

Wind Turbine OEM Market Forecasts to 2032 – Global Analysis By Turbine Type (Horizontal-Axis Wind Turbine [HAWT], and Vertical-Axis Wind Turbine [VAWT]), Installation (Onshore, and Offshore), Rating Capacity, Component, Application, and By Geography

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Abstracts

According to Statistics MRC, the Global Wind Turbine OEM Market is accounted for \$177.6 billion in 2025 and is expected to reach \$306.3 billion by 2032, growing at a CAGR of 8.1% during the forecast period. A Wind Turbine OEM (Original Equipment Manufacturer) designs, develops, and produces complete wind turbines or key components such as blades, generators, and nacelles. These manufacturers supply fully integrated turbine systems to energy developers and operators, ensuring optimal performance, safety, and efficiency. They often handle engineering, testing, and quality assurance, while also offering installation and maintenance support to maximize turbine reliability and lifespan in renewable energy projects.

According to the Global Wind Energy Council (GWEC), the wind industry installed a record ~117 GW of new capacity in 2024.

Market Dynamics:

Driver:

Rising global demand for clean energy and carbon reduction targets

Governments, corporations and utilities are accelerating net-zero commitments, prompting large-scale procurement of wind turbines to replace fossil-fuel capacity. Policy frameworks, renewable auctions and green financing have made projects more

bankable, encouraging OEMs to scale production and pursue efficiency improvements. Manufacturers are investing in larger rotors and higher-capacity drivetrains to raise yields, while operators emphasize lifecycle economics and grid integration to meet decarbonization goals and attract long-term investment.

Restraint:

High capital and maintenance costs for turbine installation

The upfront capital required for turbine procurement, foundations, transport and grid connection remains a major barrier, especially for offshore and developing-market projects. Ongoing operation and maintenance require specialised vessels, technician teams and spare parts inventories, elevating lifecycle expenses and affecting auction competitiveness. Challenging financing terms, insurance premiums and extended project lead times can deter developers and delay commissioning, reducing near-term deployment in marginal sites until cost and financing structures improve.

Opportunity:

Expansion into offshore wind

Offshore wind opens a significant growth corridor for OEMs through higher capacity factors and the ability to deploy much larger turbine platforms. Advances in floating foundations, installation vessels and deeper-water designs extend development into new geographies previously out of reach, while policy incentives and corporate offtake deals enlarge the project pipeline. Local manufacturing clusters and port upgrades create regional industrial opportunities. Furthermore, the offshore transition supports aftermarket service expansion and long-term maintenance contracts that can improve OEM revenue visibility.

Threat:

Competition from solar and other renewable energy sources

Rapid cost declines in solar PV combined with improving battery storage economics challenge wind's share of new capacity in many sun-rich regions. Hybrid procurement models that blend solar, wind and storage favour integrated solutions and can shift buyer preference away from single-technology procurements. Policy incentives aimed at the lowest-cost renewable option may disadvantage wind, particularly onshore projects

with lower capacity factors. OEMs must therefore emphasise total energy value, firming capability and operational flexibility to preserve market share.

Covid-19 Impact:

The pandemic disrupted supply chains, delayed component deliveries and postponed construction campaigns because of travel restrictions and workforce constraints, causing short-term pauses in installations and deferred investment decisions. Governments later included renewables in recovery packages and reaffirmed decarbonization targets, which helped restart auction schedules and project pipelines. As logistics normalized, manufacturers and developers accelerated digital planning, improved inventory strategies and diversified suppliers to reduce future risk, enabling turbine demand and project activity to recover steadily across most major markets.

The horizontal-axis wind turbine (HAWT) segment is expected to be the largest during the forecast period

The horizontal-axis wind turbine (HAWT) segment is expected to account for the largest market share during the forecast period. HAWT configurations dominate utility-scale applications thanks to proven aerodynamics, mature manufacturing lines and compatibility with very large rotor diameters and high hub heights. Their adaptability across onshore and offshore settings, combined with established installation practices and robust aftermarket support, makes them attractive to developers. Institutional familiarity, predictable performance records and accessible maintenance ecosystems further reinforce HAWT preference among independent power producers seeking reliable long-term performance.

The offshore segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the offshore segment is predicted to witness the highest growth rate. Offshore projects typically deliver superior capacity factors and accommodate very large machines that enhance energy yield per site. Policy backing, targeted port and transmission investments, and corporate offtake commitments are expanding viable pipelines across Europe, Asia and North America. Technological progress in floating foundations and specialised installation logistics reduces barriers for deepwater deployment, while growth in local supply chains lowers costs and supports regional industrial development tied to offshore expansion.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share. Rapid economic growth, aggressive renewable targets and significant capacity auctions across China, India and Southeast Asia underpin demand for turbines. Large onshore pipelines, expanding offshore ambitions and rising electrification needs drive procurement. Local manufacturing scale, favourable labor markets and strategic port investments support cost-competitive installations, while regional OEM partnerships and policy incentives further encourage deployment, making Asia Pacific the primary contributor to global turbine volume in the medium term.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Rising electricity demand, ambitious national decarbonization plans and expanding offshore programs create a fast-growing market for both onshore and offshore turbines. Market liberalization, improving grid infrastructure and growing investment from regional and international developers accelerate project development. In addition, increasing local content requirements and port upgrades stimulate domestic supply chains and manufacturing capacity, enabling faster deployment and a steeper growth trajectory compared with more mature markets.

Key players in the market

Some of the key players in Wind Turbine OEM Market include Vestas Wind Systems A/S, Siemens Gamesa Renewable Energy, S.A., GE Vernova Inc., Xinjiang Goldwind Science & Technology Co., Ltd., Envision Energy, Ming Yang Smart Energy Group Limited, Nordex SE, Enercon GmbH, Suzlon Energy Limited, Dongfang Electric Wind Power Co., Ltd., Shanghai Electric Wind Power Group Co., Ltd., Windey Energy Technology Group Co., Ltd., Guodian United Power Technology Co., Ltd., CSSC Haizhuang Wind Power Co., Ltd., SANY Renewable Energy Co., Ltd., Doosan Enerbility Co., Ltd., Inox Wind Limited, and XEMC Windpower Co., Ltd.

Key Developments:

In November 2025, Inox Wind Limited (IWL), India's leading wind energy solutions provider, announced that it has secured new orders aggregating to 229 MW, further strengthening its growing project pipeline and reinforcing its position as a preferred partner for renewable energy developers. The company has received a 160 MW order (112 MW firm order with an option to extend by an additional 48 MW) from a leading

Indian IPP player for the supply of its 3.3 MW wind turbine generators, for projects being developed by the customer across multiple sites. The order also includes limited-scope EPC services and multi-year operations & maintenance (O&M) post commissioning.

In April 2025, Vestas Wind Systems A/S announced the serial production of its SG 14-222 DD offshore wind turbine model with efficient direct drive technology, aimed at high efficiency and lower maintenance costs for offshore wind farms. Additionally, in April 2025, Vestas introduced the V236-15.0MW prototype, one of the most powerful wind turbines globally, designed to generate 80 GWh annually and power around 20,000 homes, with deployments planned in Denmark and major projects in the US.

In November 2024, ScottishPower seals ?1BN offshore wind turbine deal with Siemens Gamesa. The turbine blades for ScottishPower's ?4 billion East Anglia TWO offshore windfarm will be built in Hull after the green energy company formalised a turbine supply agreement with Siemens Gamesa worth more than ?1 billion. The agreement will see Siemens Gamesa supply 64 of its flagship SG 14-236 DD* offshore wind turbines, which have a rotor diameter of 236 metres almost as tall as the observation deck at the Shard for ScottishPower's third offshore wind project in the southern North Sea.

Turbine Types Covered:

Horizontal-Axis Wind Turbine (HAWT)

Vertical-Axis Wind Turbine (VAWT)

Installations Covered:

Onshore

Offshore

Rating Capacities Covered:

Small-to-Medium (? 3 MW)

Standard Utility-Scale (3 MW to 6 MW)

Large Utility-Scale (6 MW to 10 MW)

Mega-Platforms (>10 MW)

Components Covered:

Rotor Blades and Hub Assembly

Nacelle and Main Housing

Drivetrain

Tower and Foundation Interfaces

Generator and Power Electronics

Control Systems, Sensors, and Digital Solutions

Applications Covered:

Utility-Scale

Distributed Wind

Residential/Small Wind

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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