

## Turbo Generator Market: Valued at \$10.6 Billion in 2022, Estimated to Reach \$16.3 Billion by 2032

WILMINGTON, DE, UNITED STATES, August 21, 2024 /EINPresswire.com/ -- The <u>Turbo Generator Market</u>, valued at \$10.6 billion in 2022, is on a trajectory of steady growth. Estimates indicate it will reach \$16.3 billion by 2032, underlining sustained demand for efficient power generation solutions and the evolving landscape of energy production technologies.



A turbo generator is a type of electric

generator that operates using a turbine to convert mechanical energy into electrical energy. It typically consists of a turbine, which is driven by steam, water, or gas and a generator connected to the turbine shaft. The rotation of the turbine shaft causes the generator to produce electricity through electromagnetic induction. Turbo generators are commonly used in power plants, particularly those utilizing steam turbines, to generate electricity on a large scale. They are also employed in various industrial applications where high-power generation is required.

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The global demand for turbo generators has been significantly influenced by the rise in investments in power generation infrastructure. As countries around the world seek to meet growing energy demands and transition towards cleaner and more sustainable sources of power, there has been a substantial increase in investments directed towards the development of power generation infrastructure. Furthermore, the growing focus on renewable energy sources, such as wind and solar power, has also contributed to the increased demand for turbo generators. Wind turbines and solar power plants utilize turbo generators to convert kinetic energy from wind or sunlight into electrical energy. According to the International Energy Agency (IEA), the U.S.

renewable energy expansion has almost doubled in the last five years. The IRA passed in August

2022 extended tax credits for renewables until 2032 that provide long-term visibility for wind and solar PV projects. All these factors are anticipated to drive the turbo generator market trends during the forecast period . However, fluctuating fuel prices pose a significant challenge to the growth of turbo generator technology and its associated industries. Turbo generators, which are often used in power generation plants that rely on fossil fuels such as coal, natural gas, and oil, are particularly vulnerable to fluctuations in fuel prices. According to the International Energy Agency (IEA), coal sees a temporary surge in demand from the power and industry sectors in response to increases in natural gas prices. Moreover, fluctuating fuel prices also impact the economic viability of renewable energy sources, which compete with traditional fossil fuel-based power generation. All the factors hamper the turbo generator market growth.

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Increase in focus on energy efficiency and sustainability has created significant opportunities for turbo generator technology and its associated industries. Turbo generators are integral components of power generation systems, play a crucial role in converting various energy sources into electricity. In addition, the surge in construction and infrastructure development projects presents significant opportunities for turbo generators. In October 2021, the Dubai government and India signed a contract to build infrastructure in Jammu and Kashmir, such as industrial parks, IT towers, multipurpose towers, logistics centers, medical colleges, and specialized hospitals. These projects often require reliable and portable power sources to support various activities such as on-site operations, temporary facilities, and remote locations where grid power is unavailable or unreliable. All these factors are anticipated to offer new growth opportunities in the turbo generator market forecast.

The turbo generator market is segmented on the basis of type, cooling system, end user, and region. On the basis of type, the market is segmented into gas turbine generator, steam turbine generator, water turbine generator. On the basis of cooling system, the market is classified into air-cooled, water-cooled, hydrogen cooled. On the basis of end user, the market is classified into coal power plants, gas power plants, nuclear power plants, and others. Region-wise, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

On the basis of type, the market is segmented into gas turbine generator, steam turbine generator, water turbine generator. The steam turbine generator segment is anticipated to grow at the fastest CAGR of 4.9% during the forecast period. Transition towards cleaner energy sources is driving growth of steam turbine generator installations. Steam turbine generators are increasingly being integrated with renewable energy technologies such as biomass, geothermal, and concentrated solar power (CSP) systems. In addition, advancements in carbon capture and storage (CCS) technologies help to mitigate the environmental impact of fossil fuel-based steam turbine generators by capturing and sequestering carbon emissions. All these factors are expected to drive the demand for steam turbine generators.

On the basis of cooling system, the market is divided into medium and high. The air cooled segment is anticipated to grow at the fastest CAGR of 4.8% during the forecast period. The surge in construction and infrastructure development projects presents significant opportunities for air-cooled generators. In October 2021, the Dubai government and India signed a contract to build infrastructure in Jammu and Kashmir, such as industrial parks, IT towers, multipurpose towers, logistics centers, medical colleges, and specialized hospitals. These projects often require reliable and portable power sources to support various activities such as on-site operations, temporary facilities, and remote locations where grid power is unavailable or unreliable. Air cooled generators, with their compact and easily transportable design, are well-suited to meet these demands, providing a flexible and efficient power solution for construction sites, infrastructure projects, and related applications.

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By type, the gas turbine generator segment was the highest revenue contributor to the market accounting for more than three-fifths of global turbo generator market share in 2022. On the basis of cooling system, the air cooled segment was the highest revenue contributor to the global turbo generator market analysis in 2022.

On the basis of end user, the coal power plants segment was the highest revenue contributor to the market accounting for less than three-fifths of the global turbo generator market share in 2022.

Region-wise, Asia-Pacific was the highest revenue contributor of global turbo generator market statistics in 2022.

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