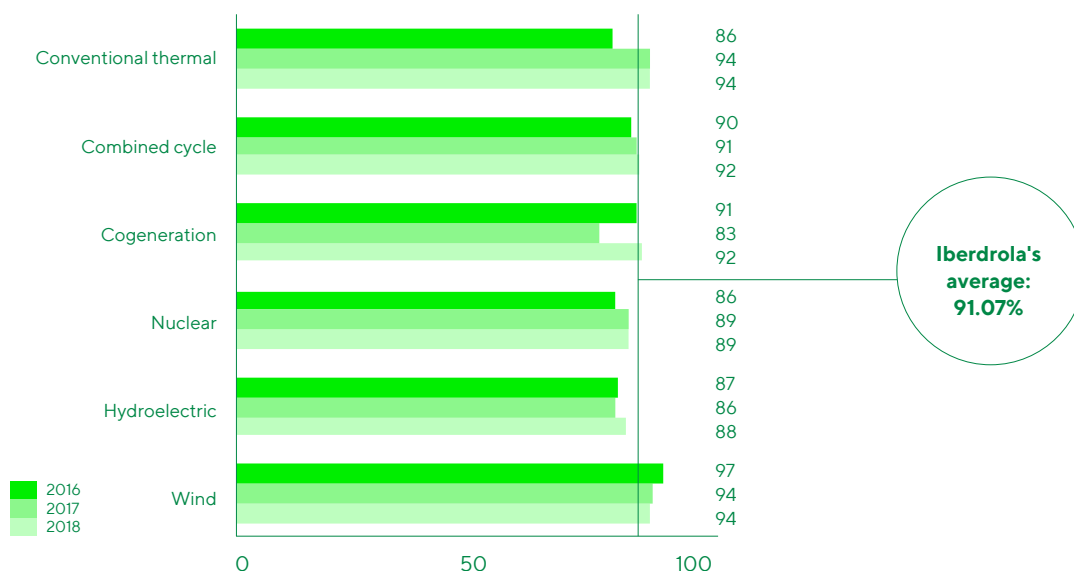


4.2 Manufactured Capital

Size	Principal activities 2018	Outlook	
Electric power generation assets	<ul style="list-style-type: none"> Iberdrola's generation assets are made up of more than 300 wind farms, almost 90 hydroelectric power plants (in addition to the mini-hydro plants), 10 photovoltaic plants, 37 thermal power stations using various technologies, 5 of which are nuclear, and other facilities built and operated according to the best practices. 	<ul style="list-style-type: none"> ISO 9000 certification has been renewed for the operation of windfarms in Spain and the United Kingdom. The year ended with additional installed capacity of 1,635 MW, of which 952 MW are from thermal generation in Mexico, and 683 MW are renewable, including the Santiago and Hermosillo photovoltaic plants in Mexico and the Chimiche II wind farm in Spain. At the same time, 566 MW have left the capacity boundary due to the sale of three hydroelectric plants in the United Kingdom, 2,000 MW in thermal from the sale of conventional generation in the United Kingdom, and 50MW from the Puertollano thermosolar plant in Spain. 	<ul style="list-style-type: none"> Construction continues on 2,152 MW of onshore wind, 391 MW of photovoltaic and 714 MW of offshore wind within the <i>East Anglia One</i> project. Development continues on the 496 MW <i>St. Brieuc</i> (France), 486 MW <i>Baltic Hub</i> (Germany) and 800 MW <i>Vineyard</i> (United States) offshore wind projects. In Mexico, construction continues on almost 2,600 MW in combined cycles. In Portugal, there is continued construction of the Tâmega hydroelectric complex, with 1,158 MW. In Brazil, work continues on the construction of the total 350 MW Baixo Iguaçú hydroelectric plant.
Power transmission and distribution assets	<ul style="list-style-type: none"> Iberdrola's electricity transmission and distribution networks comprise over 1.1 million km of distribution lines, more than 4,400 substations and 1.5 million transformers, built and operated to supply a high-quality, reliable service to 30.7 million electricity supply points. Iberdrola also has more than 40,000 kilometres of gas pipelines for the transport and distribution of gas in the United States. 	<ul style="list-style-type: none"> In Spain, the <i>Star</i> project has been completed with the installation of more than 10.8 million smart meters (99% of the total). In the United Kingdom, the <i>Western Link</i> undersea cable project between Scotland and Wales, with more than 2,000 MW of available capacity, has been placed into service. There was also the completion of the South West Scotland project, with 6 new substations and 87 km of lines. There is continued deployment of smart meters in the United Kingdom, increasing the rate ahead of the goals established by the British regulator <i>Ofgem</i>. 	<ul style="list-style-type: none"> In Brazil, the December 2018 ANEEL auction awarded 4 projects for the construction of more than 3,000 kilometres of transmission lines, with an expected regulatory investment of 6,000 million reais. In the United States, there was an award in 2018 of the <i>NECEC</i> project, which involves the construction of a 233 km <i>HVDC</i> transmission line between Canada and New England, with an investment of 950 million dollars. Progress continues with the digitisation of the network to lead the transformation towards a Distribution System Operator.
Other assets	<ul style="list-style-type: none"> Iberdrola manages approximately 1,600,000 m² of offices and work centres throughout the world, with a total of 816 properties, of which 266 are located in Spain, 106 in the United Kingdom, 173 in the United States, 251 in Brazil and 20 in the rest of the world. These properties, which follow the same corporate criteria in the interior spaces, are designed, built and operated in accordance with the strictest sustainability and efficiency standards. 	<ul style="list-style-type: none"> Consolidation of the Iberdrola Campus as a centre for Iberdrola's training and events. It has the space and means necessary to hold training at different levels and to host conventions, seminars, workshops and working meetings for the entire Iberdrola group. Commencement of construction on phase II of the Iberdrola Campus. Culmination of the transfer of all Scottish Power employees to the new corporate headquarters in Glasgow, from where almost 1,700 employees have been doing their work this year. Inauguration of the new corporate headquarters of Avangrid at 180 Marsh Hill Road, Orange, CT. 	<ul style="list-style-type: none"> The construction of the Iberdrola Campus will end during 2019 with the culmination of Phase II. Avangrid plans to continue consolidation of the real estate portfolio of offices in the various states in which it does business. At Neoenergia, the process of internalising the Networks Business is expected to be completed, with the opening of numerous work centres in its areas of influence. Iberdrola continues to be committed to the modernisation of work spaces, for which reason it will continue to develop new spaces for collaboration within the corporate buildings, within a permanent process of efficiency and continuous improvement.

Offer a secure supply of energy that is competitive in price and quality

Average availability factor of Iberdrola's generation facilities



Quality of electricity supply

Average power outage duration		2017	2018
Spain (*)	TIEPI (min)	52.7	44.6
United Kingdom	CML (min)	31.0	35.4
United States	CAIDI (h)	1.91	2.07
Brazil	DEC (h)	15.96	12.24
Power outage frequency		2017	2018
Spain	NIEPI (number)	1.14	0.91
United Kingdom	CI (ratio)	36.0	43.37
United States	SAIFI (index)	1.15	1.22
Brazil	FEC (frequency)	7.15	5.80

TIEPI: Installed Capacity Equivalent Interrupt Time.
 CML: Customer Minutes Lost Per Connected Customer.
 CAIDI: Customer Average Interruption Duration Index.
 DEC: Equivalent Duration of Interruption by Consumer Unit.
 NIEPI: Installed Capacity Equivalent Interrupt Number.
 CI: Customer Interruptions Per 100 Connected Customers.
 SAIFI: System Average Interruptions Frequency Index.
 FEC: Equivalent Frequency of Interruption by Consumer Unit.

(*) In 2017 excluded 18.8 min due to persistent strong rains suffered in Spain in the month of January, deemed to be force majeure.

Property, plant, and equipment (€M)

