during 2019, an agreement will be reached regarding Brexit. It will be marked by the initiation of the MSR, the market's stability reserve, a rights fund that had been accumulating over the three previous years and which will be released into the market, or will accumulate more, with the aim of maintaining a certain stability in trading.





## Fuel procurement

The MIBEL thermal gap decreased compared with 2017, as a result of an increase in hydroelectric and wind production.

In this context, ENDESA continued participating in an active contracting in the physical and financial wholesale markets.

ENDESA contracted 9.4 million tons of imported coal during the financial year, 2% less than in 2017. In liquid fuels, it managed 2.2 million tons, with a 1% decrease compared with 2017, as a result of the introduction of wind power plants in the Canary Islands.

The gas volume managed for own consumption was 1.35 bcm and the volume managed for resale was 6.4 bcm.



## Risk management in the electric business

The results of ENDESA's deregulated business are subject to various risk factors, such as movements in the price of *commodities* (electricity, gas, coal, CO<sub>2</sub> emission rights) and Euro/dollar exchange rate risk (market risk), potential contractual breaches by counterparties (credit risk), changes in regulations and other factors associated with business operations (operating risk).

As in previous years, the market coverage strategy applied in 2018 considered the commercial sales activity, in which ENDESA sold electricity volumes higher than its own production.

### Fuel supply to ENDESA

	Total 2018	Total 2017	% Difference
Domestic coal (kt)	1,811	2,515	-28
Imported coal (kt)	9,419	9,634	-2
Petroleum coke (kt)	950	318	199
Liquid fuel (kt)	2,220	2,245	-1
Natural gas cycles (bcm)	1.35	1.8	-25
Natural gas resale (bcm)	6.4	7.1	-10

Note: Includes non-peninsular

This strategy combined term coverage of thermal generation assets to capture their optional value due to their capacity to provide more production in price increase scenarios and thus minimize the risk, along with energy purchasing programmes in the wholesale markets to cover the resulting electricity marketing positions. These strategies manage risk by transactions in the spot markets of the different *commodities*.

As is done for electricity, the gas portfolio risk is managed through a coverage mechanism specific to this business.

Regarding the CO<sub>2</sub> emissions rights markets, management of ENDESA's exposure to these rights is similar to that of other *commodities* that participate in pricing for thermal generation.

The application of the combination of coverage and commercial strategies described allowed for the maintenance of a reduced level of risk within the limits established for the markets.



## Energy management and participation in European wholesale markets

ENDESA operates in different European electricity wholesale markets to optimise its positions outside of the Iberian market. Among other objectives, these operations make it possible for them to have the necessary energy to supply to its European customers and optimise management of the generation portfolio through the France-Spain interconnection. Likewise, import and export of guarantees of origin and of other renewable energy products to different European countries is maintained, thus optimising management of renewable assets.

In 2018, the spot prices for electricity in Europe increased compared with 2017 levels. Germany stood at € 44.5/MWh (+10.47 over the previous year) and France at 50.2 Euros (+5.36 over the previous year). The same occurred in the peripheral markets, the main cause being the upward trend of CO<sub>2</sub> (and also of crude oil during most of 2018).





## 2. Distribution business

**E**NDESA considers it a priority to guarantee access to the electricity supply, and also its continuity, safety, efficiency and quality; therefore, the development of the necessary infrastructures to achieve this is of the utmost importance.

The number of customers with contracts for accessing the company's distribution networks amounted to 12.4 million, representing an increase of 0.4% during 2018.

ENDESA distributes electricity in 27 Spanish provinces in 10 Autonomous Communities (Andalusia, Aragon, Balearic Islands, Canary Islands, Castille and Leon, Catalonia, the Valencian Community, Extremadura, Galicia and Navarre) and in the autonomous city of Ceuta, covering a total area of 195,486.8 km<sup>2</sup> and a population of nearly 21 million inhabitants.

ENDESA supplied 101,256 GWh in 2018 to the customers of its distribution networks, this being 1.8% less than in 2017. The total power distributed via ENDESA's grids amounted to 117,029 GWh

in 2018, measured at the power plant busbars, accounting for 44% of total demand in Spain, which stood at 268.8 TWh, according to the Spanish electrical system operator (REE Report: 'The Spanish electricity system. 2018 year-end forecast').

The regulated revenue of the distribution business during 2018 amounted to €2,209 million, €22 million less (-1.0%) than that recorded in 2017. 

### Development of distribution infrastructures

To ensure the correct supply of power to its customers, ENDESA's Distribution network infrastructures are planned and operated so as to adapt continuously to the capacity required by its current customers, to the extensions of the grid requested by new customers and to the attention necessary for regulatory

or legal activities, or those subject to agreements.

The length of the lines of ENDESA's distribution grid in Spain was 319,613 kilometres, of which 39.7% were underground lines. The number of substations at the close of the year was 1,275.

Along with the development of these infrastructures, a large number of activities were performed aimed at improving the quality of supply, such as maintenance work, the renovation of facilities, or an increase in the automation of the high- and medium-voltage grid.

With regard to this last, the company's Network Automation Plan for the Medium-Voltage Network has continued to be implemented during 2018, with a total of 49,010 remotely-controlled elements.

Other activities have concentrated on the reduction of the environmental impact of the grids and on the development of various specific plans agreed upon with the Authorities.



### Electrical power distribution facilities in Spain and Portugal

	2016	2017	2018	% variation 2018-2017
Length of distribution grid lines (km)	316,562	317,782	319,613	0.58
High-voltage overhead lines (km)	18,774	18,791	18,838	0.25
Underground high-voltage lines (km)	765	770	787	2.21
Medium-voltage overhead lines (km)	77,190	77,160	77,343	0.24
Underground medium-voltage lines (km)	40,442	40,726	41,188	1.13
Low-voltage overhead lines (km)	95,609	95,868	96,390	0.54
Underground low-voltage lines (km)	83,782	84,468	85,067	0.71
Substations (number)	1,240	1,239	1,275	2.91
Substations (MVA)	86,324	86,279	87,149	1.01
Transformer centres (number)	132,771	133,193	133,971	0.58





## Continuity of supply

Continuity of supply in Spain is measured by two main indicators: the System Average Interruption Duration Index (SAIDI) and the Number of Equivalent Interruptions of the Power Supply (NIEPI). The calculation procedure is regulated by Royal Decree 1955/2000. The SAIDI and NIEPI levels are audited annually by an independent external company.

During 2018, own SAIDI in the markets supplied by ENDESA in Spain was 65 minutes, 3 minutes above the 2017 value. Dependability of service has stood at 99.99% of total hours throughout the year.

In 2018, the NIEPI itself stood at 1.5, a one-tenth increase over last year's figure.

The chart shows the supply continuity indicators of the main autonomous communities where ENDESA operates:

- > Mainland: 2018 was characterised by a worsening in own SAIDI in all communities, except in Aragon. In Andalusia, the own SAIDI value was 80 minutes, 69 in Aragon, 55 minutes in Catalonia and 63 minutes in Extremadura.
- > Islands: In the case of the islands, as on the mainland, there was an increase in the value of own SAIDI; in the Balearic Islands it was 51 minutes while in the Canary Islands it stayed at 43 minutes.

obtained on a massive scale automatically from the low and medium voltage networks together with use of automatic predictive learning models based on Big Data technology, has permitted an important reduction in non-technical losses, which in turn has allowed improving the level of total losses on ENDESA's networks.



## 3. Distribution Margin

In financial year 2018, the contribution margin of the Distribution Segment amounted to €2,583 million, representing a decrease of €7 million (–0.3%) compared with the previous financial year, mainly due to the fact that the regulated revenue from the distribution business during financial year 2018 amounted to €2,209 million, €22 million less (–1.0%) than the amount recorded in financial year 2017.

Gross operating profit (EBITDA) for financial year 2018 stood at €2,059 million (+0.4%), due to the trend in the contribution margin (–0.3%), offset by the containment of fixed operating costs (–0.7%).

Operating profit (EBIT) for financial year 2018 in the Distribution Segment decreased by €24 million (–1.7%) compared with the previous financial year, mainly as a result of the €33 million increase in the amortisation cost.



## Network losses



Regarding network losses, ENDESA is carrying out effective actions to reduce the volume of technical and non-technical losses, with the support of multidisciplinary and specialised equipment.

The application of technological advances, with the use and processing of data

### System Average Interruption Duration Index (SAIDI) of ENDESA in Spain (minutes)

Interruption time	2016	2017	2018	Change 2017-2018
Andalusia	53	75	80	7%
Aragon	53	84	69	–18%
Balearic Islands	39	44	51	16%
Canary Islands	27	43	43	0%
Catalonia	40	51	55	8%
Extremadura	42	61	63	3%
<b>ENDESA</b>	<b>45</b>	<b>62</b>	<b>65</b>	<b>5%</b>

Note: Unaudited data



# 3. Marketing business

**I**n 2018, ENDESA supplied deregulated electricity market customers with 89.6 TWh, to more than 10.7 supply points, reaching a 33.4% share in terms of energy and maintaining absolute leadership of the sector. The average sale share of the company in the areas not covered by its distribution grid was almost 23%.

ENDESA continues to be one of the main operators in the Portuguese deregulated electricity market, with a share of over 14%. By the end of the year, ENDESA had supplied 6.9 TWh to more than 272,000 supply points.



## 2.1. Commercial Attention Excellence Plan

ENDESA has a Commercial Attention Excellence Plan in order to provide its customers with the best possible attention and whose goal is to improve the main customer satisfaction indicators year after year.

During 2018, this plan focused its activities on the following aspects, among others:

- > Continuous improvement in the quality perceived by customers in the Digital Channels.
- > Acting on the two factors with greater impact on the Company's Business customer satisfaction (periods and steps).

- > Continuous improvement of First Call Resolution.
- > Creation of a system that measures all interactions with customers in real time and with which the management of dissatisfied customers can be automated.
- > Development of a customised service model for customers who provide more value.

In order to ensure compliance with the improvements identified in the Plan, a monthly follow-up is performed on 20 key indicators, enabling verification of the impact on the improvement of ENDESA's commercial quality.

Among the most significant results of the Plan in 2018, the following are of note:

- > The improvement in First Call Resolution (+3%).
- > The significant improvement in customer satisfaction with downloading invoices via the Digital Channels (+8%).
- > Improvement in the no reading-billing error rate (+2%).



### 2.1.1. In-person attention

ENDESA's in-person attention is organised according to the customer segment, to better adapt to the requirements of each one:

- > **Large Customers and Companies:**  
ENDESA has a team of agents, organised by sector and territory, via which it seeks to achieve an in-depth knowledge of the customer's needs and to provide personalised, competitive solutions. The company has around 350 customised sales managers distributed throughout the national territory. It supplements its coverage via a telephone and internet customer service.
- > **General Public:** ENDESA has 11 sales offices in Spain and 2 in Portugal. It also has 274 service points distributed throughout the country, aided by the Call Centre and ENDESA's virtual office ([www.endesaclientes.com](http://www.endesaclientes.com)).



	Service points	Commercial offices
Andalusia-Extremadura	86	3
Aragon	24	1
Balearic Islands	18	1
Canary Islands	24	2
Catalonia	63	3
<b>Our own territory</b>	<b>215</b>	<b>10</b>
Expansion	59	1
Portugal	—	2
<b>ENDESA</b>	<b>274</b>	<b>13</b>





## 2.1.2. The Call Centre

During 2018, ENDESA's Call Centre dealt with over 19 million interactions. The contact demand in Portugal increased on the basis of the growth in the customer portfolio in that market, whilst in Spain, it decreased significantly, based on the first contact solution improvement plans, automation and interaction management, with the help of Bots.

45% of customers who contacted ENDESA via this means did so for reasons associated with the business cycle, 13% due to supply unavailability issues and 4% to request new contracts, with the Telephone Service Centre remaining one of the company's main sales channels.

Likewise, the mix of channels in the channel continued to increase and 2% of the business was produced through digital support channels that they have developed to strengthen communication with customers.

The projects carried out in 2018 to improve the service have been classified into the following lines of work, all of them having the Digital Transformation as the main axis:

- > **Digitalisation of the Contact Centre**, : a project is under way to update the channel's IT infrastructure: self-service is being driven by incorporating natural language processing dynamics and artificial intelligence (AI) support, and new voice channels employing virtual assistants.
- > **Quality of processes**: A diagnosis of the operational model has been

made to implement ISO 19285 in the channel. To this end, a training and engagement plan has been carried out, as well as new process optimisation lines to reduce TMOs supported by digital contracting.

- > **Improvement in FCR** (*"First Call Resolution"*): An analytical model based on Speech Miner and a measurement are being implemented with the aim of identifying action plans based on the customer's voice.
- > **Service by value**: Consolidation of the CAT VIP, as well as new developments for corporate customers.

Out of all these lines, the development of new voice channels based on virtual assistant technology have been the most important projects. The telephone channel has developed a tool for Alexa (Amazon's virtual assistant), through

which information regarding a bill can be consulted and all data associated with it can be checked. The ability to advise on consumption and power will soon be rolled out. Also, in 2019 another voice channel using this technology will also open via Google Home.

Thanks to this line of projects, ENDESA is becoming a pioneer in the implementation of these types of channels.

The work carried out during this financial year and the transformation path undertaken in recent years, have received recognition in the sector for yet another year, with the channel being awarded the Contact Center Award for the Best Customer Experience Strategy for value focused on corporate customers, as well as the award for the Best Contact Centre Operation within the framework of the development of value services in the National Contact Center Congress and CRC Gold award for Best Customer Service.

In this regard, 2018 has been another very positive year for the channel, and it continuing to lay the foundations for improving customer service in the upcoming 2019.



During 2018, electronic invoicing has also received a great boost. At year-end, it had 2.8 million contracts in force with e-invoicing.

The main features added during 2018 were as follows:

- > New payment methods (payment and management by credit cards).
- > Improved display of authorised contracts.
- > Privacy section to manage permissions associated with the GDPR.
- > Chat available from the App.
- > Display of bills from previous or cancelled contracts.
- > Redesign of consumption and trend graphs for bills (Quickwin Open Power).
- > Query of accumulated discounts for contracts on the "Luz Happy 50" rate.

Since March 2013, more than 1.1 million downloads have been made from ENDESA's app, almost 0.4 million of those in 2018.

In 2018, over 46,000 cases were managed on WhatsApp and Facebook.

ENDESA is also currently developing a digital transformation process where the customer is positioned as a fundamental element of that transformation.



- > 825,000 customer (+4.9%) in the Non-mainland Territories market (TNP).
- > 273,000 customers (+33%) in European deregulated markets outside of Spain.

In 2018, ENDESA's net sales totalled 77.3 TWh, with a 7.5% decrease compared with financial year 2017. In financial terms, these amounted to €9,247 million, broken down as follows:

- > Sales in the Spanish deregulated market were €8,238 million in 2018, €219 million less than in 2017 (-2.6%), mainly due to the decrease in physical units sold and to the development in the price of energy.
- > Revenues from sales to deregulated market customers outside of Spain amounted to 1.009 billion Euros, 67 million Euros (-6.2%) less than in 2017, mainly due to the decrease in the volume of electricity sold in Portugal, Germany and Holland as a result of the change in the "mix" of customers.



## Sales at regulated price

During financial year 2018, ENDESA sold 12.9 TWh via its Benchmark Marketer Company, of which 12.4 TWh were to customers to whom a regulated price (PVPC) applies, 4.4% less than in 2017.

These sales represented an income of €2,339 million, 4.9% less than in financial year 2017, mainly due to the decrease in physical units sold and the trend in the price of energy.



### 2.1.3. On-line service

At the end of 2018, ENDESA's commercial website, [www.endesaclientes.com](http://www.endesaclientes.com), reached 2.1 million registered customers (17% more than in 2017), with over 3.3 million contracts and more than 294,000 new registered customers. These users have performed more than 2.5 million interactions per month, with bill consultation being the operation most performed, both on the Website as well as in the App.

## Sales to deregulated market customers

As at 31 December 2018, ENDESA had 5.725 million customers in the deregulated market, a 2.4% increase on numbers as at 31 December 2017.

ENDESA's 5.725 million customers and their change compared with 2017 breaks down as follows:

- > 4.627 million customers (+0.6%) in the Spanish mainland market.







## The Spanish natural gas market

Natural gas consumption in Spain amounted to almost 350 TWh, a 0.4% decrease compared with 2017. Excluding sales for electricity generation (17.7% of the total), the conventional demand of end customers increased by 4.5% in comparison with 2017.



## ENDESA marketing in the natural gas Market

ENDESA sold a total of 74.5 GWh to natural gas market customers in 2018 (with no sales to generation or wholesalers), which involved a 2.8% increase compared with financial year 2017.

In economic terms, revenue from gas sales in financial year 2018 amounted to €2,554 million, €321 million higher (+14.4%) than in financial year 2017, as follows:

- > Gas sales in the deregulated market amounted to €2,469 million, €319 million more than 2017 (+14.8%), mainly due to the increase in both physical units sold and the sales price.
- > Revenues from gas sales to customers at regulated price amounted to €85 million, up €2 million (+2.4%) from those in financial year 2017.



## Regulated Market

ENDESA's customer portfolio in the regulated natural gas market as at 31 December 2018, excluding sales for electricity generation, was made up of

more than 1.6 million customers, which entails a growth of 2.8% respecting the number of customers as at 31 December 2017.

ENDESA is the second gas reseller in Spain with an overall share of over 16% in the regulated market.

In the Portuguese gas market, ENDESA supplied 4.6 TWh to end customers, 3.5% less than in the previous financial year, due to adjustment in demand.



## Electricity generation market

Sales of natural gas to electricity generation power plants amounted to 15.8 TWh in 2018, entailing an increase of 25.2% compared with 2017.



## International Market

The sale of natural gas in France, Portugal, Netherlands and Germany reached a volume of 25.3 TWh, 3% more than in 2017.



## ENDESA X

The energy sector is changing and ENDESA, via ENDESA X, intends to lead this transformation, with the vision of being a key player and promoter of change, by evolving and innovating customer services concerning energy. All this is carried out via technological solutions to achieve a digital, participatory and more sustainable model for industries, cities, homes and mobility.

**In the context of industry and companies**, ENDESA X promotes new opportunities through energy efficiency,

distributed generation and consulting and auditing services.

**In the urban environment**, in order to achieve the concept of "smart city", ENDESA X is focusing on street lighting, managing 95,000 electricity points in 2018, the concept of "full-electric buildings", the wholesale sales to the fibre optic network and energy services.

**In the home environment**, ENDESA X supports the business trend in home products and services, providing customers with innovative products for installing energy equipment, maintenance and repair, automation and "Home 2 Grid" services.

**The mobility area** is one of ENDESA X's main pillars and in which there is a clear commitment to the energy transition and decarbonisation. In this sense, ENDESA X promotes the development of electric vehicles as one of the main ways of fighting against climate change and promotes electric mobility as a tool to facilitate a zero-emissions energy model.

During 2018, ENDESA X published an investment plan for public access recharging infrastructure involving the installation of over 8,500 public recharging points with a total budget of 65 million Euros, rolled out over two phases: more than 2,000 points in 2019-2020 enabling any electric vehicle to cross Spain, and upwards of 6,500 points in 2021-2023, offering more extensive coverage in urban areas, the main motorways and the islands.

In addition, ENDESA X continues to market end-to-end value proposals for the roll-out of private electric vehicle charging, grouping electric mobility solutions for residential, business and commercial customers, as well as public administration customers.



## 4. Generation and marketing segment margins

**T**he contribution margin of the Generation and Marketing Segment in financial year 2018 amounted to 3.157 billion Euros, entailing an increase of 373 million Euros (+13.4%) compared with the previous financial year, essentially as a result of the following aspects:

- > The decrease in the cost of energy purchases (–3.1%) and fuel consumption (–1.1%), mainly due to the lower thermal (–13.3%) and nuclear (–9.0%) production in the financial year, despite the increase in the cumulative price in the wholesale electricity market (€57.3/MWh; +9.7%).
- > The 147 million Euro increase (+68.7%) in carbon dioxide (CO<sub>2</sub>) emission rights costs, despite the lower thermal production (–13.3%), as a result of the increase in market prices.

> The positive change in income and expenses due to the valuation of energy materials amounting to 71 million Euros as a result of the trend in the valuation and settlement of gas and electricity derivatives.

> The €61 million decrease in costs (–95.3%), as a result of the activation, in the Non-Current Asset of the Consolidated Statement of Financial Position, of the incremental costs incurred in obtaining contracts with customers as of 1 January 2018.

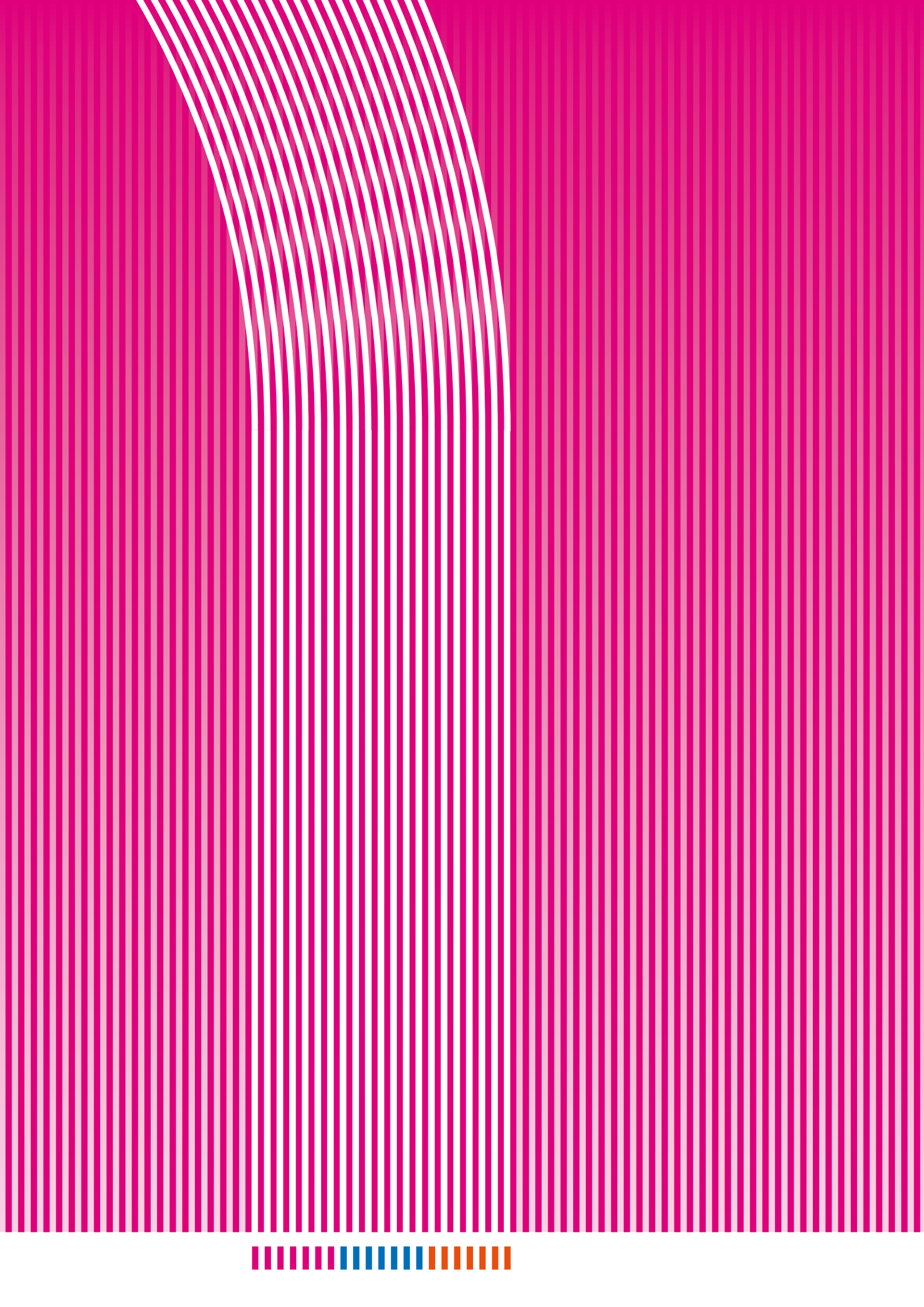
The gross operating profit (EBITDA) for financial year 2018 for this segment was €1.617 billion (+19.8%). To analyse the trend during financial year 2018, it is necessary to take into account the 13.4% increase in the contribution margin and the trend in staff costs (+8.8%), as well as other fixed operating costs (+10.5%).

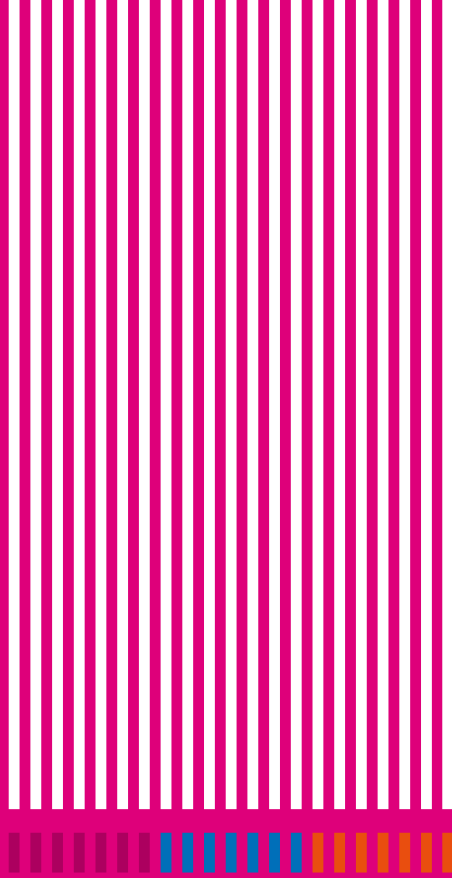
Operating profit (EBIT) for financial year 2018 from the Generation and Marketing Segment was €588 million (+20.5%) and includes, among other items:

- > A 19.8% increase in gross operating profit (EBITDA).
- > The increase in the “Amortisation and Loss due to Impairment” item of the Consolidated Income Statement for financial year 2018 by 167 million Euros (+19.4%) due to the provision of impairment losses relating to the Alcudia Power Plant (Balearic Islands) amounting to 158 million Euros and the provision of the amortisation of incremental costs incurred in obtaining contracts with customers in accordance with IFRS 15 “Ordinary Revenue from Contracts with Customers” as of 1 January 2018, amounting to 54 million Euros.









07

Internal  
Control  
Systems



# 1. Internal control systems

## 1.1. Board of Directors

The Board of Directors performed its duties with unity of purpose and independent judgement, and ensured that the Company treated all shareholders in the same position equally and that it was guided at all times by the company's best interest, understood as the creation of a profitable business that promotes its long-term sustainable success, while maximising its economic value. In pursuing the corporate interest, it not only abided by laws and regulations and conducted itself according to principles of good faith, ethics and respect for commonly accepted customs and good practices, but strove to reconcile its own interests with the legitimate interests of its employees, suppliers, clients and other stakeholders, as well as with the impact of its activities on the broader community and in sustainable development.

The Board of Directors carried out its role as the highest management body representing the Company, in compliance with the Law and its By-laws. The Board of Directors, which has the full powers for the management, administration and representation of the company, as a general rule entrusted the ordinary management of the company to the delegated administrative bodies and concentrated its activity on general supervisory functions and the consideration of matters of particular significance to the company and its group.

Likewise, the Board was responsible for establishing the bases for appropriate and efficient coordination between the company and the companies belonging to the company group of which the company is the controlling entity pursuant to Law, in all cases respecting the autonomy of decision of its management bodies and officers in compliance with the corporate interest of the company and each of the aforesaid companies.

the course of the audit work. It was also responsible for supervising the internal auditing services, ensuring its independence and efficacy, receiving periodic information about its activities and verifying that Senior Management considered the conclusions and recommendations in its reports.

Audit and Compliance Committee members were appointed in the light of their knowledge and experience of accounting, auditing or risk management.

## 1.2. Auditing and Compliance Committee

The Regulations of ENDESA's Audit and Compliance Committee stipulate that the main task of the Committee is to promote good corporate governance and ensure the transparency of all ENDESA's actions in economic and financial areas and in relation to external audit, compliance and internal audit. Based on the above, the committee carried out its functions which were entrusted to it, supervising the preparation and presentation of regulatory financial information and monitoring the efficacy of ENDESA's internal control system and risk management systems, as well as discussing with the auditors or audit firms any significant weaknesses detected in the internal control system during

## 1.3. Transparency Committee

In 2004, ENDESA set up a Transparency Committee chaired by the Chief Executive Officer, composed of its senior executives including all members of the Executive Management Committee and other members of ENDESA's management directly involved in the preparation, certification and disclosure of financial information.

This Committee ensured compliance with and the correct application of general financial reporting principles (confidentiality, transparency, consistency and responsibility), evaluated the events, transactions, reports and other matters of relevance disclosed and determined the manner and deadlines for making these disclosures. Likewise, the Transparency Committee assessed the findings submitted to it by ENDESA's Department of Admin-

istration, Finance and Control, based on the report prepared by ENDESA's Internal Control unit on compliance with and effectiveness of the internal controls over financial reporting and the internal controls and procedures concerning disclosure of information abroad, taking corrective and/or preventive actions and reported to the Board's Audit and Compliance Committee in this regard.

## 1.4. Internal Control Unit

ENDESA's Department of Administration, Finance and Control has an Internal Control Unit, the functions of which are as follows:

- > Communicating approval of internal control over financial reporting policies and procedures to ENDESA's various subsidiaries and business units.
- > Maintaining, updating and furnishing the company's internal control over financial reporting model and the documentation associated with processes and controls.
- > Defining the flows for certifying the evaluation of the effectiveness of the controls and procedures defined in the Internal Control over Financial Reporting Model.
- > Overseeing compliance with internal control over financial reporting and the internal disclosure controls and procedures, and presenting periodic reports on its conclusions with respect to the system's effectiveness.

All matters relating to internal control of financial information are regulated by the internal procedures, the purpose of which is to establish the operating principles and responsible bodies for the establishment and maintenance of internal controls of financial information in order to ensure their reliability and to guarantee that reports, events, transactions and other material developments are disclosed internally and externally in an appropriate manner and time frame. The Internal Control over Financial Reporting system was evaluated and certified every six months.

### Internal Control Unit

ENDESA developed and maintained a Board-endorsed Code of Ethics which





itemises the ethical commitments and duties to which the professionals working for ENDESA and its subsidiaries, be they Directors or staff, no matter their positions, are bound in the course of managing these companies' business and corporate activities.

The Code of Ethics was developed based on the following:

- > The General Principles governing relationships with stakeholders that define the reference values for ENDESA's activities.
- > The Criteria of Conduct in relations with each category of stakeholder, which provide specific guidelines and standards that ENDESA collaborators are required to follow in order to comply with the general principles and prevent the risk of unethical forms of behaviour.
- > Implementation Mechanisms described the organisational structure regarding the Code of Ethics, intended to ensure adequate awareness, understanding and compliance with the Code by all employees.

The principles and provisions of the ENDESA Code of Ethics must be respected and complied with by all members of the Board of Directors, the Audit and Compliance Committee and control bodies of ENDESA and its subsidiaries, in addition to the executives, employees and collaborators linked to ENDESA due to contractual relations of any type, even occasional or temporary.

The 16 principles set forth in the ENDESA Code of Ethics are as follows:

- > Impartiality
- > Honesty
- > Relationships with the shareholders
- > Appropriate conduct in the event of possible conflicts of interests

- > Confidentiality
- > Protection of the Shareholders' interests
- > Value of human resources
- > Fairness in authority
- > Integrity of the person
- > Transparency and integrity of information
- > Diligence and accuracy in the execution of tasks and contracts
- > Fair play
- > Quality of services and products
- > Responsibility to the group
- > Correction and fairness in management and possible renegotiation of contracts
- > Environmental protection

## Zero Tolerance Plan Against Corruption

The Zero Tolerance Plan Against Corruption was approved by the Board of Directors and required all ENDESA employees to comply with the principles of honesty, transparency and fairness in the performance of their work. The same commitments were expected of its other stakeholders, i.e. people, groups and institutions that helped ENDESA meet its objectives or that were involved in the activities it performs in order to achieve them.

In compliance with the tenth principle of the Global Compact, of which ENDESA is a signatory, 'Businesses are committed to fight corruption in all its forms, including extortion and bribery', ENDESA expressly rejects all forms of corruption, direct and

indirect, and to this end it has a programme to fight against it.



## Criminal Risk Prevention Model

ENDESA's Criminal Risk Prevention Model entered into effect on 1 January 2012 and is a control system for the purpose of preventing or significantly reducing the risk of criminal offences within the company, complying with the Spanish Criminal Code on the criminal liability of legal persons. The following protocols, which establish general criteria for action in different areas, form part of ENDESA's crime prevention model:

1. Protocol for action to be taken concerning conflicts of interests.
2. Exclusive dedication and commercial presence.
3. Protocol for accepting and offering presents, gifts and favours.
4. Protocol for action to be taken concerning public officials and authorities.

The Code of Ethics and the Zero Tolerance to Corruption Plan are available on the company's website

<https://www.endesa.com/es/inversores/a201611-conductaeticapt.html>



## Whistle-Blowing Channel

Since 2005, ENDESA uses an Ethics Channel, accessible from its web page and intranet so that all of its



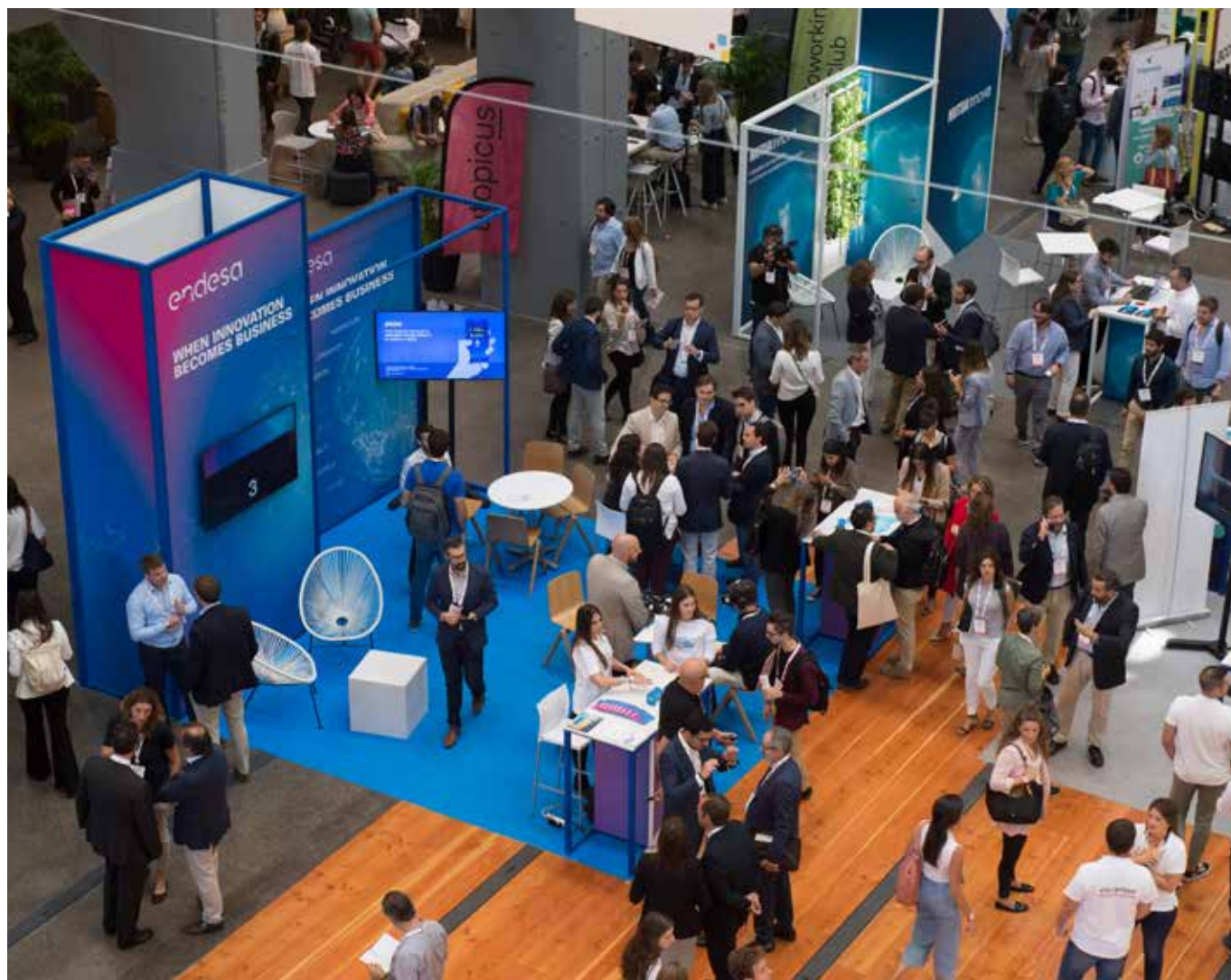
interest groups may communicate securely and anonymously regarding irregular, unethical or illegal conduct that, in their judgement, occurred during the execution of ENDESA'S activities.

The procedure established for the use of the channel guarantees confidentiality as it is managed by an independent, external company, which handles all complaints or communications. In addition to the Channel, complaints are received through other channels, always addressed to the Audit Department,

in accordance with ENDESA's internal procedures. This Department is responsible for guaranteeing the correct handling of the complaints received, acting with independent criteria and action with respect to the other organisation units.

Furthermore, the Audit Department is a body assigned to the Board of Directors through its Audit and Compliance Committee, that centralises and channels significant claims and takes them to the Board.

During 2018 , ENDESA received a total of eight claims through the Ethics Channel or other media and investigation of all of them was completed during the same fiscal year. No breaches of the Code of Ethics were detected in relation to the complaints received. None of the claims received was related to cases of discrimination. ENDESA's whistle-blowing channel can be accessed at <https://secure.ethicspoint.eu/domain/media/es/gui/102504/index.html>.





## 2. Risk management

**T**he Risk Control and Management Policy, approved by the ENDESA, S.A. Board of Directors, seeks to guide and direct the set of strategic, organisational and operational actions that allow the Board of Directors to accurately delimit the acceptable risk level, with the aim that the managers of the different business lines can maximise profitability for the Company, preserve or increase its equity and own funds and the certainty in its achievement above certain levels, preventing uncertain and future events from negatively influencing the attainment of the profitability targets set by the Company.

The Risk Management and Control Policy defines ENDESA's Risk Control System as an interlinked system of standards, processes, controls and information systems, where the global risk is defined as the risk resulting from consolidation of all risks it is exposed to, considering the mitigation effects between their different exposures and categories, allowing for consolidation of exposure to risk of the company business units and areas and their assessment, as well as preparation of the relevant management information for decision making in terms of risk and suitable use of capital.

The body responsible for execution of the Risk Control and Management Policy is the ENDESA Risks Committee, which is based on the internal procedures of the different business and corporate areas and is supervised by the Audit and Compliance Committee

of ENDESA's Board of Directors. ENDESA'S Risks Committee is assigned the following functions:

- > Periodically provide the Board of Directors with an overview of the exposure to current and foreseeable risk.
- > Ensure that Senior Management is involved in strategic risk management and control decisions.
- > Guarantee coordination between the risk management units and those units responsible for their control, and compliance with the Risk Management and Control Policy and its associated internal procedures.
- > Ensure the correct working of the risk control and management systems and, in particular, that they identify, manage, and adequately quantify all major risks affecting the company.
- > Actively participate in the risk strategy preparation and in the important decisions regarding its management.
- > Ensure that the risk control and management systems adequately mitigate risks within the Risk Management and Control Policy framework.

The general guidelines for the Risk Management and Control Policy are developed and supplemented by other corporate and specific risk policies for each business line, as well as the limits established for optimum risk management.

The Risk Management and Control Process obeys a model based, on the one hand, on the ongoing review of the risk profile, applying the best current practices in the energy or relevant sector in

risk management, on homogeneity criteria of measurements in the separation between managers and risk *controllers* and, on the other hand, on guaranteeing the connection between the risk assumed and the necessary resources to operate the businesses, always respecting appropriate balance between risk assumed and the targets set by the Board of Directors of ENDESA, S.A.

The integral risk management process consists of the identification, measurement, analysis and monitoring of the different risks, as well as their follow-up and control over time, based on the following actions:

> **Identification.** Its purpose is to generate an exhaustive list of risks (complete coverage) based on events that could prevent, undermine or delay the achievement of objectives through coordinated and effective participation at all levels of the Company. Identification must include both risks that are basically within the control of the organisation as well as those caused by external events beyond its control. All causes of risk and their significant consequences affecting ENDESA's finances and/or reputation are considered in the risk identification process. Each risk identified must be identified both in terms of its nature and the risk factor causing it.

> **Measurement.** The objective is to arrive at parameters that make it possible to measure financial and reputational effect using standardised methods over various time horizons of all risks that must be quantified for their



later prioritisation. This assessment includes both the valuation of scenarios and estimating loss potential based on the assessment of impact and probability distributions.

The goal of both of the two above phases is to arrive at a final report, a Risk Map, with a prioritised breakdown of each risk identified and assessed, depicted in descriptive files, graphs and tables. This is to be the result of the assessment process, capturing a representation of the company's condition at risk, with assessed risks prioritised.

- > **Control and follow-up.** The purpose of this phase is to monitor risks and the facts relevant to their management. To achieve this, indicators are identified that make it possible to supervise the progress of the risk compared to the defined risk appetite. This is a management metric that makes it possible to raise a red flag to anticipate the risk, and is reported on a regular basis.
- > **Management.** The purpose of risk management is to execute the ac-

tions directed toward the adaptation of the levels of risk assumed at each level of the company, and toward the established risk tolerance and predisposition.

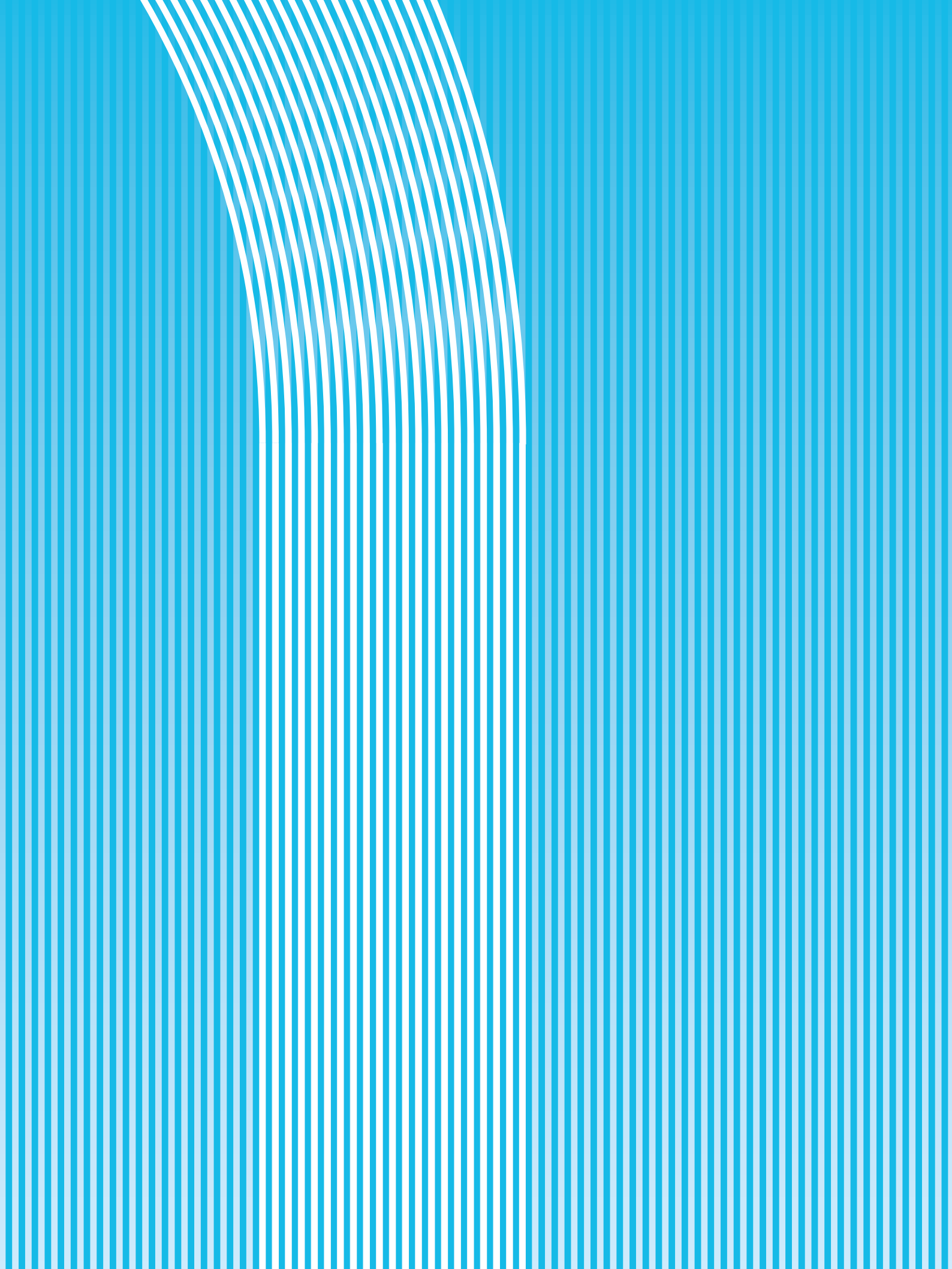
By means of this process, it is intended to achieve an integral view of the risk, oriented toward risk assessment and prioritisation. It covers the main financial and non-financial risks that ENDESA is exposed to, both endogenous (external factors) and exogenous (internal factors), being shown in an annual map that includes the main risks characterised and quantified and establishing periodical revisions.

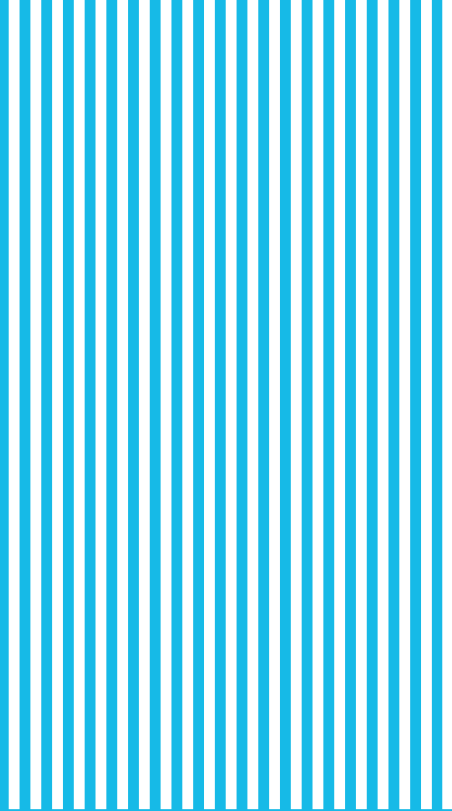
This risk map, with the risks covered being aligned with the strategy defined by the company, covering various time horizons and with its list of indicators for periodic monitoring, is presented to the governing bodies by the senior management responsible for risk management. Additionally, faced with the increased interest in management and control of the risks that the company is exposed to and given the complexity that such identification takes on from

an overall perspective, the participation of employees at all levels in this process is important. Hence, a risk mailbox has been created where employees can contribute to identifying market risks and propose mitigation measures, thus complementing the *top-down* systems of management and control of existing risks and the mailboxes and specific procedures for sending communications related to ethical breaches, criminal risks and occupational health and safety .

To boost these initiatives, the ENDESA, S.A. Board of Directors also improved a Tax Risk Management and Control Policy to guide and direct strategic, organisational and operating activities to enable the Board to identify precisely the acceptable tax risk level, to help tax managers meet the Risk Management and Control Policy's fiscal objectives. The Risk Management and Control Policy constitutes the specific, documented embodiment, in fiscal control matters, of the Tax Strategy passed by the Board of Directors of ENDESA, S.A.







08

Sustainability



# 1. ENDESA's commitment to Sustainability

**E**NDESA was always at the forefront in developments in the energy sector, providing safe, affordable and sustainable power to millions of people all over the world. It therefore placed environmental, social and economic sustainability at the centre of the corporate culture.

The commitments of future set down in this policy are the guidelines and foundations for ENDESA's performance in the management of its business activity. Compliance with this policy is expressly promoted by the Company's management; it concerns employees, contractors and vendors, and is presented for

assessment by third parties. Likewise, the Board of Directors, via the Auditing and Compliance Committee, supervises the correct implementation of the principles of the policy throughout the company's entire value creation chain.



## 2. ENDESA's contribution to the United Nations Sustainable Development Goals

**E**NDESA is firmly committed to the United Nations Sustainable Development Agenda and acknowledges the historic opportunity representing the implication and implementation of the Sustainable De-

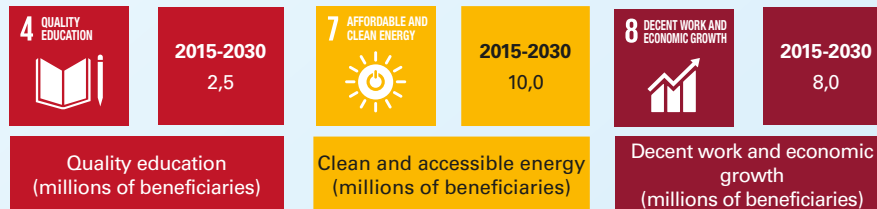
velopment Goals in the private sector to overcome the main challenges facing society, from the struggle against climate change to the eradication of poverty, and economic and social progress.

This vision is shared within the ENEL Group, which publicly undertook to make a specific contribution with 4 of the 17 Sustainable Development Goals.

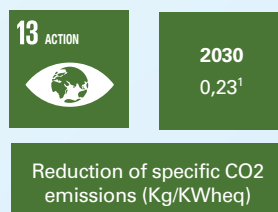
### COMMITMENT OF **enel** IN LINE WITH THE 2030 AGENDA



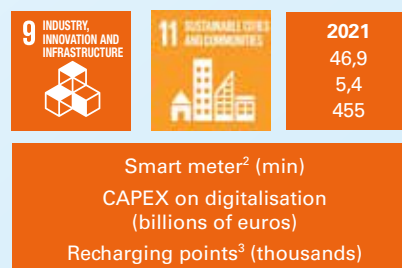
#### Commitment to local communities



#### Struggle against climate change



#### Innovation, infrastructure and sustainable cities



<sup>1</sup> Specific CO<sub>2</sub> companies will be < 0.345 kg/KWheq in 2012.

<sup>2</sup> Includes replacement of smart meters.

<sup>3</sup> Public and private installed recharging points.



ENDESA embraces these commitments and adapts them to the context in which it operates. Thus, since it announced its specific contribution to the

2030 Agenda in 2016, the company continued progressing with respect to its commitment to three goals that directly impact its own business model.

## CONTRIBUTION **endesa** TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



### ENDESA'S COMMITMENTS

### Main achievements



**100%**  
decarbonisation of the energy  
mix in 2050  
( $<350\text{gCO}_2/\text{kWh}$  in 2020)

- > **132 MW additional** wind operations through the purchase of Gestinver
- > **927 MW** renewables under construction
- > **49% the free production of  $\text{CO}_2$**  (2018 vs 2005)



**~1,3 billion €**  
to lead the energy future  
through digitalisation and  
ENDESA X

- > **11.9 millions of electronic meters** installed (low voltage) and **17,315 smart remotes**
- > **4.2 millions digital clients**



Electricity supply  
to all vulnerable  
customers

- > **272 agreements signed with the Public Administration to avoid electricity supply disconnection for vulnerable customers**

ENDESA also contributes to the commitments made by the ENEL Group in relation to SDG 4 and SDG 8 through its social projects and its foundation. These five SDGs are of the highest priority for ENDESA and, therefore, on which it places the greatest emphasis. Even so, it also acts decisively on some of the 17 Goals, regarding which it has been making commitments since the appearance of these SDGs, as can be seen in the 2019-2021 Sustainability Plan.



### Endesa's COMMITMENTS 2015-2020

### Main achievements 2015-2018



**164,000** people

**120,818** beneficiaries



**241,000** people

**379,437** beneficiaries

# 3. The strategic planning of Sustainability

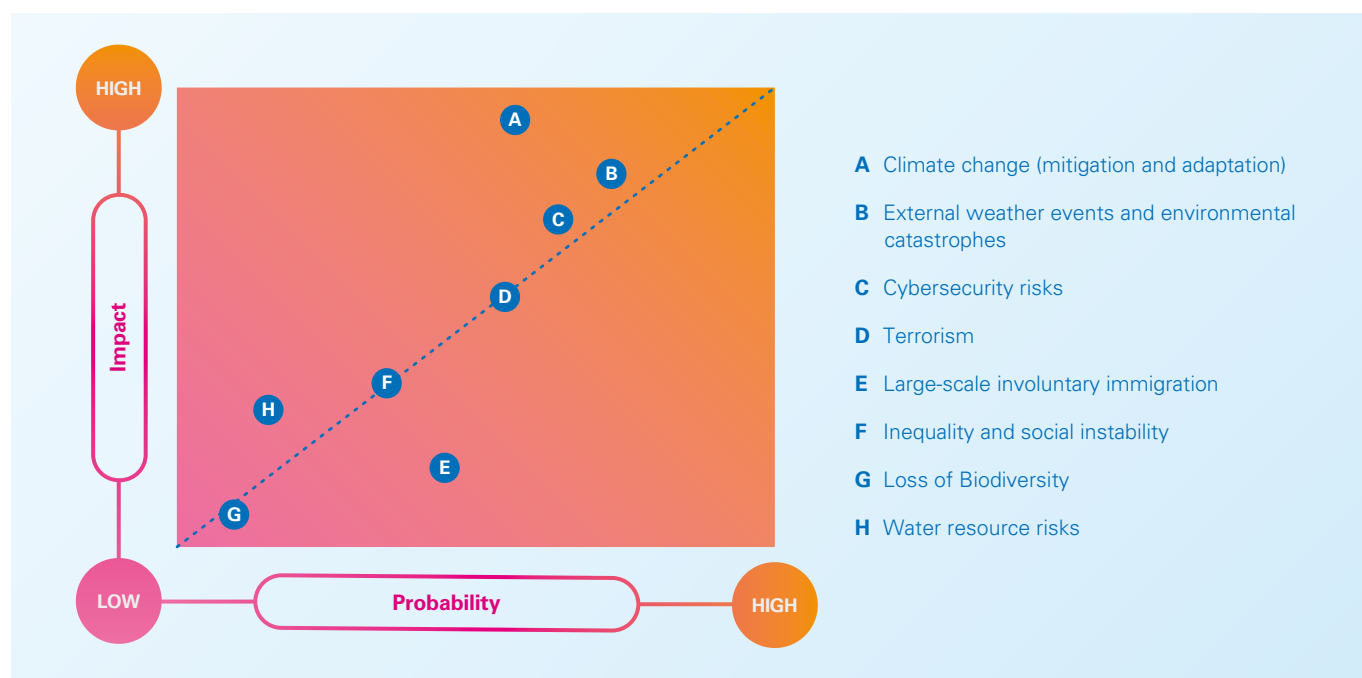
## 3.1. Main sustainability risks

ENDESA is exposed to certain risks that it manages through the application of identification, measurement, control and management systems. In this regard, the different types of risk, financial and non-financial (among others, operational, technological, legal, social, environmental, political and reputational) that the company faces are taken into

account. These aspects are integrated into the company's risk management and control system and are supervised by the Audit and Compliance Committee of the Board of Directors.

In 2018, ENDESA updated the identification of emerging sustainability risks with medium- and long-term impact related to some of the dimensions comprising sustainability. The aim of this is to be able to analyse the impact of these risks on business and to define the necessary steps for their control and prevention. In order to achieve this, ENDESA took, as its benchmark, the

identification of global risks developed by the World Economic Forum based on consultations with 750 experts from the business, academic, civil and public sectors regarding perception of global risks with a time horizon of 10 years. This map was adjusted to the context of ENDESA's operations on the basis of the consultations carried out with stakeholders by the company within the framework of the materiality study, thus allowing the most relevant sustainability risks to be identified.







## 3.2. The identification of priority issues

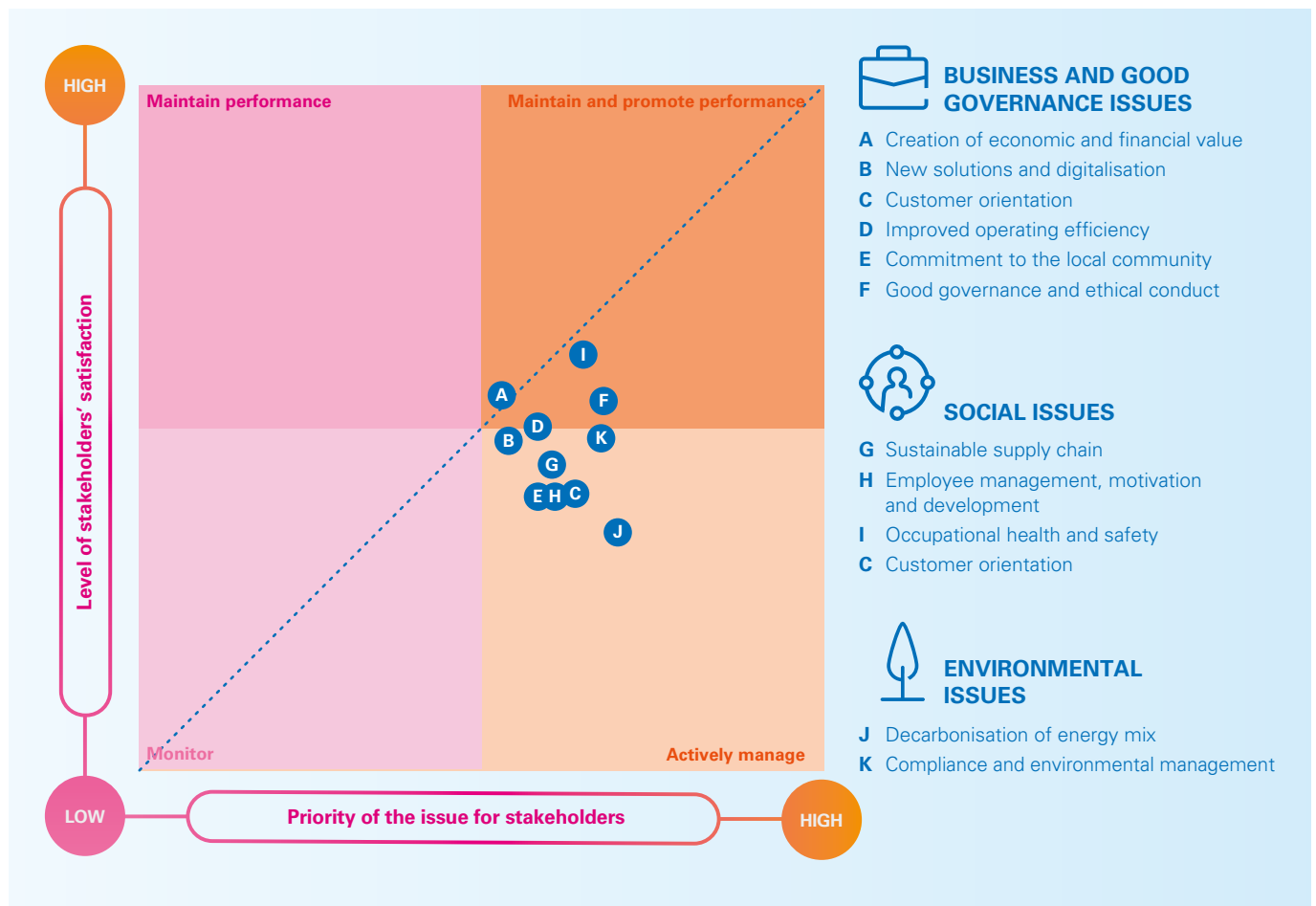
In order to factor in stakeholder expectations in a structured manner aligned with the company purpose, each year ENDESA identifies priorities to assess and select the most relevant economic, ethical, environmental and social issues for stakeholders and for the company's strategy.

The results obtained in this process contribute to strategic business planning and to the design of ENDESA's sustainability plans and likewise, they also determine the content of the *Sustainability Report* and contribute to the effective management of stakeholders and their expectations.

In 2018, ENDESA performed a materiality study that served as the basis for defining the priorities set out in its 2019-2021 Sustainability Plan. To this, an ad hoc analysis was carried out (focus

group with social entities), the information of the analyses of trends and investors was updated and this analysis was completed with the result of the works carried out in 2017, totalling more than 4,000 sources and representatives of 18 different interest groups.

The combination among the variables analysed in the materiality study performed and the level of priority that the stakeholders give to such subjects, are expressed in the following matrix:



Further information: *ENDESA 2018 Sustainability Report*, page 60, *Defining Priorities* chapter.



### 3.3. Compliance with ENDESA's 2018-2020 Sustainability Plan

ENDESA's 2018-2020 Sustainability Plan (ESP), oriented toward creation of long-term sustainable value, established four strategic priorities: growth through low-carbon technologies and services; operating efficiency and innovation; involvement and inclusion of local communities; involvement and inclusion of our people.

Thus, it established two core drivers for all business activity: digitalisation and customer orientation.

In order to guarantee a high level of excellence in responsible business management, five strategic pillars were identified: good governance and ethical conduct, occupational health and safety, environmental sustainability, sustainable supply chain and creation of economic and financial value.

ENDESA has responded to each of the strategic priorities and pillars defined in the 2018-2020 Sustainability Plan, through over 100 quantitative management goals achieving a global compliance that is higher than 94%.

Further information: *ENDESA 2018 Sustainability Report*, page 76, *Sustainability Plan* chapter.

### 3.4. ENDESA's new 2019-2021 Sustainability Plan

In order to achieve the integration of sustainability into business management and decision-making processes, there must be maximum alignment between business strategy and sustainability, in such a way that both are oriented toward the attainment of the same objective, thus generating short- and long-term economic value for the company.

In order to achieve the maximum alignment between the sustainability and business strategies, a process of analysis, consultation and strategic reflection

was carried out for the design of the new 2019-2021 Sustainability Plan, using as a basis the achievements and opportunities for improvement identified in the previous Plan. This process enabled the priorities for action for the next 3 years to be identified and, thus, on 21 November 2018, ENDESA presented the update of the Strategic Plan for the period 2019-2021.

As was the case with the previous plan, the new 2019-2021 Sustainability Plan also defines ENDESA's contribution to the United Nations Sustainable Development Goals. This framework represents the basis of the sustainability plan and acts as a benchmark to establish a sustainability strategy that enables the generation of long-term value both for the company and for the environment in which it operates. The new 2019-2021 Sustainability Plan seeks to promote long-term sustainable value creation, setting the following strategic priorities and defining over 100 quantitative management objectives:





## Strategic objectives

- > **Growth through low-carbon technologies and services:** The new Sustainability Plan establishes the roadmap to make ENDESA a CO<sub>2</sub> emission-free company in 2050.
- > **Better Operation for Better Service:** The Sustainability Plan includes courses of action directed at promoting efficiency and quality in the management of generation and distribution assets as well as relating to the promotion of sustainable mobility of the employees in their transfers for occupational and personal reasons.  
Digitalisation is fundamental to achieve a sustainable energy model. To this end, action will be taken on three main fronts: the digitalisation of the company's assets (generation facilities and electricity distribution grid), the development of a digital culture within the company and the digitalisation of our customers and of the way ENDESA relates with them. Special attention will also be paid to cybersecurity to minimise risks associated with digital transformation.
- > **Involvement and inclusion of local communities:** From a viewpoint of creating shared value, ENDESA promotes the integration of sustainability throughout the company's value chain, and seeks to combine its interests with the priorities and requirements of stakeholders at a local level.
- > **Involvement and inclusion of our people:** The new Sustainability Plan includes objectives that will continue to promote the level of satisfaction of its employees, diversity and inclu-

sion, the development of talent and reconciliation between professional and personal life.



## Basic pillars for responsible management

- > **Occupational Health and Safety:** Guidelines to reduce the accident rate among employees and contractors as well as to promote appropriate safety control.
- > **Good Governance and Ethical Conduct:** Maintain a high level of excellence in compliance with its commitments and ethical responsibilities, the implementation of good corporate governance practices and the furtherance of transparency in its relationship and communications with all its stakeholders.
- > **Environmental Sustainability:** In order to reduce its environmental footprint as much as possible and promote the conservation of biodiversity through the pursuit of excellence in environmental management.
- > **Sustainable Supply Chain:** Increasing the control and supervision systems for the supply chain in accordance with environmental, safety and human rights criteria.
- > **Creation of Economic Value:** ENDESA should be committed to the search for sustainable economic growth, taking advantage of the business opportunities derived from economic, environmental and social growth of the environments in which the company operates.

Further information: *ENDESA 2018 Sustainability Report*, page 80, *Sustainability Plan* chapter.



## 3.5. ENDESA's performance in sustainability

### 3.5.1. Low-carbon business model

Always up-to-date with intensive international negotiations, ENDESA aligned its corporate strategy according to the global commitments and goals currently planned in the struggle against climate change.

ENDESA's new 2019-2021 Strategic Plan is located in the current energy paradigm and takes into account the transition period in which we find ourselves. Among ENDESA's strategic pillars for leading the transformation are the following:

- > The decarbonisation of the energy mix for 2050 by means of a plan that sets targets for reducing absolute CO<sub>2</sub> emissions by 52% and 70% in 2020 and 2030, respectively.
- > The increase of over 30% of installed capacity of renewable energies in 2021, with an associated investment of €2 billion;
- > A smooth transition toward decarbonisation, assuring security of supply and avoiding new inefficient investments in fossil fuels.

The company is aware that the road to an efficient and sustainable energy model will be possible, thanks to a large presence of renewable energies in the generation mix and electrification of demand.

The company updates ENDESA's Sustainability Plan annually, reacting to



changes that occur in climate and energy policies and renewing its reduction objectives as a result, always with the idea of going the extra mile and meeting the challenge of putting the brakes on climate change.

ENDESA works at the highest level in compliance with its emission-reduction targets. The Executive Management Committee is the body responsible for defining and promoting policies and the objectives of the fight against climate change, and including them in the company's decision-making.

Further information: *ENDESA 2018 Sustainability Report*, page 103, *Low-Carbon Business Model* chapter.



### | 3.5.2. Digitalisation

The digital transformation of a company is the process whose purpose is to transform it into an organisation totally tuned into the digital ecosystem, focused on the customer in an intelligent, agile manner. It is a process requiring significant change management, to successfully tackle the challenge of incorporating new digital technologies.

ENDESA is very aware of this reality and the opportunities that it presents, and this is why digital transformation has been an essential component of the 2018-2020 sustainability plan, investing more than 341.9 million euros in 2018. Digitalisation will once more be a prominent feature of the new 2019-2021

Sustainability Plan, with the company planning to invest over 1 billion euros, addressing it from three angles: customer, people and assets.

ENDESA considers the digitalisation of its entire value chain - generation, distribution, marketing and our people - to be one of the key drivers for improving efficiency. The most important areas in which investments were made during the year were as follows:

- > In Distribution, the digitalisation of processes and integration of systems, data-based networks (quality plan, reduction of losses, remote control) and smart meters.
- > In Marketing, advanced analyses, new platforms (new CRM), digitalisation of channels (electronic billing, etc.), new digital billing platform.



- > In Generation, predictive diagnostics, worker digital transformation and control system response.
- > At ENDESA X (new businesses), development of digital platforms.

Further information: *ENDESA 2018 Sustainability Report*, page 125, *Digitalisation* chapter.



### 3.5.3. Customer orientation

ENDESA considers it a priority to guarantee access to the electricity supply, and also its continuity, safety, efficiency and quality; therefore, the development of the necessary infrastructures to achieve this is of the utmost importance.

For ENDESA, excellence in commercial attention is the key value in the relationship with its customers, always seeking maximum efficiency in the functioning of its channels, tools and commercial attention platforms via a process of constant innovation and improvement.

ENDESA has a Customer Service Excellence Plan, with the purpose of offering its customers the best possible service. It aims to improve the main satisfaction indicators year after year.

During 2018, this plan focused its activities on the following aspects, among others:

- > Launch of the Universal Perceived Quality Measurement Plan.
- > Further work on dissatisfaction management in all measurable aspects of commercial quality.
- > Continuous improvement in the quality perceived by customers on Digital Channels and in creating a unified experience across all channels.
- > Redoubling of work to measure customer claims.
- > Improvement in the quality of email, mobile phone and (postal) address data.

- > Acting on the two levers with the greatest impact on the satisfaction of the company's business customers concerning complaints (processing periods and steps).

- > RyN complaints: to reduce incidents in sales, to transform a complaint into an opportunity and to reduce resolution times.

- > Continuous improvement of First Call Resolution

In order to ensure compliance with the improvements identified in the Plan, a monthly follow-up is performed on 20 key indicators, enabling verification of the impact on the improvement of ENDESA's commercial quality.

Among the most significant results of the Plan in 2018, the following are of note:

- > Significant improvement in customer satisfaction in the non-mass market with management of their marketing area complaints (+1%).
- > Clear improvement in satisfaction with the ENDESAClientes website over the period (+4%).
- > Fulfilment of the objectives set regarding satisfaction with the Call Centre commercial channel.
- > Significant improvement in customer satisfaction with the e-invoicing service for the second year running (+6%).
- > Continued customer satisfaction with service at ENDESA's points of service (8.5).

ENDESA is very conscious of the transformation that is taking place in the energy sector at the worldwide level, driven by among other reasons, the following:

- > The appearance of a new customer profile that is more sophisticated and demanding, which demands greater decision-making capacity and control in the management of their energy consumption.

- > Technological advances, especially in the area of telecommunications and digitisation.

The energy sector is changing and ENDESA X aims to lead the way towards a new energy model that prioritises sustainability, flexibility and value creation.

Providing innovation through value added services and technological solutions forms the basic pillars on which to build the future of energy and achieve a more sustainable, open and digital model for industries, cities, homes and mobility:

- > E-Industries: in this area, focusing on industry and businesses, ENDESA X is opening up new opportunities regarding distributed energy, energy efficiency and audit and consultancy services.
- > E-City: in the area of cities, to create the concept of a "smart city", ENDESA X is working on public lighting, the concept of "full-electric buildings", the sale of fibre optic cable and energy services at wholesale level.
- > E-Home: in the area of the home, ENDESA X supports the growth of the home support and services businesses, providing its customers with innovative products to install energy equipment, maintenance and repairs, automation and "Home 2 Grid".
- > E-Mobility: mobility is one of ENDESA X's strong points, thanks to the development of recharging networks, the roll-out of proprietary public and private access infrastructure and advanced management services. This area encompasses e-mobility solutions for residential customers, industrial and commercial customers and public administrations.

Further information: *ENDESA 2018 Sustainability Report*, page 143, *Customer Focus* chapter.





### 3.5.4. Innovation

ENDESA strives for an open innovation model that opens the company to outside players to promote collaboration and exchange of ideas to optimise their efforts.

Open innovation is a relationship model between companies and the innovation ecosystem (universities, start-ups, research centres, other companies in the same or different sectors, etc.) that promotes collaboration and exchange of knowledge.

ENDESA adopted this model to maximise its capacities through collaboration with the most relevant players of the innovative ecosystem that contribute to the growth and creation of new business opportunities.

The aim is to develop a new culture of innovation to enable the generation of creative solutions capable of transforming the current energy model.

Our focus is on the entire energy value chain: conventional and renewable generation, infrastructures and networks, value added products and services for residential customers, SME'S, companies and large clients, digitalisation of

the company, the relationship with our customers and trading, in addition to new vectors, such as electrical mobility. Further information: *ENDESA 2018 Sustainability Report*, page 161, *Innovation* chapter.



### 3.5.5. Responsible relationship with the communities

ENDESA's commitment to development of the communities in which it operates is outlined in the company's Creation of Shared Value (CSV) Policy, which establishes the general principles, roles, responsibilities and procedures to follow for definition, implementation, financing, monitoring and reporting of the actions, processes and projects of a corporate nature throughout the company's entire value chain and all business lines and functions. Its aim is to legitimise the business and reinforce its sustainability,

generating roots in the community and promoting social progress in the local environment where it operates. The Creation of Shared Value Model pursues incorporating Sustainability into the company's strategy, increasing competitive advantages through contributing to a perspective that unites the company's objectives with the priorities of the stakeholders.

The progressive implementation of the CSV model is planned in all of the company's businesses: generation, distribution and marketing. It has already been implemented in 100% of the thermal and renewable generation facilities, albeit with different degrees of progress, and it is also present in 100% of the wind and solar farm construction projects that will cover the 879 MW of power awarded in the last auctions held in 2017.

In 2018, and according to LBG methodology, ENDESA has provided €14 million in social investment allocated to the communities in the areas where it operates, of which €11.3 million are monetary contributions or in kind.





Likewise, in 2018, the number of beneficiaries of the 163 social development projects carried out by ENDESA amounted to approximately 1,149,000 beneficiaries, of which more than 403,000 (35%) correspond to initiatives to facilitate access to energy, approximately 185,500 (16%) to employability and socioeconomic development projects, more than 52,500 to educational projects and more than 507,000 (44%) to initiatives to support local communities.

ENDESA also contributes to the commitments set by ENEL Group with respect to the UN Sustainable Development Goals for the 2015-2020 period:

- > 1.22 million beneficiaries in energy access projects, which will contribute to the goal of 3 million people established by the ENEL Group.
- > 380,000 beneficiaries in social-economic development activities, aligned with the target of 3 million beneficiaries of the ENEL Group.
- > 120,000 beneficiaries in education promoting actions, which will contribute to the target of 800,000 people the ENEL Group has committed to.

Further information: *ENDESA 2018 Sustainability Report*, page 223, *Responsible Relationship with Communities* chapter.

### 3.5.5.1. Sustainability Projects

#### 3.5.5.1.1 Energy access projects

One of ENDESA's main approaches in social development is the development of projects in line with the Company's *core business*, with initiatives

to favour access to energy. Furthermore, this type of initiative responds to the commitment of ENDESA to the UN Sustainable Development Goals in section 7 on 'Affordable and non-polluting energy'. According to the latest 2018 Materiality Study, this is the type of initiative that many of our stakeholders call for.

In 2018, and according to the LBG methodology, ENDESA has invested more than 3.5 million euros in social projects in this area, with the management of 35 initiatives, which have benefited more than 403,000 people. The most relevant are:

> **Agreements signed against energy poverty.** ENDESA is aware of the serious problem of energy poverty in many Spanish homes and has taken steps to find solutions to this social problem since 2015. Indeed, the company has been pioneering in signing agreements with town councils, provincial councils, autonomous communities and public bodies to guarantee the supply to vulnerable families, suitably accredited by the social services and who are in a default situation. In 2018, the number of agreements in force has increased 19%, going from 229 in 2017 to 272 in 2018. As a result of this, around 108,125 customers have benefited from these actions since their inception, having handled bills totalling approximately €26 million. Furthermore, thanks to the agreements reached throughout Spain, ENDESA can cover in this regard more than 10 million homes from 26 Spanish provinces.

> **Energy Volunteering.** ENDESA and ENDESA Foundation promoted a social project in the field of energy, initiated in 2015, aimed at

households that are in a situation of energy poverty, with action on two levels. On the one hand, recommendations are given to these families, either through workshops or by telephone, to optimise their electricity bills and to reduce their energy consumption, which includes a distribution of DIY efficiency kits. On the other hand, the risk situations are identified in the electrical installations of the most vulnerable homes, which are later corrected by certified installers. In 2018, CRUZ ROJA ESPAÑOLA collaborated as the main NGO and coordinator of all the territories where the program and ECODES in the diagnostic tool and measurement of results were carried out. In this edition, the scope was also extended to 14 territories; there was a total of 310 volunteers (188 from ENDESA and 121 from CRE) and more than 1,500 families attended to, which amounts to around 5,000 beneficiaries. Thus, more than 130 training workshops were provided for families, who were also given a micro-efficiency kit, over 580 telephone consultations were carried out and almost 160 homes were visited, with improvements being made to those that require it. The total average potential saving was 21%. It is estimated that after implementation of energy efficiency measures, bills could be slashed by an additional 10%. Work was also given to around 14 installers.

> **Training for social services and/or tertiary sector workers on efficient energy consumption habits and reducing energy bills.** Since 2016 and in partnership with the Environmental Sciences Asso-



ciation (ACA) and the Spanish arm of the European Anti-Poverty Network (EAPN-ES), a series of training courses is being held for workers from social institutions on energy efficiency and saving, new discount rates, how to reduce electricity bills, and how to avoid shut-offs for non-payment. The aim is to enable these entities to offer better advice and support for vulnerable families. Course participants receive useful practical training to help them in their advisory and support roles. During 2018, eight training sessions were held in Tenerife, Madrid, Badajoz, Huesca, Malaga, Toledo and Granada, attended by around 140 institutions that provide advice to around 23,000 people in energy poverty per annum. ENDESA plans to reinforce and expand on this type of initiative.

#### 3.5.5.1.2. Projects for social-economic development of communities

This includes non-energy-related projects for the furtherance of employment, generation of infrastructures, transfer of abilities and skills and support for local business activities.

In 2018 and according to the LBG methodology, the Company invested over €4.8 million in this type of initiative, representing 35% of social investment with the management of 36 projects that have benefited over 185,000 people. Some examples:

> **“Job Training” programme, under the CSV plan of the Candelaria plant:** The Candelaria Council and ENDESA, together with the Spanish Red Cross, renewed the socio-labour integration agreement in April 2018 for the residents in the municipality,

through a combination of educational, socio-educational, occupational and job training activities to enhance their job and social skills. This partnership strives to foster a desire to find work amongst the population within the environment of the Candelaria plant and acquire the right tools to take personal responsibility for actively looking for a job. This edition has been aimed at 30 long-term unemployed people. The programme has been updated according to the job demand profile in the region, designing, in 2018, a “Comprehensive Warehouse Training,” with all its training modules added to technical-professional training in local companies that require this profile. In addition, another 15 young people have been able to benefit from the guidance, training and intermediation actions. After one year of theoretical training and internships in the partnering companies of Valle de Güimar, a total of 18 beneficiaries have entered the labour market (60% entry rate), exceeding the targets set in the project.

> **Installation of a Fish Farm, within the CSV Plan of the Alcudia plant:** Agriculture project, for the use of the water used in the cooling circuit of the Es Murterar thermal power station in the breeding of marine species that are highly prized for eating, such as sea bass and sea bream. In 2018, 800,000 sea bass were reared, thanks to this initiative, in partnership with local companies. The aim of the project is to obtain profitability from the flow of heated water, creating economic fabric within the local environment, and for researchers to find out whether the fish grow faster in such an artificial environment.

#### 3.5.5.1.3. Education projects

ENDESA is committed to promoting access to quality, inclusive education, in line with the 4<sup>th</sup> UN sustainable development goal, which the company has adhered to.

In 2018 and according to the LBG methodology, the Company invested over €1.4 million in this type of initiative, representing 10% of social investment with the management of 20 projects that have benefited over 52,000 people (61% more than the number of beneficiaries in 2017). An example includes:

> **Promoting STEM learning among girls:** For yet another year, ENDESA has been involved in setting up the *Orienta-T* educational programme along with the *Junior Achievement Foundation* and other companies. The programme goal is to make young people aware of the job opportunities in *STEM* (science, technology, engineering and mathematics) careers and boost the number of women leaders in this area. Additionally, the teaching community was provided with educational materials to use at their educational centres and thus promote the multiplier effect of the initiative.

As a result of this partnership, 762 students and 92 teachers participated in the secondary and baccalaureate educational stages, in educational centres in Madrid, la Coruña, Barcelona and Seville; an open and collaborative career guidance channel was created for young people, with more than 30 inspiring videos of professionals for use in schools throughout Spain.

> **ENDESA Foundation Tech Challenge. Promoting STEM careers.** Public-private initiative between the



ENDESA Foundation and the Education Department of the Madrid regional government, to foster educational innovation through technological enterprise at schools. During the 2017/2018 school year, 3,900 students and 260 teachers from 65 schools in Madrid collaborated. During the 2018-2019 academic year, the scope was extended to the Community of Aragon and 5,400 students and 360 teachers from 85 schools (70 from Madrid and 15 from Aragon) are currently being trained.

#### 3.5.5.1.4. Local community support projects

ENDESA gives support to Local Communities through various types of projects that have the aim of improving the well-being of people and communities, maintaining their cultural identity, conservation of their heritage, improvement of the environment and local biodiversity, sports, the promotion of healthy habits and the support of coverage of basic needs.

In these activities, ENDESA works on the basis of knowledge and sensitivity of the local reality in each place, by collaborating with the main social organisations in the environment where it operates, getting support from the territorial units. This focus of action has had an investment of 35% of the budget (30% according to LBG), which corresponds to almost €4 million, 72 projects managed and more than 500,000 beneficiaries. Some examples are:

> **Donation of company furniture and equipment:** During the change of office of the ENDESA headquarters in Huesca, furniture was provided from the old headquarters, worth around

€2,000, to the Red Cross in Huesca, to be used in its facilities.

Likewise, at the ENDESA headquarters in Seville, a charity market was held in partnership with the Alenta Association, where the ENDESA Media department contributed furniture and decorative items and the ENDESA Foundation contributed paintings and books. Items were also donated by employees. The amount collected totalled €2,787, and it was allocated in full to the maintenance costs of a daycare centre that the Association has in the low-income area of El Vacie in the city of Seville.

- > **Partnerships with several NGOs and foundations to improve the lives of vulnerable people.** ENDESA has promoted several initiatives to help these institutions, especially with its contribution to the NGO *Ningún niño sin techo* (No Child Without a Roof) in Tangier, which attends to street children who need a point of support to regain family or school ties or, in the final analysis, a centre suited to their needs; or with the Nazareth Foundation in the Balearic Islands, which welcomes children from families that cannot meet their basic needs.
- > **Projects to protect the environment and biodiversity.** These are projects which the Company participates in on a voluntary basis to encourage the disclosure, preservation, investigation, recycling, regeneration and improvement of the environment in general and of biodiversity in particular, for the preservation and improvement of community environments. In 2018, ENDESA allocated 6% of the total of its social investment to these projects.

Further information: *ENDESA 2018 Sustainability Report*, page 223, *Responsible Relationship with Communities* chapter.



### 3.5.6. Our people

ENDESA works constantly to develop the potential of its people, so that their performance contributes to making the company a benchmark in the sector, therefore talent management guarantees the development of people based on merit and their contribution.

With this objective, the company carried out various professional development actions with its employees adapted to the specific needs of each business, representing a training offer to provide and improve the technical qualifications they need in the performance of their duties and promoting the growth of their attitudes and aptitudes for their personal development.

Occupational Safety and Health is another element of fundamental value to be upheld at all times for those who work for the Company, without distinction between own staff and its collaborating companies. With these principles, ENDESA implemented a safety inspection plan that covers all levels of the company. These inspections are partly performed by their own staff and partly through collaborating companies that previously trained in ENDESA'S working procedures and in actions or behaviour that we consider unacceptable from an Occupational Health and Safety standpoint.

During 2018, ENDESA gave a total of 102,637 hours of occupational health and safety training to its own employees. 6,397 people attended occupational safety and health training courses. During 2018, 84,020 safety inspections were performed in works and/or projects performed carried out by both the Company's own and contractors' em-

ployees, which had a significant impact on reducing the number of work-related accidents.

Thanks to all the work and effort carried out on occupational health and safety, the combined frequency index (employees and contractors) was reduced by 4.21% and the number of work days lost due to absence decreased by 10.64%.

ENDESA celebrated ZERO fatal accidents during 2018 and, in this context, set the goal of zero fatal accidents for the period 2018-2020.

Further information: *ENDESA 2018 Sustainability Report*, page 303, *Occupational Health and Safety* chapter.



### | 3.5.7. Environmental Sustainability

For ENDESA, sustainable development is an essential pillar of its strategy, including the protection of the environment as one of its most important commitments. This attitude is a sign of positive and differential identity for the company, since it is an essential principle of behaviour that is expressly set down in its corporate values.

Therefore, ENDESA set the target of reducing its environmental footprint in 2021 by more than 32% compared to 2018. To achieve this, the following reduction targets have been set:

- > 39% of specific CO<sub>2</sub> emissions in 2021, compared with 2005.
- > 52% of specific SO<sub>2</sub> emissions in 2021, compared with 2018.
- > 13% of specific NO<sub>x</sub> emissions in 2021, compared with 2018.
- > 24% of specific particulate emissions in 2021, compared with 2018.
- > 17% in water consumption in 2020, compared with 2017.

ENDESA makes a significant effort to achieve excellence in environmental management. During 2018, investments in environmental activities led to an in-

crease of 4.3% in accumulated investments compared with 2017, and 100% of the electricity generated and distributed by ENDESA in 2018 was certified by the International Standard ISO 14001.

For this reason, there is a comprehensive monitoring system for all its emissions to control the characteristics and volumes emitted, so that it can comply with the parameters required by the current regulations.

Integrated water management is one of ENDESA's greatest concerns. The main lines of action in this area focus on efficient consumption, water quality by controlling discharges and waste water, and reservoir management, assessing the ecological potential to provide shelter for bird life, the possibilities to control invasive species and prevent the existence of dried up sections of regulated rivers. Specific water consumption for electricity generation in 2018 has been 604 m<sup>3</sup>/GWh, thus improving on the target set for 2017 of 840 m<sup>3</sup>/GWh.

ENDESA has waste management and reduction systems in place, which are continually reviewed in order to iden-

tify ways to make improvements and promote them. Of the total waste produced by ENDESA in 2018, a significant portion of the waste was recovered at its external facilities, with 90% of total non-hazardous waste in Spain and Portugal and 42% of hazardous waste being recovered in the same geographical area of Spain and Portugal.

ENDESA's biodiversity conservation plan provides a structure that enables selecting and appraising, firstly, and under criteria of scientific, social and applied all the initiatives received, both internal and external, regarding biodiversity. The Biodiversity Conservation plan has ended 2018 with a total of 25 activities under way. ENDESA's corporate website includes information on ENDESA's most relevant projects in terms of study, management and conservation of biodiversity.

Further information: *ENDESA 2018 Sustainability Report*, page 181, *Environmental Sustainability* chapter.





### | 3.5.8. Responsible management of the supply chain

In order to promote responsible management in the supply chain, ENDESA has an integrated procurement process, which requires suppliers to be rated following sustainability criteria (environmental, social, ethical, integrity, human rights), in addition to technical and economic criteria, before the tender process and contract formalisation. Finally, once the service has been provided, its compliance and performance level shall be assessed in said provision. Through the Supplier Rating System, it is established whether a supplier meets the requirements to work with ENDESA. This system specifically assesses the activ-

ities considered most relevant, among other aspects, the supplier's level of compliance in terms of sustainability according to previously defined criteria in terms of the risk associated with the group of purchases to which the supplier belongs:

- Assessment of compliance with Human Rights standards.
- Assessment of compliance with Environmental standards.
- Assessment of compliance with Occupational Health and Safety standards.

Further, as part of the sustainability requirements regarding the environment

and safety, the need to hold the corresponding certifications for management systems on these matters according to the ISO 14001 and OHSAS 18001 standards for activities designated as high risk was established.

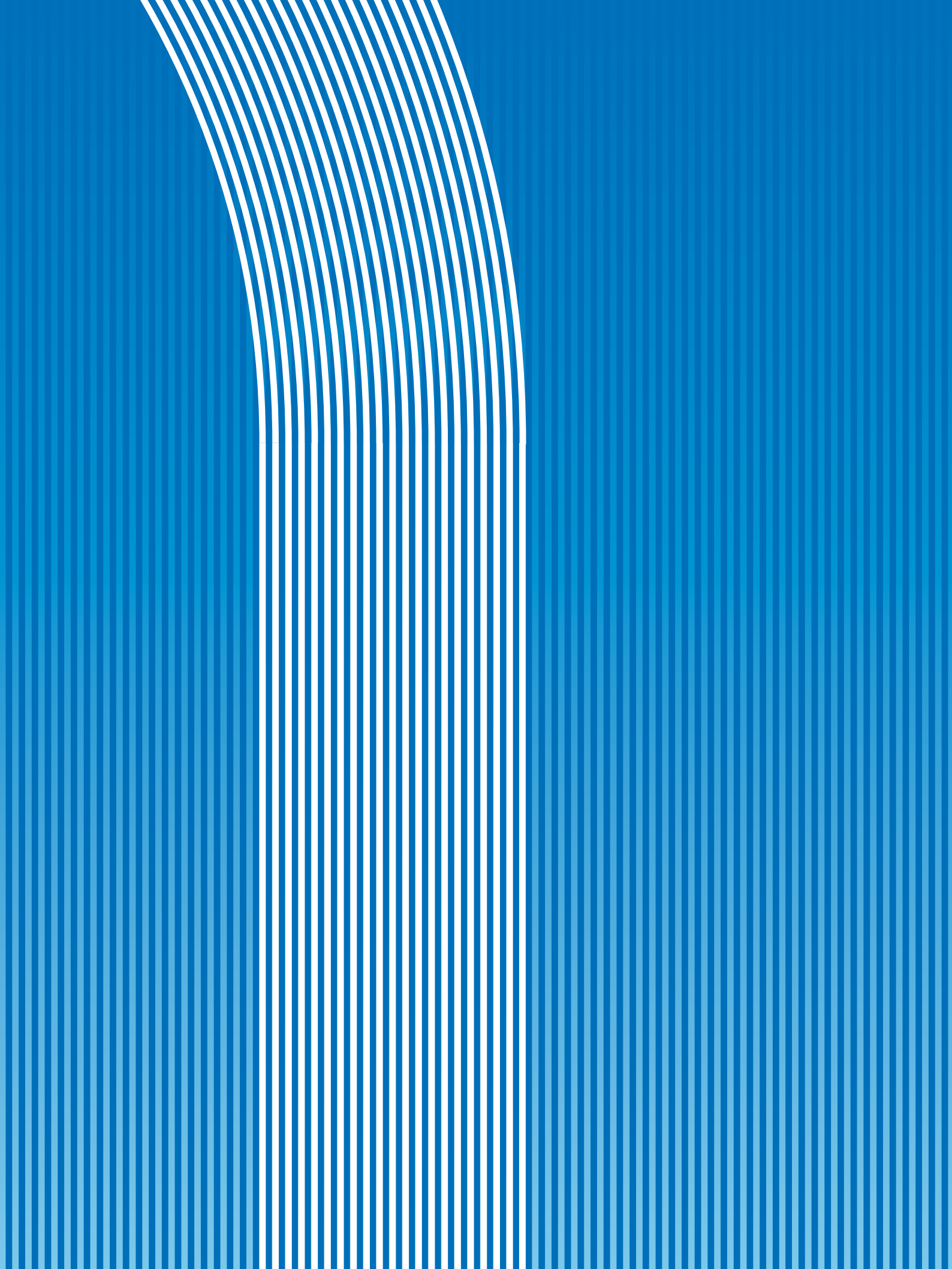
At the end of 2018, the Supplier Rating System was implemented in 194 purchase families, 134 Global families (international rating) and 60 local families in ENDESA.

Further information: *ENDESA 2018 Sustainability Report*, page 287, *Supply Chain* chapter.

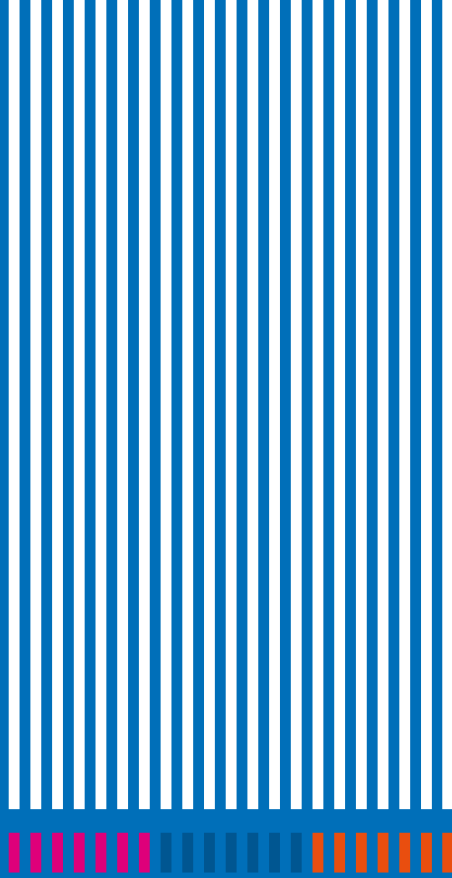












# 09

Research,  
technological  
development  
and innovation



# 1. ENDESA and research, technology and innovation activities

**O**pen innovation is the innovation management model that opens the company to external agents such as universities, research centres, start-ups, and other companies to promote collaboration and exchange of ideas.

At ENDESA, this open model was adopted to find quality ideas that help us to grow. Our purpose, when entering this new culture, is to develop innovative solutions capable of transforming the current energy model. Our focus is on the entire energy value chain.

**OPEN INNOVABILITY** is the new ENEL Group platform for meeting innovation and sustainability challenges for both the Group's employees as well as for start-ups, independent innovators, universities, research centres, potential business partners, NGO's and other associations. Therefore, it is open to all and inspired by the Open Power philosophy.

Through this channel, the company publishes specific challenges regarding themes of special interest, open to the entire entrepreneurial ecosystem by converting it into an internal channel to identify innovative initiatives of employees from the entire group.

In coordination with ENEL, the unit ENEL Idea Hub Spain, intended to promote creativity and intrapreneurship in the Company, was established. Some of the most outstanding projects during 2018 are as follows:

**CHALLENGE DRIVEN SESSIONS**, Creative Problem Solving (CPS) methodology workshops to search for innovative

solutions to the company's challenges (sessions with over 300 employees involved).

**DESIGN THINKING**: development of projects using Design Thinking methodology to incorporate customer-oriented focus into the innovation projects.

**INNOVATION ACADEMY**, specific training programme with the objective of training employees in work methodologies and skills to equip them as facilitators of the innovation culture in their environment.

**MY BEST FAILURE** is a digital platform enabling the ENEL group's employees to share our cases of 'constructive failure' as a means of learning, contributing to the creation of a culture unafraid of making mistakes, fostering experimentation and the capacity of taking risks within the global organisation.

ENDESA has a considerable interest in working with **entrepreneurs** and **start-ups** due to their capacity for disruptive innovation, the use they make of technology, their know-how and their dexterity in developing products and services. The **ENEL Innovation Hub Spain** continued developing the relationship with the entrepreneurial ecosystems of Spain and Portugal and other European ecosystems and researched European start-ups of interest to the group's companies. Additionally, as part of the ENDESA Energy Challenges platform, the ENERGY FOR ENTREPRENEURS programme was developed as a direct contact to receive proposals directly

from both start-ups as well as individual entrepreneurs.

(<http://endesaenergychallenges.com/es/entrepreneurs/>)

The following projects stand out for energy efficiency technologies development:

**ANDRÓMEDA**: new 100% digital management platform for the installation and after-sale service of ENDESA Comprehensive Solutions.

**CONNECTED@HOME**: project for deploying distributed technologies such as photovoltaic generation, energy storage and control and sensor devices with the objective of designing the smart house of the future.

**FLEXICIENCY**: project for the European H2020 programme of new services based on accessibility to meter data in almost real time. ENDESA leads the demo in the city of Malaga.

**GRACIOSA**: demonstrator project on the island of La Graciosa consisting of the launch of a micro-network that integrates distributed generation obtained from photovoltaic energy, batteries and ultra-condensers.

**SGE**: platform that provides control, monitoring and energy advice to customers, basically multi-point.

The following projects are relevant in the development of e-mobility technologies:

**ecaR (ENDESA Self-Charging Club)**: pioneering initiative in Spain that supports e-mobility at the same time as transport and sustainable tourism, offering a fast-charging service through a network of charging points for electric

(For more information about this event, please consult the website: [www.endsavehiculoelctrico.com](http://www.endsavehiculoelctrico.com)).

**SMARTCHARGING:** development of a platform that allows managing multiple electric vehicle chargers.

ENDESA continued to be committed to technological improvement with the introduction of new technologies and processes that allow improving efficiency and consumption of natural resources in its plants, thus reducing the amount of emissions and waste in them. One

**ROBOTICS:** uses a new underwater robot to perform inspection and cleaning tasks on underwater infrastructures.





**DIGITAL WORKER TRANSFORMATION:** Development of mobile information tools to reduce the time necessary to execution of work and to improve the operations' level of safety.

Within the scope of the innovative projects in the environmental area, the following projects directed at reducing polluting gas emissions and consumption of natural resources, such as water, were undertaken:

- > **Matching Project:** Its objective is to reduce water consumption in the Energy Sector using new technologies.
- > **Gyll Project:** For landfill leachate waste water recovery and desulphurisation through use of vibrant membrane technology.
- > **Acticen Project:** Aimed at obtaining maximum value from ash from the coal burning processes for use in pre-fabricated concrete.
- > **Innovaalga and A4HW Projects:** Obtaining maximum value from CO<sub>2</sub> derived from combustion gases at the Litoral thermal power plant in Almeria by the cultivation of microalgae, and from the biomass generated to obtain high-value proteins as a source of high value-added feed and sustainable fertilisers.

Likewise, projects were developed to improve efficiency and flexibility in electricity generation processes:

**CONAVA PROJECT:** Predictive control systems to optimise combustion and turbine steam temperature control in different generating plants.

**LEAKS:** Visual detection of gas leaks using adapted thermographic cameras.

**THERMOELECTRIKA:** Validation of an early hot point detection system in electrical equipment that could generate fires and significant damage to people and the facilities.

**COAT:** Validation of new painting with microparticles for use as thin thermal and acoustic insulators.

Important innovative projects are being developed in the energy storage area, such as the area of batteries, with greater installation of this type in Spain as well as with other types of storage solutions. Thus, we can highlight the following projects:

**LITORAL DE ALMERÍA BATTERY:** Ion-lithium battery-based facility with 20 MW of power and 11.7 MWh of stored energy, as the largest facility of this type installed in Spain.

**SELF SECOND LIFE BATTERIES PROJECT:** Project to validate an electric vehicle battery recycling solution for use in support of the Melilla thermal power plant auxiliaries. The 4 MW power and 1.7 MWh stored energy system will be installed in Melilla and contribute to providing backup and security to the autonomous city's supply.

**EL HIERRO BATTERY:** Installation of an energy storage system to support the auxiliaries of the Llanos Blancos thermal power plant on the island of El Hierro.

**TES PROJECT:** Study for integration of pilot thermal storage in solid materials to recover residual heat at the Las Salinas power plant in Fuerteventura.

Regarding innovation projects in commercial matters, the main projects developed at ENEL X IBERIA are

**ANDRÓMEDA:** Management platform that is 100% digital that will incorporate the new digital sales channel, Comprehensive Solutions and the maintenance and repair services during this fiscal year. This functionality combines those already in existence with services and follow-up for value-added products and services.

**PUBLIC ACCESS RECHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES PLAN:** During 2018, ENDESA X submitted the investment in public access recharging infrastructure plan to install over 8,500 public access points with a total investment of 65 million Euros. All infrastructure deployed in the Plan are connected to the ENEL X global digital platform, which will allow interoperability and remote control of the recharging points.

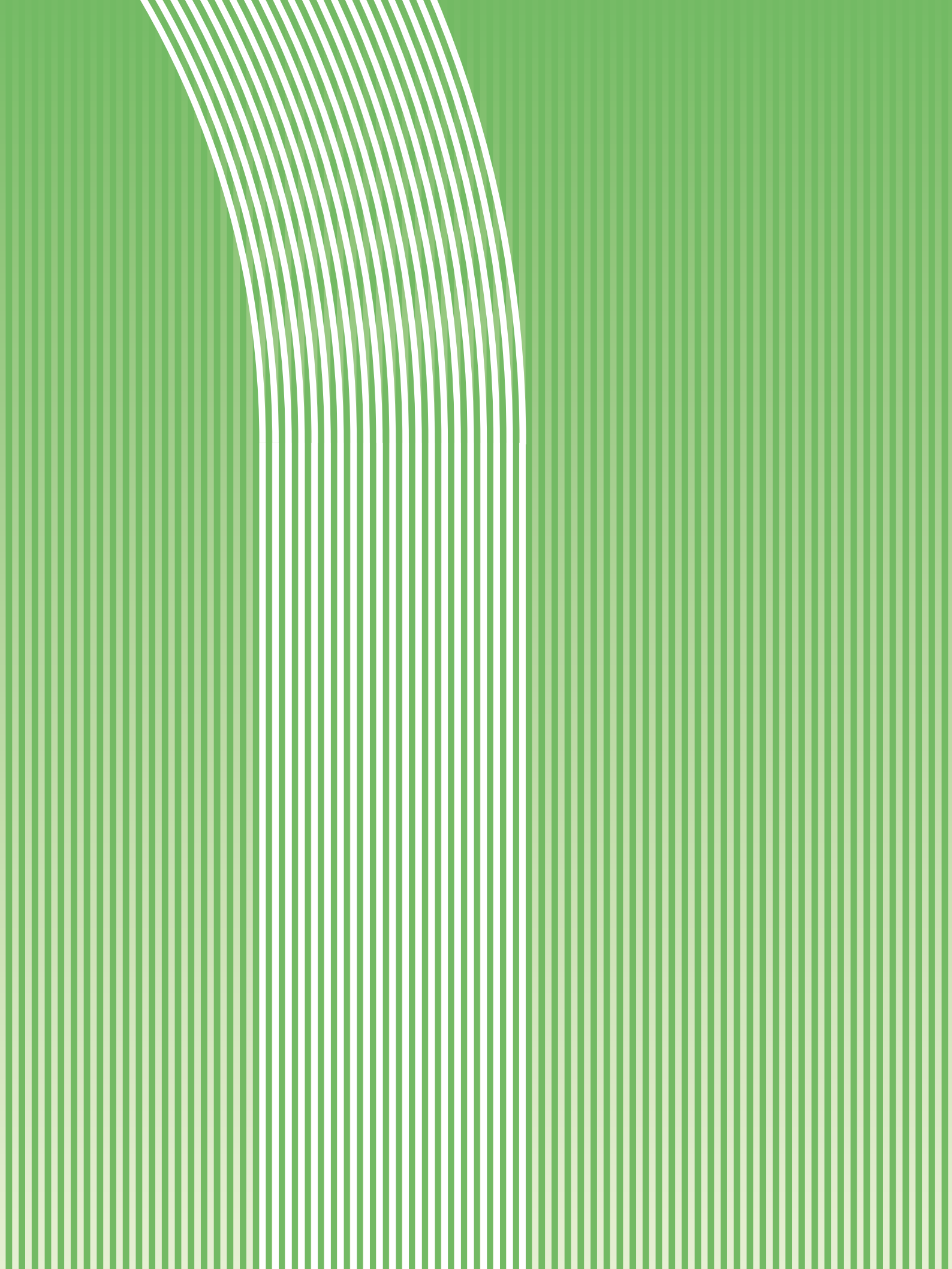
**ENERGY MANAGEMENT SERVICE (SGE):** Functionalities were developed to allow customers (multi-point and major consumers) to monitor their energy consumption, to compare and thus, more efficiently control the different circuits in their daily management (lighting, air conditioning, etc.) and to receive energy advice based on optimisation of power, proposed energy savings measures and monitoring.

**CIRCULARITY:** Circular Economy Project to provide measurement of the level of compliance with the precepts of this economic philosophy on two levels: high level - corporate standpoint - and factory level - energy standpoint.

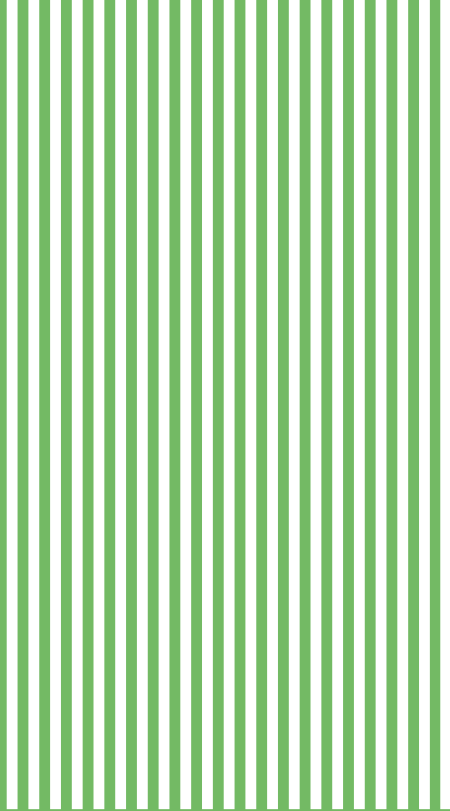
Further information: ENDESA'S 2018 Sustainability Report, page 161, Innovation chapter.











10

Our People



# 1. ENDESA'S workforce

**E**NDESA had 9,763 employees on 31 December 2018, 9,723 in the Spain workforce and 40 in the Portugal workforce.

During 2018, 505 people joined the company, of which 393 were due to new hires in Spain and Portugal and the rest due to company transfers from the Group and reincorporation of those on leaves of absence. There were 448 records of contract terminations in the same environment, of which 27 correspond to voluntary departures, 194 severance packages, 6 retirements and 221 for other departures (contract terminations, leaves of absence and transfers to Group companies). ENDESA's final workforce on 31 December 2018 had increased 0.59% compared to 2017.

## ENDESA'S Workforce

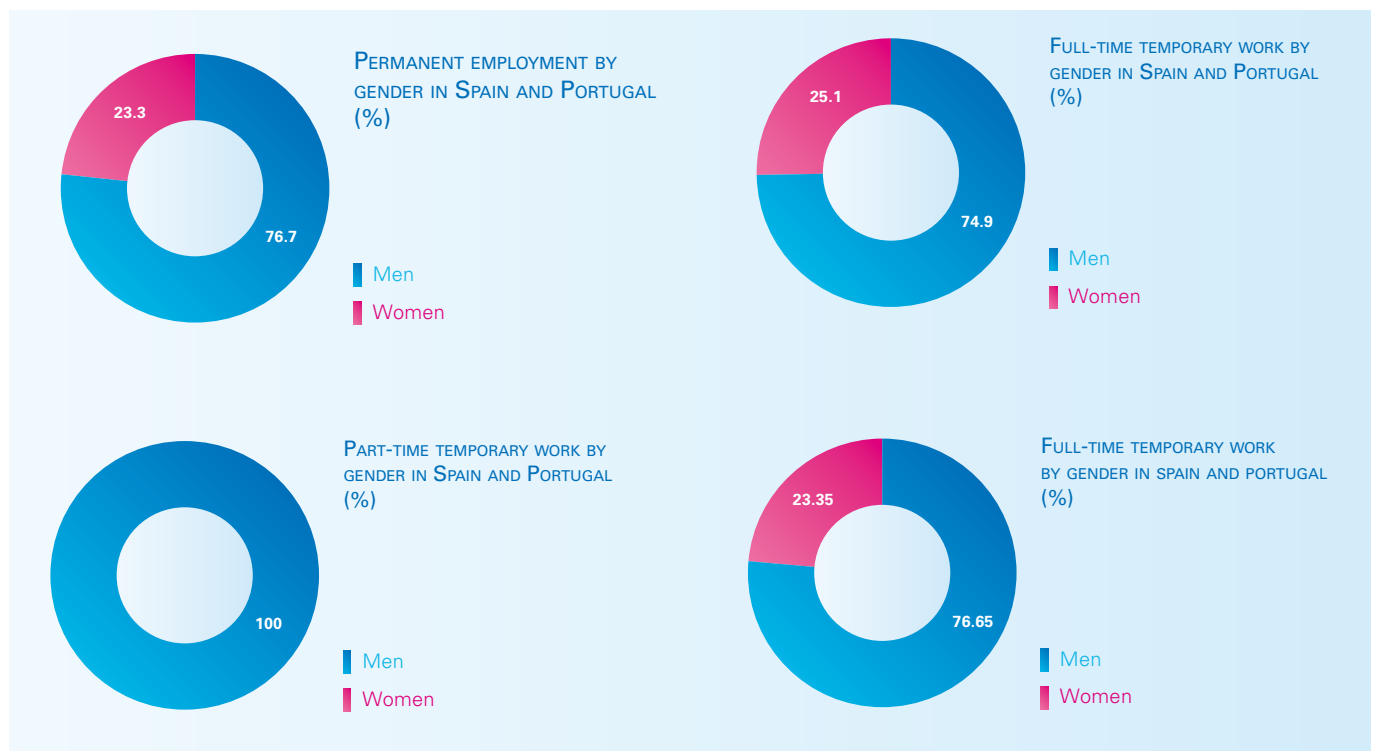
	2016	2017	2018
Spain and Portugal Workforce	9,694	9,706	9,763
Average workforce	9,819.40	9,856.60	9,695.55

## Spain and Portugal Workforce Data (%)

	Over 50 years of age	30-50 years of age	Under 30 years of age
Distribution by Age	36.9	59.2	3.9
Age of Executives	47.2	52.8	—
Age of Middle Management	25.2	70.6	4.2
Age of Administrative and Management Staff	40.1	55.8	4.1
Age of Operators	46.2	50	3.8

Segmentation of the workforce by age shows that the largest number of employees, 59.2%, is within the range of 30 to 50 years of age. The average age of the workforce is 46 years.

**96.5% of ENDESA'S workers are permanent employees**, which amounts to 9,426 contracts. The number of temporary employees was 337. The average time an employee has been in the



company is 17.88 years: over 71.9% of employees have been working in the company for over 10 years.

With respect to the distribution by sex, the workforce was composed of 76.7% men and 23.3% women.

In 2018, a total of 35,208,274 hours were worked by contractors.



## 2. Leadership and Personal Development

**E**NDESA'S leadership model is based on the Group's vision, mission, values and behaviour. The *Open Power* values are present in all personnel management systems.

In 2018, ENDESA incorporated an innovative process to evaluate people's con-

duct based on the exchange of *feedback* among everyone in the Organisation.

Some 57.5% of employees have participated in some of the evaluation processes, which entails a total of 5,616 people.



### VALUES

#### Responsibility

Each of us is responsible for the success of the group at all levels. We place our energy at people service to improve your lifestyle and to make it more sustainable.

#### Innovation

We live and work with curiosity, strive to surpass the everyday and conquer our fears to expose energy to new uses, technologies and persons. Learning from our mistakes as well as from successes.

#### Trust

We act competently, honestly and transparently to gain the trust of our colleagues, customers and external collaborators, valuing individual differences. We also trust in their capacity to create value and share it.

#### Proactivity

We take charge of our work in first person. We are continuously interpreting scenarios and global challenges to anticipate changes, redefining priorities if the situation so requires.





## 2.1. Talent development

ENDESA continued to perform different professional development activities adapted to the specific needs of each business. Among those that stand out are the following: people management (*Onboarding*, getting acquainted interviews, *Coach Manager* courses and *Vamos* (Let's go), *coaching* (both for teams as well as individuals), *mentoring*, consulting adapted to the specific requirements demanded by each business (for example, *team building*) and implementation of other key development actions such as appointment of executives and succession plans.

Some of these activities are described in detail below:

> **Onboarding:** A project with the objective of reinforcing the integration of new employees into the Organisation and the values of ENDESA'S culture. Using the "*agile*" project model, during 2018, the *onboarding* process was redefined based on four pillars:

- 1) Start of the process before the effective arrival of the new employee;
- 2) Digitalisation of the process for real-time coordination of all of the organisational units that manage related tasks;
- 3) Reinforcement of the tutor as a monitoring figure who provides support to the new employee during his/her integration;
- 4) Permanent evaluation of the new employee's satisfaction with the process.

Through a specific *web* portal, the new employee accesses knowledge of ENDESA'S culture and values, the main working tools and special bene-

fits to which the employee is entitled. As a result of this project, the time needed to complete the associated administrative tasks has been reduced by 70%, achieving nearly 90% employee satisfaction.

> **Knowledge interviews:** In 2018, ENDESA continued holding getting acquainted interviews with its people. The purpose of the interviews is to get to know their interests, aspirations and motivations first hand. During the year, 1,627 new interviews were held.

> **Coaching:** ENDESA is strongly committed to *coaching*. During 2018, 105 people have benefited from this type of individual or group action carried out through the internal *coaching* network, with over 30 internal *coaches*. This participation by internal trainers identifies ENDESA as one of the benchmark companies among Ibex35 companies.

> **Skills Workshops:** Initiatives were developed to train almost 700 people using internal trainers whose goals are to offer tools to those in charge of new teams to transform the manager profile at ENDESA (38 workshops were held at 18 locations using internal trainers for 504 people managers compared to the 166 attendees in 2017). Additionally, programmes within the Infrastructure and Networks business were held, directed toward 209 people who provide services as technical personnel in order to make available the skills and abilities nec-

essary for the performance of their functions.

> **Mentoring:** is a project for transfer of knowledge through individual *mentoring*, in which 77 people participated. During 2018, the programme called Women Mentoring also continued. Women executives participated, both in the roles as *mentees*, as well as the Top 200 group in the role of mentors.

> **People and Organisation Consulting:** During 2018, ENDESA reinforced an internal consulting line which gives *ad hoc* solutions to the needs posed by businesses. This activity is performed by internal development experts applying *coaching* techniques and tools.

In collaboration with the Safety and Health area, work proceeded on a monitoring programme offering psychological support to families affected by accidents.

> **Shadowing:** In 2018, a new training project was designed based on empowering people under experiences outside the employment context. This programme is linked to *shadowing* activities between people in top management positions and young people with professional potential (*Growing Youth*). The objective is to explore together special obstacles relating to the challenge they face in transforming themselves into agents of change, with special attention on the inter-generational exchange.



# 3. Training

## 3.1. Training in ENDESA in 2018

ENDESA presented a training offer to its employees focused on achieving the company's strategic objectives and fostering its values. To perform this activity, ENDESA invested 25.47 million Euros in

training activities (of which, 6.55 million Euros were in direct costs). During 2018, 2,802 sessions were held at ENDESA, with the participation of 8,395 employees. 370,416 training

hours were given, achieving an average of 37.9 hours per employee.



## 3.2. Type and content of training

ENDESA's commitment to people is to promote their professional and personal development through continual training aligned with the Company's strategic objectives throughout all of its scope of operation in order to contribute to the Company's excellence.

Training activities respond to the needs detected in different analysis processes that ensure continual learning in the different defined categories:

ENDESA is firmly committed to compliance with legislation in effect re-

garding any and all of the areas in which it engages in its activities. This involves the inclusion of numerous training activities, among which are occupational health and safety, criminal risks prevention, anti-corruption, respect for human rights, sustainability and the environment, as mentioned above.

> **Energy sustainability training.**

ENDESA'S commitment to sustainable development means that train-

ing in this area is of great importance and therefore, courses were designed, developed and taught so that ENDESA'S employees might be trained to be familiar with the principles of sustainability within their sphere of activity, both professional and private. Further, ENDESA wants to be a benchmark for society once its employees assume these principles and adopt sustainable energy behaviour.

1 Skills	2 Technique	3 Safety	+ Recommended
Transversal training to develop personal and professional attitudes and aptitudes.	Training necessary for correct performance of each work position.	Mandatory Prevention of Occupational Risk, health and safety training.	Training necessary to comply with the standards (legal or company), for certificates required by units other than those of the student.



> **Health and safety training.** Occupational risk prevention courses are aimed at the entire workforce and are mandatory, combining *on-line* with in-person methodology, depending on the content and public objective. Additionally, specific actions were carried out for positions of defined responsibility as regards occupational safety and health, such as the Occupational Safety and Health Delegates, the Occupational Safety and Health Resources and members of the emergency teams.

> **Environmental training.** During the 2018 fiscal year, environmental training continued with the provision of about 7,707 training hours to ENDESA'S employees. This training enabled compliance with the requirements established to renew the different ISO 14001 energy efficiency certificates and the Integrated System for Environmental Management, Energy and Environmental Quality of Interiors (SIGAEC) that the company has.

was set into motion, which had the objective of promoting good digital practices to incorporate new routines every 21 days. This programme will continue to be developed, expanding content throughout the coming year. In its objective to be an agile and innovative organisation, ENDESA has increased courses offered regarding digitalisation, acquiring a notable presence with regard to *bigdata*, *salesforce*, *business analytics*, digital marketing and *social media management*.

> **Other training activities.** Through training in managerial, social and leadership skills, ENDESA has provided employees with tools for their personal and professional development. This type of training was provided as cross-training among the different business lines and support areas. Hours of management skills programmes reached 152,708 hours in 2018.

We would like to highlight the launching of several training programmes relating to the different dimensions of diversity: in the dimensions of gender, age and disability.

Another of ENDESA's fundamental commitments upheld throughout the years is technical training of employees. This enables their professional progress and gives them the necessary qualifications to perform their activity. Thus, 71,076 hours of technical training were provided in 2018 in the areas of Generation, Renewables, Distribution, Marketing, *Global Digital Solutions* (GDS), Purchasing and Support Areas.



> **Human Rights Training.** Coinciding with the 70th anniversary of the Universal Declaration of Human Rights, a specific *on-line* course was developed, aimed at the entire workforce. Its objective was to increase knowledge about this crucial theme and to provide information regarding activities that the company engages in to promote its observance in all spheres.

> **Digitalisation training.** Training in digital transformation involved an important chapter in 2018, with 31,277 courses being given. For the third year in a row, ENDESA trained its employees in the latest digital trends in the professional sector through the *e-talent* training programme. Additionally, in September 2018, the *on-line* training programme "Digital Routines in 21 Days" directed at all employees









ENDESA recognises the need to accelerate the reduction of the salary gap, and committed to that through several measures: promotion of gender equality in external and executive selection processes (hiring of at least one woman on the short-list of candidates) and in the succession plans for strategic posi-

tions in the company (hiring of at least one woman on the short-list of successors); analysis of gender indicators in the meritocracy processes; specific development programmes for women in positions of responsibility; initiatives to promote the participation of young women in technical and technological

studies; development of mentoring programmes aimed at personal and professional balance as well as the rest of the measures covered in the Diversity and Inclusion Policy which promotes equal opportunities at the Company.



## 4.3. ENDESA's Commitment to Diversity

Within the framework of its Diversity and Inclusion Policy and the Human Rights Policy, all forms of discrimination are rejected and ENDESA is committed to guarantee and promote diversity, inclusion and equal opportunities as well as to promote and maintain a climate of respect for the dignity and individuality of the person and to ensure the highest standards of confidentiality respecting information relating to the employee's private life that it may become aware of. Therefore, also in compliance with the values and principles included in the ENDESA'S Code of Ethics and as part of it, the company adopts the following main principles:

- > No discrimination.
- > Equal opportunities and of dignity for all forms of diversity.
- > Inclusion.
- > Conciliation of personal, family and professional life.

ENDESA believes in diversity among its employees as an enriching element. The

progressive increase of women in the workforce, hiring of people of other nationalities as well as persons with physical disabilities are an example of the respect for the different dimensions to which its Diversity Policy conforms. Regarding age, younger people are being hired progressively, which allows having a workforce that combines experience with gradual renewal.

Based on the above principles, ENDESA implemented specific actions to promote non-discrimination and inclusion in the following areas of diversity, defining the following action plan:

In 2018, there have been no incidents of discrimination in ENDESA, a fact the company regularly reports to the Workers' Representative.

Gender	Nationality	Disability	Age
<ul style="list-style-type: none"> <li>&gt; Gender equality in internal and external selection processes.</li> <li>&gt; Agreements with technical universities.</li> <li>&gt; Parent programme.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Tutoring programme for expatriates.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Identification of an internal reference (focal point).</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Tutoring programme for new hires.</li> <li>&gt; Transfer of knowledge between seniors and juniors.</li> </ul>
Transversal			
<ul style="list-style-type: none"> <li>&gt; Training courses and/or specific workshops about behaviour and values related to diversity and the inclusion.</li> <li>&gt; Inclusion of diversity elements in the behaviour model adapted for the performance evaluation process.</li> </ul>			



### 4.3.1. Promotion of gender equality

ENDESA promotes gender equality in all areas of the Company, especially in the positions of responsibility and personnel hiring, both objectives included in ENDESA'S 2018-2020 Sustainability Plan.

Thus, the figure for hired women reached 32.1% in 2018.

ENDESA forms part of the Network of Companies that holds this award and has been actively involved in the various initiatives promoted by this Network.

> **'More Women, Better Companies' initiative.** In line with ENDESA's impetus and desire to advance in the field of gender diversity, in 2014 ENDESA signed an agreement with the Ministry with the aim of promoting and increasing the presence of women in posts of responsibility. It highlights that the quantitative objective to increase the participation of women in junior and senior management positions and in management committees reached 20% in 2018 was exceeded, reaching 23%.

> **Gender violence.** In 2018, ENDESA continued the corporate volunteering programme 'Changing Lives' aimed at female victims of gender-based violence, in collaboration with the Integra Foundation and the ENDESA Foundation. The objective of the project is to improve the employability of women victims of gender-based violence and of other groups, giving them the tools needed to incorporate them into professional life, through workshops given by ENDESA volunteers. As a result, 54 women partici-

pated in the project and 24 have been hired. ENDESA has joined the Integra Foundation's awareness campaign for the "International Day for the Elimination of Violence against Women".

#### > Equality Plan from the Agreement

On the other hand, ENDESA has an Equality Plan that contains Human Resource policies that promote the implementation of actions necessary to facilitate the incorporation of women in decision-making posts and with greater responsibility. The Plan guarantees the effective application of the equal pay principle and for a job with equal value and, in particular, the non-existence of pay differences due to gender.

The Plan also includes the possibility of adapting the working day through flexible working hours, temporary change of working hours, reduced working hours and leaves of absence to care for family members. It also contained specific measures for the protection of pregnancy and motherhood, and special measures to protect victims of gender-based violence. As an aid in the care of children for both fathers and mothers, the Plan provides for agreements with nurseries and raises awareness on equality through information and communication.

### 4.3.2. Age

In order to manage generational diversity, ensuring integration, motivation and transfer of knowledge, ENDESA has launched the following initiatives:

- > Tutoring programme for new hires.
- > Knowledge Transfer Initiatives.

The tutoring programmes have the purpose of supporting employees in their initial transition periods, especially after being hired by the company.

Knowledge Transfer Initiatives include *mentoring* programmes such as reverse mentoring as well as internal training actions in which the trainers are expert senior or junior personnel.

### 4.3.3. Nationality

To manage the differences between people of different nationalities and to promote their integration, there is a tutoring programme for expatriates by means of which a tutor from the destination country is assigned to them who helps and supports them during their expatriation.

### 4.3.4. Disability

In 2018, the Family Plan developed by the Adecco Foundation continued. Through this plan, 74 family members of employees with a disability received personalised aid in the form of advice and therapy. For the first time this year, the Adecco Foundation has offered beneficiaries of ENDESA'S Family Plan the opportunity to continue their personal and social development in a fun environment through a summer camp. The camp lasts for one week and 16 children of employees with a disability participated.



## 4.4. Corporate volunteering

ENDESA continued supporting corporate volunteering among its employees, committed to the development of the communities in which it operates. In 2018, 18 volunteer projects were held in which 463 volunteers participated during working hours and 225 participated outside of working hours. This made a total of 688 volunteers, of which 188 collaborated in both types. In all, 4,041 hours were contributed by volunteers by collaboration during working hours and 3,000 hours by volunteers who collaborated in their free time. As a result of these actions, over 8,400 people were benefited.

This year, ENDESA continued with the following initiatives in Spain:

- > **Energy volunteering:** A social project in the energy field, driven by ENDESA and the ENDESA Foundation through which employees have the possibility of carrying out solidarity action as volunteers, helping households that are in a situation of energy poverty. Thus, training workshops were offered to families, homes were visited and improvement made on the facilities.
- > **Energy Programme for the future:** A Programme that aims at improving the employability of youths at risk of social exclusion in the energy sector through training volunteering, aligned with labour skills needed in the business world. The 2018 edition was held at As Pontes (A Coruña) with the participation of 4 volunteers who trained 120 students.
- > **Coach project:** In collaboration with the Exit Foundation, this corporate volunteering programme aims to improve the employability of youths at risk of social exclusion, dealing

with their self-esteem, motivation and professional guidance, using coaching or mentoring techniques. In 2018, ENDESA participated in sessions in Madrid, Palma de Mallorca, Seville, Zaragoza and for the first time, Valencia, benefiting 21 young people with the support of 21 volunteers.

- > **Job Project:** In collaboration with the Exit Foundation, this corporate volunteering programme has the objective of training young people to enter the job market, providing them the tools necessary and supporting them in achieving their professional goals. After participating in the programme, 50% of the young people found work, 38% returned to studying and of these, 15% studied and worked at the same time.
- > **Sabes + si compartes lo que sabes (You know more if you share what you know) Project:** In collaboration with the Randstad Foundation, this programme offers employees the possibility of improving social and occupational integration of persons at risk of exclusion (people with various disabilities, immigrants having difficulty in integrating in the workforce, men and women over 45 years of age, women victims of gender-based violence, single-parent families, etc.) in an active search for employment. In the 2018 edition, 13 volunteers participated by providing 35 workshops and training 206 people.
- > **Job School:** For the first time in 2018, in collaboration with the Adecco Foundation, a workshop was held in Madrid that set into motion this initiative aimed at women with special

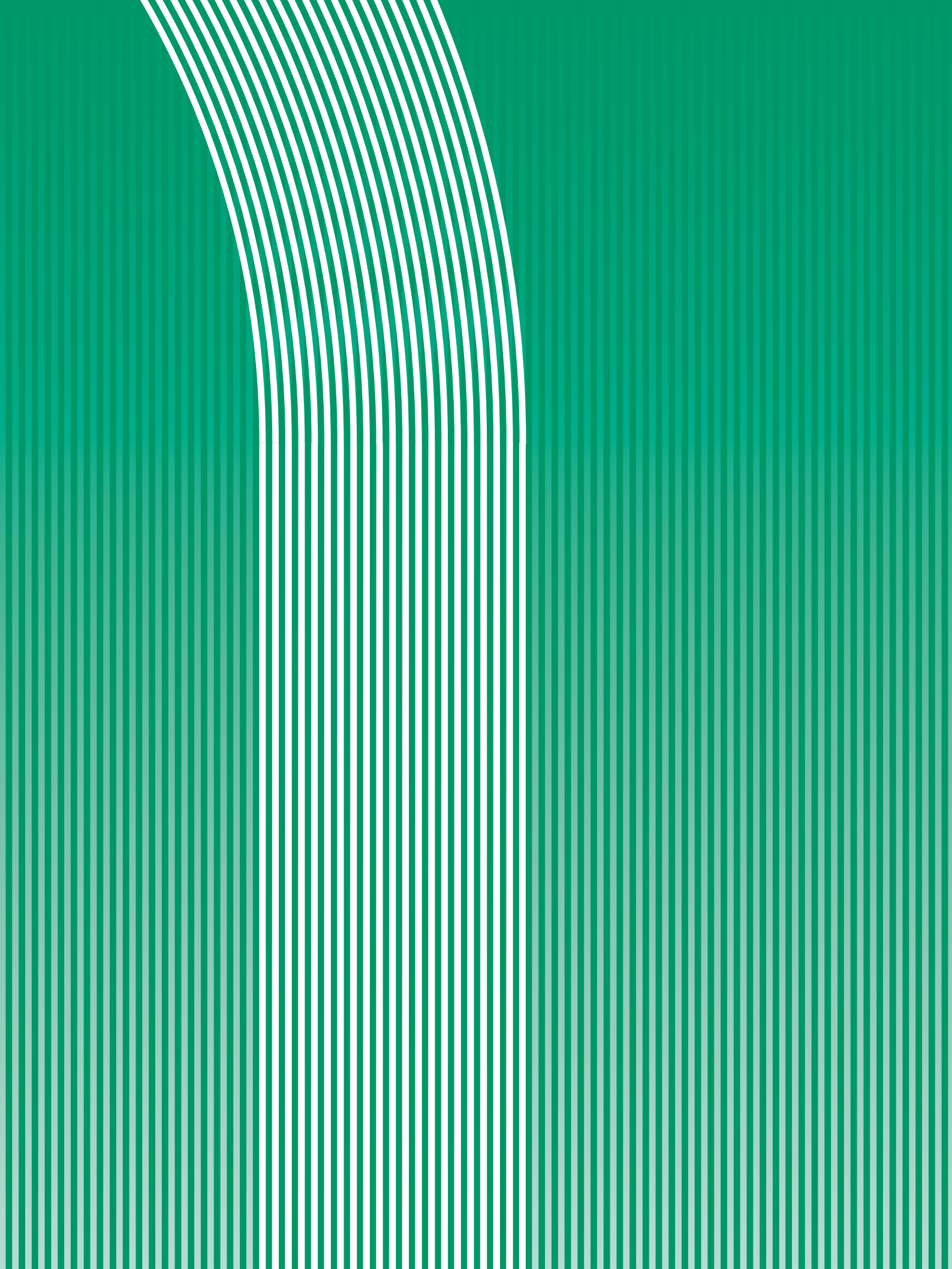
difficulties in search of employment (women victims of gender-based violence, single mothers, women over 45 years of age, at risk of exclusion, etc.).

- > **Changing Lives:** In collaboration with the Integra Foundation and the ENDESA Foundation, this corporate volunteering programme has the objective of improving the employability of people at risk of exclusion, providing them with the tools necessary for their incorporation into professional life through Strengthening School workshops given by ENDESA volunteers in Barcelona and Seville. In the 2018 editions, 41 volunteers participated, holding workshops for 253 people in a situation at risk of exclusion.
- > **Mentoring Programme for Young Entrepreneurs (Compe10cias LED):** In collaboration with Youth Business Spain and the ENDESA Foundation, this corporate volunteering programme has the goal of promoting entrepreneurship and self-employment among young people 18 to 35 years of age with few resources who have a business idea, but do not have the necessary resources to put them into operation. In the 2018 edition, 36 volunteers participated in the cities of As Pontes, Barcelona, Córdoba, Gerona, Madrid, Málaga, Seville and Zaragoza, which carried out 44 mentoring processes.

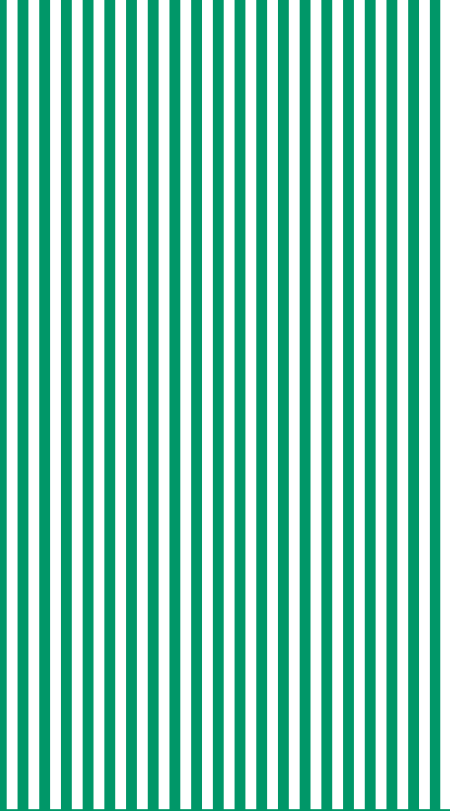
For more information about Human Resources policies and projects: ENDESA'S 2018 Sustainability Report pages 275 to 285, *Our people and Their Value*.











# 11

Other  
activities



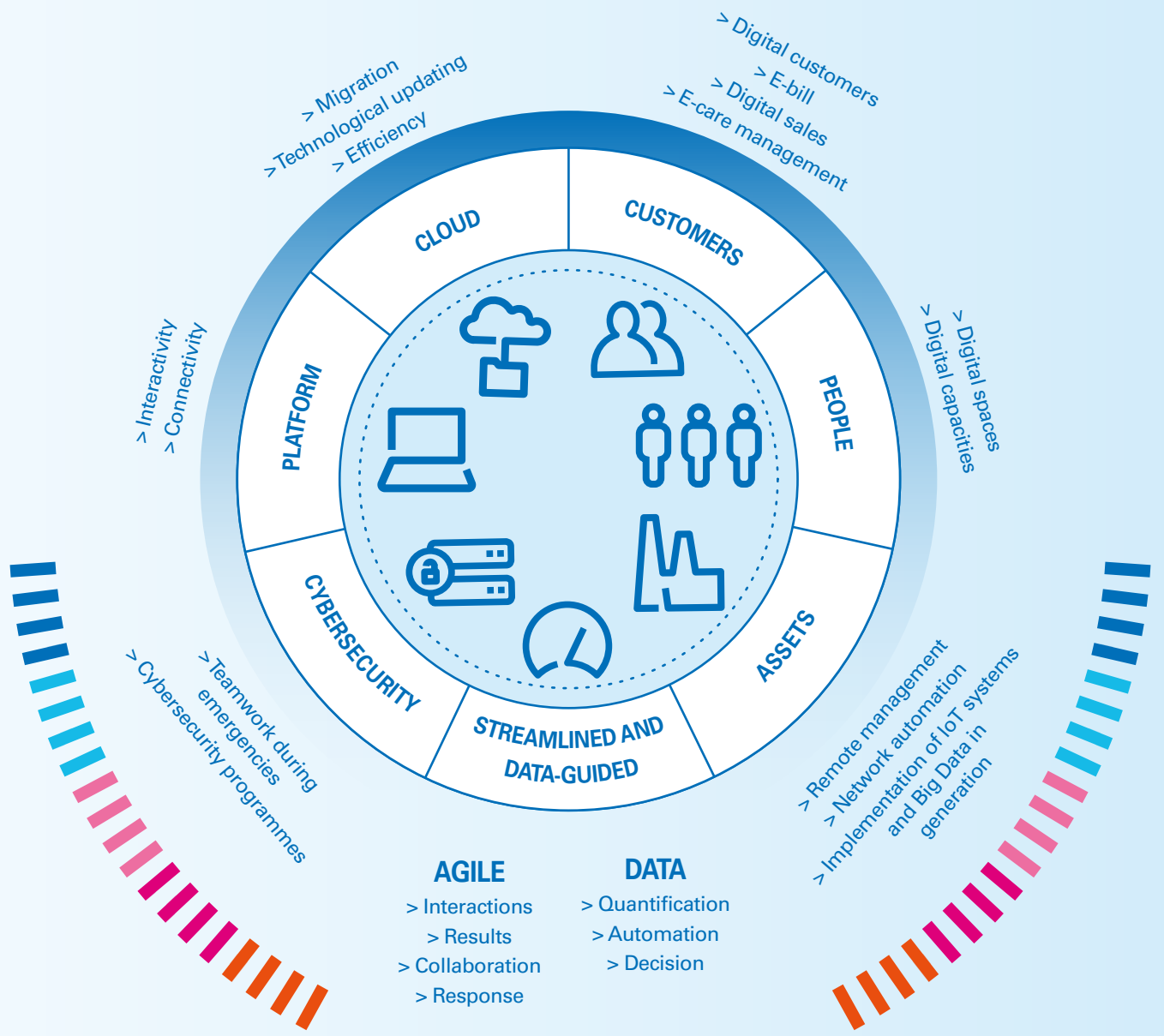
# 1. ENDESA's Digital Transformation

**T**he digital transformation of a company is the process whose purpose is to transform it into an organisation totally tuned into the digital ecosystem, focused on the customer in an intelligent,

streamlined manner. It is a process requiring significant change management, to successfully tackle the challenge of incorporating new digital technologies. These new technologies fundamentally enable the in-

terconnection between people and things, and facilitate new access to both traditional and newly-created products and services. ENDESA is very aware of this reality and the opportunities that it presents,

## THE DIGITAL TRANSFORMATION AT ENDESA



and this is why digital transformation has been an essential component of the 2018-2020 plan, investing more than 341.9 million Euros in 2018.

ENDESA considers the digitalisation of its entire value chain - generation, distribution, marketing and our people - to be one of the key drivers for improving efficiency. The most important areas in which investments were made during the year were as follows:

- > In Distribution, the digitalisation of processes and integration of systems, data-based networks (quality plan, reduction of losses, remote control) and smart meters.
- > In Marketing, advanced analyses, new platforms, digitalisation of channels (electronic billing, etc.), new digital billing platform.
- > In Generation, predictive diagnostics, worker digital transformation and control system response.
- > At ENDESA X (new businesses), development of digital platforms.

## Digitalisation in Generation

During the 2018 year, the DIGI PLANT initiative was launched in order to de-

ploy the digital technologies validated the previous year, which afford the greatest added value to ENDESA's thermal power plants. The technologies being evaluated address both improving the operation and maintenance of the power plants and the improvement of personal health and safety and the environment. This roll-out involves up to 28 power production centres for the 2018-2021 period:

## Digitalisation in Distribution

The purpose of ENDESA's Remote Management Project was to implement an automatic remote monitoring and management system for the electricity supply of domestic customers. In 2018, ENDESA made a total of 715,000 meter replacements, which entailed a cumulative total of 11.8 million and achieve the goal established in ENDESA's Sustainability Plan. This means that 98.2% of power supplied under active contracts with a contract power of up to 15 kW have remotely managed meters. Over 1,800 hubs were installed during the year, reaching a cumulative total of more than 135,000. ENDESA achieved

99% of the concentrators installed in transformer centres.

## Smart Grids

ENDESA's grids were configured according to the SmartGrid model. Their technification and the inclusion of Information and Communications Technology (ICT) enable the grids to respond effectively to users' requirements. ENDESA is developing the SmartGrid concepts in the SmartCity programmes, which it leads with several projects. In Spain, the start-up of the SmartCity Malaga project has seen its ninth anniversary.

## Customer digitalisation

Thanks to these efforts, the following advances and achievements contributing to the digitalisation process in the company can be singled out for 2018:





## 2. Cybersecurity

**T**he company's negotiation processes were assisted and developed by technological components, which is a trend in steady evolution over the last several decades.

New risks derived from the application of the technology in its execution result from this process model.

Cyberthreats inherent to each of these environments become ever more frequent and sophisticated and, therefore, cybersecurity has become a global and strategic theme. ENDESA has a cybersecurity procedure and management

model, a global framework applicable to all the companies of the ENEL Group, which is sponsored by Top Management and involves all the corporate business areas, and the area responsible for managing the computer systems.

In 2018, a new cybernetic risk management model continued to be applied and developed for the ENEL Group. This model is based on the identification, prioritisation and quantification of the existing security risks, in order to adopt security measures for their minimisation and mitigation. For this reason,

ENDESA identified the existing processes, the information systems and the assets that required such risk analysis. On this basis, the appropriate mitigation activities were established in accordance with the type of risk.

All this was possible thanks to the activation of a secure information exchange community for cybersecurity and the creation of the Cyber Emergency Response Team (CERT), which received accreditation of CERT ENEL at the Spanish national CERT level in 2018.



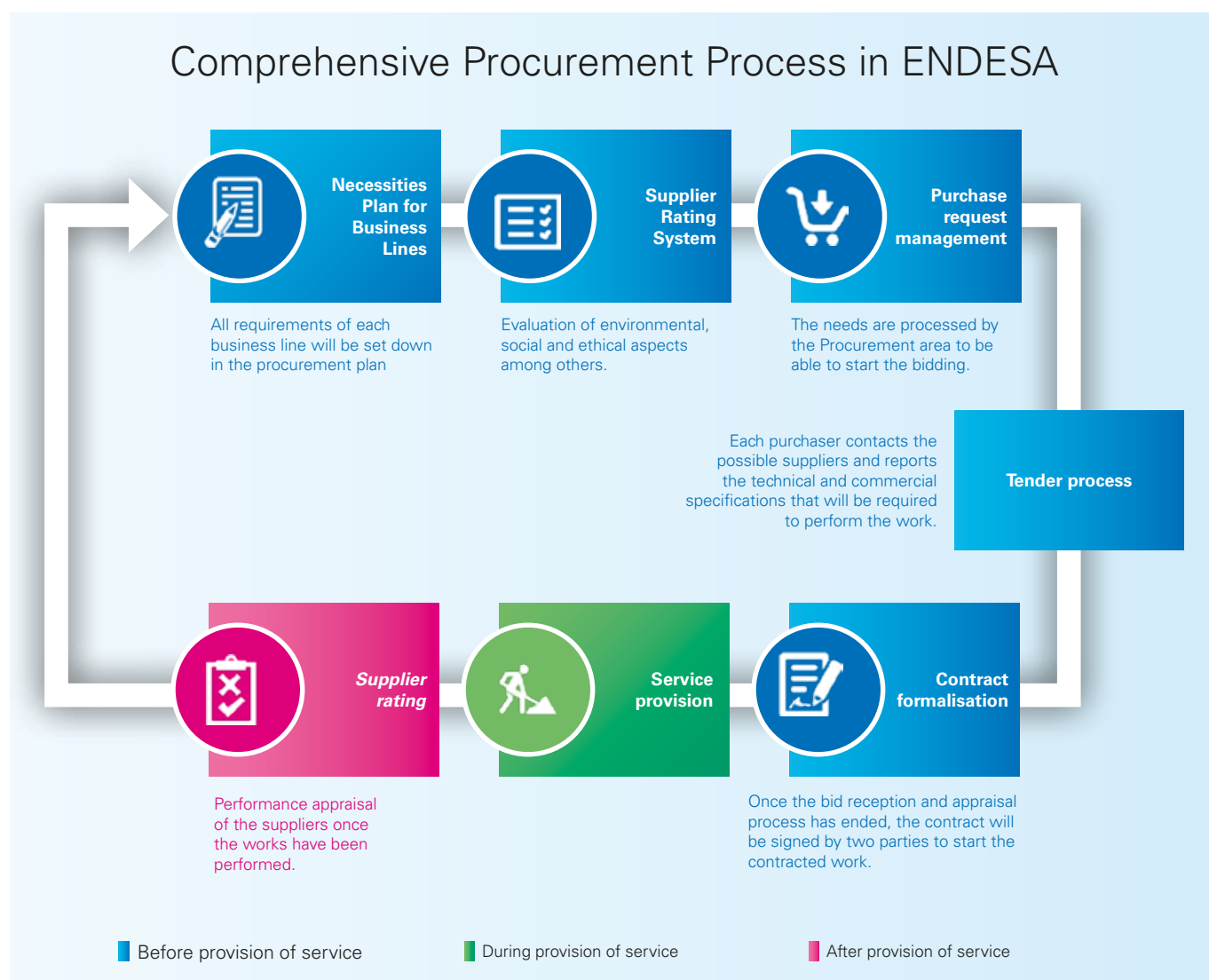
### 3. Procurement

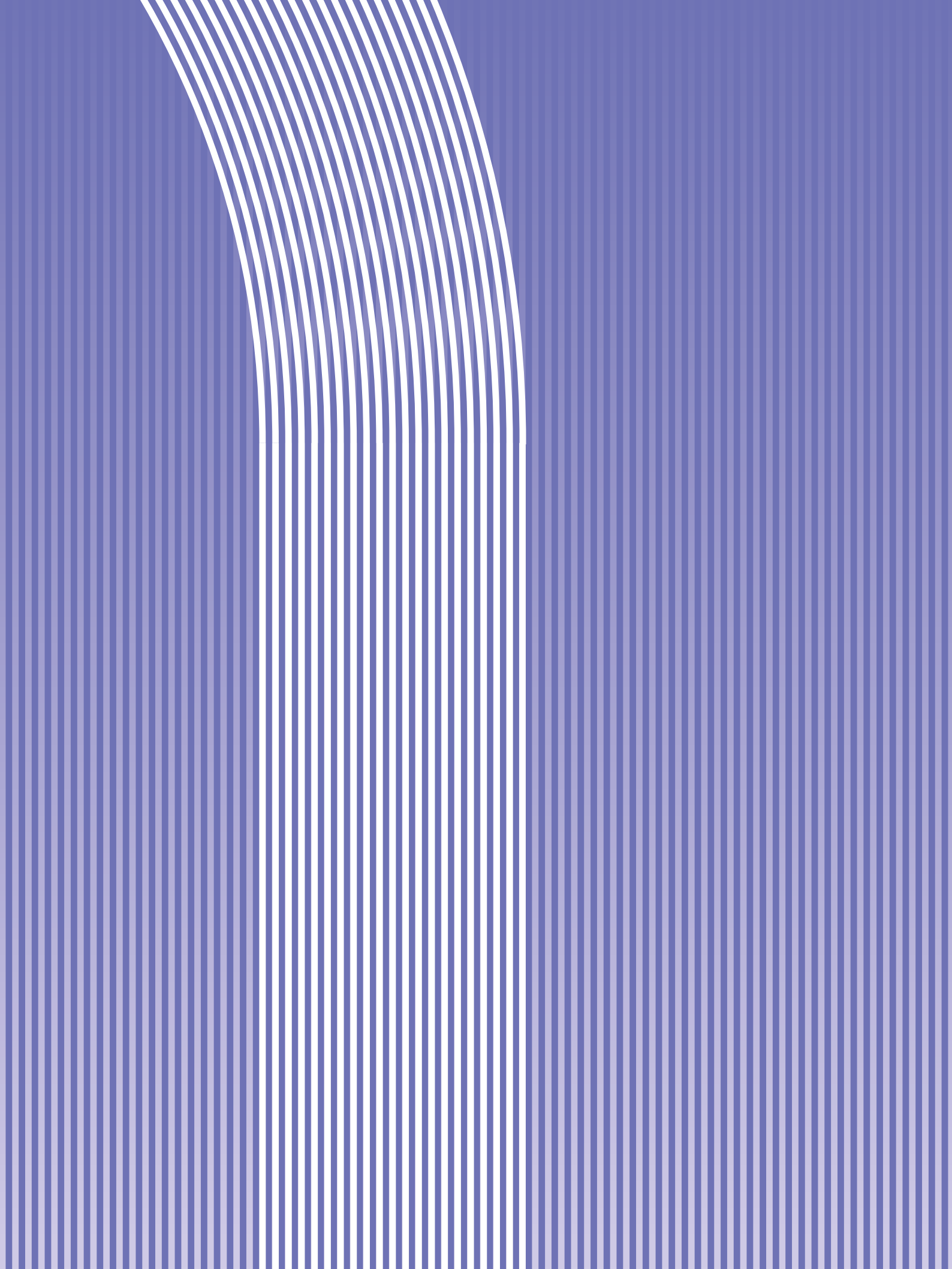
**I**n 2018, the number of providers with which ENDESA worked was 5,210, including the total providers subject to delegated procurement. The amount of procurement from providers increased significantly: 68% compared to 2017, reaching 2,746 million Euros. Likewise, the number of days worked by contractors or subcontractors involved in construction, opera-

tion and maintenance activities during 2018 was 4,401,034, which represents an increase of 16.26% compared to 2017, which agrees with information available for this fiscal year on new lines of business that until now did not report their hours. The total number of hours worked by contractors in 2018 was 35,208,274.

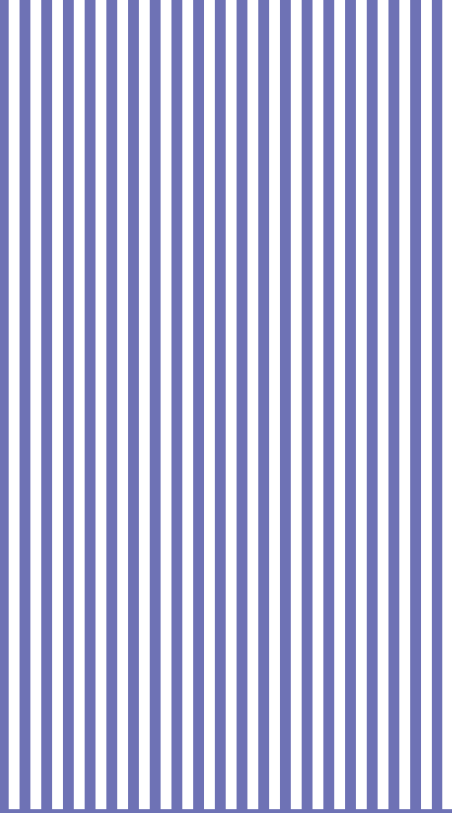


#### Comprehensive Procurement Process in ENDESA









# 12

## Appendices



# 1. ENDESA's Generation Facilities in Spain on 31/12/2018

	Company of origin	Municipality	Type of Fuel.	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
<b>MAINLAND SYSTEM</b>							
<b>Conventional Thermal Power Plants</b>							
<b>Coal</b>							
COMPOSTILLA <sup>1</sup>	ENDESA	Cubillos del Sil-León	H-A	3	1,052	100.0	1,052
ANLLARES <sup>2</sup>	33.33% ENDESA	Anllares-León	H-A	1	365	33.33	122
AS PONTES	ENDESA	As Pontes-La Coruña	CI	4	1,469	100.0	1,469
TERUEL	ENDESA	Andorra-Teruel	LN	3	1,101	100.0	1,101
LITORAL	66.66% END-33.33% SEV	Carboneras-Almeria	CI	2	1,159	100.0	1,159
<b>Total Coal</b>				<b>13</b>	<b>5,146</b>		<b>4,902</b>
<b>Combined Cycle Gas</b>							
SAN ROQUE 2		San Roque-Cádiz	CCTG	1	408	100.0	408
BESÓS 3		Besós-Barcelona	CCTG	1	419	100.0	419
BESÓS 5		Besós-Barcelona	CCTG	3	873	100.0	873
COLÓN 4		Huelva	CCTG	1	398	100.0	398
AS PONTES		As Pontes-La Coruña	CCTG	3	870	100.0	870
<b>Total Gas</b>				<b>9</b>	<b>2,969</b>		<b>2,969</b>
<b>Nuclear</b>							
ASCÓ I	40% END-60% FEC	Ascó-Tarragona	N	1	1,033	100.0	1,033
ASCÓ II	40% END-45% FEC	Ascó-Tarragona	N	1	1,027	85.0	873
VANDELLÓS II	72% ENDESA	Vandellós-Tarragona	N	1	1,087	72.0	783
GAROÑA <sup>3</sup>	100% NUCLENOR	St <sup>a</sup> M <sup>a</sup> Garoña-Burgos	N		0	50.0	0
ALMARAZ I	36% SEVILLIANA	Almaraz-Cáceres	N	1	1,049	36.0	378
ALMARAZ II	36% SEVILLIANA	Almaraz-Cáceres	N	1	1,044	36.0	376
TRILLO <sup>4</sup>	2% NUCLENOR	Trillo-Guadalajara	N	1	1,066	1.0	0
<b>Total Nuclear Thermal</b>				<b>6</b>	<b>6,307</b>		<b>3,443</b>
<b>Total Mainland Conventional Generation Facilities</b>					<b>14,421</b>		<b>11,313</b>
<b>Conventional hydroelectric</b>							
Hydr. Prod. Unit Northwest			M		749	100.0	749
Hydr. Prod. Unit Ebro-Pirineos			M		1,994	100.0	1,994
Hydr. Prod. Unit South			M		661	100.0	661
<b>Pumped generation</b>							
Hydr. Prod. Unit Ebro-Pirineos			M		760	100.0	760
Hydr. Prod. Unit South			M		590	100.0	590
<b>Total Hydroelectric</b>					<b>4,753</b>		<b>4,753</b>
<b>Mini-hydraulic</b>							
IZBOR	ENEL Green Power España	Andalusia	M	1	12.0		12.0
GRAUS	ENEL Green Power España	Aragon	M	1	2.2		2.2
CASAS	ENEL Green Power España	Catalonia	M	1	0.1		0.1
VIELHA TUNNEL	ENEL Green Power España	Catalonia	M	1	0.3		0.3
CH LOS BATANES	ENEL Green Power España	Castile and Leon	M	1	0.2		0.2
CH ROSARITO	ENEL Green Power España	Castile and Leon	M	1	4.9		4.9
CH VILLAMECA	ENEL Green Power España	Castile and Leon	M	1	0.5		0.6

	Company of origin	Municipality	Type of Fuel	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
CH ANILLO	ENEL Green Power España	Galicia	M	1	7.9		7.9
CH ARROIBAR	ENEL Green Power España	Galicia	M	1	14.7		14.8
CH SAN JUAN DE MURO	ENEL Green Power España	Galicia	M	1	0.1		0.1
CH REQUEIXO (AS CHAS)	ENEL Green Power España	Galicia	M	1	3.1		3.1
CH LA FLOR	ENEL Green Power España	Cantabria	M	1	0.3		0.3
CH FERVENZAS-COIROS	ENEL Green Power España	Galicia	M	1	0.3		0.3
CH CASTADÓN-HERVEDOIRO	ENEL Green Power España	Galicia	M	1	1.2		1.2
CH MOLINO DE ARRIBA-PERALEJOS	ENEL Green Power España	Castile-La Mancha	M	1	0.9		0.9
CH LA ROCHA	ENEL Green Power España	Castile-La Mancha	M	1	1.4		1.4
CH HOZ SECA-NAVAREJOS	ENEL Green Power España	Castile-La Mancha	M	1	0.8		0.8
<b>Total Mini-hydraulic</b>				<b>17</b>	<b>50.8</b>		<b>51.0</b>
<b>Wind</b>							
PLANTA EÓLICA EUROPEA	ENEL Green Power España	Andalusia	E	1	6.0		6.0
LOS LANCES	ENEL Green Power España	Andalusia	E	1	10.7		10.7
PESUR	ENEL Green Power España	Andalusia	E	1	42.0		42.0
EEE	ENEL Green Power España	Andalusia	E	1	32.0		32.0
W.F. GRANUJALES	ENEL Green Power España	Andalusia	E	1	24.0		24.0
W.F. DE ENIX	ENEL Green Power España	Andalusia	E	1	13.2		13.2
W.F. LOS BARRANCOS	ENEL Green Power España	Andalusia	E	1	20.0		20.0
W.F. MENAUTE	ENEL Green Power España	Andalusia	E	1	37.4		37.4
ANGOSTURAS	ENEL Green Power España	Andalusia	E	1	36.0		36.0
MADROÑALES	ENEL Green Power España	Andalusia	E	1	34.0		34.0
W.F. PADUL	ENEL Green Power España	Andalusia	E	1	18.0		18.0
ACAMPO	ENEL Green Power España	Aragon	E	1	6.0		6.0
AGUILÓN	ENEL Green Power España	Aragon	E	1	50.0		50.0
ALMARÉN	ENEL Green Power España	Aragon	E	1	11.9		11.9
ARAGON	ENEL Green Power España	Aragon	E	1	5.3		5.3
EL PUERTO-TRINIDAD	ENEL Green Power España	Aragon	E	1	25.1		25.1
LA MUELA II + LA MUELA III	ENEL Green Power España	Aragon	E	1	29.7		29.7
W.F. DE ESCUCHA + SANT JUST	ENEL Green Power España	Aragon	E	1	28.4		28.4
SASO PLANO	ENEL Green Power España	Aragon	E	1	39.2		39.2
SIERRA COSTERA	ENEL Green Power España	Aragon	E	1	40.8		40.8
SIERRA DE LA VIRGEN	ENEL Green Power España	Aragon	E	1	28.8		28.8
ALTO DE LAS CASILLAS I	ENEL Green Power España	C. Valenciana	E	1	30.0		30.0
ALTO DE LAS CASILLAS II	ENEL Green Power España	C. Valenciana	E	1	30.0		30.0
ÁGREDA	ENEL Green Power España	Castile and Leon	E	1	18.0		18.0
CANTIRUELA	ENEL Green Power España	Castile and Leon	E	1	15.0		15.0
COGOLLOS II	ENEL Green Power España	Castile and Leon	E	1	50.0		50.0
LAS PARDAS	ENEL Green Power España	Castile and Leon	E	1	49.5		49.5
LOS LLANOS	ENEL Green Power España	Castile and Leon	E	1	38.0		38.0
MONTE DE LAS NAVAS	ENEL Green Power España	Castile and Leon	E	1	48.8		48.8
SIERRA DEL CORTADO	ENEL Green Power España	Castile and Leon	E	1	18.5		18.5
SIERRA DEL CORTADO II	ENEL Green Power España	Castile and Leon	E	1	13.5		13.5
SIERRA DEL MADERO I and II	ENEL Green Power España	Castile and Leon	E	1	28.7		28.7
VALDIHUELO	ENEL Green Power España	Castile and Leon	E	1	16.2		16.2
LANCHAL	ENEL Green Power España	Castile and Leon	E	1	21.3		21.3
W.F. ALDEAVIEJA	ENEL Green Power España	Castile and Leon	E	1	14.5		14.5
W.F. PEÑA DEL GATO	ENEL Green Power España	Castile and Leon	E	1	50.0		50.0
PUCHERUELO	ENEL Green Power España	Castile and Leon	E	1	23.0		23.0
VALDESAMARIO	ENEL Green Power España	Castile and Leon	E	1	24.0		24.0
W.F. CALDEREROS	ENEL Green Power España	Castile-La Mancha	E	1	37.8		37.8
W.F. PEÑA II	ENEL Green Power España	Castile-La Mancha	E	1	18.0		18.0





	Company of origin	Municipality	Type of Fuel	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
W.F. PICAZO	ENEL Green Power España	Castile-La Mancha	E	1	14.0		14.0
W.F. BELMONTE	ENEL Green Power España	Asturias	E	1	34.9		34.9
BARBANZA I AND II	ENEL Green Power España	Galicia	E	1	29.0		29.0
CAPELADA I AND CAPELADA II	ENEL Green Power España	Galicia	E	1	31.4		31.4
FALADOIRA-COTO TEIXIDO	ENEL Green Power España	Galicia	E	1	47.5		47.5
W.F. CHAN DO TENON	ENEL Green Power España	Galicia	E	1	22.4		22.4
W.F. LEBOREIRO	ENEL Green Power España	Galicia	E	1	21.1		21.1
W.F. PENA VENTOSA	ENEL Green Power España	Galicia	E	1	44.8		44.8
W.F. CAREÓN	ENEL Green Power España	Galicia	E	1	18.0		18.0
W.F. CASTELO	ENEL Green Power España	Galicia	E	1	16.5		16.5
W.F. CORISCADA	ENEL Green Power España	Galicia	E	1	24.0		24.0
W.F. CORZÁN	ENEL Green Power España	Galicia	E	1	43.2		43.2
W.F. COUTO SAN SEBASTIAN	ENEL Green Power España	Galicia	E	1	18.0		18.0
W.F. DO VILÁN	ENEL Green Power España	Galicia	E	1	16.9		16.9
W.F. PEÑA ARMADA	ENEL Green Power España	Galicia	E	1	20.7		20.7
W.F. PEÑA FORCADA	ENEL Green Power España	Galicia	E	1	33.8		33.8
W.F. SAN ANDRÉS	ENEL Green Power España	Galicia	E	1	33.0		33.0
W.F. VIRAVENTO	ENEL Green Power España	Galicia	E	1	1.2		1.2
TOURIÑAN	ENEL Green Power España	Galicia	E	1	24.7		24.7
PENA REVOLTA	ENEL Green Power España	Galicia	E	1	14.0		14.0
POUSADOIRO	ENEL Green Power España	Galicia	E	1	23.5		23.5
FARRAPA	ENEL Green Power España	Galicia	E	1	20.0		20.0
MONTARGULL	ENEL Green Power España	Catalonia	E	1	44.0		44.0
LES FORQUES	ENEL Green Power España	Catalonia	E	1	30.0		30.0
<b>Total Wind power</b>				<b>64</b>	<b>1,709.7</b>		<b>1,709.7</b>
<b>Photovoltaic</b>							
AZNALCOLLAR	ENEL Green Power España	Andalusia	FV	1	1.0		1.0
GUADARRANQUE	ENEL Green Power España	Andalusia	FV	1	12.3		12.3
CF LOS BARRIOS	ENEL Green Power España	Andalusia	FV	1	0.1		0.1
CF CORISCADA	ENEL Green Power España	Galicia	FV	1	0.02		0.02
<b>Total Photovoltaic</b>				<b>4</b>	<b>13.4</b>		<b>13.4</b>
<b>Biogas</b>							
AGUAS DE JEREZ	ENEL Green Power España	Andalusia	B	1	0.5		0.5
<b>Total Biomass</b>				<b>1</b>	<b>0.5</b>		<b>0.5</b>
<b>Total Mainland Renewable Generation Facilities</b>				<b>86</b>	<b>6,528</b>		<b>6,528</b>
<b>Total Mainland Generation Facilities</b>					<b>20,949</b>		<b>17,841</b>
<b>NON-PENINSULA SYSTEMS</b>							
<b>Balearic Islands</b>							
<b>Coal</b>							
ALCUDIA	GESA	Mallorca	CI	4	510	100.0	510
<b>Fuel-gas</b>							
ALCUDIA	GESA	Mallorca	G	2	75	100.0	75
SON REUS	GESA	Mallorca	G	11	612	100.0	612
CASTRESORER	GESA	Mallorca	G	6	473	100.0	473
MAHON	GESA	Menorca	F-G	8	270	100.0	270
IBIZA	GESA	Ibiza	F-G	16	366	100.0	366
FORMENTERA	GESA	Formentera	G	1	14	100.0	14
<b>Total Balearic Islands</b>				<b>48</b>	<b>2,320</b>		<b>2,320</b>
<b>Canary Islands</b>							
<b>Fuel-gas</b>							
JINAMAR <sup>5</sup>	UNELCO	Gran Canaria	F-G	7	266.45	100.0	266
BARRANCO DE TIRAJANA	UNELCO	Gran Canaria	F-G	10	697.00	100.0	697

	Company of origin	Municipality	Type of Fuel.	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
CANDELARIA <sup>6, 7</sup>	UNELCO	Tenerife	F-G	6	203.60	100.0	204
GRANADILLA <sup>8</sup>	UNELCO	Tenerife	F-G	14	797.40	100.0	797
PUNTA GRANDE	UNELCO	Lanzarote	D-G	13	231.11	100.0	231
LAS SALINAS	UNELCO	Fuerteventura	D-G	12	186.62	100.0	187
EL PALMAR	UNELCO	La Gomera	D	10	22.90	100.0	23
LLANOS BLANCOS	UNELCO	El Hierro	D	9	13.02	100.0	13
LOS GUINCHOS	UNELCO	La Palma	D-G	11	107.74	100.0	108
<b>Total Canary Islands</b>				<b>92</b>	<b>2,526</b>		<b>2,526</b>
<b>Ceuta and Melilla</b>							
CEUTA	ENDESA	Ceuta	F-D	10	99	100.0	99
MELILLA	ENDESA	Melilla	F-G	8	85	100.0	85
<b>Total Ceuta and Melilla</b>					<b>184</b>		<b>184</b>
<b>Total Island and Non-Mainland Conventional Generation Facilities</b>					<b>5,030</b>		<b>5,030</b>
<b>Wind</b>							
ARICO I AND II	ENEL Green Power España	Canary Islands	E	1	16.5		16.5
ARINAGA	ENEL Green Power España	Canary Islands	E	1	6.9		6.9
BARRANCO DE TIRAJANA	ENEL Green Power España	Canary Islands	E	1	2.0		2.0
CUEVA BLANCA	ENEL Green Power España	Canary Islands	E	1	2.0		2.0
FARO FUENCALIENTE	ENEL Green Power España	Canary Islands	E	1	2.3		2.3
FINCA SAN ANTONIO	ENEL Green Power España	Canary Islands	E	1	1.5		1.5
W.F. DE EPINA	ENEL Green Power España	Canary Islands	E	1	0.4		0.4
W.F. DE GARAFÍA (JUAN ADALID)	ENEL Green Power España	Canary Islands	E	1	1.6		1.6
W.F. GRANADILLA I	ENEL Green Power España	Canary Islands	E	1	0.2		0.2
W.F. GRANADILLA II	ENEL Green Power España	Canary Islands	E	1	0.3		0.3
PUNTA DE TENO	ENEL Green Power España	Canary Islands	E	1	1.8		1.8
SANTA LUCÍA	ENEL Green Power España	Canary Islands	E	1	4.8		4.8
<b>Total Wind power</b>				<b>12</b>	<b>40</b>		<b>40</b>
GORONA DEL VIENTO <sup>9</sup>		El Hierro	H+E		12	23.2	0
<b>Total Island and Non-Mainland renewable Generation Facilities</b>				<b>12</b>	<b>52</b>		<b>40</b>
<b>Total Island and Non-Mainland Generation Facilities</b>					<b>5,081</b>		<b>5,070</b>

<sup>1</sup> Compostilla: Decision authorising closure of Group 2 (147.9 MW) 12/11/2015; The Subdelegation of the Government of Leon extended the Certificate of Closure on 11 January 2016.

<sup>2</sup> Anllares: Ministry for Ecological Transition authorised closure on 20 November 2018. Pending Decision Minutes.

<sup>3</sup> Garoña: In the Official Government Daily Gazette of 3 August 2017, Order ETU/754/2017 of 1 August was published, by which renewal of authorization for operation of the nuclear power plant was denied and the date of 6 July 2013 was confirmed, set forth in Order IET/1302/2013, as the date for final cessation of operation of the Santa María de Garoña nuclear power plant.

<sup>4</sup> Endesa Generación has 50% of Nuclenor, a company which holds interests in Garoña and Trillo. Consolidated under the equity method.

<sup>5</sup> Jinámar Diesel 1, 2 and 3 (3\*12 MW): Declared indefinitely unavailable after concluding the technical-economic feasibility study.

<sup>6</sup> Candelaria includes the Guía de Isora facilities: TG1: 48.6 MW (twin-pack type = 2\*24.3).

<sup>7</sup> Candelaria TG3 (17.20 MW): Declared indefinitely unavailable after concluding the technical-economic feasibility study.

<sup>8</sup> Granadilla includes the Arona facilities (TG1+TG2: 2\*24.3 MW).

<sup>9</sup> Gorona del Viento: Hydroelectric electric power production plant of the company Gorona del Viento El Hierro, S.A., 23.21% controlled by Unelco Generation, S.A.

#### Fuels:

H-A (anthracite-coal)  
F (fuel-oil)  
D (diesel)  
FV (photovoltaic)

LP (brown coal)  
G (gas-oil)  
N (nuclear)  
B (biomass)

LN (black coal)  
GN (natural gas)  
H (hydraulic)  
H+E (pumped hydroelectric + wind)

CI (imported coal)  
CCTG (combined cycle – gas turbine)  
E (wind power)





## 2. ENDESA's Generation Facilities in Portugal on 31/12/2018

	Company of origin	Municipality	Type of Fuel	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
PORTUGAL							
Coal							
TEJO <sup>1</sup>	ENDESA	Pego, Abrantes	CI	2	628	43.8	0.0
Total Coal				2	628		0
Combined Cycle Gas							
ELECGAS <sup>2</sup>	ENDESA	Pego, Abrantes	CCTG	2	855	100.0	855
Total Combined Cycle Gas				2	855		855
Total Portugal				4	1,483		855
Total Conventional Generation Facilities					20,933		17,198
Total Renewable Generation Facilities					6,579		6,568
Total Endesa Generation Facilities					27,513		23,766

<sup>1</sup> Tejo Energy consolidated under the equity method.

<sup>2</sup> ENDESA has a 50% stake in Elecgas, but holds 100% of the Tolling contract.

	Company of origin	Municipality	Type of Fuel	No. of Groups	Total Power (MW)	% ENDESA	Power that May Be Consolidated at ENDESA (MW)
MOROCCO							
	MOROCCO <sup>1</sup>	Tahaddart	CCGT	1	392	32	125
Total Morocco				1	392	32	125

<sup>1</sup>Tahaddart consolidated under the equity method.





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Curiosity is a journey of discovery that drives us to value diversity, to start relationships and to create trust.

Great ideas and new achievements that underline the difference, generating value for our customers, for the communities in which we operate, for our people and for our shareholders.

Because, thanks to curiosity, to collaboration and to the exchange of experiences, we can sustainably care for and protect our planet.