

Turbines Market to Surpass USD 377.6 Bn by 2035, Expanding at a CAGR of 6.7% | Transparency Market Research

Favorable policy incentives, rapid technological advancements, and a global transition toward renewable energy sources are propelling market expansion

WILMINGTON, DE, UNITED STATES, September 11, 2025 /

EINPresswire.com/ -- The global [turbines market](#) is poised for

substantial growth over the next decade. Valued at US\$ 185.0 billion in 2024, the market is projected to grow at a compound annual growth rate (CAGR) of 6.7% between 2025 and

2035, reaching US\$ 377.6 billion by the end of 2035. Turbines—spanning steam, gas, hydro, and wind—are at the core of electricity generation, supporting the shift to renewable energy while ensuring flexible baseload capacity for industries and utilities.

TURBINES MARKET OUTLOOK 2035

The Turbines Market valued at



It is estimated to grow at a

**CAGR
6.7%**

from 2025
to 2035

The Turbines Industry is estimated to reach

**US\$
377.6 Bn**
by the end
of
2035

Turbines

Market Overview

Turbines are mechanical devices that convert kinetic, thermal, or fluid energy into usable electrical energy, making them fundamental to both traditional and renewable power generation. They serve a wide spectrum of industries, including electricity generation, aviation, marine propulsion, and heavy industrial operations.

The global turbines market encompasses four primary categories: steam turbines, gas turbines, hydro turbines, and wind turbines. Each segment fulfills a vital role in supporting global energy demands and industrial processes. Wind turbines are registering the fastest adoption rates, buoyed by commitments to decarbonization, aggressive renewable energy targets, and declining costs of renewable technology deployment. Hydro turbines remain critical in regions rich in water resources, while gas and steam turbines continue to provide indispensable backup and grid stability solutions.

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Analyst Viewpoint

According to Transparency Market Research analysts, the turbines industry is entering a transformative era marked by accelerated investments in renewable energy infrastructure and advances in turbine technology. The global push toward net-zero emissions has fueled demand for wind and hydro turbines, while gas and steam turbines retain importance for meeting peak demand and supporting energy security.

Manufacturers are shifting focus toward digital technologies, such as predictive analytics and IoT-enabled monitoring systems, to enhance turbine efficiency, optimize maintenance schedules, and reduce downtime. At the same time, innovations in materials science and blade design are further lowering costs. However, capital-intensive installation processes and infrastructure limitations in emerging markets remain challenges to be addressed in the near term.

Key Drivers of Market Growth

Policy Incentives and Capital Infusion Fueling Renewable Turbine Market

Policy frameworks, subsidies, and fiscal incentives across leading economies are accelerating turbine adoption, particularly in the renewable segment. The European Union's Green Deal, mandating a minimum of 42.5% renewable energy consumption by 2030, and U.S. tax credits under the Inflation Reduction Act are significantly enhancing the pipeline for wind and hydro projects.

Technological Advancements Enhancing Efficiency and Cost Competitiveness

R&D efforts are yielding innovations in turbine blade aerodynamics, composite materials, and generator technologies. Offshore wind turbines exceeding 15 MW capacity per unit are minimizing project footprints while maximizing yields. Combined cycle gas turbines (CCGT) delivering efficiencies above 60% are also ensuring reliable and flexible energy production.

Growing Demand for Renewable and Clean Energy

The global energy transition, rapid urbanization, and rising power consumption are spurring demand for sustainable generation technologies. Floating offshore turbines, in particular, are unlocking opportunities in deeper waters, creating new growth avenues in regions previously unsuitable for turbine installations.

Segment Analysis

By Turbine Type

Steam Turbines: Impulse, Reaction, Condensing, Reheat, and Others

Gas Turbines: Heavy Frame Gas Turbine, Aeroderivative Gas Turbine

Hydro Turbines: Pelton, Francis, Kaplan, and Others

Wind Turbines: Horizontal Axis, Vertical Axis, Bladeless, and Others

By Power Output

Less than 1 MW

1 MW – 10 MW

10 MW – 50 MW

50 MW – 100 MW

Above 100 MW

By Application

Power Generation

Aviation

Marine

Industrial

Others

By Technology

Open Cycle Gas Turbine (OCGT)

Combined Cycle Gas Turbine (CCGT)

Cogeneration Turbine

Conventional Turbine

Advanced Turbine

By Fuel Type

Fossil Fuel

Renewable Energy

Nuclear

Others

Regional Insights

Asia Pacific leads the turbines market with a dominant 53.2% share, driven by rapid industrialization, large-scale renewable investments, and urbanization across China, India, and Japan. Ambitious national renewable energy targets are fostering significant demand for wind, hydro, and gas turbines.

Europe is a global hub for offshore wind development, supported by the EU Green Deal. Germany, the U.K., and Denmark are front-runners in deploying offshore installations and advancing floating wind turbine projects.

North America is experiencing growth fueled by fiscal incentives, modernization of power grids, and expansion of both wind and gas turbines, particularly in the U.S. and Canada.

Latin America and the Middle East & Africa represent emerging markets with vast hydroelectric and wind potential, though challenges related to financing, infrastructure development, and regulatory delays continue to hinder large-scale deployment.

Key Players and Industry Leaders

The turbines market is characterized by strong competition among global players that emphasize digitalization, sustainability, and large-scale project deployment. Key companies include:

Vestas Wind Systems

Siemens Gamesa Renewable Energy

General Electric (GE) Power & GE Renewable Energy

Mitsubishi Power

Hitachi Ltd.

Ansaldo Energia

Toshiba Energy Systems & Solutions

MAN Energy Solutions

Rolls-Royce

Doosan Heavy Industries & Construction

Fuji Electric

Nordex Group

Suzlon Energy Limited

Goldwind

Enercon

Acciona

Recent Developments

Vestas (September 2024): Secured an 810 MW order for 54 V236-15.0 MW turbines for the Empire Wind Project 1 by Equinor, marking a significant U.S. offshore milestone.

Siemens Energy (May 2024): Announced restructuring initiatives to stabilize its wind energy business, focusing on profitability, streamlined operations, and service-oriented growth.

Opportunities and Challenges

Opportunities include the expansion of offshore and floating wind farms, advancements in recyclable turbine components, predictive maintenance solutions, and new projects in untapped emerging markets.

Challenges consist of high initial investment costs, supply chain constraints, lengthy permitting procedures in developed markets, and inadequate financing mechanisms in developing

economies.

Market Trends

Growing deployment of floating offshore wind turbines in deep waters

Integration of IoT, AI, and predictive maintenance tools for turbine optimization

Advancements in recyclable, hybrid, and modular blade technologies

Expanding adoption of combined cycle and cogeneration turbines

Rising reliance on digital monitoring platforms to enhance efficiency and reduce downtime

Future Outlook

The turbines market is expected to more than double by 2035, driven by the accelerating global energy transition. Innovations in blade design, hybrid materials, and digital integration will cement turbines as the cornerstone of sustainable electricity generation. Market growth will be shaped by:

Ambitious renewable energy mandates worldwide

Surging electricity demand from expanding urban centers

Technological breakthroughs in turbine efficiency and sustainability

Expansion of offshore and floating wind farms

Rising investment flows in Asia Pacific, Europe, and North America

Why Buy This Report?

In-depth analysis of market size forecasts and CAGR projections through 2035

Comprehensive segmentation by type, output, application, technology, and fuel type

Detailed competitive landscape with company profiles and strategic developments

Insights into drivers, restraints, opportunities, and emerging market trends

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