



offshore wind
energy

BASQUE COUNTRY

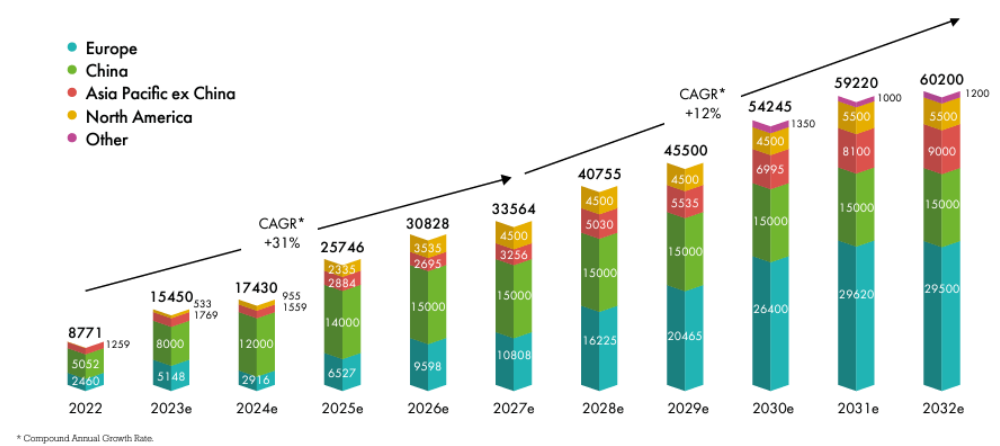




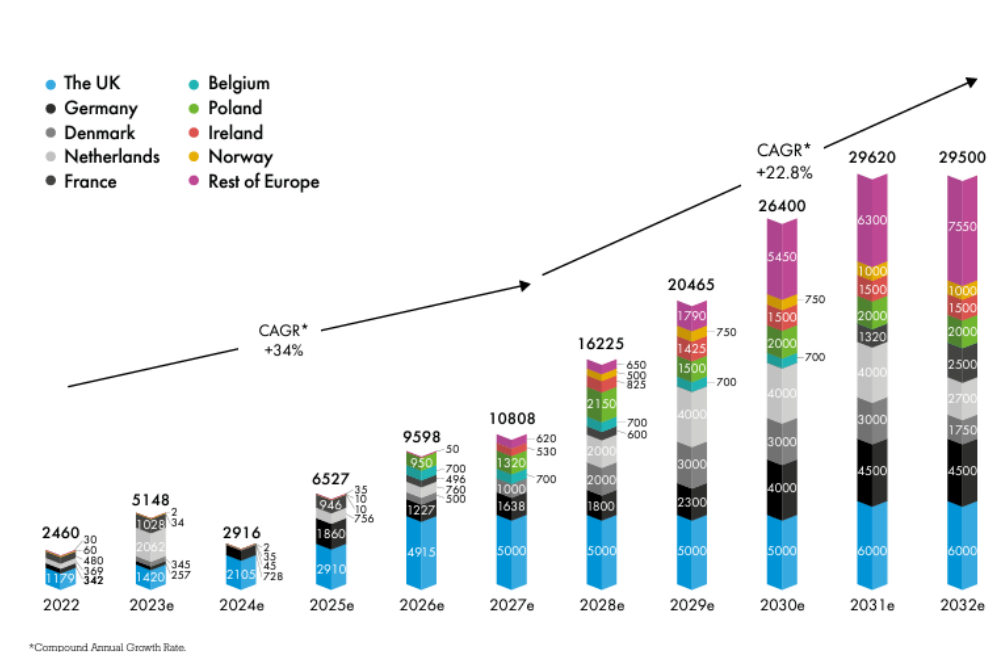
Offshore wind unveils as one of the renewable energy sources with higher expectations of growth in the coming years, both in the short and in the long term

GWEC analysis shows that over 380 GW of offshore wind capacity, across 32 markets, is predicted to be added in the next ten years. Feeding 8.8 GW of new offshore wind into the grid – 58% lower than the bumper year of 2021 – still made 2022 the second highest year in history for offshore wind installations. These new installations brings the total global offshore wind power capacity to 64.3 GW

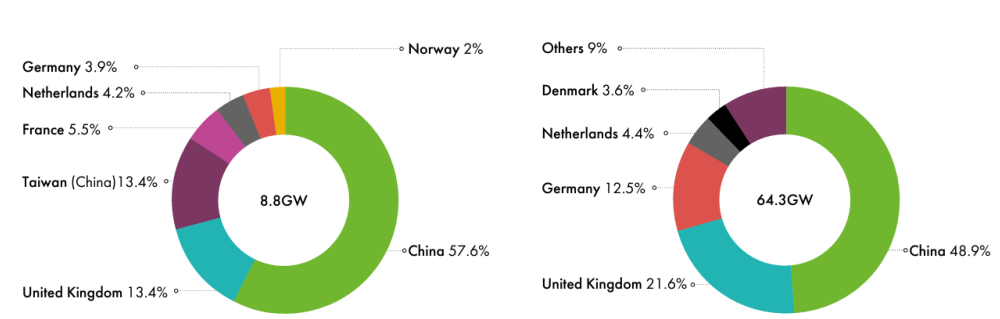
New offshore wind installations, global (MW)



New offshore wind installations, Europe (MW)



New and total offshore wind installations by market (%)



Source: GWEC Global Offshore Wind Report 2023



Basque Country wind sector is a global supplier in offshore wind, building on its experience in onshore wind and a tradition in shipbuilding industry and marine activities

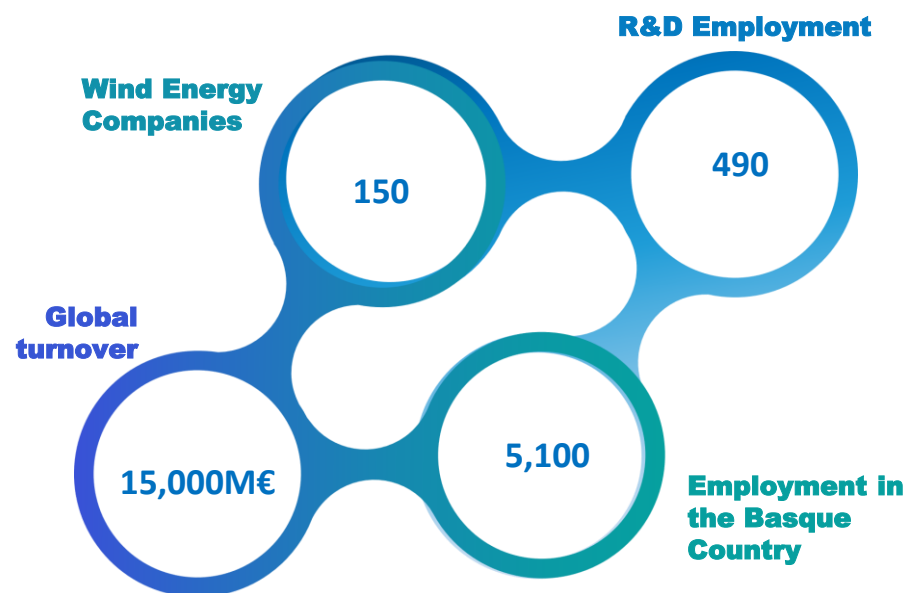
The region has developed a strong industrial framework in the wind power sector thanks to the driver effect of leading international companies such as **Iberdrola** and **Siemens Gamesa**, playing a prominent role in technological and market development (with over 25 GW installed in Spain since the outset in the mid 1990s as a pioneering country at an international level).

The overall figures of activity of Basque companies in this field clearly show the competitiveness and the level of development which has been reached, both industrially and technologically.

The Basque maritime sector figures highly in the economic and industrial development of the Basque Country. Furthermore, it is a world benchmark thanks to its know-how in the construction of high technology vessels and manufacture of equipment and products of high added value.

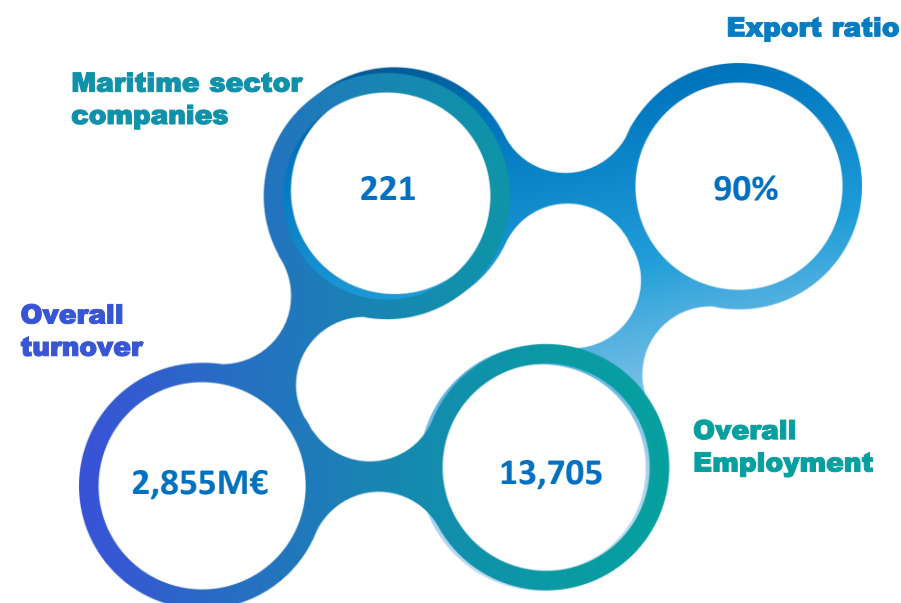
The sea serves as a natural habitat for local companies and their experience in sectors such as O&G makes them necessary players for the development of offshore wind power, as they are able to offer solutions both in the design process and the construction of the wind farm and its equipment both during operation and maintenance and its subsequent decommissioning.

Key figures of wind power activity in the Basque Country (2021)



Source: Basque Energy Cluster & SPRI Group

Maritime sector activity in the Basque Country (2021)



Source: Basque Maritime Forum

Competitive companies in all segments of the wind energy value chain





Basque companies participate as suppliers in most of the offshore windfarms worldwide, both bottom-fixed and floating projects

Examples of key projects with participation of Basque companies





The Basque Country is a worldwide reference in floating wind development, with five floating foundation developers and several suppliers that have participated in existing demo projects

Floating wind test centre

BiMEP
Biscay Marine
Energy Platform

IBERDROLA

Offshore wind farms developer

Floating foundations

saitec
offshore
technologies



Nautilus
Floating Solutions



HiveWind
modular future



ISATI
GLOBAL SOLUTIONS



ESTEYCO



SATH (Swinging Around Twin Hull)
Concrete floating platform

Nautilus Floating Solutions
Semi-submersible four-leg floating foundation

Hive Wind
Semi-submersible floating modular platform

W2Power
Twin turbine floating wind platform

WHEEL (Hybrid Wind Esteyco evolution for low-carbon solutions)
Spar-evolved type floating platform

Basque companies collaborate in a Floating Wind Working Group to promote international activities and R&D projects.



Companies and Research and Technology Organisations cooperate in R&D projects in all major technology challenges for the wind sector



Main projects in the Basque Country



Integral solution for O&M of floating wind power through the development of new technologies.

www.floatmproject.com



Research into structural integrity in floating offshore wind using models based on artificial intelligence.

www.integriaproject.com



New solutions and technologies for monopile foundations, transition pieces and fastening solutions for 15 MW+ offshore wind turbines.

www.megawindproject.com



New methodology for control co-design of floating renewable energies.

www.konflotproject.com



Evolutionary methodology to extend the life of wind farm components.

www.meevceproject.com



Main projects with European partners



Joint Cluster Initiative in the Offshore Renewable Energy sector to promote European collaboration in the fields of innovation, internationalisation, networking and training

www.elbealliance.eus



Wholistic and integrated digital tools for extended lifetime and profitability of offshore wind farms.

www.willow-project.eu



European common energy dataspace framework enabling data sharing-driven across- and beyond- energy services.

www.enershare.eu



Development of innovative virtual and hybrid testing methods for prototype validation of large wind components.

www.ininterestingproject.eu



Identification of the failure modes of a hydraulic pitch system and development of analytical solutions based on data.

www.doccoffproject.eu

