Cooperative Retail Fuel Mix Shifts Significantly from 2018 to 2019

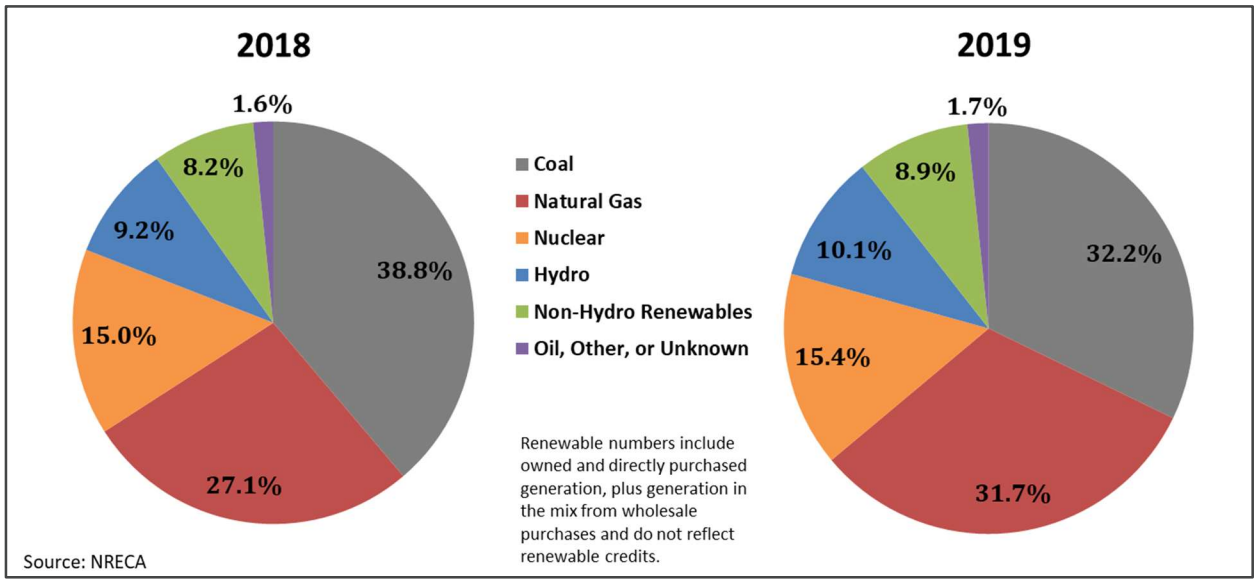
Key Findings

- Coal generation has dropped below a third of the cooperative retail fuel mix for the first time.
- Natural gas' share of the co-op fuel mix was nearly equal to that of coal.
- Electricity from nuclear and renewable sources also increased.

What has changed?

After significant retail sales growth in 2018 driven by extreme weather, co-op[1] retail sales were essentially flat in 2019. NRECA's analysis of the 2019 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. Notably, there was a significant decline (-6.6%) in the share of power coming from coal, with much of this being offset by increased electricity from natural gas (+4.6%). Renewable resources also increased, with higher annual hydropower output in many co-op areas, and growth in non-hydro renewables as new projects have been added. 2019 saw record production from the U.S. nuclear fleet, contributing towards a small increase in the share of the cooperative power supply coming from nuclear generation.[2]

Figure 1: Cooperative Retail Electric Fuel Mix, 2018 and 2019



[1] Including public power districts and other distribution utilities that are members of NRECA.
[2] See https://www.nei.org/resources/statistics/us-nuclear-generating-statistics.

What is the impact on cooperatives?

While coal remains the largest source of co-op electricity, its share has been diminishing since 2014, when it made up more than half (54%) of the co-op fuel mix. In 2019, coal's share was just over 32%; the first time it has fallen below a third of the total annual mix in NRECA's analysis. Natural gas hit another new height as a share of co-op power supply, reaching nearly 32% and near parity with coal, and is likely to surpass coal in 2020 (as it did nationwide in 2016). Renewables also set a record in 2019, with 19% of power supply estimated to have come from hydro and non-hydro renewable sources. Renewables are expected to grow more rapidly in coming years due to an uptick in announced solar and wind projects by co-ops, mainly through power purchase agreements.[3]

What do cooperatives need to know or do about it?

Two major fundamental trends, historically low natural gas prices and declining costs for wind and solar technologies, have driven change in the U.S. fuel mix away from coal. According to the U.S. Energy Information Administration's (EIA) Annual Energy Outlook 2021,[4] the COVID-19 pandemic led to even lower natural gas prices and further displacement of coal in 2020. In the short-term, this is expected to reverse somewhat as decreased U.S. natural gas production leads to somewhat higher prices and increased coal generation on the margins. However, over the mid- to long-term, EIA expects natural gas to maintain its share at over a third of U.S. generation, while accelerating wind and solar growth will lead to a steady increase in the renewable share of total U.S. generation. EIA expects these trends to put continued pressure on existing coal and nuclear generators to remain cost competitive, with their share declining due to retirements, impacting plants owned by cooperatives as well as the power they purchase in bilateral and organized wholesale markets.

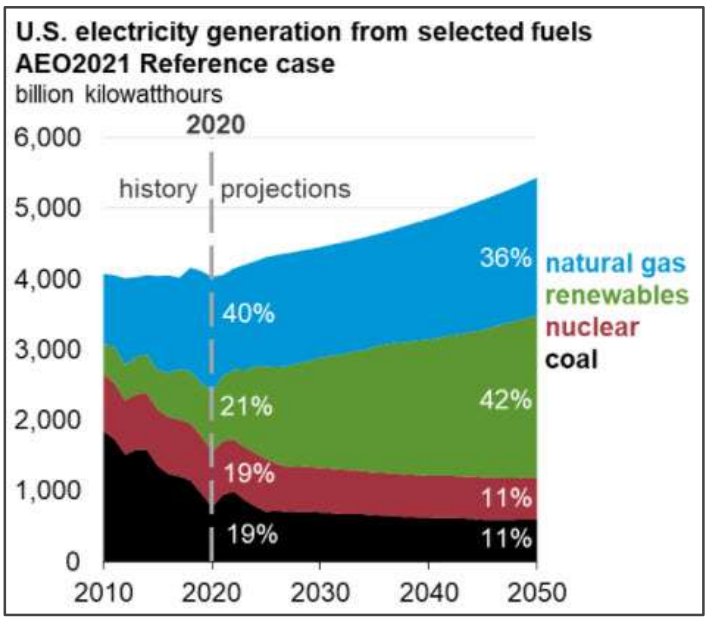


Figure 2: EIA Annual Energy Outlook 2021 Reference Case Generation Projections by Fuel Type

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[3] For more information on co-ops' growing renewable portfolio, see this advisory https://www.cooperative.com/topics/distributed-energy-resources/pages/co-ops-renewable-capacity-2020.aspx.
[4] EIA's Annual Energy Outlook 2021 can be found here https://www.eia.gov/outlooks/aeo/. Note that EIA builds its forecast based on current state and federal policies, so they do not include potential climate or energy policy changes going forward.