Exploration and Development

Natural Gas Is Still the Grid Workhorse As Data Center Boom Accelerates

Ally Godsil. 3.3.26 ® Energy In Depth

The data center boom isn't a hypothetical anymore. It's showing up in the country's domestic forecast. In its latest Short Term Energy Outlook, the Energy Information Administration links rising demand directly to large computing facilities and data center expansion, with natural gas remaining the single largest source of U.S. power generation, holding around 40 percent of the mix in 2026.

This preference is not random either. Natural gas is the preferred choice for data centers because they need reliable, dispatchable power 24/7. And with America's abundant supply of natural gas, it will provide power decades into the future through utility connection or dedicated on-site sources, without the intermittency and grid integration issues that renewables sometimes face.

While researchers are still debating how much energy demand data centers will be responsible for in the coming years, they have agreed on one thing: there will be an increase in demand, and it will be supplied by natural gas. Rystad Energy projects that data center demand will increase by over 100 gigawatts (GW) between 2024 and 2035. Most projections estimate far more than that, predicting data center energy use through 2030 to range between 300 and 400 terawatt hours (TWh) per year.

Natural Gas Will Help Win the AI Race

If the United States wants to keep leading in AI, it will need to scale up the infrastructure needed to meet the growing energy demand. A recent study by RAND found that if the United States wants to retain a majority (75 percent) of AI computing within its borders, it will need to make about 51 gigawatts (GW) available to AI data centers by 2027. Natural gas is the only viable and rapidly deployable power source ready to meet this demand.

As data center demand increases, U.S. natural gas producers continue to provide plentiful supply. The EIA forecasts that U.S. natural gas production will increase 2 percent through 2026 and rise even further in 2027, driven by players in the Appalachia, Haynesville, and Permian regions. As described by EIA Administrator Tristan Abbey:

"U.S. energy production remains strong, and natural gas output is expected to grow to nearly 109 billion cubic feet per day this year. Natural gas supply is critical as we forecast that U.S. liquefied natural gas exports expand and electricity demand rises through 2027, driven largely by increasing demand from large computing facilities, including data centers."

Natural gas is the most dispatchable fuel source available and can run at capacity factors exceeding 80 percent, making it uniquely suited for data center demand.

Permitting Constraints Stifle Growth

While the United States has the natural gas needed to power data centers, this supply faces a major constraint caused by a lack of pipeline infrastructure and permitting delays. The key to helping the United States win the AI race is simple: comprehensive permitting reform. As major business players said in a letter led by the U.S. Chamber of Commerce last week:

"Across the country, communities and businesses are ready to invest in projects that will strengthen our economy and improve quality of life—from expanding broadband access and upgrading transportation networks, to building innovative energy facilities that will provide new sources of power to meet growing demand, and modernizing drinking water systems. But too often, outdated and inefficient permitting processes stand in the way, delaying these investments and driving up costs."

Manufacturers are cut off from natural gas during extreme weather events because of insufficient pipeline capacity and the need to prioritize residential customers. With streamlined permitting processes, there would be no need for this trade off. In fact, some analysts argue that data center demand is not the primary driver of electricity rates. As the Institute for Energy Research explains:

"The machines aren't the main problem. The red tape strangling the U.S. grid is. Remove it, and America can have both cutting-edge AI and abundant electricity."

Bottom Line: The data center boom is driving real load growth, and the United States needs reliable, scalable power to match it. Natural gas is already the leading source for data center electricity, and it remains the largest single source on the U.S. grid. But turning gas abundance into dependable power requires infrastructure that can actually get built, on realistic timelines, under a permitting process that keeps pace with demand.

This information came from pioga.org website.