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Natural Gas Power Generation Market by Technology (Combined Cycle, Open Cycle, Cogeneration), End User (Power Utilities, Industrial, Residential & Commercial), Fuel Source (Pipeline, Liquefied), Power Output, and Region - Global Forecast to 2030

https://marketpublishers.com/r/N95F1781D3ADEN.html
Date: October 2025
Pages: 249
Price: US$ 4,950.00 (Single User License)
ID: N95F1781D3ADEN

Abstracts

The global natural gas power generation market is expected to grow from USD 96.95 billion in 2025 to USD 122.49 billion in 2030, with a CAGR of 4.8%. The natural gas power generation market is driven by the increasing global demand for cleaner and more flexible energy sources. Rapid urbanization and industrialization are boosting electricity consumption, particularly in emerging economies. The relatively lower carbon emissions of natural gas compared to coal make it a preferred transition fuel amid tightening environmental regulations. Advancements in combined cycle and open cycle technologies enhance efficiency and reduce operational costs. Additionally, natural gas power plants offer grid stability and quick ramp-up capabilities, supporting the integration of intermittent renewable energy sources. Rising LNG trade further improves fuel accessibility.

“By fuel source, the pipeline natural gas segment is expected to remain the largest segment during the forecast period.”

By fuel source, the pipeline natural gas segment is projected to remain the largest segment in the natural gas power generation market throughout the forecast period. Pipeline natural gas offers a reliable, continuous, and cost-effective fuel supply for power plants, supporting stable electricity generation. Its well-established infrastructure, including extensive pipelines and distribution networks, ensures seamless delivery to both centralized and decentralized power generation facilities. Additionally, pipeline natural gas is favored for its lower carbon emissions compared to other fossil fuels,

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aligning with global energy transition goals and regulatory frameworks targeting cleaner energy sources. Growing industrialization, urbanization, and rising electricity demand in key regions further drive the adoption of pipeline natural gas. Moreover, ongoing investments in pipeline infrastructure and expansion projects reinforce its dominance in the market, maintaining its position as the preferred fuel source.

“By end-use application, power utilities is projected to be the most lucrative segment of the natural gas power generation market during the forecast period.”

By end user, the power utilities segment is projected to be the most lucrative in the natural gas power generation market during the forecast period. Power utilities primarily operate large-scale natural gas power plants that provide consistent and reliable electricity to meet growing residential, commercial, and industrial demand. The segment benefits from economies of scale, established infrastructure, and regulatory support promoting cleaner energy sources. Increasing electricity demand, coupled with the need to reduce carbon emissions, drives utilities to adopt natural gas as a key fuel. Additionally, ongoing investments in grid modernization and expansion projects further strengthen the dominance of power utilities in the market, making them the leading end-user segment throughout the forecast period.

“By region, Middle East & Africa is expected to be the second-largest region in the natural gas power generation market during the forecast period.”

The Middle East & Africa is emerging as the second-largest region in the natural gas power generation market, driven by abundant natural gas reserves and growing energy demand across industrial and urban sectors. Rapid economic development and urbanization in countries such as Saudi Arabia, the UAE, and South Africa are fueling the need for reliable and cleaner power sources. Governments are increasingly investing in natural gas infrastructure, including combined cycle plants and LNG terminals, to reduce dependence on oil and enhance energy security. Additionally, favorable regulatory frameworks and incentives for cleaner energy adoption encourage utilities and independent power producers to expand natural gas capacity. The region’s strategic focus on energy diversification and integration of gas-fired plants with renewable energy further strengthens market growth.

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants,

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among other experts, to obtain and verify critical qualitative and quantitative information and assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 30%, Tier 2- 55%, and Tier 3- 15%
By Designation: C-Level Executives - 30%, Directors- 20%, and Others- 50%
By Region: North America- 20%, Europe- 8%, Asia Pacific- 55%, Middle East & Africa- 13%, and South America- 4%
Note: Others include product engineers, product specialists, and engineering leads.
Note: The tiers of the companies are defined based on their total revenues as of 2023. Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3:
The natural gas power generation market is dominated by a few major players that have a wide regional presence. The leading players in the natural gas power generation market are GE Vernova (US), Siemens Energy (Germany), Tecogen, Inc. (US), Destinus Energy (US), Bechtel Corporation (US), Fluor Corporation (US), Worley (Australia), MITSUBISHI HEAVY INDUSTRIES, LTD. (Japan), Caterpillar Inc. (US), W?rtsil? (Finland), McDermott (US) and Clarke Energy (UK), among others.

Study Coverage:

The report defines, describes, and forecasts the natural gas power generation market by technology, fuel source, power output, and end user. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in natural gas power generation market.

Key Benefits of Buying the Report

The natural gas power generation market is driven by the global transition toward cleaner and more flexible energy sources, particularly as countries aim to reduce carbon emissions while ensuring a reliable electricity supply. Natural gas offers a lower-emission alternative to coal and oil, making it ideal for meeting growing power demand in industrial, commercial, and residential sectors. Its fast ramp-up capabilities support grid stability and the integration of intermittent renewable energy sources such as solar and wind. Supportive government policies, emission regulations, and incentives for cleaner fuels are encouraging investment in gas-fired power plants. Technological advancements in combined cycle, open cycle, and LNG infrastructure are enhancing efficiency, reducing

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operational costs, and improving energy security. With the rising need for sustainable and reliable power, natural gas remains a crucial bridge fuel in the global energy transition.

Product Development/Innovation: The natural gas power generation market is advancing through technological innovations aimed at improving efficiency, flexibility, and environmental performance. Companies are focusing on combined cycle and open cycle advancements that maximize energy output while reducing fuel consumption and emissions. Innovations in turbine design, heat recovery systems, and combustion technologies are enhancing operational efficiency and lowering greenhouse gas intensity. Modular and scalable gas-fired power plants enable faster deployment and flexible integration with renewable energy sources. Digitalization, including real-time monitoring, predictive maintenance, and smart grid integration, is optimizing plant performance and reliability. Additionally, developments in carbon capture, hydrogen blending, and co-firing strategies are further reducing the environmental footprint of natural gas power generation, making it a key transitional technology in the global shift toward sustainable energy.

Market Development: In September 2025, Electricity Supply Board (ESB) of Ireland and GE Vernova partnered on a major life extension and modernization project for the Dublin Bay power plant to boost performance, reliability, output, and support Ireland’s Net Zero 2040 targets. Under a new service agreement, GE Vernova will deploy its GT26 High Efficiency (HE) upgrade, SEMIPOL technology for Static Excitation Equipment (SEE), and Startup Frequency Converter (SFC). The project, scheduled for completion in 2026, will modernize the facility, which was commissioned in 2002 and currently produces up to 415 MW with a single-shaft GT26 gas turbine.

Market Diversification: In August 2025, GE Vernova will invest in its Quebec factories at Sorel-Tracy (hydropower) and La Prairie (grid) sites. The move aligns with Hydro-Qu?bec’s USD 200 billion 2035 Action Plan, including USD 150 billion in capital expansion to upgrade the grid, boost hydropower and wind capacity, and modernize infrastructure. GE Vernova’s expansion aims to strengthen energy resilience, meet customer needs, and support long-term energy security.

Competitive Assessment: Assessment of rankings of some of the key players, including of GE Vernova (US), Siemens Energy (Germany), Tecogen, Inc. (US),

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