

A photograph of an oil pumpjack in a field with mountains in the background. The pumpjack is black and yellow, and the field is green and grassy. The mountains are blue and have some snow on top. The sky is blue with some clouds.

NATURAL GAS SUPPLY, INFRASTRUCTURE & DATA CENTER DEMAND

DAN HALEY
CEESI June 9, 2026

Oil and Gas Advocacy

Colorado Oil & Gas Association

- Unified industry voice
- Advocate
 - ✓ Colorado Legislature
 - ✓ State and Local Rulemakings
 - ✓ Media
 - ✓ Community Outreach
- 10 years as President and CEO

Coloradans for Responsible Energy Development

- Executive Director
- Educate and inform
- Ballot measures





Agenda Items

- Global and U.S. Supply Overview
- Infrastructure Status and Future Needs
- Impact of Data Center Growth on Energy Demand

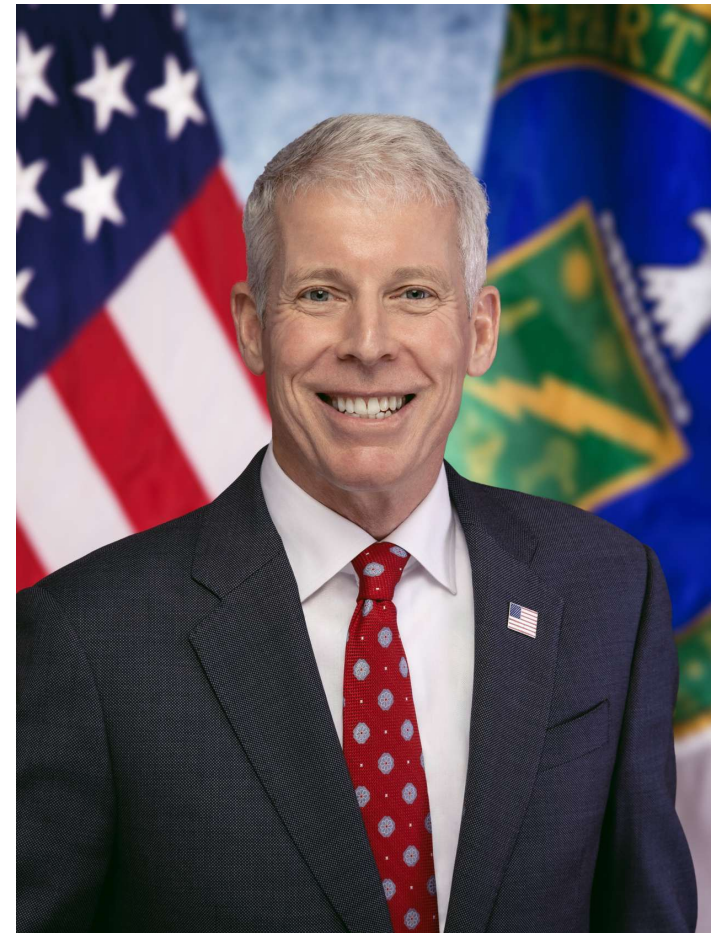
Executive Summary

- Global natural gas demand continues rising, led by Asia and LNG growth
- U.S. is the world's largest producer and a top LNG exporter
- Infrastructure constraints tightening across pipelines, storage, and LNG
- AI and data centers are creating unprecedented power demand
- Future reliability depends on accelerated midstream build-out

Future of Natural Gas

"The fastest-growing energy source on the planet is natural gas. It's more than twice as much new energy in the last 15 years than wind, solar, and batteries combined. It's the hot fuel these days and probably will be for a few decades more."

-- U.S. Secretary of Energy Chris Wright



**Do We Still Need Oil
& Gas? Isn't There an
Energy Transition?**

The Energy Transition

At its current pace, the energy transition will be completed in ...

Mid 2600s

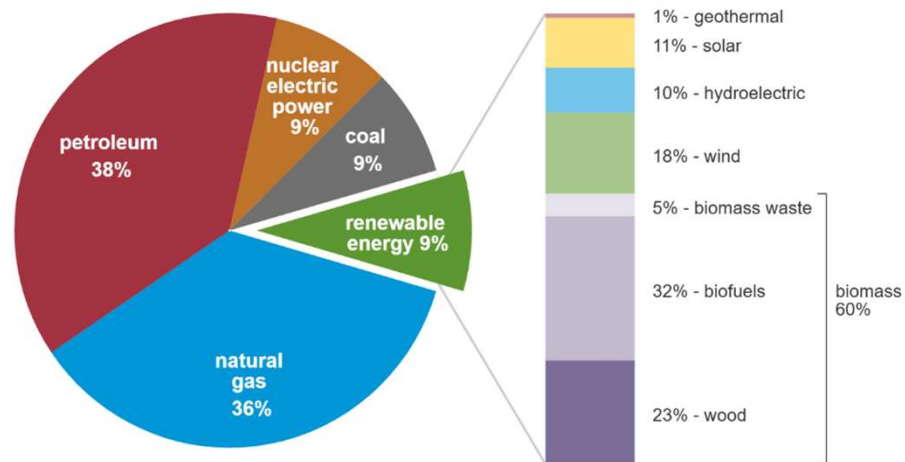
“There is no energy transition. We have never had an energy transition from one fuel to another. We have always added better fuels and expand total supply. Those who are expecting an energy transition are on a wild goose chase, it will be never materialize.” – Dr. John Constable, Renewable Energy Foundation Director

Where We Get Our Energy

U.S. primary energy consumption by energy source, 2023

total = 93.59 quadrillion
British thermal units

total = 8.24 quadrillion British thermal units



Data source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1, April 2024, preliminary data



Note: Sum of components may not equal 100% because of independent rounding.

83 percent of the energy we
consume comes from fossil
fuels

1990: 86 percent

2000: 82 percent

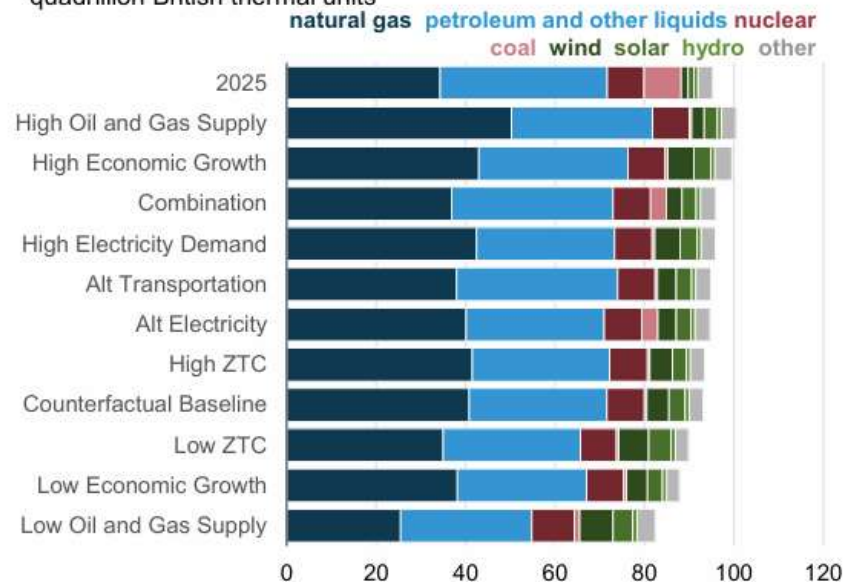
2010: 83 percent

Future Energy Consumption

Natural gas and petroleum and other liquids remain the energy sources most consumed in 2050

U.S. consumption by fuel, 2025 and 2050

quadrillion British thermal units



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2026*

Note: Alt=Alternative; Combination=Alternative Transportation-Alternative Electricity



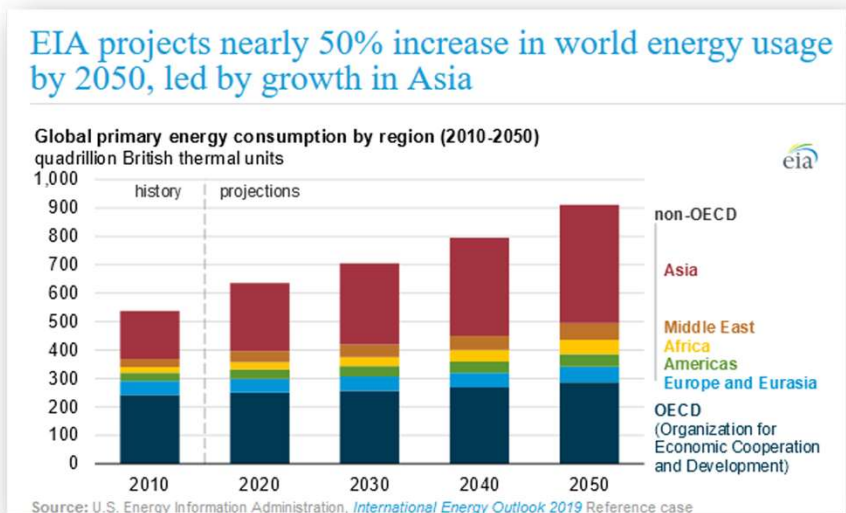
AEO2026, U.S. Energy Information Administration
April 8, 2026

Global Natural Gas Supply Overview

- Global production (2025): 4.3 trillion cubic meters (tcm)
 - Up from 4.1 tcm in 2024
- Top producers: U.S. (1.12 tcm), Russia, Iran, China, Canada
- LNG trade reached 425 million tonnes in 2024
- Asia remains the primary demand growth region
- Source: International Gas Union (IGU)

Global Natural Gas Demand Outlook

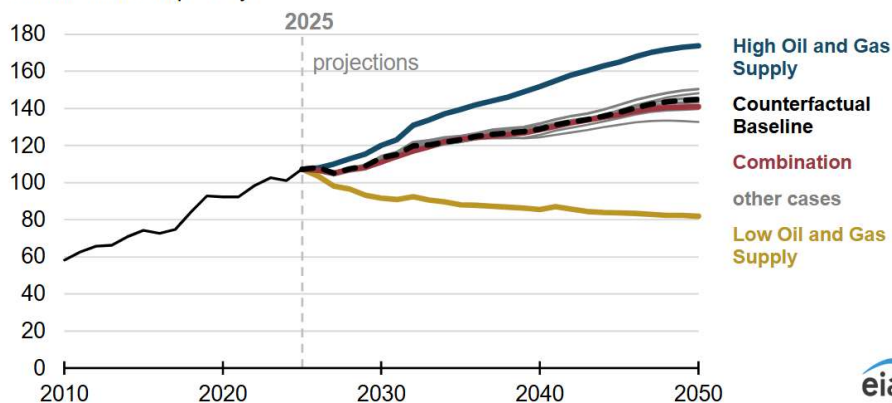
- Demand grows 10–15% by 2030
- LNG demand grows 40–50% by 2040
- Coal-to-gas switching drives Asian demand
- Industrial demand stable; power sector more volatile



U.S. Natural Gas Supply Snapshot

Domestic and international demand drive natural gas production growth

U.S. dry natural gas production
billion cubic feet per day



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2026*, April 2026

Note: Combination case assumes repeal of U.S. Environmental Protection Agency (EPA) 111 rule and greenhouse gas tailpipe emissions rule.

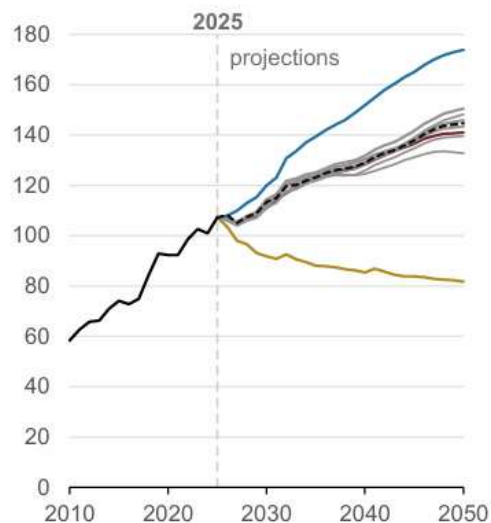
U.S. dry gas production: ~105 Bcf/day (2025)

Key basins: Appalachia, Permian, Haynesville

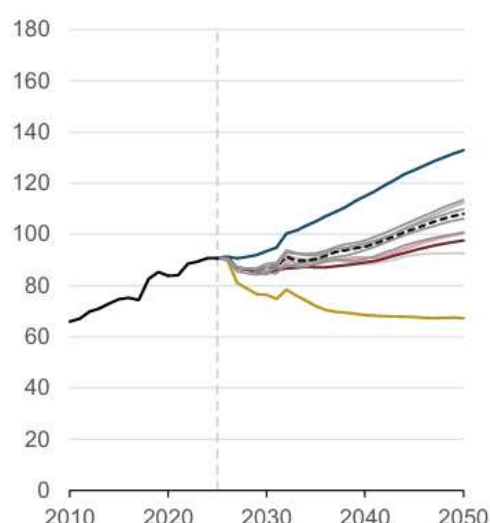
U.S. leads due to shale resources and drilling technology

Natural gas production, consumption, and exports grow across most cases

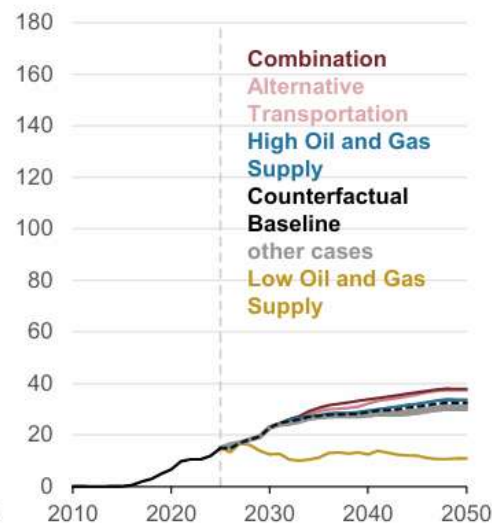
U.S. dry natural gas production
billion cubic feet per day



U.S. natural gas consumption
billion cubic feet per day



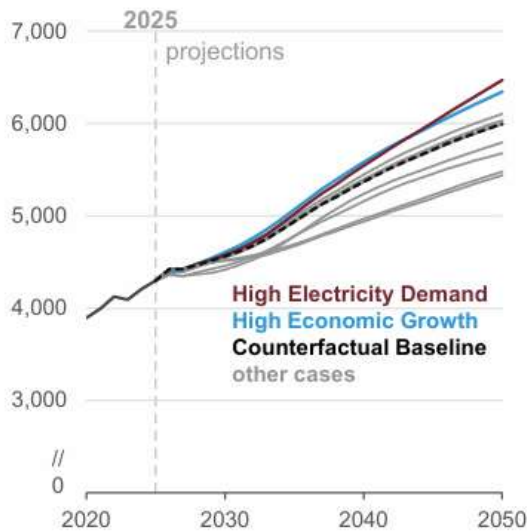
U.S. liquefied natural gas exports
billion cubic feet per day



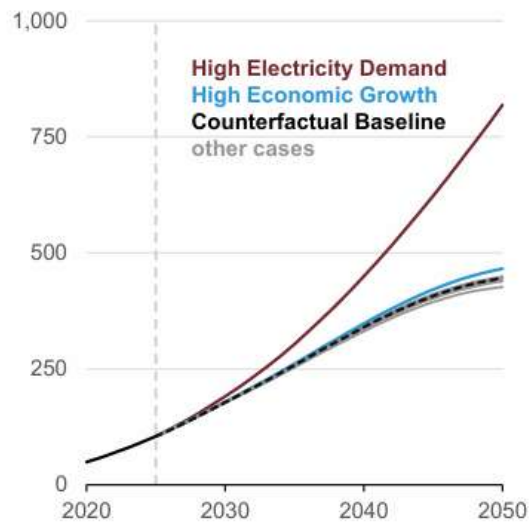
Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2026*, April 2026

Data center load is emerging as the dominant driver of long-term U.S. electricity growth

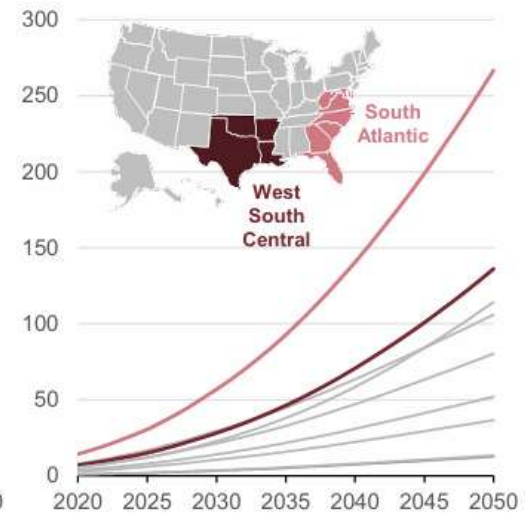
Total electricity consumption, all sectors
billion kilowatthours



Commercial data center server electricity consumption
billion kilowatthours



Commercial data center server electricity use, High Electricity Demand case, by census division
billion kilowatthours



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2026*, April 2026

U.S. Natural Gas Demand Trends

Total consumption: 89 Bcf/day

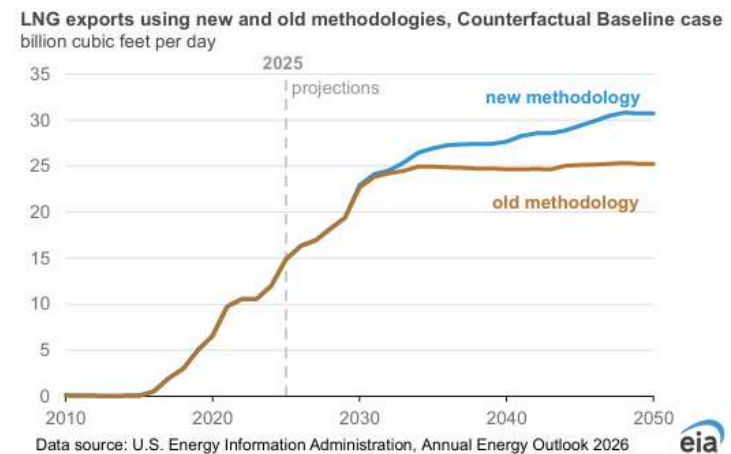
Power generation: 38% of U.S. electricity

Industrial demand: 22 Bcf/day

LNG exports exceed pipeline exports

U.S. LNG Export Capacity

- Current export capacity: 15 Bcf/day
- Expected by 2030: 20–24 Bcf/day
- Major terminals: Sabine Pass, Freeport, Corpus Christi, Calcasieu Pass, Golden Pass
- LNG exports will be the single largest source of incremental gas demand in coming years.
- LNG exports set to more than triple by 2052, made possible by supply abundance, competitive pricing, and prioritization of low-emission fuels, according to INGAA



U.S. Infrastructure Overview/Needs

Supply alone isn't enough. Without the infrastructure to move it, abundant natural gas resources can't reach the markets they need.

To meet energy demand through 2052, North America will need:

- More than \$1 trillion in new midstream capital investment
- 12-24 million cumulative jobs over 25 years
- Increase in transmission capacity of 70 Billion cubic feet/day – 39 percent increase from 2022
- At least 37,000 miles of additional natural gas transmission pipelines, and 103,000 miles of gathering pipelines
- Additional 8.6 to 12.4 million horsepower of compression for transmission

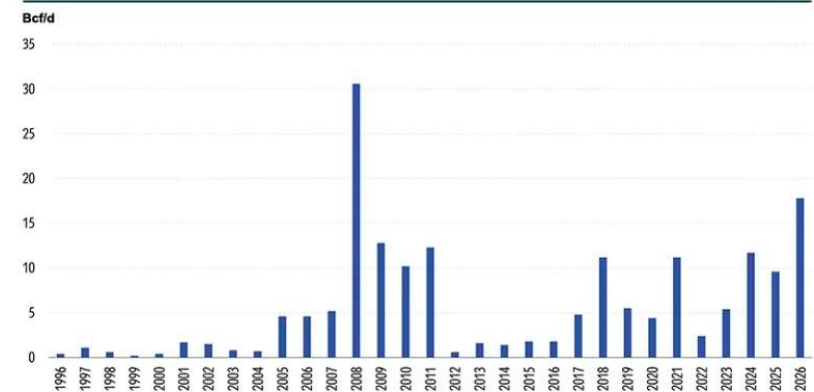
Source: INGAA Foundation 2026 Report



U.S. Infrastructure Overview/Needs

- Up to 22 Bcf/d in new pipeline projects come online in 2026 for surging Permian Basin supply and expanding LNG export demand.
- Highest annual total since 2008, when about 31 Bcf/d was added.
- Projects include 12 new or expanded pipelines across Texas, Louisiana and Oklahoma, representing capacity greater than Canada's total daily natural gas consumption.
- Natural gas will remain a backbone of the U.S. energy system for decades.
- Dry gas production in U.S. to rise from 36 trillion cubic feet per year (Tcf/yr) in 2022 to 49 trillion cubic feet per year (Tcf/yr) in 2052

Historic & Projected U.S. Pipeline Capacity Increase in 2026 NGI



Source: Morningstar DBRS, U.S. Energy Information Administration data

U.S. Electricity Production

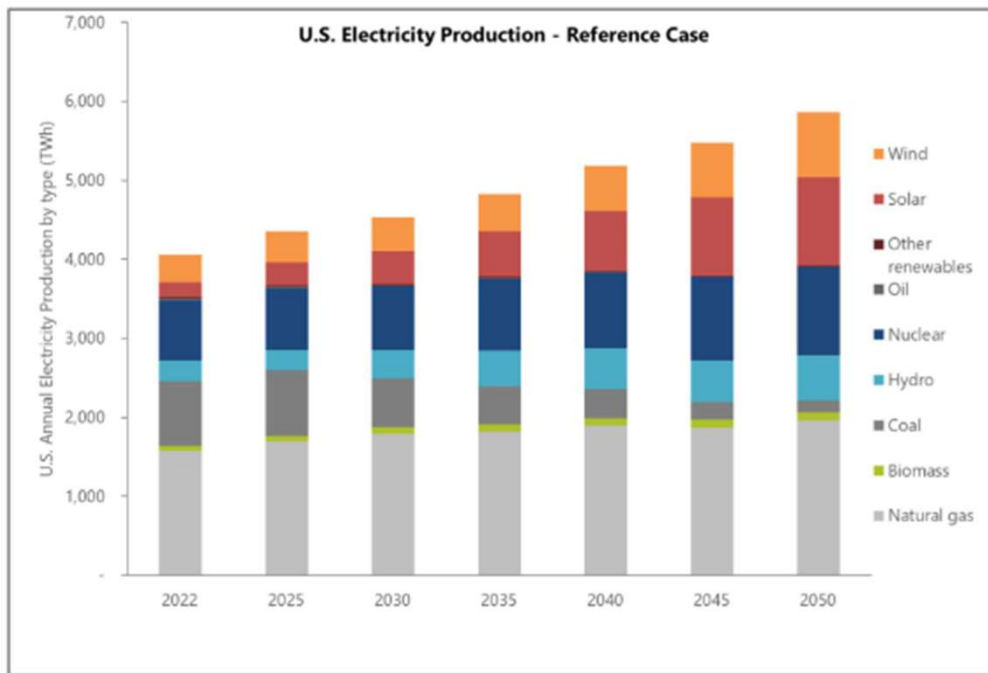


Figure 7 - U.S. Electricity Production - Reference Case

- Even as renewables expand, natural gas continues to play an indispensable role in keeping the lights on.
- Increased demand for natural gas shows growth of the total volume of electricity and ongoing competitiveness of natural gas power plants to meet the need for reliability, resilience, renewable firming, and load-following in regions with high dependence on renewables.
- Natural gas demand is growing and infrastructure must keep pace.
- Without new pipelines and midstream systems, we stranding s own energy resources, constraining supply, and driving up costs for consumers.

Are we ready to power AI?



Business is poised to spend hundreds of billions but need energy infrastructure
Are we ready?

“We need to make some fixes to do that. We need to grow electricity production at a far faster rate but we can’t keep pushing prices up. The capital is there, the technology is there, the American businesses are there, but we need to change the regulatory framework so those investments can happen and happen fast so we can stay ahead of China.

I called it the Manhattan Project not just because it’s urgent, but second place is risky. AI (also) has a huge impact on national security – offensive and defensive. We cannot be second place in AI. We need government to get out of the way and allow the building of energy infrastructure that China has been doing for 20 years. They’ve more than doubled their electricity production and we’ve barely grown ours.”

-- Chris Wright, U.S. Energy Secretary

AI, Data Centers Need More Power

ENERGY

AI could drive a natural gas boom as power companies face surging electricity demand

PUBLISHED SUN, MAY 5 2024•6:53 AM EDT | UPDATED SUN, MAY 5 2024•12:00 PM EDT

BUSINESS | ENERGY & OIL

There's Not Enough Power for America's High-Tech Ambitions

Georgia is a magnet for data centers and other cutting-edge industries, but vast electricity demands are clashing with the newcomers' green-energy goals

How Data Centers Drive Demand



Require 24/7 firm power



Renewables alone cannot meet reliability needs



Natural gas provides fast-ramping and baseload stability



Gas demand for power generation projected to rise 10–20% by 2035



Data centers require massive, continuous electricity supplies. Grid interconnection delays — often 7–10 years — have pushed developers toward **on-site generation**.



Natural gas-fired turbines and generators can be deployed quickly, offering reliable, dispatchable power without the intermittency of renewable.

Powering the Grid

“Economic growth, electrification, accelerating data center expansion are driving the most significant demand growth in our company’s history and they show no signs of abating,”

— Robert Blue DOMINION ENERGY, CHIEF EXECUTIVE OFFICER

[HOME](#) > [LONG READS](#) > [THE CRITICAL POWER CHANNEL](#)

Welcome to Gas Land - how natural gas is powering the US AI boom

As AI drives increasing energy consumption in the US, natural gas looks set to fill the gap

May 01, 2025 By: Zachary Skidmore [Have your say](#)



- Natural gas producers planning for significant spike in demand over next decade
- Electricity demand is forecast to grow as much as 20% by 2030
- Rise of AI coincides with the expansion of domestic semiconductor and battery manufacturing, electrification of vehicles.
- AI data centers expected to add about 323 terawatt hours of demand in the U.S. by 2030.
- Forecast power demand from AI alone is seven times greater than New York City’s current annual electricity consumption of 48 terawatt hours.
- Goldman Sachs projects that data centers will represent 8% of total U.S. electricity consumption by the end of the decade.

Future Infrastructure Needed

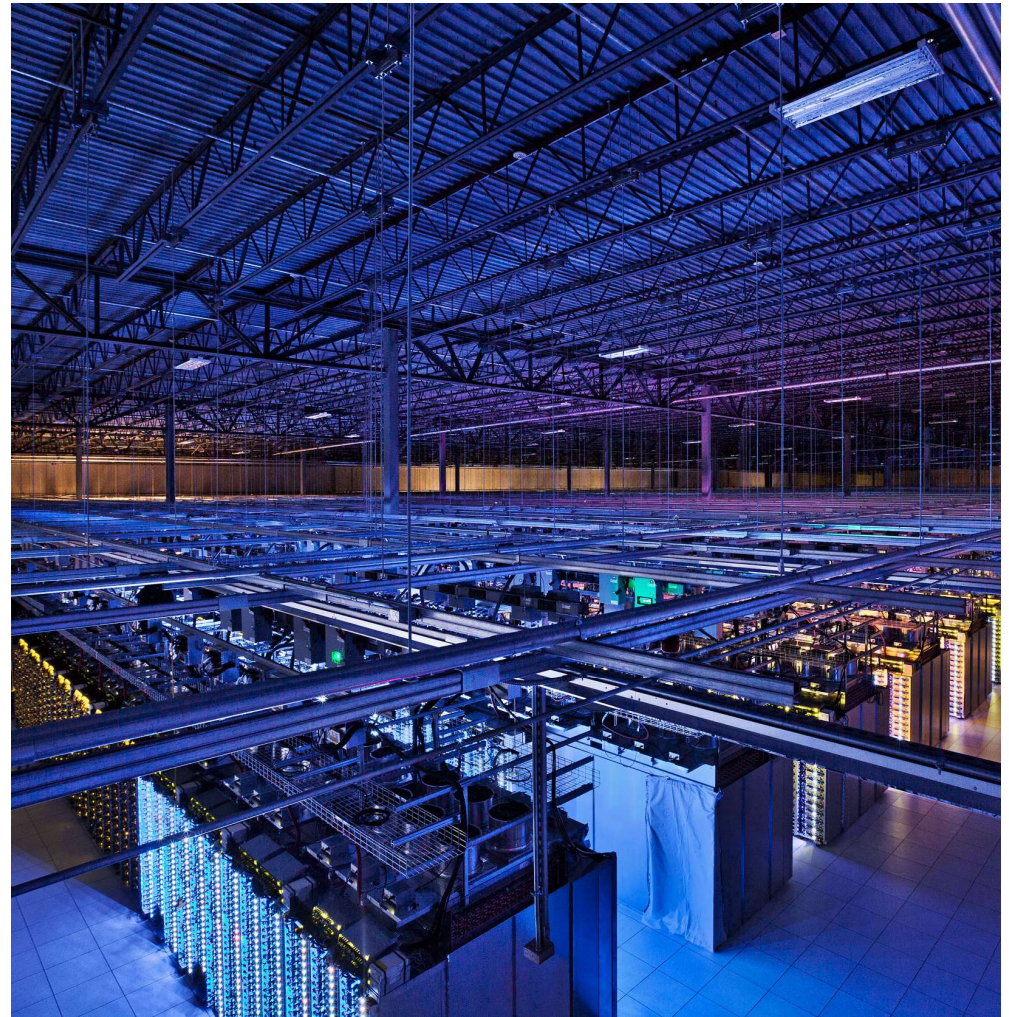
The five-year forecast of U.S. utility peak load growth has increased from 24 gigawatts in 2022 to 166 gigawatts in 2025 — by nearly a factor of seven in just three years.

Source: Institute for Energy Research

- 1 GW plant could power roughly **876,000 households** for a year if it ran nonstop
 - 1 GW = 16.7 million 60-watt light bulbs burning at once
 - U.S. power grid can handle **~700 GW** on peak days
-
- New pipeline laterals to data center clusters
 - Modernized, high-deliverability storage
 - Faster NEPA and FERC permitting

Policy and Market Impacts

- Reliability concerns push utilities toward gas
- LNG exports tie U.S. prices to global markets
- Data centers co-locating near gas infrastructure
- States with streamlined permitting attract AI investment
- Natural gas remains backbone of grid reliability



Conclusion

- Energy transitions are slow
- Natural gas essential for global and U.S. energy security
- U.S. LNG leadership shapes global markets
- Data centers are the new mega-load
- Significant midstream investment required
- AI's future depends on natural gas infrastructure
- Energy security matters

Questions?

www.cred.org

dan@cred.org