

3.4 Renewables

Regulatory environment of the business

Spain

- 2018 was a year of transition, with significant future content for renewables. The draft *Climate Change and Energy Transition Act* gives major visibility and volume to the expansion of renewable energy from now until 2030, announcing auctions with a minimum of 3,000 MW per year.
- The Ministry has published the draft law providing the return on renewables for the 2020-2025 period based on the weighted average cost of capital (WACC). The government's proposal maintains the current pre-tax rate of 7.389% for facilities prior to RDI 9/2013 until the end of 2031, and sets a figure of 7.09% until 2025 in the other cases.
- Finally, the first auction has been called for the non-mainland territories, and bids can be made during the first quarter of 2019.

United Kingdom

- For the third round of *Contracts for Difference* (CfD) auctions, expected for May 2019, the British government has confirmed an annual budget of £60 million and a maximum capacity of 6 GW to be awarded. The auction will be limited to less established technologies, including offshore wind, and for projects with start-up in 2023-24 or 2024-25.

United States

- There has been an increase for the sector in import tariffs declared by the government, with no major changes occurring. In 2018 tariffs were set on the import of various products: 25% on steel, 10% on aluminium and 30% on solar panels the first year. These tariffs will slowly be reduced during the next 3 years.

Mexico

- The industry has been working all year on improving the rules of the new market, including potential improvements for the long-term auctions, to be included during 2019.

Brazil

- There were two generation auctions, A-4 and A-6, in 2018. In A-6, Neoenergia was awarded 23.4 MW for the Baixo Iguaçu hydroelectric plant. New auctions are expected in 2019.

Continental Europe

- There is continued development of the *St. Brieuc* offshore wind farm after the revision of the terms with the French government.

The business will engage in sustainable growth, mainly based on onshore and offshore wind and solar investments in the countries most important to the group.

Objectives, risks and principal activities

Objectives

- Safety in operations.
- Efficiency in operations to maximise the profitability of the assets.
- Efficiency in construction costs, with a particular emphasis on offshore wind projects.
- Profitable growth from various technologies in the countries that are strategic for the group, and in new countries of interest.

Significant risks

- Competitive auction processes in the markets in which it operates.
- Prices of energy sold in short-term markets.
- Risk of access to evacuation networks and limits on production due to technical restrictions of the networks.
- Operational and technological risk.
- Limitations on operation due to environmental risks.

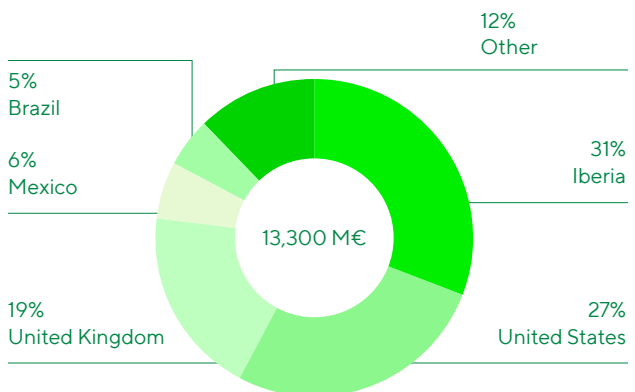
Principal activities 2018

- 683 MW of installed capacity was added during the year:
 - Onshore wind: 18 MW in the United States, 41 MW in the Mexico and 81 MW in the United States.
 - Photovoltaic solar: 10 MW in the United States and 227 MW in Mexico.
 - Hydroelectric: 306 MW in Brazil.
- In turn 616 MW have gone out as a result of the sale of 566 MW from three hydroelectric plants in the United Kingdom and 50MW from the Puertollano thermosolar plant in Spain.
- In onshore wind, 1,136 MW are under construction in the United States, 203 MW in Spain, 472 MW in Brazil, 325 MW in Mexico and 16 MW in Greece.
- In photovoltaic solar: 391 MW in Spain.
- Once the 350 MW Wikinger wind farm is placed into operation, there will be growth in offshore wind with the construction of the 714 MW *East Anglia One* project in the United Kingdom and the development of the 800 MW *Vineyard* project in the United States, 496 MW *St. Brieuç* project in France and 476 MW *Baltic Eagle* project in Germany.
- In Brazil work continues on the construction of the *Baixo Iguazu* hydroelectric plant in Brazil, with a total of 350 MW, and the *Tâmega* hydroelectric project in Portugal, with 1,158 MW.

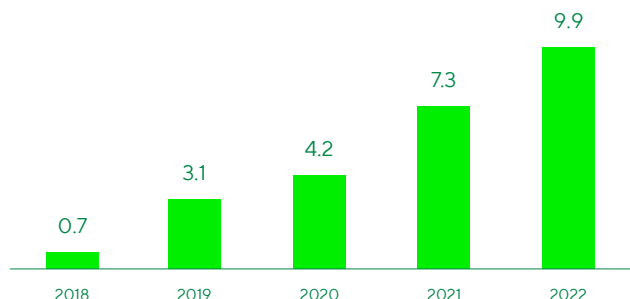
Outlook 2018–2022

- Investments of €13,300 million, mainly to increase installed capacity in Spain, the United States, the United Kingdom, Portugal, Mexico and Brazil.
- Installed capacity of 9.9 GW is expected to be installed during the 2018–2022 period, including the 714 MW *East Anglia One* and 800 MW *Vineyard* offshore wind farms, the 391 MW *ac Nuñez de Balboa* photovoltaic solar plant, and the 1,158 MW *Tâmega* hydroelectric plant.
- Operational excellence achieved through management of the life cycle of assets via digitisation, maximising revenues and continuing with the advanced operation and maintenance model.

€13,300 investment plan million during the period



New additional aggregate capacity during the 2018–2022 period (GW)



Key figures of the Renewables Business

Item	Unit	Spain		United Kingdom ¹		United States		Brazil		Mexico		Other countries ²		Total	
		2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Gross margin	€M	1,174	1,580	547	644	783	835	92	178	71	88	124	286	2,791	3,611
EBITDA	€M	616	919	392	518	530	573	66	129	53	65	99	242	1,755	2,445
Load factor ³	%	13.5	18.7	21.7	22.1	29	29.7	30.6	31.3	30	31.2	25.6	26.9	18.8	22.6
Investments	€M	193	329	404	398	857	366	168	163	323	282	678	134	2,622	1,673

Notes:

International Financial Reporting Standard (IFRS) 11 has been applied in the preparation of this table.

(1) The figures for the United Kingdom include those of the offshore wind division, except for Wikingier.

(2) Other includes Wikingier as it is an offshore wind farm outside of the United Kingdom.

(3) The load factor includes all renewable technologies.

Load factor

Maximising the load factor

of facilities, while minimising down time through operating and maintenance measures, as well as other external factors.

Operation and maintenance costs

Continuous improvement in efficiency through global standardisation and systematisation processes, exploiting digitisation opportunities.

Project portfolio

Development of the portfolio of onshore wind projects in Spain, the United Kingdom, the United States, Brazil and Mexico, the photovoltaic projects in Spain, the United States and Mexico, and the offshore wind projects in France, Germany, the United Kingdom and the United States.

The business focuses on sustainable development, mainly based on investments in onshore and offshore wind and in photovoltaic in the countries most important to the group, and in the safety of operations.

Efficiency is a key factor for business sustainability in the medium and long terms.

Iberdrola will take technological advances into account and will act on the supply chain to encourage greater efficiency in the coming years.