

India Wind Power Market, By Application (Residential, Commercial, Industrial), By Installation (Onshore, Offshore), By Turbine Capacity (100 KW, 100 KW to 500 KW, 500 KW to 1 MW, 1MW to 3 MW, Less than 3 MW) By Region, Competition, Forecast & Opportunities, 2021-2031F

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Abstracts

Market Overview

India Wind Power Market was valued at USD 9.11 Billion in 2025 and is projected to reach USD 13.71 Billion by 2031, growing at a CAGR of 6.89% during the forecast period. Wind power is a renewable energy source that converts wind's kinetic energy into electricity using turbines. These turbines, featuring large blades, rotate with wind flow, driving a generator to produce power. As a clean and inexhaustible energy form, wind power is gaining attention as a viable alternative to fossil fuels. It generates electricity without emitting greenhouse gases, supporting efforts to reduce environmental pollution and combat climate change. Onshore and offshore wind farms are both utilized, with offshore installations offering the advantage of stronger and steadier winds. Ongoing technological advancements have enhanced efficiency and reduced costs, making wind energy a crucial component of India's renewable energy strategy. Although its intermittent nature poses challenges, integrating wind with storage and other energy sources ensures stability and reliability in the power supply.

Key Market Drivers

Government Policies and Supportive Regulatory Framework

India's wind power sector is significantly driven by proactive government initiatives and a favorable regulatory environment. The government has introduced ambitious renewable energy targets, with wind power as a core component. Financial incentives such as accelerated depreciation, viability gap funding, and tax benefits reduce initial investment burdens and enhance project viability. Renewable Purchase Obligations (RPOs) compel power distributors to procure a portion of energy from renewable sources, creating assured demand for wind energy. The Ministry of New and Renewable Energy (MNRE) supports wind project development through simplified land acquisition and regulatory clearances. State-level incentives further strengthen this framework by offering subsidies and streamlined processes. The National Wind-Solar Hybrid Policy promotes integrated use of land and grid infrastructure. Furthermore, the government's focus on enhancing grid connectivity and transmission infrastructure supports the integration of wind energy into the national energy mix. India targets 500 GW of renewable capacity by 2030, with wind power expected to contribute 140 GW.

Key Market Challenges

Grid Integration and Infrastructure Limitations

A key challenge in India's wind power market is the integration of wind energy into the existing power grid, which is often strained by infrastructure limitations. Wind energy's dependency on fluctuating wind patterns makes consistent electricity supply a concern, complicating grid management. Many regions with high wind potential face outdated or inadequate transmission infrastructure, hindering efficient power evacuation and leading to curtailments. Such inefficiencies result in revenue loss for developers and lower renewable system performance. Additionally, wind projects are frequently located in remote regions lacking robust grid connectivity, requiring substantial investment and coordination to establish new infrastructure. Delays in expanding transmission networks can stall project implementation, affecting overall market growth and investor confidence.

Key Market Trends

Growth of Offshore Wind Power Development

India is witnessing a growing interest in offshore wind energy, marking a shift from its historical focus on onshore wind farms. Offshore wind offers advantages such as stronger and more reliable wind speeds, resulting in higher energy production. These projects face fewer land-related challenges and can be deployed without significant

displacement concerns. The government has taken steps to support offshore wind through policy initiatives, feasibility assessments, and zone identification along coastal states like Gujarat, Tamil Nadu, and Andhra Pradesh. MNRE has facilitated pilot projects and international collaboration to build capacity and technical know-how. The interest of global offshore wind companies and investors is increasing, bringing advanced marine-compatible technologies and operational expertise, which is expected to accelerate the commercial rollout of offshore wind in India.

Key Market Players

Vestas Wind Systems A/S

Siemens Gamesa Renewable Energy S.A.

General Electric Company

Goldwind Science & Technology Co., Ltd.

Nordex SE

Enercon GmbH

Suzlon Energy Limited

MingYang Smart Energy Group Co., Ltd.

Report Scope:

In this report, the India Wind Power Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

India Wind Power Market, By Application:

Residential

Commercial

Industrial

India Wind Power Market, By Installation:

Onshore

Offshore

India Wind Power Market, By Turbine Capacity:

100 KW

100 KW t500 KW

500 KW t1 MW

1MW t3 MW

Less than 3 MW

India Wind Power Market, By Region:

South India

North India

West India

East India

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the India Wind Power Market.

Available Customizations:

India Wind Power Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization

India Wind Power Market, By Application (Residential, Commercial, Industrial), By Installation (Onshore, Offsh...

options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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