

India Steam Turbines Market, By Type (Steam Cycle, Combined Cycle), By Rated Capacity (1-120 Mw, 121-350 Mw, 351-750 Mw, Above 750 Mw), By Exhaust Type (Condensing, Non-Condensing), By Fuel Type (Coal, Biomass, Nuclear, Others), By Region, Competition, Forecast & Opportunities, 2021-2031F

<https://marketpublishers.com/r/IFAA5A0AE8FCEN.html>

Date: June 2025

Pages: 86

Price: US\$ 3,500.00 (Single User License)

ID: IFAA5A0AE8FCEN

Abstracts

Market Overview

India's Steam Turbines Market was valued at USD 828 million in 2025 and is projected to reach USD 1,297 million by 2031, growing at a CAGR of 7.61% during the forecast period. Steam turbines, which convert thermal energy from high-pressure steam into mechanical energy, remain essential in India's energy and industrial sectors. These turbines are integral to thermal power generation, where they drive electricity production, and also find extensive use in marine propulsion and process industries. As India's electricity demand grows alongside urbanization and industrial expansion, thermal power remains a crucial part of the energy mix, despite the country's increasing focus on renewable sources. The deployment of supercritical and ultra-supercritical technologies, coupled with modernization of aging plants, continues to support demand for high-efficiency steam turbines. Industrial sectors are also investing in cogeneration systems using medium-capacity turbines to meet their combined heat and power needs. The versatility, reliability, and efficiency of steam turbines ensure their continued relevance across diverse applications in India.

Key Market Drivers

Expanding Thermal Power Generation Capacity

The consistent growth of India's thermal power generation capacity serves as a major driver for the steam turbines market. Although renewable energy adoption is rising, coal-based power plants still contribute the largest share of India's electricity generation. The need to meet escalating energy demands from population growth and industrial activity has led to sustained investments in coal and lignite-based plants.

Modernization initiatives, such as retrofitting old plants with advanced supercritical and ultra-supercritical turbines, are improving plant efficiency and reducing emissions. These upgrades create continuous demand for new and replacement turbines. Additionally, ongoing thermal capacity additions, totaling 20–30 GW over the next five years, are aligned with national energy security objectives and environmental compliance standards. Regulations from the Ministry of Environment, Forest and Climate Change (MoEFCC) are also encouraging plant operators to adopt efficient turbines to reduce emissions while maintaining output. As long as base load reliability remains crucial, steam turbines will remain central to India's power strategy.

Key Market Challenges

Transition to Renewable Energy and Declining New Thermal Projects

India's accelerated push toward renewable energy presents a significant challenge to the steam turbines market. The government's ambitious climate targets have led to increased investments in solar, wind, and hybrid energy projects, which bypass the need for steam turbines.

With falling costs and policy support, these technologies are rapidly replacing conventional thermal sources in new project pipelines. Financial institutions are also shifting away from coal investments due to environmental and long-term financial concerns, compounding difficulties for new thermal plant development. Moreover, public opposition and global divestment pressures are discouraging expansion of fossil fuel infrastructure. As a result, the number of new coal and gas-based power projects is declining, directly impacting demand for large-capacity steam turbines in utility-scale applications. This shift requires turbine manufacturers and service providers to diversify into alternate applications and regions to sustain growth.

Key Market Trends

Growth in Small- and Medium-Capacity Turbines for Industrial Use

An emerging trend in the Indian steam turbines market is the growing preference for small- and medium-capacity turbines across industrial sectors. Ranging from 5 MW to 100 MW, these turbines are being increasingly adopted in captive power plants, particularly for industries requiring simultaneous heat and power generation.

Industries such as textiles, sugar, cement, food processing, and chemicals are turning to cogeneration systems for improved energy efficiency and cost savings. These setups allow the reuse of exhaust heat, supporting both electricity needs and production processes. Additionally, biomass-based steam systems and waste heat recovery technologies are gaining traction, enabling industrial players to reduce emissions and comply with sustainability mandates. These developments are broadening the application base for steam turbines, especially as industrial sectors strive for energy self-sufficiency and grid independence.

Key Market Players

- Bharat Heavy Electricals Limited
- Triveni Turbines Limited
- Kirloskar Brothers Limited
- L&T Power Equipment Limited
- Siemens India Limited
- Toshiba India Private Limited
- GE Power India Limited
- Thermax Limited

Report Scope:

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

- India Steam Turbines Market, By Type:

India Steam Turbines Market, By Type (Steam Cycle, Combined Cycle), By Rated Capacity (1-120 Mw, 121-350 Mw, 3...

team Cycle

Combined Cycle

- India Steam Turbines Market, By Rated Capacity:

1–120 MW

121–350 MW

351–750 MW

Above 750 MW

- India Steam Turbines Market, By Exhaust Type:

Condensing

Non-Condensing

- India Steam Turbines Market, By Fuel Type:

Coal

Biomass

Nuclear

Others

- India Steam Turbines Market, By Region:

outh India

North India

West India

East India

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the India Steam Turbines Market.

Available Customizations:

India Steam Turbines Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

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

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