

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

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

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### **Report description:**

The wind turbine market is expected to register a CAGR of more than 10% during the forecast period, 2022-2027. With the COVID-19 outbreak in Q1 of 2020, the growth of the wind turbine market was moderately impacted in terms of delays in manufacturing and supplying of new turbines, capacity addition outlook, and financial challenges for major players' value chains. Wind energy installations declined by 30% compared to industry forecasts. Factors such as increasing demand for renewable energy sources, especially wind power in the power generation mix, efforts to reduce the reliance on fossil fuel-based power generation, and regulations on energy efficiency are expected to drive the wind turbine market during the forecast period. However, the adoption of alternative clean energy sources like solar and other alternatives is likely to hinder the market's growth.

### **Key Highlights**

The offshore segment is expected to witness significant growth during the forecast period, owing to increased developments and investments in offshore wind energy projects worldwide.

Global Wind Energy Council committed to achieving 380 GW of offshore wind by 2030 and 2,000 GW by 2050 worldwide, which is likely to provide significant opportunities for the deployment of wind turbines soon.

The Asia-Pacific region is expected to be the largest and the fastest-growing market, owing to the largest share in terms of wind power generation and the presence of manufacturing and technology hubs in countries like China, India, Japan, etc.

### **Wind Turbine Market Trends**

#### **Offshore Wind Turbine to Witness a Significant Growth**

As energy demand is rising, major countries and companies are turning toward the adoption of renewable energy sources, especially wind energy, as they can provide clean energy. The adoption of offshore wind energy with advanced technologies

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attracted many countries and companies for high investments.

By location of deployment, the offshore industry is expected to witness significant growth in the global wind turbine industry investments during the forecast period, owing to declining costs and improved technology.

The major projects in offshore wind power included the 950 MW Moray Firth East array in the North Sea, which involved an estimated investment of USD 3.3 billion, scheduled for full commissioning in 2022. The Shapa offshore wind project is also planned to create China's first gigawatt-scale offshore wind farm. The entire capacity will be installed in five stages. Yangjiang Shapa Phase 1 of 300 MW was put on stream in November 2019. Phase II of the Shapa offshore wind project with 400 MW capacity in Guangdong Province commenced operations in December 2021, while the remaining phases have been under construction since 2020.

In March 2021, the Departments of Interior (DOI), Energy (DOE), and Commerce (DOC) together announced a shared goal to deploy 30 GW of offshore wind in the United States by 2030. It also generates enough power to meet the demand of more than 10 million American homes for a year and avoid 78 million metric tons of CO2 emissions.

As per WindEurope data 2021, Europe raised EUR 26.3 billion to finance 7.1 GW of new offshore wind capacity in 2020. The United Kingdom, the Netherlands, Germany, and France have considered final investment decisions for major new offshore wind farms. Besides this, the companies have been able to install taller wind turbines due to improvements in the wind turbine materials used, which allows the turbines to exploit higher altitude winds. Also, these new turbines have larger blades and, hence, can sweep more area than the smaller turbines. The growing size of the wind turbines has helped lower the cost of wind energy, indicating that it is economically competitive with fossil fuel alternatives in some locations such as the United States, Germany, France, etc. Therefore, these recent trends are expected to drive the offshore wind turbine market during the forecast period.

#### Asia-Pacific to Dominate the Market

The installed wind capacity in Asia-Pacific increased to 336 GW in 2020 from 283 GW in 2019. China's installed capacity has primarily dominated the increase in wind capacity.

According to GWEC, the global offshore wind industry had installed a new capacity of 6.1 GW in 2020, down slightly from a record 6.24 GW in 2019. China consecutively led the world in new installations for the third year, with more than 3 GW of offshore wind grid-connected in 2020.

India holds the fourth-largest wind power installed capacity globally, with nearly 38 GW in 2020. These projects are majorly spread in the northern, southern, and western parts of the country. The government has set a target to achieve 60 GW of onshore wind and 5 GW of offshore wind by 2022. The number of projects during the next two years is expected to increase drastically to achieve this target.

In 2020, Green Investment Group predicted the Asian region to see up to USD 250 billion of new investment flow into utility-scale renewable energy projects by 2025.

This, in turn, is expected to present Asia-Pacific as an excellent business destination for market players involved in the wind turbine business during the forecast period.

#### Wind Turbine Market Competitor Analysis

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

#### Additional Benefits:

The market estimate (ME) sheet in Excel format

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