

Wind Turbine Components Market Report by Component (Rotator Blade, Gearbox, Generator, Nacelle, Tower, and Others), Wind Turbine Type (Grid Connected, Standalone), Wind Farm Type (Onshore, Offshore), and Region 2024-2032

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Abstracts

The global wind turbine components market size reached US\$ 127.2 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 225.6 Billion by 2032, exhibiting a growth rate (CAGR) of 6.4% during 2024-2032.

Wind turbine components refer to the devices used for converting kinetic energy generated from the wind to electric energy. It consists of an anemometer to measure the speed of the wind and transmit the data, multiple blades to rotate and cause the rotor to spin, a brake to stop the rotor mechanically, electrically or hydraulically, a controller to start up and shut off the machine, a generator and a gearbox. The turbine also consists of a nacelle, drive train, power transformer and yaw, pitch, lubrication, and Supervisory Control and Data Acquisition (SCADA) systems. These components are usually manufactured using stainless steel, fiberglass, resin, iron, copper, aluminum, and plastic to protect the turbines from weathering and corrosion, thereby enhancing the components' longevity and ensuring reliable functioning.

Wind Turbine Components Market Trends:

The increasing demand for renewable sources of energy, along with the growing electricity requirements across the globe, is one of the key factors creating a positive impact on the market. Due to rising environmental consciousness among the masses, there is an increasing adoption of wind energy systems for power generation in green buildings, which is contributing to the market growth. Additionally, various technological



advancements, such as the development of 3D printed components, are acting as other growth-inducing factors. Manufacturers are using innovating 3D printing technology to create cost-effective and more durable rotor blades with improved design capabilities and greater energy absorption. Other factors, including the implementation of favorable government policies promoting sustainable infrastructural development, along with extensive research and development (R&D) activities, are anticipated to drive the market further.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global wind turbine components market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on component, wind turbine type and wind farm type.

Breakup by Component: Rotator Blade Gearbox Generator Nacelle Tower Others

Breakup by Wind Turbine Type:

Grid Connected Standalone

Breakup by Wind Farm Type:

Onshore Offshore

Breakup by Region:

North America United States Canada Asia Pacific China

Wind Turbine Components Market Report by Component (Rotator Blade, Gearbox, Generator, Nacelle, Tower, and Oth...



Japan India South Korea Australia Indonesia Others Europe Germany France United Kingdom Italy Spain Russia Others Latin America Brazil Mexico Others Middle East and Africa

Competitive Landscape:

The report has also analysed the competitive landscape of the market with some of the key players being Enercon GmbH, GE Renewable Energy, Nordex SE, Northern Power Systems Corp. (Distributed Energy Systems Corp.), Siemens Gamesa Renewable Energy (Siemens AG), Sinovel Wind Group Co. Ltd., Suzlon Energy Ltd., United Power Inc. (United Power Technology), Vestas Wind Systems A/S and Xinjiang Goldwind Science & Technology Co. Ltd.

Key Questions Answered in This Report

1. What was the size of the global wind turbine components market in 2023?

2. What is the expected growth rate of the global wind turbine components market during 2024-2032?

3. What are the key factors driving the global wind turbine components market?

4. What has been the impact of COVID-19 on the global wind turbine components market?

5. What is the breakup of the global wind turbine components market based on the component?

6. What is the breakup of the global wind turbine components market based on the wind



turbine type?

7. What is the breakup of the global wind turbine components market based on the wind farm type?

- 8. What are the key regions in the global wind turbine components market?
- 9. Who are the key players/companies in the global wind turbine components market?



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