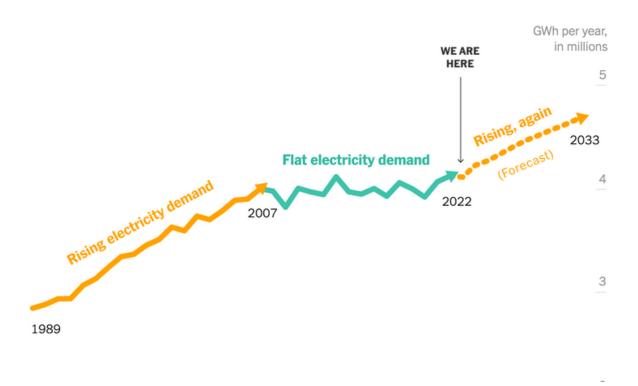
The New York Times



Something unusual is happening in America. Demand for electricity, which has stayed largely flat for two decades, has begun to surge.

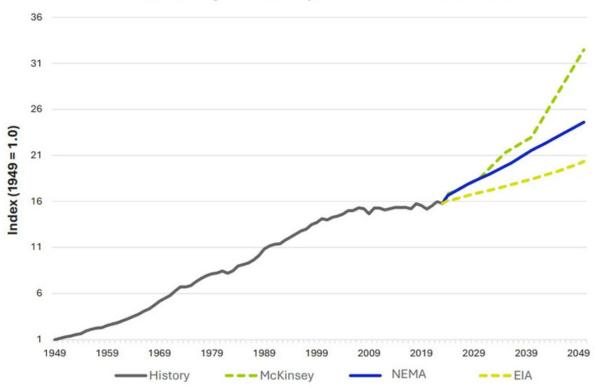
Over the past year, electric utilities have nearly doubled their forecasts of how much additional power they'll need by 2028 as they confront an unexpected explosion in the number of data centers, an abrupt resurgence in manufacturing driven by new federal laws, and millions of electric vehicles being plugged in.

Many power companies were already struggling to keep the lights on, especially during extreme weather, and say the strain on grids will only increase.

Links: New York Times



U.S. Electricity Consumption Index 1949–2050

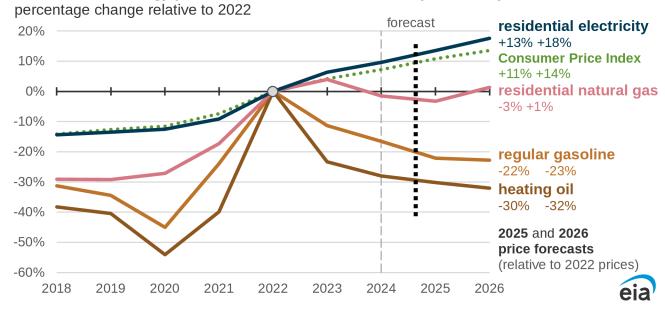


Driven by data centers and transportation electrification, U.S. electricity demand will increase 2% annually and 50% by 2050, the National Electrical Manufacturers Association said in <u>a study published Monday.</u>

Links: <u>Utility Dive</u>



Selected retail energy prices and Consumer Price Index (2018–2026)



U.S. electricity prices continue steady increase.

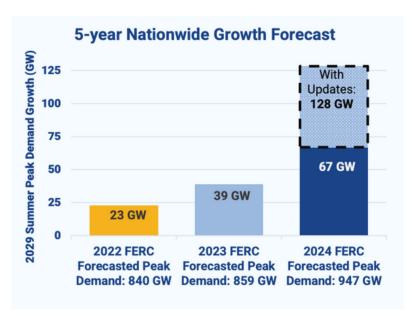
Retail electricity prices have increased faster than the rate of inflation since 2022, and we expect them to continue increasing through 2026, based on forecasts in our Short-Term Energy Outlook. Parts of the country with relatively high electricity prices may experience greater price increases than those with relatively low electricity prices.

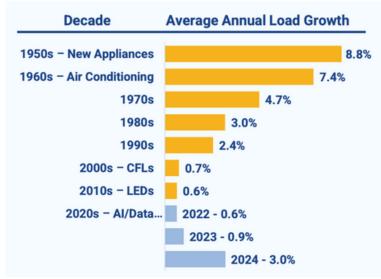
Overall, U.S. energy prices rapidly increased from 2020 to 2022 as economic activity recovered after the worst of the pandemic and Russia's invasion of Ukraine interrupted energy supply chains. Since 2022, nominal prices for many fuels have declined, particularly for those such as gasoline and heating oil that are tied more closely to crude oil prices, which are <u>affected by international markets</u>. Electricity prices, though, have continued a steady increase.

Linsk: EIA



The U.S. Department of Energy (DOE) today announced the publication of the 2024 Report on U.S. Data Center Energy Use produced by Lawrence Berkeley National Laboratory (LBNL) which outlines the energy use of data centers from 2014 to 2028. The report estimates that data center load growth has tripled over the past decade and is projected to double or triple by 2028. U.S.







The official nationwide forecast of electricity demand shot up from 2.8% to 8.2% growth over the next five years to 66 GW through 2029 -- but with an additional 61 GW of growth in preliminary updates, nationwide electric demand is forecast to increase by 15.8% by 2029

"We are now looking at the latter half of this decade showing 3% annual average load growth. ... We haven't seen that kind of load growth since the 1980s."

Links: **DOE** | **GridStreategiesReport**



But with most U.S. utilities on the hook to upgrade transmission networks and boost power generation to keep up with rising energy demand, electricity consumers across the country can expect further increases in their power bills going forward.

Natural gas remains the primary power source within the U.S. system, and accounted for around 37% of total power production so far this year.



Natural gas prices. The Henry Hub spot price in our forecast averages about \$4.00 per million British thermal units (MMBtu) in 2025 and \$4.90/MMBtu in 2026, compared with \$2.20/MMBtu in 2024. Higher natural gas prices in 2025 and 2026 are the result of strong export growth that persistently outpaces U.S. natural gas production.

Natural Gas Prices

2024 \$2.20 **2025** \$4.00 **2025** \$4.90

Electricity demand. We have increased our forecast for retail electricity sales to better reflect projected demand growth, especially in the Electricity Reliability Council of Texas (ERCOT) and PJM independent system operators. The revisions are most notable in the commercial sector, where data centers are an expanding source of demand. We forecast that U.S. commercial electricity sector consumption will grow by 3% in 2025 and by 5% in 2026.

Links: **Reuters** | **EIA**

Bloomberg

In our latest Short-Term Energy Outlook, we forecast U.S. annual electricity consumption will increase in 2025 and 2026, surpassing the all-time high reached in 2024. This growth contrasts with the trend of relatively flat electricity demand between the mid-2000s and early 2020s.

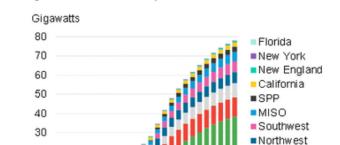


Figure 1: US data center power load

2020

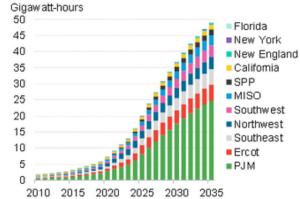
2025

2030

20

10

Figure 2: Average hourly US data center electricity demand



Source: BloombergNEF, DC Byte. Note: 'Power load' and 'average hourly electricity demand' refer to the electricity used by the entire data center facility.

Southeast

Emot

The surge of Artificial Intelligence (AI) is turning data centers into giant energy users. They are outpacing electric vehicles, hydrogen and other emerging sectors in power demand growth. By 2035, data centers are projected to account for 8.6% of all US electricity demand, more than double their 3.5% share today.

This next generation of data centers is different, with immense computing power, concentrated ownership and high impact on local grids.

Demand Doubles by 2035

BloombergNEF (BNEF) forecasts US data-center power demand will more than double by 2035, rising from almost 35 gigawatts in 2024 to 78 gigawatts. Actual energy consumption growth will be even steeper, with average hourly electricity demand nearly tripling – from 16 gigawatt-hours in 2024 to 49 gigawatt-hours by 2035.

Links: <u>Bloomberg 1</u> | <u>Bloomberg 2</u>