

Wind Turbine - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2020 - 2029

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Report description:

The Wind Turbine Market size is estimated at 145.66 gigawatt in 2024, and is expected to reach 955.08 gigawatt by 2029, growing at a CAGR of 45.66% during the forecast period (2024-2029).

In 2020, COVID-19 had a detrimental effect on the market. Presently, the market has reached pre-pandemic levels.

Key Highlights

- Over the medium period, 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.
- On the other hand, the adoption of alternative clean energy sources like solar and other alternatives is likely to hinder the market's growth.
- Nevertheless, the 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 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.

Key Market Trends

Offshore Wind Turbine to Witness a Significant Growth

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- 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 has attracted many countries and companies with high investments.
- By location of deployment, the offshore industry is expected to witness significant growth in global wind turbine industry investments during the forecast period, owing to declining costs, improved technology, and increased developments and investments in offshore wind energy projects worldwide.
- To significantly increase the United Kingdom's affordable energy supply while reducing carbon emissions, the UK government developed a long-term strategy to deliver at least one-third of its electricity from offshore wind as part of a sector deal between the offshore wind industry and the government. A report by the UK's Committee on Climate Change indicates the country could become the first large economy to legislate a "net zero" emissions target for 2050.
- In May 2022, in a recent announcement, the Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) of the United Kingdom announced that it would provide the government with GBP 160 million to boost floating offshore wind capability around the UK at locations in Scotland, Wales, and elsewhere. By supporting manufacturers and providing private investors with the confidence to invest in this emerging sector, which is expected to overgrow in the future, the government is going to provide funding for these projects.
- In May 2022, the Government of Norway launched an investment plan to allocate sea areas for offshore wind development by 2040, targeting 30 GW of capacity.
- Following the Renewable Energy Act (EEG), Germany plans to boost offshore wind energy massively. As part of the Coalition Agreement, Germany stated it would increase its offshore wind target to 30 GW by 2030.
- According to Global Wind Energy Council (GWEC) statistics, in 2022, the global offshore wind capacity reached 64.3 GW and the new 8.8 GW of capacity was added in 2022.
- Besides this, the companies have been able to install taller wind turbines due to improvements in the wind turbine materials used, which allow the turbines to exploit higher-altitude winds. Also, these new turbines have larger blades and, hence, can sweep a larger area than the smaller turbines. The growing size of the wind turbines 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

- In the Asia-Pacific region, wind energy is one of the most abundant energy resources, making it an ideal source for fulfilling the region's energy needs. In view of wind energy's tremendous growth potential, Asian countries, including China, India, Japan, and others, are currently focusing on implementing a widespread deployment of this energy resource.
- As a result of an increasing focus on sustainable development and a commitment to reducing greenhouse gas emissions, offshore wind energy has become a popular source of energy. As a mainstream energy source for power generation, offshore wind energy has significantly changed from being a source of alternative energy. Offshore wind energy technology is being developed at a rapid pace in Asian countries, which has contributed to the growing reliance on wind energy due to recent advancements in turbine technology and government incentives.
- According to the Chinese Wind Energy Association (CWEA), 44.7 GW of onshore wind capacity was installed in 2022. However, the most recent statistics released by the National Energy Administration (NEA) indicate that only 32.6 GW of new onshore wind capacity was grid-connected in the same year.
- According to GWEC, the global offshore wind industry installed a new capacity of 8.7 GW in 2022. China consecutively led the world in new installations, with more than 5 GW of offshore wind grid-connected in 2022.
- During 2022, India installed around 1.8 GW of new wind power, making 41.9 GW of total installed capacity by end of the same year. These projects are mostly spread in the northern, southern, and western parts of the country.

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- In May 2022, the Indian government announced the first steps in offshore wind power development and outlined a strategy and timetable for starting auctions. An initial strategy of building at least 10 to 12 GW of offshore wind turbines is outlined for the first auctions, which are expected to take place in the coming months. There are going to be two regions targeted for the first auctions in the recently released plan. One is going to be Tamil Nadu and Gujarat. The first auctions in this area will target 4 GW of capacity.
- According to the World Bank Group, the Philippines' EEZ has around 178 GW of technical resource potential for offshore wind, primarily floating wind with 18 GW of fixed-bottom offshore wind. Considering that this is more than seven times the country's total installed electricity generation capacity, the opportunity to meet decarbonization and energy security goals is significant.
- In partnership with the World Bank Group's ESMAP-IFC Offshore Wind Development Program, the Philippine Department of Energy is developing an offshore wind roadmap. A draft roadmap identifies six different zones for offshore wind development, totaling 2.8 GW by 2030 and 58 GW by 2050, with mostly floating offshore wind projects.
- 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.

Competitive Landscape

The wind turbine market is moderately fragmented. Some of the major players in the market (in no particular order) 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
- 3 months of analyst support

Table of Contents:

1 INTRODUCTION

- 1.1 Scope of the Study
- 1.2 Market Definition
- 1.3 Study Assumptions

2 EXECUTIVE SUMMARY

3 RESEARCH METHODOLOGY

4 MARKET OVERVIEW

- 4.1 Introduction
- 4.2 Wind Turbine Installed Capacity and Forecast in GW, till 2028
- 4.3 Recent Trends and Developments
- 4.4 Government Policies and Regulations
- 4.5 Market Dynamics
 - 4.5.1 Drivers
 - 4.5.2 Restraints
- 4.6 Supply Chain Analysis
- 4.7 Porter's Five Forces Analysis
 - 4.7.1 Bargaining Power of Suppliers

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- 4.7.2 Bargaining Power of Consumers
- 4.7.3 Threat of New Entrants
- 4.7.4 Threat of Substitute Products and Services
- 4.7.5 Intensity of Competitive Rivalry

5 MARKET SEGMENTATION

5.1 Location of Deployment

5.1.1 Onshore

5.1.2 Offshore

5.2 Capacity

5.2.1 Small

5.2.2 Medium

5.2.3 Large

5.3 Geography

5.3.1 North America

5.3.1.1 United States

5.3.1.2 Canada

5.3.1.3 Mexico

5.3.1.4 Rest of the North America

5.3.2 Europe

5.3.2.1 Germany

5.3.2.2 United Kingdom

5.3.2.3 France

5.3.2.4 Rest of the Europe

5.3.3 Asia-Pacific

5.3.3.1 China

5.3.3.2 India

5.3.3.3 Japan

5.3.3.4 Rest of the Asia-Pacific

5.3.4 South America

5.3.4.1 Brazil

5.3.4.2 Argentina

5.3.4.3 Rest of the South America

5.3.5 Middle-East and Africa

5.3.5.1 United Arab Emirates

5.3.5.2 Saudi Arabia

5.3.5.3 Rest of the Middle-East and Africa

6 COMPETITIVE LANDSCAPE

6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements

6.2 Strategies Adopted by Leading Players

6.3 Company Profiles

6.3.1 Vestas Wind Systems AS

6.3.2 Siemens Gamesa Renewable Energy SA

6.3.3 General Electric Company

6.3.4 Nordex SE

6.3.5 Suzlon Energy Limited

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- 6.3.6 Xinjiang Goldwind Science & Technology Co. Ltd.
- 6.3.7 Eaton Corporation PLC
- 6.3.8 Enercon GmbH
- 6.3.9 Hitachi Ltd.
- 6.3.10 Vergnet

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

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