Offshore Wind Turbine Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 125 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

The offshore wind turbine market is expected to record a CAGR of more than 5.5% during the forecast period (2022-2027). The COVID-19 pandemic declined the overall energy consumption, disrupted the supply chain, and slowed down the economic development worldwide. Most of the equipment and components, such as roller bearings that connect to gearboxes and eventually allow the wind turbines to keep spinning, had low market demand as the shipping industry was disrupted during the outbreak. The market was also restrained due to project delays and a lack of investments during the pandemic. Further, a study on wind offshore project results showed a distribution of 21.21% value-adding (VA) and 50.09% non-value-adding (NVA) hours. However, the recent uptrend in the market studied was due to rising energy demand, the increasing share of renewables in the power generation mix, efforts to reduce the reliance on fossil fuel-based power generation, regulations on energy efficiency, and regulations to ensure efficiency and utilization of energy. However, the adoption of clean energy sources like solar and other alternatives will likely hinder the market's growth.

Key Highlights
Technological improvements, such as the increased capacity of wind turbines, floating wind turbines, and 3D printing, brought the overall cost of offshore wind power to the lowest level and opened up new offshore locations such as deepwater that was previously inaccessible due to lack of investment and technology. These developments are expected to augment the adoption of deepwater wind power worldwide.
Moreover, the integration of AI, IoT, robotics, and data analytics in offshore wind turbines is expected to enable advanced condition monitoring and predictive maintenance, resulting in increased efficiency and reduced operational and maintenance costs, which may provide growth opportunities in the deployment of offshore wind turbines in the future.
Europe is the largest offshore wind turbine market due to the largest offshore wind power installed capacity in 2020. This domination is expected to be maintained during the forecast period.

Offshore Wind Turbine Market Trends

Deep Water Offshore Segment to Grow Significantly

As energy demand is rising globally, major countries and companies are turning toward the adoption of reliable renewable energy to provide clean energy. The adoption of offshore wind energy with advanced technology attracted countries and companies to invest in the sector.
For instance, in March 2022, TotalEnergies joined Trident Winds Inc. in the Castle Wind LLC joint venture (JV) to develop a 1 GW offshore wind project off the coast of Morro Bay. The project is expected to be a deepwater project. However, few details have been published. TotalEnergies entered the joint venture, which was previously held by EnBW North America.
Furthermore, in February 2022, in another instance of the growing deepwater segment, the Windpower giant Orsted surveyed Delaware's River Inlet as part of its Skipjack project. In the spring, Orsted is expected to continue its evaluation of potential landfall and interconnection locations in coastal areas in Delaware, United States, to support the development of Skipjack Wind. This offshore wind project will deliver energy to approximately 300,000 homes in the region.
Apart from this, the companies have recently been able to install taller wind turbines due to improvements in the wind turbine materials used, allowing the turbines to exploit higher altitude winds. Also, these new turbines have much larger blades and, hence, can sweep more area than smaller turbines. The growing size of the wind turbines helped lower the cost of wind energy due to the economy of scale, indicating that it is economically competitive with fossil fuel alternatives in many countries such as the United States, Germany, and France. This recent trend is expected to drive the offshore wind turbine market during the forecast period.
By location of deployment, the deepwater offshore industry is expected to remain the driver of the wind turbine industry during the forecast period, owing to declining costs and improved technology.

Europe to Dominate the Market

Europe accounted for the largest share of the offshore wind power installed capacity in 2021. According to the European Union, Europe represents around a quarter of the global installations of the total wind market.
Europe is likely to be at the helm of the offshore wind market worldwide, followed by China. Europe added around 2,900 MW of offshore capacity in 2020, which corresponds to around 356 new offshore wind turbines connected to the grid across nine wind farms. In 2020, the region had an installed offshore wind capacity of around 25 GW, which corresponds to more than 5,400 grid-connected wind turbines across 12 countries.
Even though a large percentage of the total offshore wind installations is in the European waters, the governments in the North Sea region set a target for the installation of wind farms in their territorial waters. In Europe, eight new offshore wind projects reached Final Investment Decision in four countries in 2020, with construction due to start in the coming years. Investments in new assets accounted for EUR 26.3 billion, and 7.1 GW of additional capacity was financed.
Moreover, according to the Minister of Infrastructure and Energy, in March 2022, Albania was working on an offshore wind project in the Adriatic Sea supported by the European Bank for Reconstruction and Development (EBRD. The project is currently in the study phase.
As of 2020, Europe had a total of 25,014 MW installed. There are around 116 wind farms, including sites with partial grid connections across 12 European countries, and about 5,402 turbines are connected to the grid.
Such factors are likely to bring opportunities for the players involved in the offshore wind farm business to expand in the European market during the forecast period.

Offshore Wind Turbine Market Competitor Analysis

The offshore wind turbine market is moderately fragmented. Some of the key players in the market include Vestas Wind Systems AS, Siemens Gamesa Renewable Energy SA, General Electric Company, Nordex SE, and Senvion SA.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

Table of Contents:

Offshore Wind Turbine Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 125 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-03
		Signature