

Reopening Economy Drove Shifts in the Electric Cooperative Retail Fuel Mix in 2021

Key Findings

- Electric cooperative retail sales rebounded in 2021, rising by 3.6% over 2020 levels.
- Shifts in the cooperative mix followed national trends.
- The share of renewable resources in the cooperative fuel mix set a new record.

National Demand and Generation Trends

After declining by 2.5% in 2020 due to COVID impacts, national retail electricity (MWh) sales grew by 2.3% in 2021. Notably, after hitting historically low levels in 2020, natural gas prices were elevated across much of 2021, leading to generation shifts from gas to coal, though this was limited due to coal plant retirements and coal supply and transportation issues. This issue was compounded by a slowdown in natural gas drilling and new well exploration during the pandemic, and increased export of liquified natural gas (LNG), which tightened natural gas supply as the economy reopened and demand increased. Extreme weather events, notably Winter Storm Uri in February, also caused short-term natural gas disruptions and price spikes. Hydroelectric generation declined due to severe drought conditions in the West, while generation from other renewables, primarily wind and solar, continued to grow. Nuclear generation also declined slightly due to the retirements in 2020.

What is the impact on electric cooperatives?

After declining by 1.2% in 2020, electric cooperative¹ retail sales rose by 3.6% in 2021, exceeding the national average of 2.3%.² NRECA's analysis of the 2021 electric cooperative retail fuel mix, a blended estimate of co-op owned generation and power purchases, shows that the co-op power supply mix continued to follow national trends. About 8 in 10 distribution cooperatives are members of a generation and transmission (G&T) company, 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 trends affecting the larger electric utility industry.

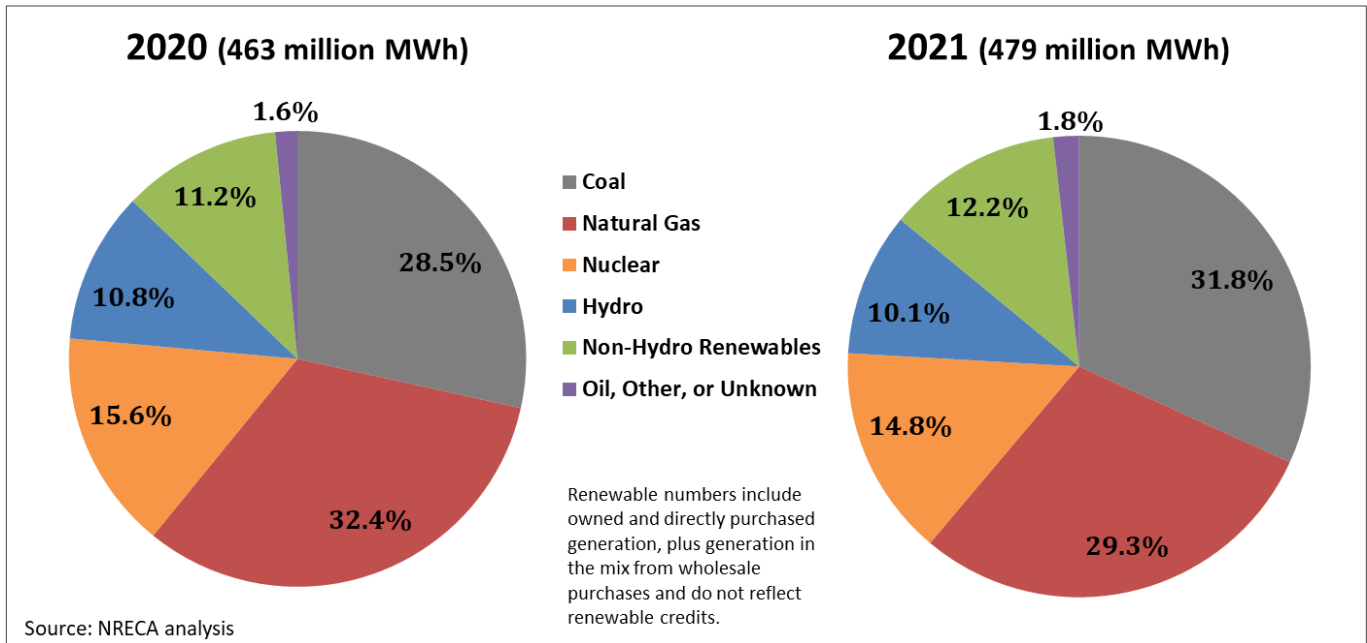
After dipping below natural gas for the first time in 2020, coal was the largest source of power for co-ops in 2021. Nevertheless, at just under 32%, this is its second lowest share ever estimated by NRECA and slightly below 2019 levels. This increase was largely offset by corresponding decrease in the share of power from natural gas. Renewables also set a new record in 2021, with 22% of co-op power supply estimated to have come from hydro and non-hydro renewable sources, with an increase in non-hydro renewables like wind and

¹ Including public power districts and other distribution utilities that are members of NRECA.

² NRECA members can access the 2021 [Vital Signs](#) report for more information on energy sales and other performance statistics.

solar more than offsetting a decline in the hydro share. Non-hydro renewables are expected to grow more rapidly in coming years due to an acceleration in new and planned co-op projects, especially new solar projects, primarily through power purchase agreements.³

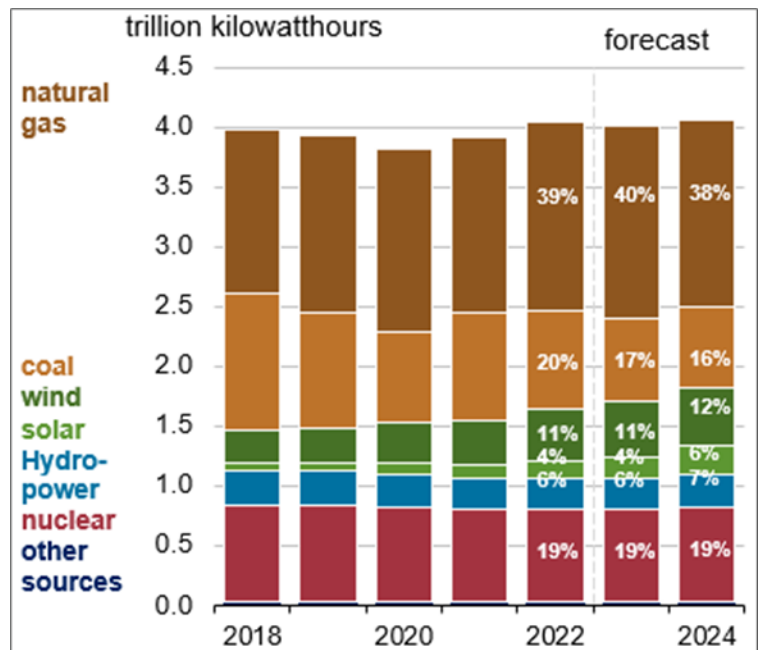
Figure 1: Cooperative Retail Electric Fuel Mix, 2020 and 2021



Looking Forward

In 2022, the U.S. hit a new record for electricity demand and natural gas generation. Gas prices began the year significantly higher than recent years as U.S. supply growth lagged demand growth, rising dramatically after the Russian invasion of Ukraine led to surging exports of LNG to Europe. The retirement of coal capacity and ongoing challenges with coal supply and transportation led coal generation to actually decrease slightly, rather than increase as is typical when natural gas prices rise. The price of natural gas has declined significantly as a mild winter in both the U.S. and Europe allowed supply to catch up with demand. Greater exposure to international markets from LNG exports is expected to put a higher floor on the prices of natural gas in the coming years.

Figure 2: U.S. Electricity Generation by Source
Source: EIA Short Term Energy Outlook, May 2023



³ For more information on co-ops' growing renewable portfolio, see [this](#) advisory:

In 2023 and 2024, EIA forecasts the share of coal in the U.S. generation mix will continue to decline, while the share from wind and solar continue to grow, driven in part by new federal tax credits and funding. The shares from natural gas, nuclear, hydroelectric, and other renewables remain fairly flat.

Contacts for Questions

Michael Leitman

Director, System Optimization

Michael.Leitman@nreca.coop

(703) 907-5864

Lauren Khair

Director, Business Transformation

Lauren.Khair@nreca.coop

(703) 907-6845