

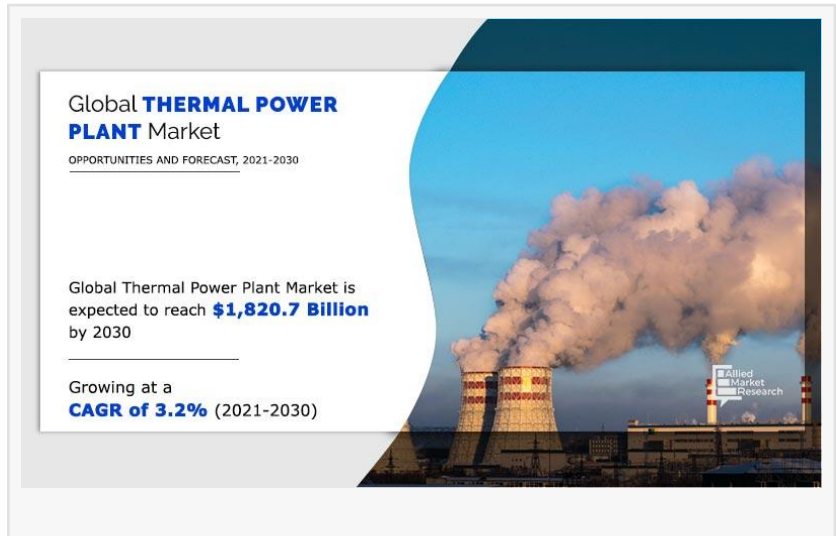
Thermal Power Plant Market to Hit \$1,820.7 Billion by 2030, Fueled by Energy Demand & Industrialization

*Global Thermal Power Plant Market
Forecast: CAGR of 3.2% from 2021–2030
Fueled by Rising Energy Demand*

WILMINGTON, DE, UNITED STATES,
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The global [thermal power plant market](#) was valued at \$1,345 billion in 2020 and is projected to reach \$1,820.7 billion by 2030, expanding at a CAGR of 3.2% from 2021 to 2030, according to a new report by Allied Market Research.



Thermal power plants remain a cornerstone of global electricity generation, particularly in developing nations, where the rising demand for electricity due to industrialization, urbanization, and population growth continues to drive investment.

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Thermal Power Plant Market to hit \$1,820.7B by 2030, growing at 3.2% CAGR, fueled by industrialization & energy demand in Asia-Pacific.”

Allied Market Research

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□ What is a Thermal Power Plant?

A thermal power plant generates electricity by burning fossil fuels such as coal, gas, or petroleum. The chemical

energy from fuel is converted into mechanical energy, which powers a turbine connected to an electrical generator.

In most plants, the process involves heating water to produce steam, which spins turbines to generate electricity. Based on the medium used, turbines are classified as [steam turbines](#) or gas

turbines.

These plants are designed for large-scale, continuous operation, making them one of the most reliable sources of electricity worldwide.

□ Market Drivers

The thermal power plant market growth is fueled by several factors:

Rising electricity demand due to rapid industrialization and urbanization, particularly in Asia-Pacific nations like China, India, and Brazil.

Growing construction activities in residential and commercial sectors, requiring consistent energy supply.

Increasing dependence on electrification, which is adding pressure on national grids and widening the demand-supply gap for power.

Government-backed projects for expanding energy infrastructure in emerging economies.

Furthermore, ongoing R&D efforts to reduce operating costs, improve efficiency, and streamline logistics are creating new opportunities for the industry.

□ Market Challenges

Despite strong demand, the [thermal power plant industry](#) faces challenges:

Environmental regulations on greenhouse gas emissions, particularly targeting coal-fired power plants.

Health and safety concerns linked to fossil fuel combustion.

The global shift toward renewable energy, which could impact long-term demand for fossil fuel-based power plants.

However, advancements in combustion technologies and efficiency improvements are expected to mitigate some of these challenges.

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□ Market Segmentation

By Fuel Type

Coal – Largest segment in 2020, driven by low cost and abundant availability.

Gas – Projected to grow at the highest CAGR of 3.7%, driven by cleaner-burning properties.

Nuclear – Gaining interest due to its low carbon emissions.

Others – Includes petroleum-based fuels.

By Region

Asia-Pacific – Dominated the market with over 45% share in 2020 and is expected to continue leading, growing at the highest CAGR of 3.6%.

North America & Europe – Facing stricter environmental regulations, but still hold significant shares.

LAMEA – Emerging as an important market due to growing energy needs.

□ Regional Insights

Asia-Pacific's dominance is attributed to upcoming power generation projects, industrialization, and population growth. China and India, in particular, are investing heavily in coal and gas-based thermal power plants to meet soaring electricity demand.

Meanwhile, Europe has seen a decline in coal imports, reaching a 30-year low, largely due to COVID-19 disruptions and a shift toward renewable energy.

□ Key Market Players

Prominent companies in the thermal power plant market include:

American Electric Power Company

China Huaneng Group Co. Ltd.

Dominion Energy Solutions Inc.

Duke Energy Corporation

Eskom Holdings SOC Ltd.

Jindal India Thermal Power Limited

NTPC Limited

RWE Aktiengesellschaft

Tenaga Nasional Berhad

These companies are focusing on capacity expansion, efficiency improvements, and sustainable technologies to strengthen their market position.

□ COVID-19 Impact on Thermal Power Plant Market

The COVID-19 pandemic disrupted the coal and energy industries:

Lockdowns led to temporary and permanent plant closures.

EU coal imports dropped by nearly two-thirds, hitting record lows.

Demand for electricity fell significantly during lockdowns, slowing market growth.

However, as economies recover, demand for electricity is rebounding, bringing the market back on track.

□ Key Findings

Asia-Pacific held 45.66% market share in 2020 and is projected to grow fastest.

Coal-based thermal plants dominated with 49.16% share in 2020.

The gas segment will grow at the highest CAGR of 3.7%, driven by cleaner alternatives.

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□ Conclusion

The thermal power plant market will continue to play a critical role in meeting global energy demand, particularly in Asia-Pacific. While renewable energy adoption is rising, the affordability, scalability, and reliability of thermal power generation ensure its continued relevance in the coming decades. With advancements in combustion technologies and efficiency, the industry is set to balance both economic growth and environmental concerns.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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