Only Minor Shifts Were Seen in the 2024 Electric Cooperative Fuel Mix as Sales Growth Accelerated

Key Findings

- In 2024, electric cooperative retail sales grew 4.1%, while national sales grew by 2.5%.
- U.S. natural gas and non-hydro renewable generation hit new records in 2024.
- Natural gas was essentially flat as a share of the national cooperative fuel mix, but there were notable increases in nuclear and non-hydro renewable generation as new capacity came online.

National Demand and Generation Trends

National retail electricity sales (measured in MWh) grew by 2.5% in 2024, rebounding from a 1.4% decline in 2023. To meet this rising demand, the U.S. set generation records for both natural gas and non-hydro renewables. Natural gas generation was 3.5% higher than in 2023, reaching 43.3% of total generation, an increase spurred by historically low natural gas prices. Output from non-hydro renewables surged nearly 13% year over year, rising to about 17% of total generation on the strength of rapid solar gains and continued wind growth. Coal generation fell 3.4% amid price competition from natural gas, with its share of total generation dropping to a record low of 15.1%. Nuclear output rose by about 1%, helped in part by the new Units 3 and 4 at Plant Vogtle in Georgia; even so, its share slipped from 18.5% to 18.1% as overall demand grew. Hydroelectric generation declined by about 1% under continued drought conditions, particularly in Southwest and California, as well as declines in New England, with its share falling from 6% to 5.8%.[1]

What is the impact on electric cooperatives?

Electric cooperative[2] retail sales growth surged in 2024, rising by 4.1% after growing by just 0.1% in 2023.[3] Nearly 8 in 10 distribution cooperatives are members of a generation and transmission (G&T) cooperative, and co-op owned plants supply approximately 40% of the electricity sold at retail. The remainder is purchased through bilateral and organized wholesale markets, exposing co-ops to the same broad trends affecting the larger electric utility industry. NRECA's analysis of the 2024 electric cooperative retail fuel mix, a blended estimate of co-op owned generation and power purchases, shows that the co-op power supply mix shifted only slightly from 2023 to 2024 (see Figure 1). Most shifts were in line with national trends, but with some notable differences discussed below.

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[1] National figures are for utility-scale generation from the U.S. Energy Information Administration's *Electric Power Annual 2024*, published October 2024.

[2] Including public power districts and other distribution utilities that are members of NRECA.

[3] NRECA members can access NRECA's *Vital Signs* report for more information on energy sales and other performance statistics.

Natural gas was the largest source of power for co-ops in 2024, though its share was very slightly (0.1%) lower than in 2023. Coal's share of co-op power supply fell by 2% to 23.3%, a historic low driven in part by the retirement of nearly a gigawatt of G&T-owned coal generation in 2023 and 2024. Natural gas and coal are often directly competing resources, so the decline in natural gas prices in 2024 also put pressure on coal generation more generally. Nuclear saw its share increase by more than 1% to 15.4%, including power from the two new units at Plant Vogtle.[4] The share of hydropower in the co-op fuel mix rose slightly in 2024, with increased production in the Southeast offsetting declines elsewhere. Non-hydro renewables continued their steady growth, reaching nearly 15% of supply with notable growth in the co-op solar portfolio in 2023 and 2024. This growth is expected to continue in coming years, driven especially by large scale solar projects.[5]

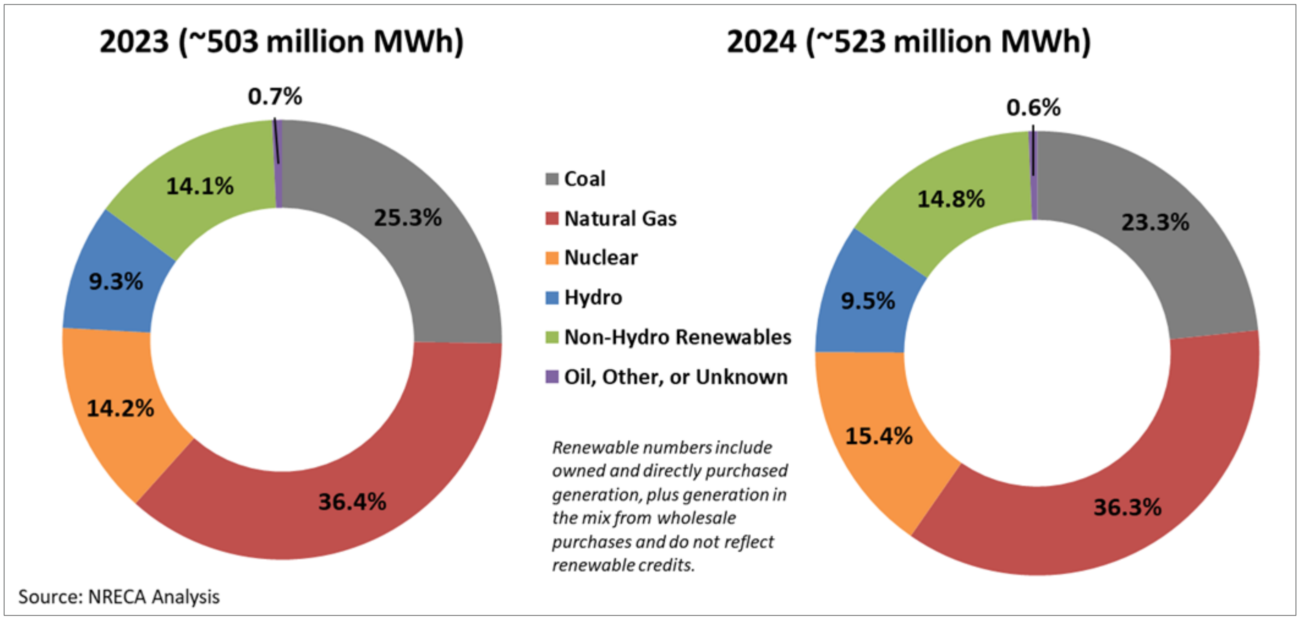

Figure 1: Cooperative Retail Electric Fuel Mix, 2023 and 2024

Accelerating Electric Demand

The United States is experiencing a surge in demand for electricity, driven by increased electrification, and the increase in electricity demand from data centers and other large loads. Each year, the North American Electric Reliability Corporation (NERC) publishes its *Long-Term Reliability Assessment* (*LTRA*), which includes a 10-year projection of load (energy) growth for the North American grid. In their 2022 report, NERC projected compound annual growth rates of 0.5% over the coming decade. NERC's projection more than doubled to 1.2% in 2023, increasing again to 1.7% in 2024, and almost doubling again to nearly 3.2% in the *2025 LTRA*. NERC has seen similar growth in its projections of Summer and Winter peak demand (capacity), putting further strain on the electric grid during the highest seasonal periods of demand.[6]

Rural areas have long been attractive for large manufacturing facilities, and they are becoming increasingly attractive to data center developers. A recent analysis by Pew Research Center shows that while existing data

[4] Oglethorpe power is a 30% owner of Plant Vogtle. Unit 3 came online in July 2023, followed by Unit 4 in April 2024. PowerSouth Energy Cooperative also purchases the output from 5% share of the new units owned by the Municipal Electric Authority of Georgia.

[5] For more information on co-ops' growing renewable portfolio, see this advisory: https://www.cooperative.com/renewable-growth

[6] NERC's 2025 LTRA report, infographics, and supplemental charts and graphs are available at: https://www.nerc.com/our-work/assessments/long-term-reliability-assessments.

centers are disproportionately located in urban areas (87%), just over two-thirds of planned data centers (67%) are expected to be in rural areas.[7] This is due to the availability of land and infrastructure outside of oversaturated hubs, as well as technology and use case shifts. Data centers to train artificial intelligence models, a rapidly growing use case, are more geographically flexible than traditional cloud computing and e-commerce data centers that require the very low latency provided at existing datacenter hubs, such as Northern Virginia. For more information, see [Serving Large Loads and Data Centers](https://www.cooperative.com) on cooperative.com.

Looking Forward

According to the U.S. Energy Information Administration (EIA),[8] average natural gas prices for electric generation fell to an all-time low of $2.76 per MMBtu in 2024. The average price rose by more than a dollar to $3.87 in 2025 and is projected to average over $4.00 in 2026. In the near term, price increases are driven in large part by increased U.S. liquified natural gas (LNG) exports, as new Gulf Coast export terminals come online and LNG export growth exceeds natural gas production increases. This is expected to ease by 2027, but over the longer term, increased U.S. LNG exports will likely prevent a return to the very low prices seen in 2024. LNG is a global commodity that trades at a price premium above the U.S. domestic natural gas market, so greater export capacity means greater exposure to international prices. Furthermore, while increased LNG exports can incentivize increased natural gas production, much of this marginal supply growth will come from higher cost production areas.

Natural gas generation declined by 3.6% in 2025 due to higher fuel prices, which was more than offset by increased coal generation. Coal retirements and demand growth mean that this ability to switch between the fuels is more limited than in the past. EIA projects natural gas generation to remain essentially flat in 2026 and 2027, maintaining its 39-40% share of total generation. Most new generation forecast in 2026 and 2027 will come from new wind and solar facilities, increasingly backed by battery energy storage to alleviate intermittency. Slight increases in nuclear and hydro output are also forecast over the period. See Figure 2.

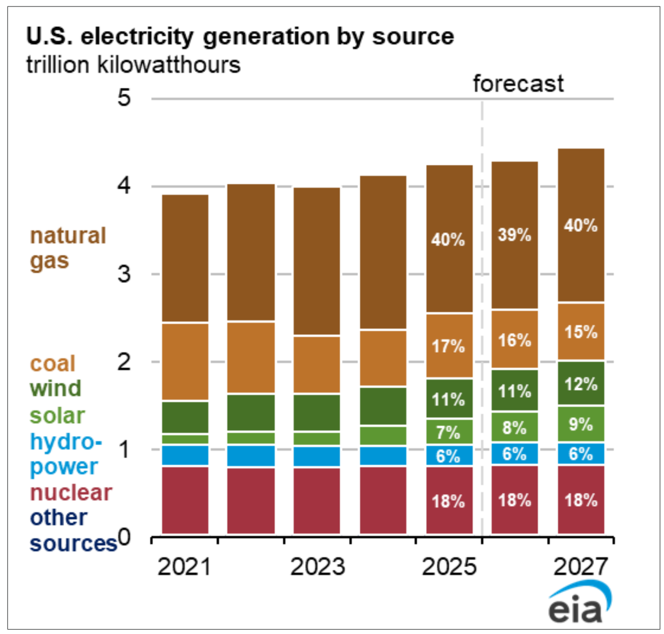

Figure 2: U.S. Electricity Generation by Source
Source: EIA Short Term Energy Outlook, May 2026

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[7] Seets, Skyler and Kaitlyn Radde, "Most new data centers in the U.S. are coming to rural areas," Pew Research Center, available at:https://www.pewresearch.org/short-reads/2026/04/13/most-new-data-centers-in-the-us-are-coming-to-rural-areas/.

[8] Historic and projected data from EIA's May 2026 *Short Term Energy Outlook*. This report and the accompanying detailed data tables are available at: https://www.eia.gov/outlooks/steo/outlook.php.