

UK Steam Turbine Market Size and Forecast (2021 - 2031), Regional Share, Trend, and Growth Opportunity Analysis Report Coverage: By Type (Impulse Turbine and Reaction Turbine), Source (Fossil Fuel, Thermal Renewable and Others), End User (Power Generation, Oil and Gas and Others), Capacity (Less than 10 MW, 10 MW to 100 MW, 100 MW to 300 MW, and Above 300 MW)

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Abstracts

UK Steam turbine market size was valued at US\$ 268.55 million in 2024 and is expected to reach US\$ 323.07 million by 2031; it is estimated to record a CAGR of 2.54% from 2025 to 2031.

United Kingdom steam turbine market growth is shaped by a complex transition from conventional coal power to a lower-carbon, more flexible generation mix. Steam turbines remain essential in gas-fired combined cycle plants, nuclear stations, biomass facilities, industrial cogeneration, and waste-to-energy plants, where they provide efficient conversion of thermal energy into electricity and, in many cases, useful heat for industry and district heating. The market is expanding slowly rather than rapidly, reflecting the UK's mature power system and advanced stage of coal phase-out, but demand is supported by rising electricity consumption, grid reliability needs, and industrial decarbonization pressures.

Growth is driven mainly by modernization and life-extension of the existing fleet. Utilities and industrial operators are upgrading turbines with advanced blading, improved materials, and better sealing to lift efficiency and reduce specific emissions,

while adding sophisticated digital controls and monitoring for flexible, part-load operation. These investments align with national net-zero commitments, the UK Emissions Trading Scheme, and strict air-quality regulations that penalize inefficient, high-carbon assets. Combined heat and power (CHP) and industrial cogeneration are particularly important segments, as they allow factories, refineries, chemical plants, and district heating networks to cut energy costs and greenhouse gas emissions by using steam turbines to generate both power and process heat from a single fuel input.

On the renewable-thermal side, waste-to-energy and biomass plants, supported by waste management policies and renewable incentives, are creating demand for small and mid-scale back-pressure and condensing turbines designed for variable fuels and frequent cycling. Nuclear life-extension projects and any future deployment of small modular reactors would also support specialized steam turbine demand. However, rapid build-out of offshore wind, solar PV, interconnectors, and battery storage limits large new steam-cycle projects and intensifies competition from high-efficiency gas turbines. Overall, the UK steam turbine market is expected to post modest but steady growth, concentrated in high-value niches such as CHP, waste-to-energy, nuclear and gas-plant upgrades, and digital and flexibility-enhancement retrofits rather than in large volumes of new coal or traditional baseload capacity.

Steam Turbine Market Trend: The heightened focus on grid support and ancillary services is anticipated to be a significant trend in the steam turbine market. With the UK's grid increasingly dominated by renewable energy sources, ensuring system stability is a critical concern. Flexible and retrofitted steam turbines—especially within CHP and combined cycle facilities—are finding new value by providing essential grid balancing functions, including inertia, fast reserve, and reactive power. A recent example is the Killingholme power station project, which in 2025 saw Siemens and Uniper convert retired steam turbine generators into synchronous condensers with flywheels, delivering dedicated grid stability services and boosting inertia without burning fossil fuels. This pioneering conversion is part of the National Grid ESO's Stability Pathfinder initiative, demonstrating the repurposing of legacy assets for carbon-free ancillary services. Operators are increasingly seeking participation in the UK Capacity Market, where the ability to deliver instantaneous support and voltage control is financially rewarded. Steam turbines that are upgraded or repurposed for grid support have become invaluable for maintaining reliable electricity supplies against the backdrop of high renewable variability and declining conventional baseload.

GE Vernova Inc., Baker Hughes Co, Chart Industries Inc., Siemens Energy AG, Turtle Turbines (P) Ltd., Trillium Flow Technologies, Triveni Turbine Ltd., Dongturbo Electric

Company Ltd. (DTEC), Arabelle Solutions, M+M Turbinen-Technik, Ansaldo Energia S.p.A., and Everllence are among the key players profiled during this market study. Several other essential market players were also studied and analyzed to get a holistic view of the steam turbine market and its ecosystem.

The overall steam turbine market size has been derived using both primary and secondary sources. Exhaustive secondary research has been conducted using internal and external sources to obtain qualitative and quantitative information related to the steam turbine market size. The process also helps obtain an overview and forecast of the market with respect to all the market segments. Also, multiple primary interviews have been conducted with industry participants to validate the data and gain analytical insights. This process includes industry experts such as VPs, business development managers, market intelligence managers, and national sales managers, along with external consultants such as valuation experts, research analysts, and key opinion leaders specializing in the steam turbine market.

Reason to buy

Saves and reduces time required for identifying the market growth, size, leading players, and segments in the UK Steam Turbine market.

Highlights key business priorities to assist companies in realigning their business strategies

Emphasizes key findings and recommendations that uncover emerging industry trends in the UK Steam Turbine market, enabling stakeholders across the value chain to craft effective long-term strategies

Develop/modify business expansion plans by analyzing substantial growth prospects in mature and emerging markets

Scrutinizes in-depth UK Steam Turbine market trends, along with factors driving the market, as well as those hindering it

Enhances the decision-making process by understanding the strategies that underpin commercial interest with respect to client products, segmentation, pricing, and distribution

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