+357 96 030922
info@marketpublishers.com

Global Direct Drive (Gearless) Wind Turbine Market Size Study & Forecast, by Capacity (Less than 1 MW, 1 MW–3 MW, Higher than 3 MW), by Technology (Permanent Magnet Synchronous Generator (PMSG), Electrically Excited Synchronous Generator (EESG)), and Regional Forecasts 2025–2035

https://marketpublishers.com/r/G9F27A5AB94FEN.html
Date: November 2024
Pages: 285
Price: US$ 3,750.00 (Single User License)
ID: G9F27A5AB94FEN

Abstracts

The Global Direct Drive (Gearless) Wind Turbine Market is valued at approximately USD 17.75 billion in 2024 and is poised to register a stellar CAGR of 16.30% over the forecast period from 2025 to 2035. Gearless wind turbines, also known as direct drive systems, are transforming the renewable energy landscape by eliminating the gearbox and thereby reducing mechanical complexity, noise, and maintenance costs. This technology relies on low-speed, high-torque generators directly connected to the rotor shaft, which significantly improves reliability and efficiency—making it ideal for offshore and onshore installations alike. As the global appetite for sustainable and low-emission energy alternatives continues to swell, the demand for these turbines is expected to surge dramatically across both developed and emerging economies.

The wind energy sector is undergoing a seismic shift driven by urgent decarbonization targets, rising fossil fuel prices, and massive investments in infrastructure modernization. Direct drive turbines have rapidly gained favor due to their robust performance in extreme conditions, lower operational expenses, and longer lifecycle. Permanent Magnet Synchronous Generator (PMSG) technology, in particular, is garnering immense interest due to its superior efficiency and reduced energy losses. According to IRENA, global installed wind energy capacity surpassed 940 GW by the end of 2023, and direct drive solutions are playing a pivotal role in offshore expansions, where reliability is non-negotiable and maintenance logistics are cost-intensive.

+357 96 030922
info@marketpublishers.com

Technological breakthroughs in superconducting materials and lighter nacelle designs are expected to further propel innovation and adoption in the coming decade.

Regionally, Europe continues to dominate the global direct drive wind turbine market, driven by aggressive climate policies, vast offshore potential in the North Sea, and consistent government incentives. Countries such as Germany, the UK, and Denmark are at the forefront of adopting gearless turbine technologies to meet their net-zero ambitions. North America, led by the U.S. and Canada, is seeing substantial growth through repowering of aging turbines and large-scale offshore wind projects along the Atlantic coast. Meanwhile, the Asia Pacific region is poised for the fastest growth, with China and India massively expanding their wind energy portfolios. China’s leadership in wind equipment manufacturing and supportive policy reforms are crucial accelerators. Latin America and the Middle East & Africa are gradually stepping into the space, supported by favorable wind conditions and diversification strategies away from oil-dependent economies.

Major market players included in this report are:

Siemens Gamesa Renewable Energy

Goldwind Science & Technology Co., Ltd.

GE Renewable Energy

Vestas Wind Systems A/S

ENERCON GmbH

Suzlon Energy Limited

Hitachi Ltd.

ABB Ltd.

Doosan Heavy Industries & Construction

WEG Industries

Senvion S.A.

+357 96 030922
info@marketpublishers.com

Nordex SE

American Superconductor Corporation

MHI Vestas Offshore Wind A/S

Leitwind AG

Global Direct Drive (Gearless) Wind Turbine Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players.

The detailed segments and sub-segments of the market are explained below:

+357 96 030922
info@marketpublishers.com

By Capacity:

- Less than 1 MW
- 1 MW–3 MW
- Higher than 3 MW

By Technology:

- Permanent Magnet Synchronous Generator (PMSG)
- Electrically Excited Synchronous Generator (EESG)

By Region:

North America

- U.S.
- Canada

Europe

- UK
- Germany
- France
- Spain
- Italy
- Rest of Europe

+357 96 030922
info@marketpublishers.com

Asia Pacific

- China
- India
- Japan
- Australia
- South Korea
- Rest of Asia Pacific

Latin America

- Brazil
- Mexico

Middle East & Africa

- UAE
- Saudi Arabia
- South Africa
- Rest of Middle East & Africa

Key Takeaways:

- Market Estimates & Forecast for 10 years from 2025 to 2035.

+357 96 030922
info@marketpublishers.com

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

CHAPTER 8. COMPETITIVE INTELLIGENCE

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

List Of Figures

LIST OF FIGURES

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Global Direct Drive (Gearless) Wind Turbine Market Size Study & Forecast, by Capacity (Less than 1 MW, 1 MW–3 MW, Higher than 3 MW), by Technology (Permanent Magnet Synchronous Generator (PMSG), Electrically Excited Synchronous Generator (EESG)), and Regional Forecasts 2025–2035

Product link: https://marketpublishers.com/r/G9F27A5AB94FEN.html

Price: US$ 3,750.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/G9F27A5AB94FEN.html