



Short-Term Energy Outlook

STEO

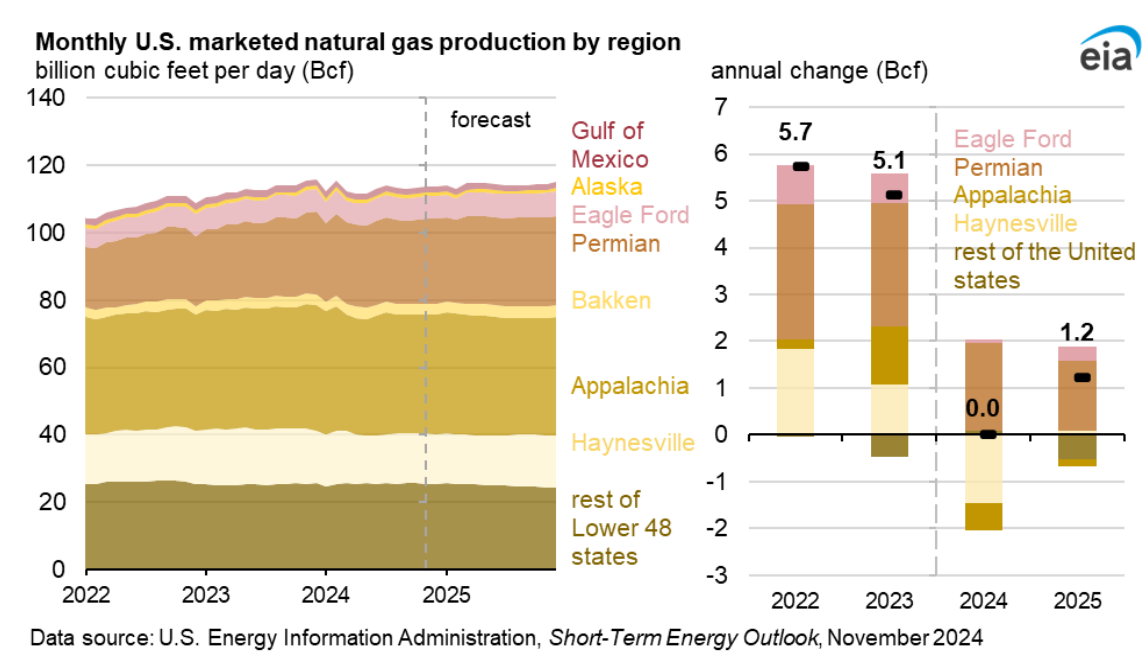
November 2024



far this year compared with 2023. At the same time, production in the Permian Basin has increased in 2024.

Production in the Haynesville and Appalachia regions is driven by natural gas prices, which reached [record lows in early 2024](#). Low natural gas prices encouraged producers in the Appalachia and Haynesville regions, in particular, to [curtail production](#) until market conditions changed. Natural gas production in the Permian region, which is mostly [associated natural gas](#) from oil wells, is driven by crude oil production and has continued to grow amid low natural gas prices.

We expect U.S. marketed natural gas production will resume growing in 2025 and average more than 114 Bcf/d for the year, up 1% from this year's annual average. Growth is led by a 6% increase in the Permian region and a 5% increase in the Eagle Ford compared with 2024. We expect production will decline slightly in the Appalachian Basin and much of the rest of the United States.



Natural gas prices

U.S. natural gas prices fell in October as natural gas consumption declined from September, production remained relatively unchanged, and storage inventories ended the month 6% above the five-year (2019–2023) average. The U.S. benchmark Henry Hub natural gas spot price averaged \$2.20 per million British thermal units (MMBtu) in October, 4% lower than the September average of \$2.28/MMBtu. Natural gas consumption declined last month, led by a 14% (6 Bcf/d) decline in consumption in the electric power sector, offsetting an increase in consumption in the residential and commercial sectors. Even though consumption in the electric power sector was down month over month in October, it was 13% higher than the month's five-year average. High power sector demand for natural gas reflected lower natural gas prices and higher air-conditioning use in parts of the United States experiencing extended summer-like conditions.

We expect the Henry Hub price to rise in the next three months and to average more than \$2.80/MMBtu in the first quarter of 2025. We expect prices to average \$2.90/MMBtu for all of 2025, or 33% higher than the 2024 average of \$2.20/MMBtu, mainly because of increased liquefied natural gas (LNG) exports. Our forecast includes LNG exports increasing by nearly 2 Bcf/d next year with continued strong international demand for LNG as [export capacity expands](#).

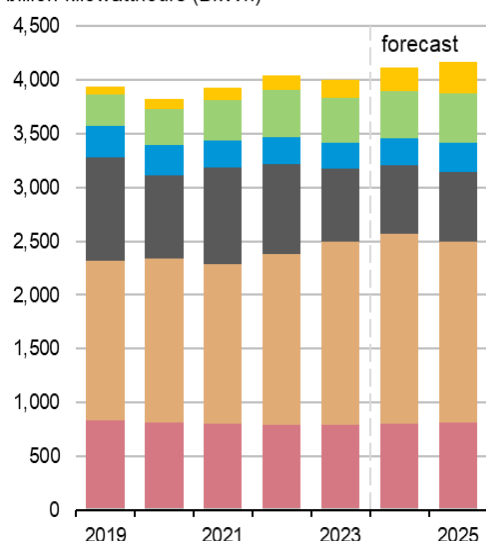
Electricity, Coal, and Renewables

Electricity generation

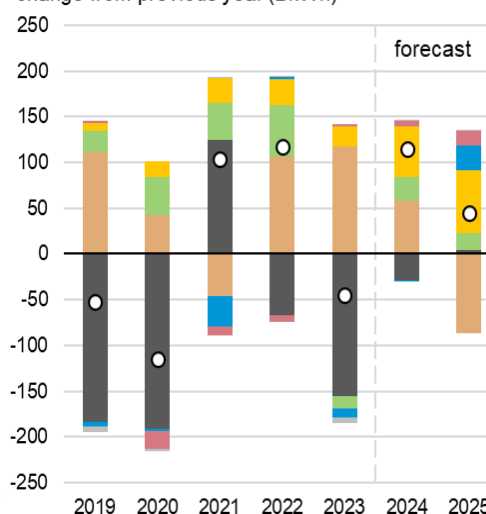
Hotter temperatures this past summer compared with last year, which increased U.S. air-conditioning demand, are helping to drive up generation in the U.S. electric power sector. We expect 3% more U.S. generation in 2024 than in 2023. Increasing electricity demand from the industrial sector and commercial data centers contributes to forecast U.S. generation growth of 1% in 2025. Growth from data centers raises overall consumption of electricity in the commercial sector, offsetting the effects of milder summer temperatures next year and longer-term trends of less commercial sector electricity consumption. Although data centers are rapidly expanding, those facilities currently account for a relatively small share of total U.S. electricity demand.

U.S. electric power sector net generation by source

billion kilowatthours (BkWh)



change from previous year (BkWh)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, November 2024



We expect natural gas and solar power to be the largest sources of growth in U.S. electricity generation in 2024. Natural gas use for power generation has risen this year as a result of relatively low fuel prices, while solar is powering more generation as U.S. generating capacity grows. We expect U.S. natural gas generation will grow by 3% in 2024.

Slower growth in U.S. electricity demand and higher natural gas prices in most regions next year is likely to reduce generation from natural gas, which we expect will fall by 5% between 2024 and 2025. Natural gas generation in the Northwest region falls by 13% in 2025 in response to our forecast increase in