

Rising Power Demand and Efficiency Upgrades Drive Growth in the Gas Turbine Market

Global Gas Turbine Industry to Hit \$25.4 Billion by 2030, Driven by Power Generation Demand

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The [gas turbine market](#) is witnessing steady growth as industries and governments increasingly turn to gas-fired turbines for power generation and cleaner energy solutions.

According to a report published by Allied Market Research, the global gas turbine market size was valued at \$18.5 billion in 2020 and is projected to reach \$25.4 billion by 2030, growing at a CAGR of 3.3% from 2021 to 2030.



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Gas turbine market to reach \$25.4 billion by 2030, driven by rising electricity demand, efficiency upgrades, and cleaner energy trends.”

Allied Market Research

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□ What is a Gas Turbine?

A gas turbine is an advanced engine system that combines fuel and outside air, heats it at high temperatures, and generates mechanical energy by spinning turbine blades.

This mechanical energy then drives a generator to produce electricity.

Gas turbines are widely used in power generation, oil & gas, aerospace, marine, and process industries. Their efficiency, reliability, and lower environmental impact compared to coal-fired systems make them a crucial component of the global energy transition.

□ Regional Insights

The gas turbine market analysis highlights regional growth patterns:

Asia-Pacific – Dominated with 44.5% share in 2020, driven by strong energy demand and government focus on low-emission power.

North America – Expected to record the fastest CAGR of 3.9%, with rising adoption of cleaner energy systems.

Europe & LAMEA – Continued investments in renewable integration and efficient power infrastructure boost adoption.

□ Key Market Drivers

The gas turbine market growth is fueled by multiple factors:

Rising power demand across developing economies such as China, India, and Brazil.

Shift toward clean energy and replacement of coal & nuclear plants with gas-fired turbines.

Government regulations promoting gas turbines to reduce greenhouse gas emissions.

Advancements in [distributed power generation](#) technologies.

However, the volatile price of natural gas poses a challenge to the market. On the positive side, the growing integration of renewables with gas turbines and demand for distributed power generation present lucrative opportunities.

□ Future Outlook

The future of the gas turbine market looks promising, supported by:

Decarbonization goals and shift from coal to natural gas.

Integration with [renewable energy systems](#) for hybrid power solutions.

Growing adoption of distributed power generation technologies.

By 2030, gas turbines will remain a cornerstone of global energy infrastructure, offering efficient, flexible, and environmentally friendly power generation solutions.

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□ Gas Turbine Market Segmentation

By Technology

Combined Cycle – Dominated in 2020 with 65% share due to lower fuel requirements and reduced transmission losses.

Open Cycle – Used for fast start-ups but less fuel-efficient compared to combined cycle systems.

By Design Type

Heavy-Duty Gas Turbines – Held 68% market share in 2020, driven by low investment costs and high-capacity operations.

Aero-Derivative Gas Turbines – Expected to grow fastest at 3.9% CAGR, widely used in aviation and smaller-scale power plants.

By Rating Capacity

Above 300 MW segment – Dominated with 55% market share in 2020, supported by the global shift from coal to gas-based plants.

Other segments include less than 40 MW, 40–120 MW, and 120–300 MW.

By Application

Power Generation – Led the market with 27.5% share in 2020, fueled by efforts to reduce coal-based electricity.

Aerospace – Projected to grow at the highest CAGR of 4.1%.

Oil & Gas, Marine, Process Plants – Steady adoption across sectors.

□ Key Market Players

The gas turbine industry is highly competitive with global giants such as:

General Electric (GE)

Siemens AG

Mitsubishi Hitachi Power Systems (MHPS)

Caterpillar Inc. (Solar Turbines)

Ansaldo Energia

Kawasaki Heavy Industries

Rolls-Royce (BMW Group)

Wärtsilä

Harbin Electric

Capstone Green Energy

These companies are focusing on R&D, mergers, and technological advancements to strengthen their global market presence.

□ COVID-19 Impact on Gas Turbine Market

The COVID-19 pandemic disrupted the global gas turbine market, with lockdowns halting production and reducing energy demand. According to the BP Statistical Review of World Energy 2021, global natural gas consumption dropped by 81.1 billion cubic meters in 2020 compared to 2019.

Industrial and commercial power demand fell significantly, directly impacting gas turbine installations. However, as industries recover and power demand resumes, the market is expected to regain momentum in the coming years.

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□ Conclusion

The gas turbine market is positioned for sustained growth as countries focus on clean energy, distributed generation, and reduced reliance on coal. With projected revenues of \$25.4 billion by 2030, the market will continue to play a vital role in global energy transitions, particularly in regions with high energy demand and strict emission regulations.

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