



Natural Gas-Fired Projects Series Beyond Baseload: Gas-Fired Generation

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Beyond Baseload: Gas-Fired Generation in a Changing Energy Landscape

This year marks a pivotal period for the U.S. gas-fired power generation sector, characterized by a complex interplay of federal regulatory shifts and fundamental changes in the industry's business model. Concurrently, the proliferation of artificial intelligence (AI) and cloud computing has triggered a monumental surge in electricity demand, with data centers pushing new load growth.

Although the federal regulatory environment is becoming more favorable for gas, as is investors' interest in fossil fuels, the drivers of profitability and growth are regional and market-specific. Owners of gas-fired assets are shifting their focus from traditional energy sales to revenue streams derived from capacity markets and ancillary services. In this new energy landscape, gas-fired power generation is an essential and dynamic "firm power" resource, providing the reliability and stability that a modern, electrified economy demands.

U.S. Electricity Generation Mix and Natural Gas's Place

In the 2000s and 2010s, natural gas made up the majority of utility-scale electric generation capacity additions.¹ Although natural gas remains the largest single fuel source for electricity generation, making up 43%, or 1,802

¹ <https://www.eia.gov/todayinenergy/detail.php?id=65964>.

billion kilowatt-hours, of the nation's power in 2023,² its market share has declined, losing ground to battery storage, solar, and wind.

Gas generation, as a stable, non-intermittent and dispatchable resource, is being deployed as a bridge to ensure energy stability and reliability on a grid with growing renewables generation sources. Newer combined-cycle gas turbine plants operate as load-following resources, while older simple-cycle gas turbine plants and newly constructed and incumbent peaker units are used for on-demand support during peak periods or when renewables are unavailable. In these circumstances, revenue is less tied to energy sales but increasingly to the ability of these generating units to supply capacity to the grid, to be called upon during high-demand and/or low supply periods.

Gas plants are increasingly profiting from capacity markets, which pay generators for their commitment to be available to produce power when needed. In the Pennsylvania-New Jersey-Maryland Interconnection ("PJM"), which runs from New Jersey to Illinois as the country's largest grid region, capacity prices for the 2025-2026 delivery year soared to a record \$269.92 per MW-day, a drastic increase from the previous year's record of \$28.92 per MW-day. The 2026-2027 auction saw a further 22% increase to a new record of \$329.17 per MW-day.³ Gas-fired capacity is expected to add a total of 80 GW by 2030, nearly tripling the 35 GW added over the previous five years.⁴

Sources of Increased Demand

Another key trend in the gas-fired power generation sector is the surge in electricity demand from AI and cloud computing. The five-year load-growth forecast for data centers has increased nearly fivefold in the last two years, reaching almost 128 GW.⁵ The need for "resilient, around-the-clock power" for AI workloads, in particular, has led to increased interest in gas as a power generation source. Data centers could account for roughly half of the new power demand in Texas by 2030 and potentially triple the load in Northern Virginia.⁶ Meta's largest data center, scheduled to be built in Louisiana before the end of the decade, is estimated to need about twice the electricity that New Orleans consumes on a peak day.⁷ For additional market perspectives regarding data center demand, please see our previous Energy Note [here](#).

Electric generation from natural gas has also been key to meeting the constant baseload demand increase stemming from America's residential sector. Residential demand has accounted for over 35% of U.S. electricity consumption in recent years, and is only expected to continue to increase.⁸ In addition to U.S. demand for natural gas for power generation, international demand has also spiked in the form of liquefied natural gas due to widespread restrictions on Russian gas exports.

² <https://www.eia.gov/todayinenergy/detail.php?id=61444>.

³ <https://www.utilitydive.com/news/pjm-interconnection-capacity-auction-prices/753798/>.

⁴ <https://www.reuters.com/business/energy/rush-us-gas-plants-drives-up-costs-lead-times-2025-07-21/>.

⁵ <https://www.canarymedia.com/articles/utilities/data-centers-are-driving-us-power-demand-to-hard-to-reach-heights>.

⁶ <https://www.woodwayenergy.com/natural-gas-data-center-power-demand/>.

⁷ <https://www.cnbc.com/2025/06/25/meta-massive-data-center-louisiana-cost-jobs-energy-use.html>.

⁸ <https://www.eia.gov/energyexplained/electricity/use-of-electricity.php>.

U.S. EPA’s Proposed Repeal of GHG Emissions Standards and Mixed State-Level Policy Signals

In June, the U.S. Environmental Protection Agency (the “EPA”) issued a new rule proposing the repeal of all greenhouse gas (“GHG”) emissions standards for fossil fuel-fired power plants (Proposed Rule).⁹ Notably, the Proposed Rule targets: (i) New Source Performance Standards (“NSPS”) for coal and gas power plants (promulgated on October 23, 2015); (ii) NSPS for coal-fired steam generating units undertaking a large modification and NSPS for new gas power plants (promulgated in the Carbon Pollution Standards (“CPS”) on May 9, 2024); and (iii) emission guidelines for existing coal-, oil-, and gas-fired steam generating units (also promulgated in the CPS on May 9, 2024). The EPA contends that a 90% carbon capture and sequestration (“CCS”) rate and a 40% natural gas co-firing requirement under the EPA’s 2024 GHG emissions rules for certain existing coal-fired power plants are not a Best System of Emission Reductions and that co-firing constitutes “generation shifting.” The EPA estimates its proposed repeal would lead to regulatory cost savings of up to \$19 billion over a 21-year period from reduced compliance costs and the elimination of CCS requirements.¹⁰ Opposition to the Proposed Rule is expected to be fierce, and the Attorneys General of Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, New York, North Carolina, Oregon, Rhode Island, Vermont, Washington, Wisconsin, and the District of Columbia, and the chief legal officers of the City and County of Denver, and the Cities of Boulder, Chicago, and New York, and the California Air Resources Board have already gone on record urging the EPA to abandon its “unlawful and misguided Proposal.”¹¹

Looking to the state level, policy trends in some jurisdictions align with the EPA’s new proposals more than others. For example, Texas maintains a \$7.2 billion fund for low-interest loans for new gas plants,¹² while New Jersey passed legislation focused on expansion of solar power and energy storage capacity.¹³ California’s aggressive clean energy transition continues, with over two-thirds of its recent electricity generated from “clean” sources, the highest proportion of any state or country,¹⁴ while also leaning hard into new requirements for the disclosure of climate-related risks and GHG emissions.

The gas power industry is investing in decarbonization technologies, which helps to de-risk long-term capital investments against additional regulatory changes. New gas plants are being designed to be hydrogen-capable, allowing them to use a blend of hydrogen and natural gas in the future which creates optionality. The hydrogen-capable gas turbine market is worth \$2 billion in 2025 and is projected to be worth \$7 billion in 2033.¹⁵ However, high investment costs and a lack of cost-effective green hydrogen infrastructure remain obstacles to growth.

⁹ 90 Fed. Reg. 26752 (June 17, 2025); <https://www.epa.gov/stationary-sources-air-pollution/greenhouse-gas-standards-and-guidelines-fossil-fuel-fired-power>.

¹⁰ 90 Fed. Reg. 26752, at 25754.

¹¹ <https://www.regulations.gov/comment/EPA-HQ-OAR-2025-0124-2389>.

¹² <https://www.texastribune.org/2025/08/26/texas-energy-fund-natural-gas-power-plants/>.

¹³ <https://www.nj.gov/governor/news/news/562025/approved/20250822a.shtml>.

¹⁴ <https://www.gov.ca.gov/2025/07/14/in-historic-first-california-powered-by-two-thirds-clean-energy-becoming-largest-economy-in-the-world-to-achieve-milestone/>.

¹⁵ <https://www.datainsightsmarket.com/reports/hydrogen-capable-gas-turbines-626234>.

Future Discussion

Natural gas stands as a cornerstone in energy reliability, increasingly being utilized as a grid asset that can deliver reliable, on-demand power, particularly given record load growth from ever-expanding commercial and residential demand. That increasing demand will continue to test the limitations of intermittent generation systems. While renewables remain the cheapest source of new energy generation, developers are investing in gas-fired projects in response to that record load growth and their ability to support grid stability and meet baseload and peak demand needs.

Later articles in Willkie's Natural Gas Powered Project Series will include an overview for renewable energy capital providers and stakeholders, as well as M&A, finance, and offtake considerations.

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