

Short-Term Energy Outlook

STEO

August 2024



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Short-Term Energy Outlook

Overview

U.S. energy market indicators	2023	2024	2025
Brent crude oil spot price (dollars per barrel)	\$82	\$84	\$86
Retail gasoline price (dollars per gallon)	\$3.50	\$3.40	\$3.30
U.S. crude oil production (million barrels per day)	12.9	13.2	13.7
Natural gas price at Henry Hub (dollars per million British thermal units)	\$2.50	\$2.30	\$3.30
U.S. liquefied natural gas gross exports (billion cubic feet per day)	12	12	14
Shares of U.S. electricity generation			
Natural gas	42%	42%	40%
Coal	17%	16%	16%
Renewables	21%	23%	25%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	2.5%	2.4%	1.6%
U.S. CO₂ emissions (billion metric tons)	4.8	4.8	4.8

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

- Crude oil prices.** Although crude oil prices have fallen recently, we continue to expect crude oil prices will rise in the second half of 2024 (2H24). The Brent crude oil spot price ended July at \$81 per barrel (b), compared with an average for the month of \$85/b. We expect the Brent price will return to between \$85/b and \$90/b by the end of the year. Rising crude oil prices in our forecast are the result of falling global oil inventories. We estimate global oil inventories decreased by 0.4 million barrels per day (b/d) in 1H24 and will fall by 0.8 million b/d in 2H24. Inventory withdrawals stem in part from ongoing [OPEC+ production cuts](#). Although we expect crude oil prices to rise in the coming months, our forecast for the annual average Brent crude oil price in 2025 is down from a forecast of \$88/b in our July STEO, owing mostly to reduced oil consumption.
- World oil consumption.** We forecast that global consumption of liquid fuels will increase by 1.1 million b/d in 2024 and 1.6 million b/d in 2025, down from a forecast of 1.8 million b/d in our previous STEO. Most of the reduction in our oil consumption forecast is in China, where we expect slowing economic growth will continue to reduce diesel consumption.
- Jet fuel consumption.** Jet fuel consumption is rising based on increased air travel. In our August STEO, we forecast 3% more U.S. jet fuel consumption in 2024 [compared with 2023](#) and growth of another 3% in 2025. In our forecast, U.S. jet fuel consumption exceeds 2019's pre-pandemic level in 2025. We expect that relatively strong jet fuel consumption will cause jet fuel prices to rise by more than prices for other fuels in 2025.

- Natural gas markets.** Following a very hot July across much of the United States, we expect slightly milder weather in August will reduce natural gas consumption. We forecast natural gas consumed to generate electricity generation will average 46 billion cubic feet per day (Bcf/d) in August, [down 2% from July](#). Dry natural gas production in our forecast for August stays close to its level in July. Because of falling consumption and flat production, we expect the Henry Hub price to [stay relatively low](#), remaining below \$2.50/MMBtu through October. However, we expect seasonal increases in consumption for space heating, along with a ramp up in liquefied natural gas (LNG) exports from new facilities in Texas and Louisiana, will push the Henry Hub price to average about \$3.10/MMBtu from November through March.
- Electricity prices.** Residential electricity prices are increasing more slowly because of lower natural gas prices. We expect electricity prices will rise by about 1% this year for residential customers, which would be the lowest percentage growth since 2020. Natural gas prices started falling in 2023, and the resulting lower costs of producing electricity are now being reflected in retail electricity prices as regulatory authorities approve new rates.

Notable forecast changes

Current forecast: August 6, 2024; previous forecast: July 9, 2024	2024	2025
World liquid fuels consumption growth (million barrels per day)	1.1	1.6
Previous forecast	1.1	1.8
Change	0.0	-0.2
Brent crude oil spot price (dollars per barrel)	84	86
Previous forecast	86	88
Percentage change	-2.2%	-3.0%

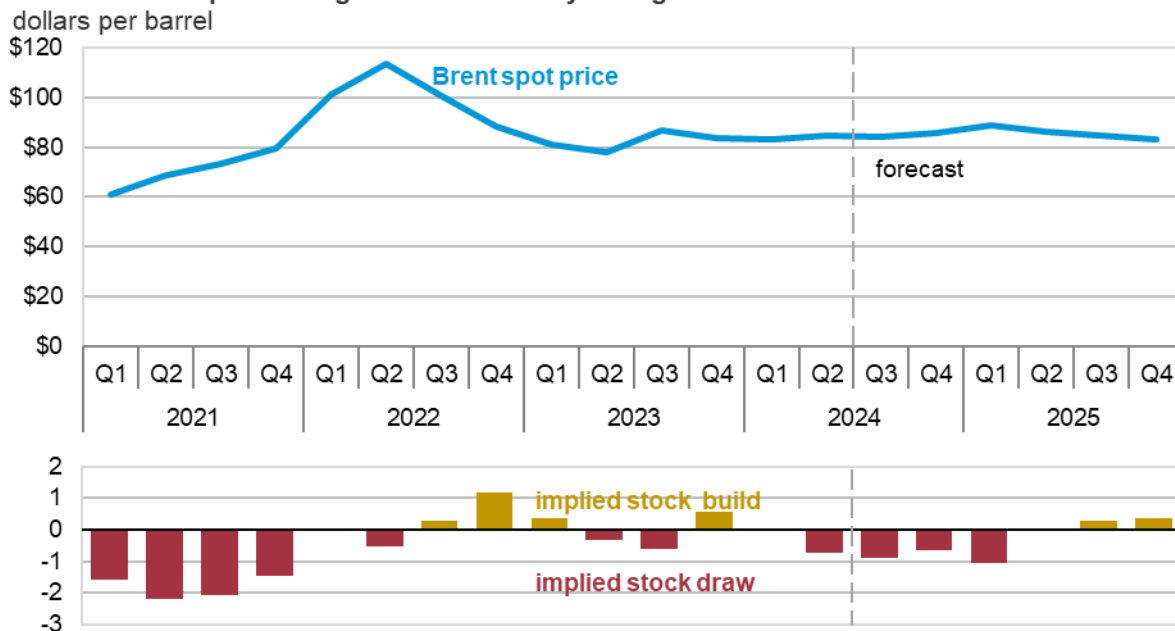
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Global Oil Markets

Global oil prices and inventories

The Brent crude oil spot price averaged \$85 per barrel (b) in July, up \$3/b from the average in June. Although the monthly average Brent spot price was higher in July, daily spot prices fell toward the end of the month driven in part by signals that global economic conditions may be slowing, which has the potential to reduce global oil demand growth. Although market concerns about the economy have lowered crude oil prices in recent days, we still expect that the most recent round of [OPEC+ production cuts](#) will reduce global oil inventories over the next three quarters in our forecast and push oil prices higher.

Brent crude oil price and global oil inventory change



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



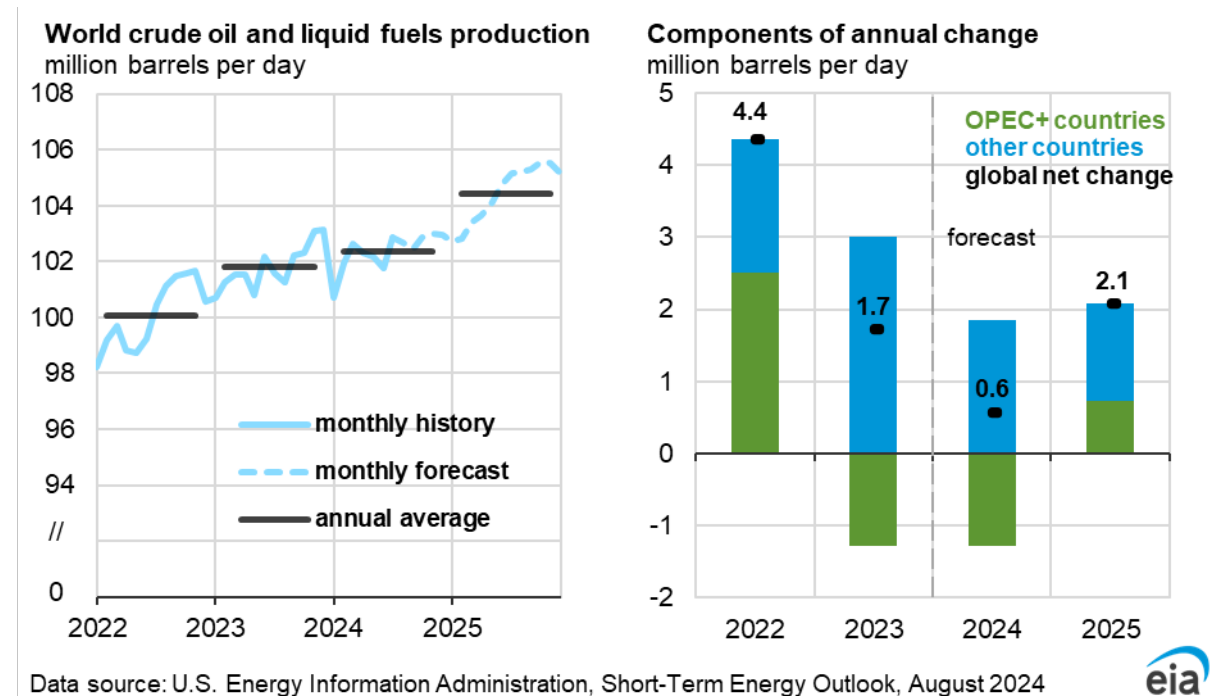
We expect the Brent crude oil spot price will increase from its current level below \$80/b to average \$85/b for the remainder of 2024 and \$89/b in the first quarter of 2025 (1Q25). The main source of this upward price pressure is falling global oil inventories resulting from OPEC+ production cuts. We expect global oil inventories will decrease by an average of 0.8 million barrels per day (b/d) in 2H24, with further declines in 1Q25.

We anticipate that the market will gradually return to moderate inventory builds in mid-2025 after the expiration of voluntary OPEC+ supply cuts in 4Q24 and as forecast production growth from countries outside of OPEC+ begins to outweigh global oil demand growth. We estimate that global oil inventories will increase by an average of 0.3 million b/d in the second half of 2025. We forecast the Brent price will average \$86/b in 2025 and fall to \$83/b by the end of the year.

Global oil production and consumption

Although OPEC+ cuts are limiting world oil production growth, we expect that growth outside of OPEC+ will remain strong. We forecast that global production of petroleum and other liquid fuels will increase by 0.6 million b/d in 2024, the net result of a 1.3 million-b/d decline from OPEC+ countries and a more than 1.8 million b/d-increase from countries outside of OPEC+, led by growth in the United States, Canada, [Guyana](#), and Brazil.

We expect that global production of liquid fuels will increase by 2.1 million b/d in 2025, as the OPEC+ voluntary production cuts unwind throughout the year. OPEC+ production increases by 0.7 million b/d, combined with 1.4 million b/d of production growth from countries outside of OPEC+.

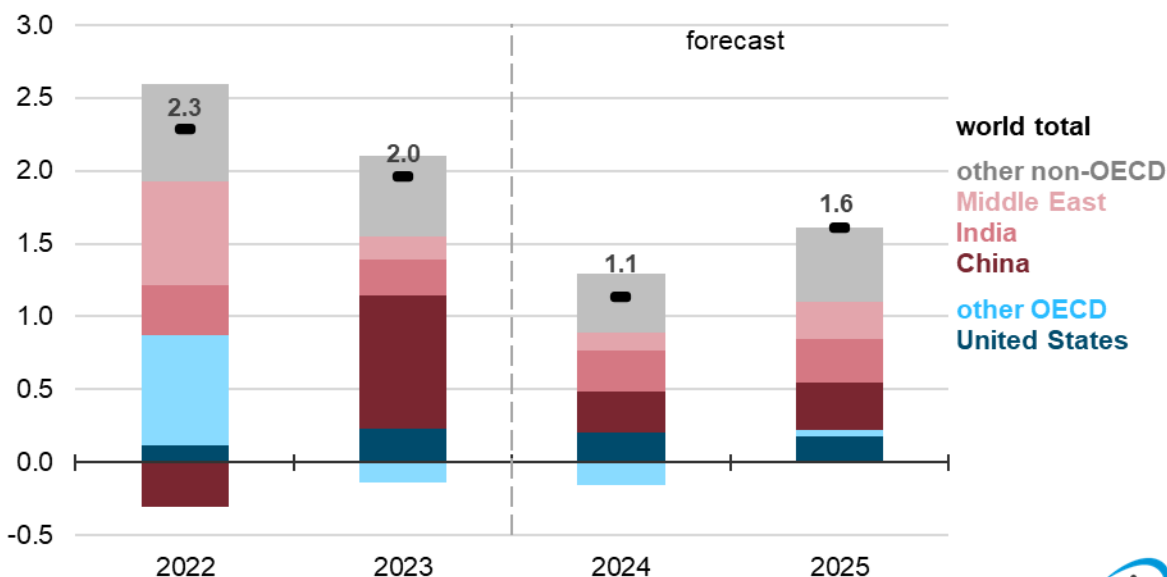


The recent outbreak of wildfires near production centers in Alberta has reduced Canada’s crude oil production. We estimate that an average of 0.2 million b/d of Canada’s production was taken offline in July, but based on the latest reports of wildfires abating and crews returning to production fields, we assume that the outages will not persist.

In addition, the ramp up of the [Trans Mountain Expansion](#) pipeline has increased export capacity and alleviated distribution bottlenecks for Canada’s producers, with tanker tracking data showing many of those early volumes initially flowing to the United States—a [key consumer of Canadian crude oil](#). Despite the temporary disruption to supply, Canada’s liquid fuels production increases in our forecast by nearly 0.5 million b/d from 2023 through 2025.

Annual change in world liquid fuels consumption

million barrels per day



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



We forecast that global consumption of liquid fuels will increase by 1.1 million b/d in 2024 and 1.6 million b/d in 2025; the latter is 0.2 million b/d less than in our previous STEO. Nearly all of our expected liquid fuels demand growth is from non-OECD countries, which increase their liquid fuels consumption by 1.1 million b/d in 2024 and 1.4 million b/d in 2025.

We reduced our forecast of petroleum consumption growth in China for 2024 and 2025 because of slower economic activity as well as updated monthly statistics showing reduced diesel demand, crude oil imports, and crude oil refinery runs in China. [China's GDP for 2Q24 grew 4.7% from last year](#), slightly less than the government's 5% target, reflecting slower investment in the country's real estate and construction sectors. We now forecast consumption of petroleum and liquid fuels consumption will grow in China by about 0.3 million b/d in 2024 and in 2025, which would be less than the 2015–2019 average growth rate of 0.5 million b/d.

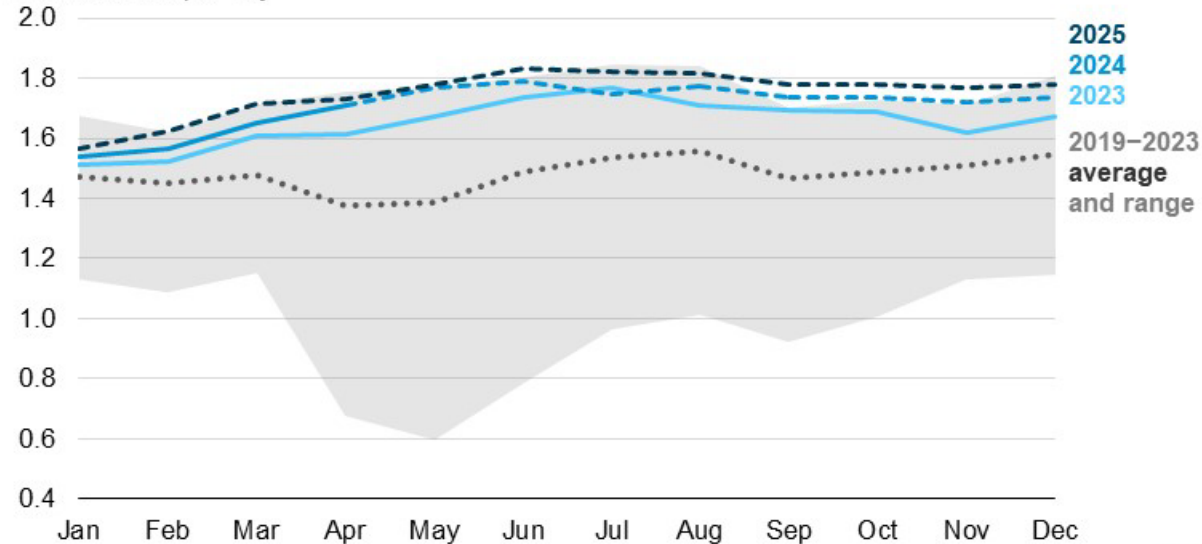
U.S. Petroleum Products

Jet fuel consumption

U.S. jet fuel consumption is rising due to increasing airline travel. In our August STEO, we forecast U.S. jet fuel consumption to increase by 3% in 2024 [compared with 2023](#) and another 3% in 2025. We forecast that U.S. jet fuel consumption will exceed 2019's pre-pandemic level in 2025. Jet fuel consumption is primarily driven by commercial air travel demand, which can be influenced by economic activity, employment, and the cost of air travel.

U.S. jet fuel consumption

million barrels per day

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

According to [TSA passenger volumes](#) from January through July 2024, 6% more passengers boarded flights at U.S. airports compared with the same period in both 2019 and 2023. Despite more passengers, jet fuel consumption this year remains below 2019 levels for a few reasons:

- Commercial airlines [continue to improve the fuel economy of their fleets](#) to reduce operating costs.
- U.S. airlines are shifting to larger (and more full) aircraft, so airlines have been flying more passengers per flight than in 2019, according to the July 12 [Industry Review and Outlook](#) from Airlines for America.
- Passengers are taking fewer [international flights](#), which consume more fuel.

We forecast more jet fuel to be consumed in 2025 in the United States than in 2019 based on our assumption that U.S. flight departures and TSA passenger volumes will continue to grow. Sources of uncertainty in the forecast include aircraft [supply-chain issues](#) that could worsen [aircraft shortages](#) and [air traffic controller shortages](#).

Petroleum product crack spreads

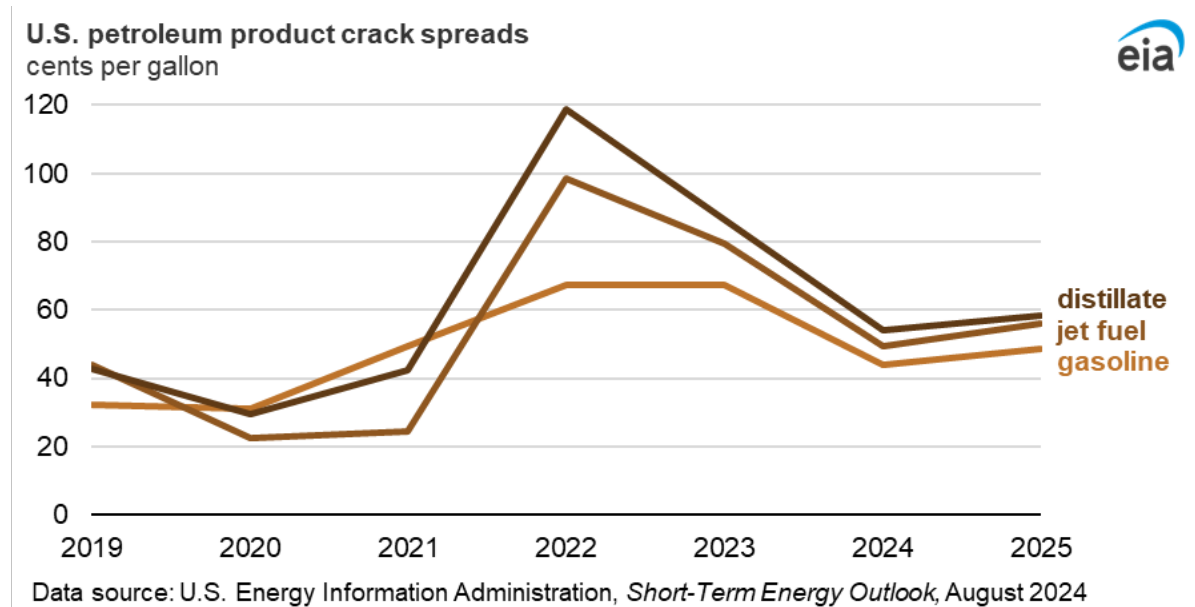
In our forecast, increases in U.S. jet fuel consumption cause the wholesale price of jet fuel to rise by more than gasoline and diesel prices next year. We expect more jet fuel will be consumed next year in the United States than before the pandemic in 2019, but we expect gasoline and distillate consumption to remain below 2019 volumes.

Crack spreads are the difference between the price for wholesale refined products and the price of an equivalent volume of crude oil. We use them as an estimate of refinery margins for various fuels. In the

first seven months of 2024, the jet fuel crack spread has been, on average, higher than the gasoline crack spread and about equal to the distillate fuel oil crack spread.

We forecast strong jet fuel consumption to drive increases in U.S. refinery margins for jet fuel, and consequently the crack spread in 2025. As jet fuel consumption increases, we expect jet fuel inventories to decrease to near-five-year (2019–2023) lows beginning in 2Q25.

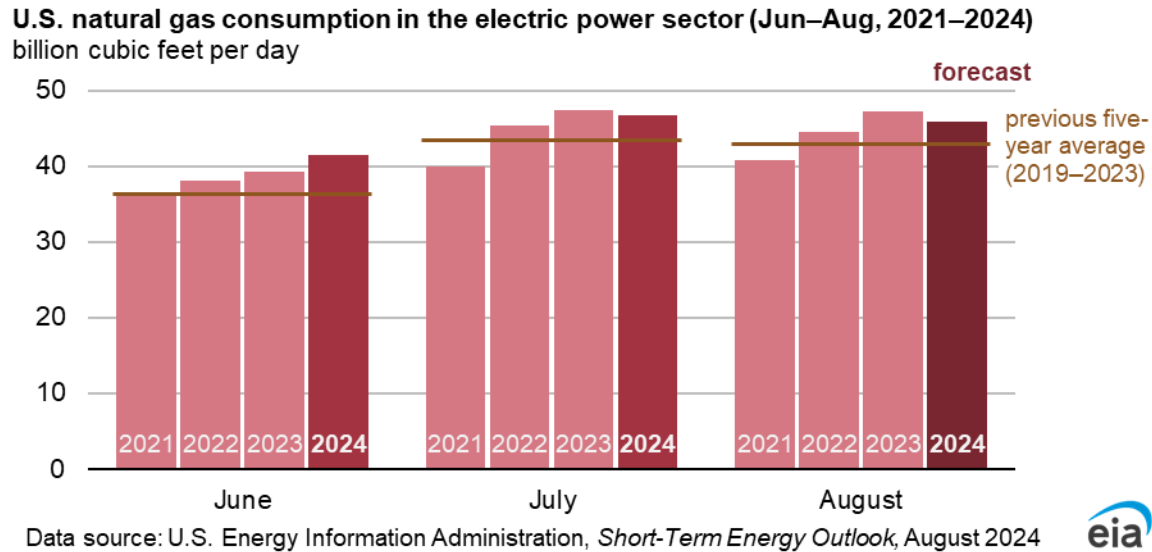
We forecast 4% less consumption of gasoline in the United States in 2025 than in 2019 and 3% less distillate fuel oil consumption. We forecast inventories for all three transportation fuels to be below their five-year averages in 2025 and for crack spreads to average higher in 2025 than in 2024.



Natural Gas

Natural gas consumption

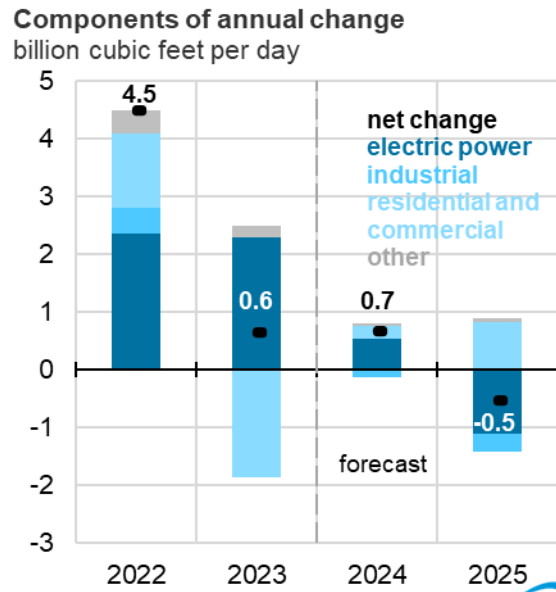
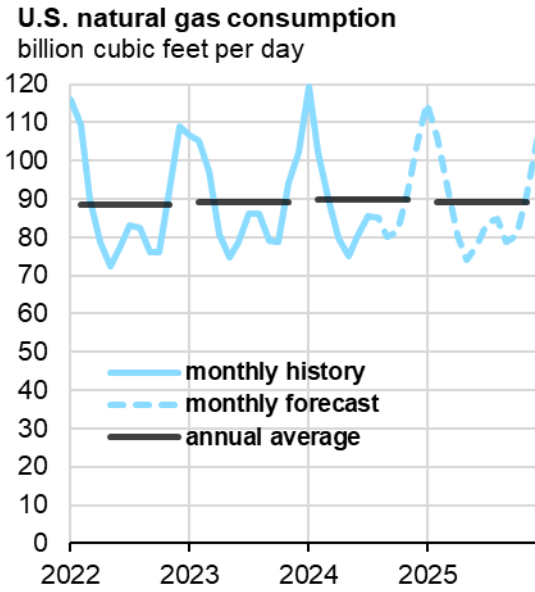
After a hot start to the summer, we expect close-to-normal temperatures will reduce U.S. natural gas consumption in August. We forecast natural gas consumption in the United States in August will fall slightly from July because of less natural gas consumption in the electric power sector. The electric power sector consumed 13% (5 Bcf/d) more natural gas in July than it did in June because of a heat wave and subsequent [spike in natural gas-fired electricity generation](#).



Because electricity is used to meet demand for air conditioning during warm weather, natural gas consumption in the U.S. electric power sector is the primary driver of total natural gas consumption in the summer months. We forecast natural gas consumed to generate electricity in the United States to average 46 Bcf/d in August, down 2% from July.

U.S. natural gas consumption in the electric power sector in July approached the record level set a year earlier, despite Hurricane Beryl leaving millions of homes and businesses in Texas [without electricity for several days](#) in early July. More natural gas is consumed regularly to generate electricity in Texas than any other state, according to our [Natural Gas Monthly](#). Heat wave conditions in other States in early July, particularly those in the West Coast and in the Northeast, and increased use of natural gas-fired electricity generation offset any declines in natural gas consumption for electric power because of the hurricane.

For 2024, we forecast about 1% more natural gas consumption in the United States than last year, averaging 90 Bcf/d. An increase in consumption in the residential and commercial sectors and the electric power sector offsets a decline in natural gas consumption in the industrial sector. Our forecast U.S. natural gas consumption declines by 1% in 2025 because of less consumption in the electric power sector. The forecast decline in U.S. natural gas-fired generation is the result of our assumption that next summer will be slightly cooler than this summer, reducing overall electricity generation, as well as the expansion of electricity generation for solar.



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

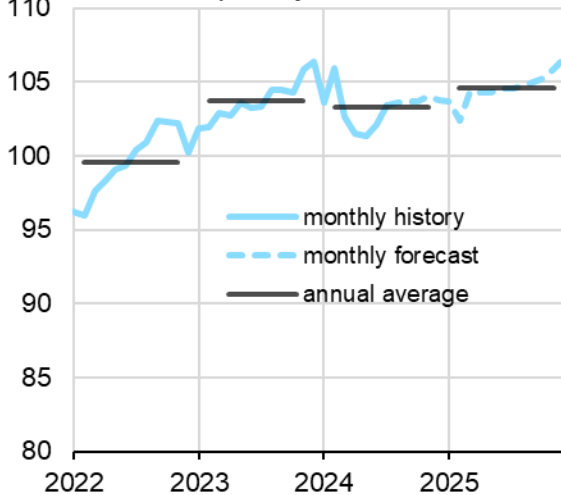


Natural gas production and prices

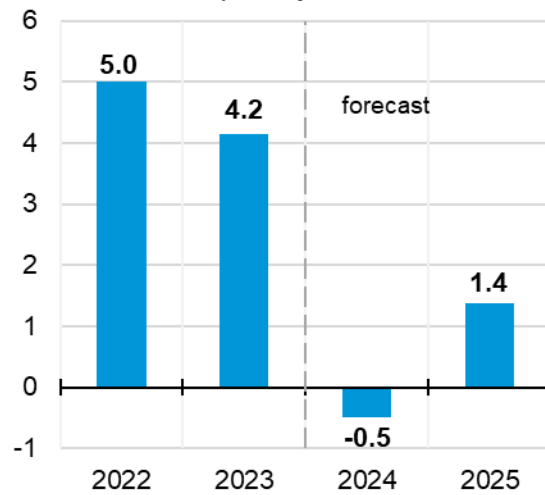
U.S. dry natural gas production averaged 103 Bcf/d in July, up about 1% (1 Bcf/d) from June. We forecast natural gas production in August to be about the same as it was in July, but 1% (1 Bcf/d) less than in August 2023. [Record-low Henry Hub natural gas spot prices in 1H24](#) led producers to curtail natural gas production earlier this year. EQT, the largest natural gas producer in the United States, recently announced that it would continue to curtail production by [about 0.5 Bcf/d through 2H24](#).

We forecast U.S. natural gas production to average 103 Bcf/d in 2024, down slightly from 2023, and then increase to average of 105 Bcf/d in 2025. The main drivers for our forecast of growth in U.S. production next year are an increasing Henry Hub price and growing natural gas demand as feedgas for liquefied natural gas (LNG) projects scheduled to come on line in 2H24 and 2025.

U.S. dry natural gas production
billion cubic feet per day



Annual change
billion cubic feet per day



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



The U.S. benchmark Henry Hub spot price averaged \$2.07 per million British thermal units (MMBtu) in July. We forecast the price will average about \$2.60/MMBtu for the rest of 2024 (August–December), which is slightly less than the average of \$2.69/MMBtu during the same period in 2023, and we expect the price to average \$2.30/MMBtu for all of 2024. If natural gas production is greater and consumption in the electric power sector is less than we expect, prices could be lower than in our forecast.

Electricity, Coal, and Renewables

Electricity generation

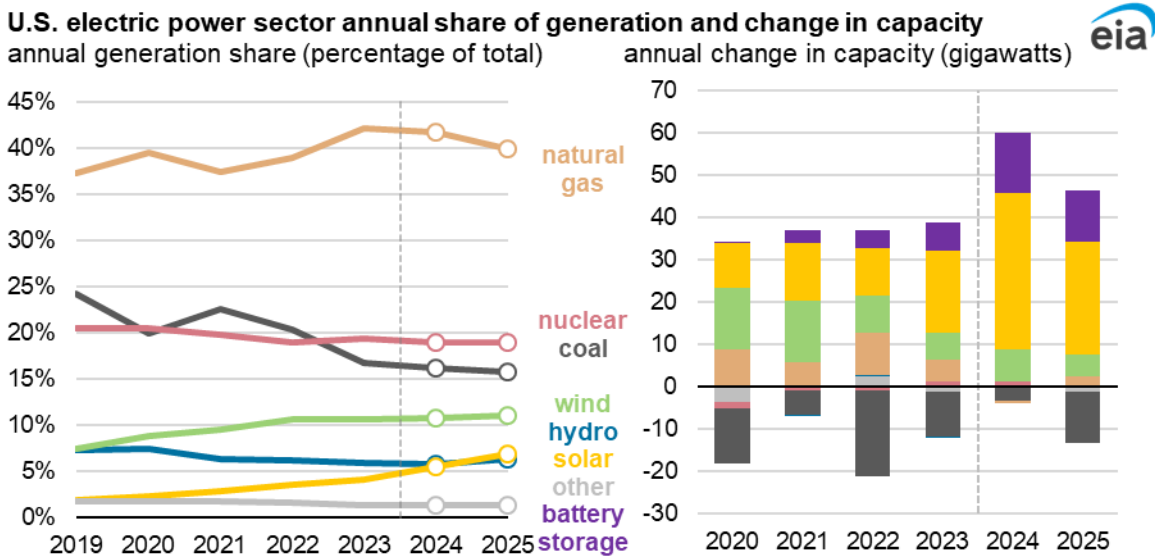
We forecast that U.S. power plants will generate about 4,300 billion kilowatthours of electricity in 2024, which would be 3% more than in 2023, in response to a hotter-than-normal start to summer and increasing power consumption by the residential and [commercial sectors](#). Forecast electricity generation grows by an additional 1% in 2025.

The [fastest-growing source](#) of electricity in the United States is solar power. We expect utility-scale solar in the electric power sector to account for 5% of U.S. generation in 2024, up from 4% last year, and to increase to a share of 7% in 2025. Current plans indicate the electric power sector will increase solar generating capacity by 64 gigawatts (GW) (71%) between 2023 and 2025. Similarly, wind power capacity is set to increase 13 GW (9%) over the next two years, but its generation share remains relatively stable at 11% of total U.S. generation.

The intermittent generation patterns of solar and wind are assisted by additions of [battery storage](#) capacity, which charge during low-cost periods of the day and generate power during high-cost periods. We expect battery storage capacity will grow by 26 GW (169%) between 2023 and 2025.

Although natural gas continues to provide more U.S. electricity generation than any other source, we expect growing generation from renewables will displace more natural gas over time. The forecast natural gas generation share in 2024 averages 42%, similar to what it was in 2023, and falls to 40% in

2025. We expect coal’s generation share will fall to a record low of 16% in 2024 as a result of recent capacity retirements and [lower utilization rates of the remaining coal fleet](#).

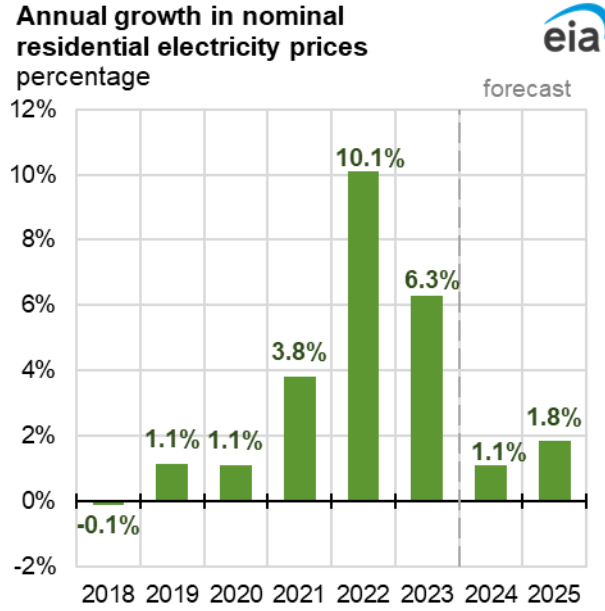
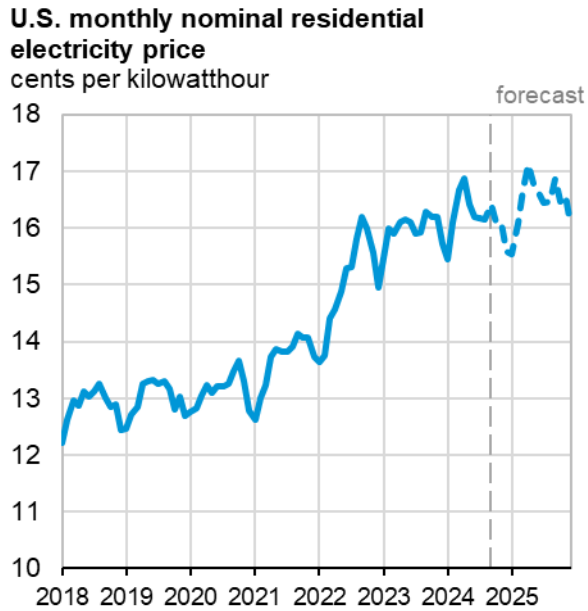


Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, August 2024

Residential electricity prices

Our forecast growth rate in residential electricity prices this year would represent the slowest rise in electricity rates since 2020. Electricity prices increased by an annual average of almost 7% between 2021 and 2023 as a result of [highly volatile](#) natural gas prices, which is the primary fuel used for power generation. We expect that the U.S. price of electricity to residential end-use customers will average 16.2 cents per kilowatthour in 2024, which would be 1% higher than the average price in 2023. The forecast average U.S. price to residential end-use customers increases by about 2% in 2025.

U.S. natural gas [prices started falling in 2023](#), and the resulting lower costs of producing electricity are now being reflected in retail electricity prices after regulatory authorities have approved new rates. Although natural gas prices in our forecast are lower this year than they were from 2021 through 2023, other factors continue to cause electricity prices to rise. Electricity rates also reflect costs for delivering electricity to end-use customers. Utilities have faced increased costs for [building new transmission lines and distribution upgrades](#) in recent years, which are offsetting declines in fuels prices.

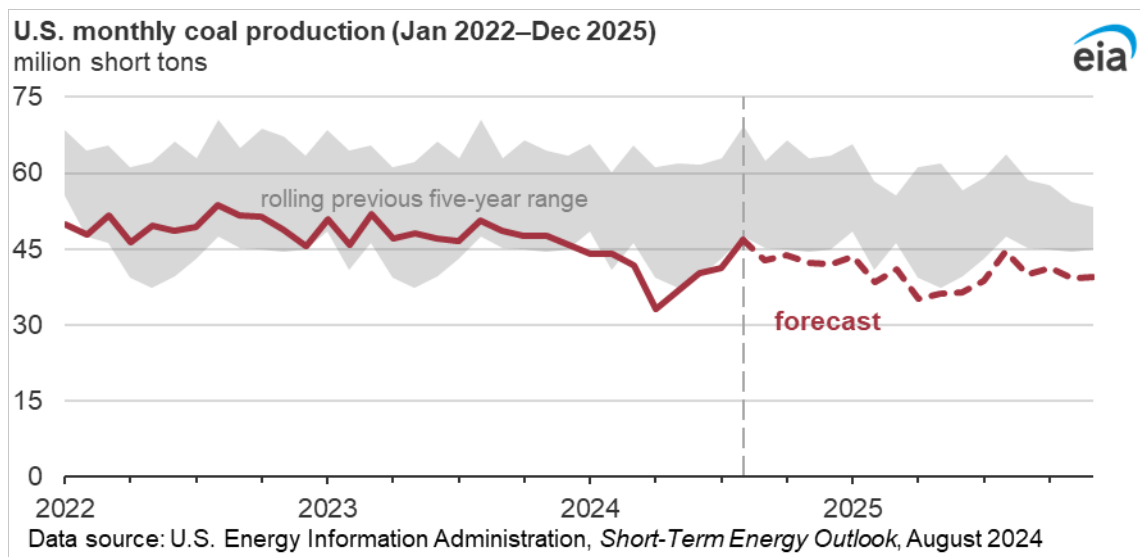


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Coal markets

For 2024, we forecast that coal production in the United States will total about 500 million short tons (MMst), a 14% decline from last year, and we forecast a further 5% drop in production in 2025. Although coal exports in our forecast remain robust, ongoing declines in coal production are the result of less coal being used to generate electric power domestically due to relatively low natural gas prices and 12 GW of coal-fired electricity generating capacity going into retirement.

We expect the U.S. electricity power sector will consume 384 MMst of coal this year, 1% less than it did in 2023. We expect the power sector will consume an additional 2% less coal next year. With U.S. coal production falling more quickly than coal consumption, we expect that coal will be consumed from inventories next year. The U.S. [electric power sector's coal inventories](#) stood at 120 MMst at the end of July, and we forecast those inventories will be reduced to 118 MMst at the end of 2024 and 84 MMst at the end of 2025.

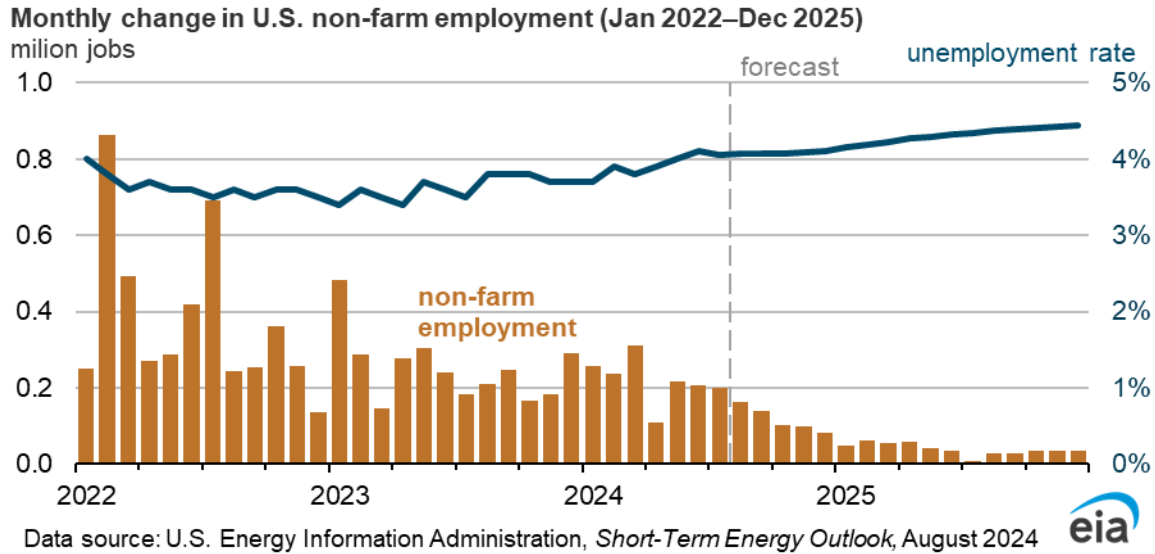


Economy, Weather, and CO₂

U.S. macroeconomics

The Bureau of Labor Statistics (BLS) reported that the U.S. unemployment rate for June was slightly higher than in our July STEO. As a result, we now expect a higher unemployment rate throughout our forecast than we expected last month. The unemployment rate in June was 4.1%, an increase of 0.2 percentage points from what we assumed in last month's STEO. Our forecast now shows the unemployment rate will reach 4.4% by 4Q25, compared with the July STEO forecast of 4.1% in 4Q25. BLS data also showed that the U.S. economy added 206,000 jobs in June, for an average monthly gain of 222,000 jobs during 1H24. Our forecast assumes that job gains will slow to an average of 131,000 per month in 2H24 and 39,000 per month in 2025.

The BLS released [employment statistics for July on Friday August 2](#), after we had completed our analysis for this report. The BLS reported that the unemployment rate rose to 4.3% in July, and the U.S. economy added 114,000 jobs for the month. Although the rising unemployment rate and slowing job growth are directionally consistent with our forecast, they represent an employment situation that is declining more sharply than our forecast assumes. In general, the labor market outlook affects our forecast for gasoline consumption. Assuming all other factors remain equal, fewer employed workers means less driving and less gasoline consumption. Fewer employed workers could also mean less disposable income for consumers on average resulting in less economic activity and reduced energy consumption.



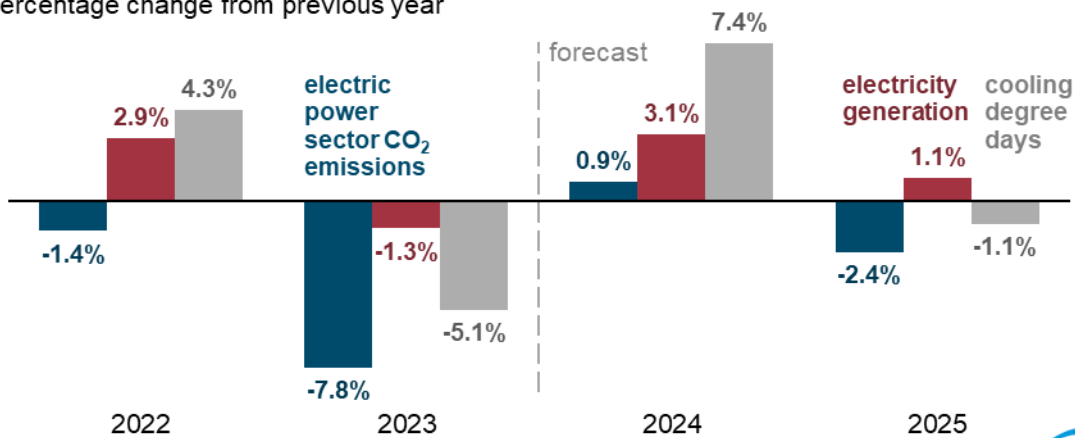
Emissions

We expect U.S. energy-related carbon dioxide (CO₂) emissions to be relatively unchanged between 2023 and 2025. CO₂ emissions in 2024 remain close to 2023 levels as emissions from natural gas, which increase by 1%, are offset by lower CO₂ emissions from coal, which decrease by 1%. These changes reflect increasing electricity generation from natural gas and decreasing generation from coal.

We expect a warmer 2024, with 7% more cooling degree days than in 2023. We expect notable growth in cooling demand in 2024, increasing U.S. electricity generation by 3%. This growth in generation is met by renewables as well as by fossil fuels, notably natural gas, leading to a slight increase in electric power sector CO₂ emissions. CDDs and demand for cooling fall slightly in our forecast for 2025, and we forecast a slight decrease in electric power emissions, primarily from less natural gas-fired generation. As renewable generation continues to grow, the emissions intensity of electricity declines, falling by 2% in 2024 and by 3% in 2025, down to 0.33 metric tons per megawatthour by the end of the forecast. Most growth in renewable generation comes from solar, followed by wind and hydropower.

U.S. electric power CO₂ emissions, electricity generation, and cooling degree days

percentage change from previous year



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



Weather

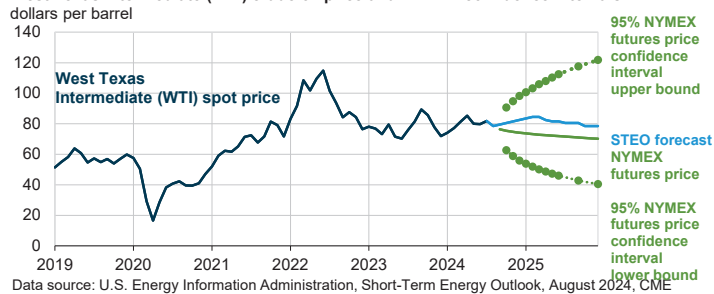
Overall, our forecast assumes 2024 is a relatively hot year. Initial data from the National Oceanic and Atmospheric Administration show average U.S. temperatures in July were similar to July 2023, which was hotter than normal. However, the regions experiencing hot weather have shifted from last summer. In July, the Pacific region experienced 12% more CDDs than a year ago, and CDDs in the Northeast totaled 4% more than a year ago. But the West South Central Census Division (which includes Texas) experienced 17% fewer CDDs compared with the [very hot July of last year in that region](#).

Short-Term Energy Outlook Chart Gallery



August 6, 2024

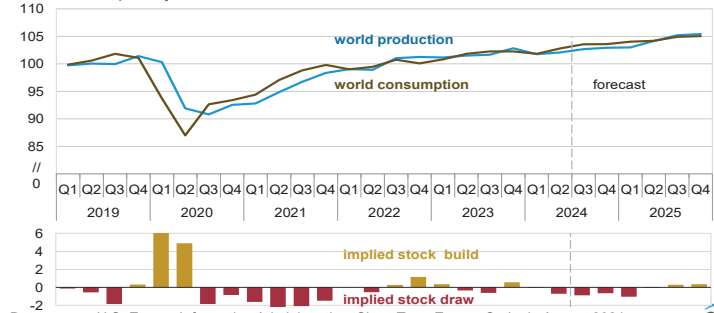
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business
 Note: Confidence interval derived from options market information for the five trading days ending August 1, 2024. Intervals not calculated for months with sparse trading in near-the-money options contracts.



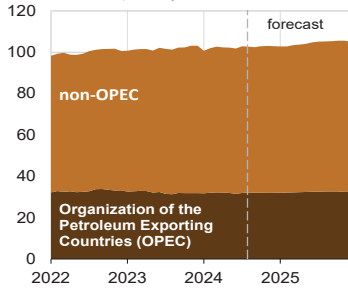
World liquid fuels production and consumption balance
million barrels per day



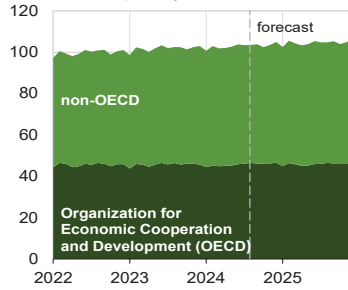
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



World liquid fuels production
million barrels per day



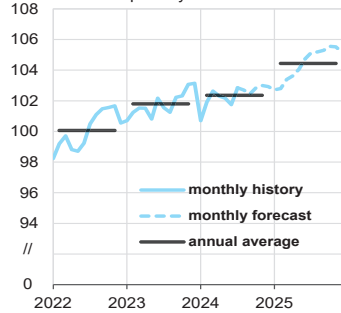
World liquid fuels consumption
million barrels per day



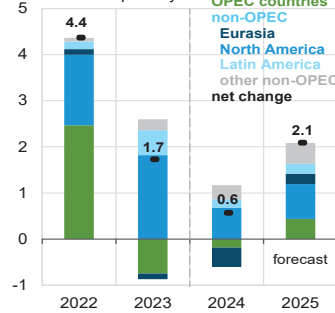
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



World crude oil and liquid fuels production
million barrels per day



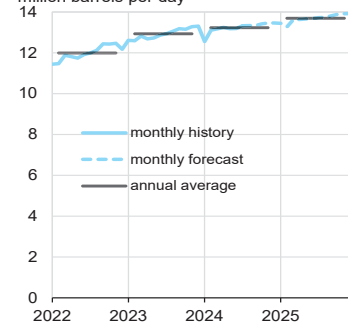
Components of annual change
million barrels per day



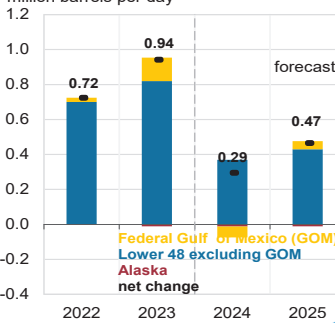
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



U.S. crude oil production
million barrels per day



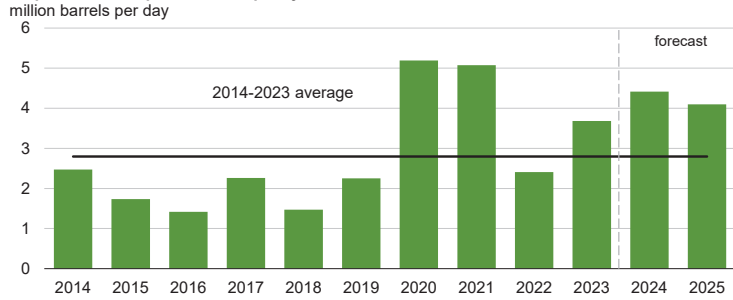
Components of annual change
million barrels per day



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



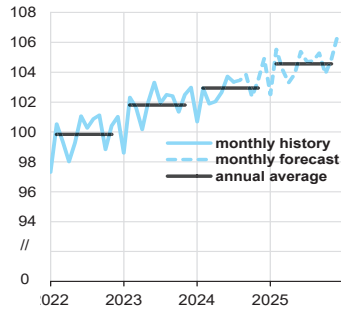
**Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity**



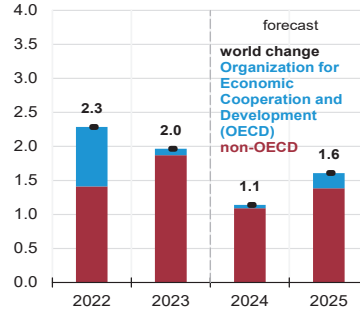
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024
 Note: Black line represents 2014-2023 average (2.8 million barrels per day).



World liquid fuels consumption
million barrels per day



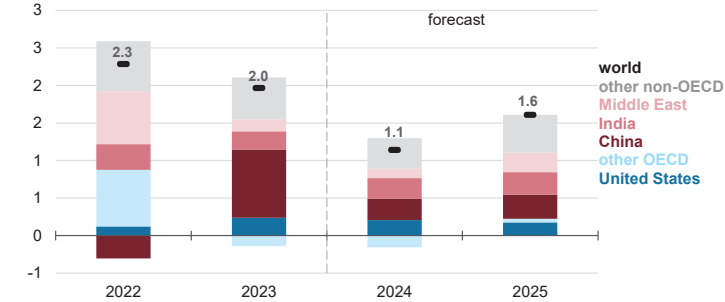
Components of annual change
million barrels per day



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



Annual change in world liquid fuels consumption
million barrels per day

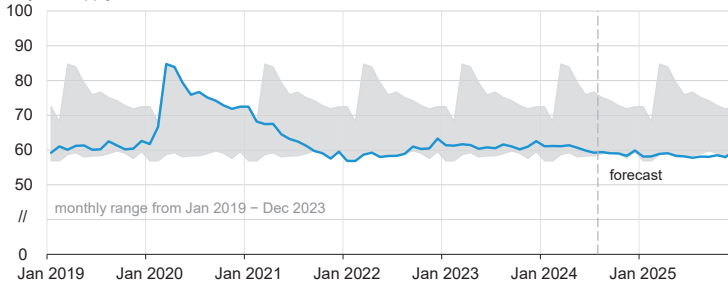


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids

days of supply

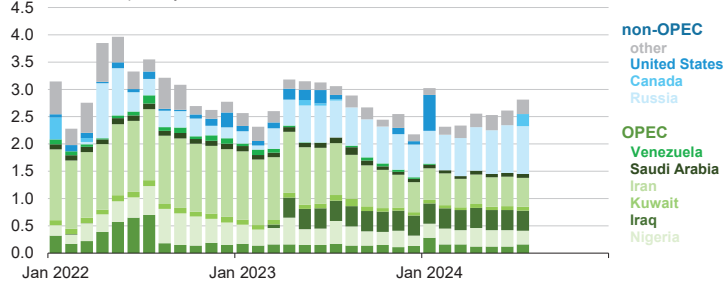


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers

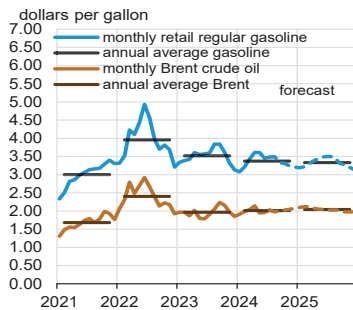
million barrels per day



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

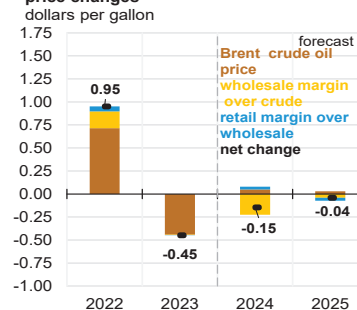


U.S. gasoline and crude oil prices

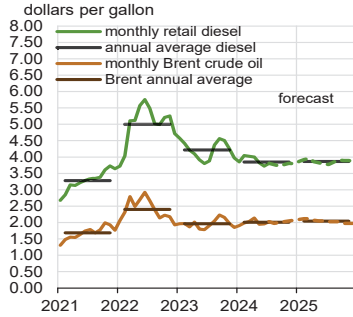


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024, and Refinitiv an LSEG Business

Components of annual gasoline price changes

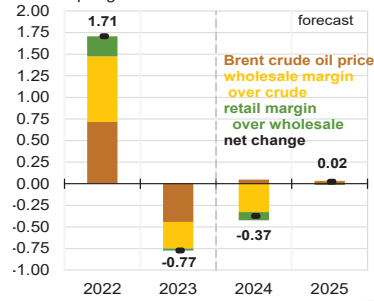


U.S. diesel and crude oil prices

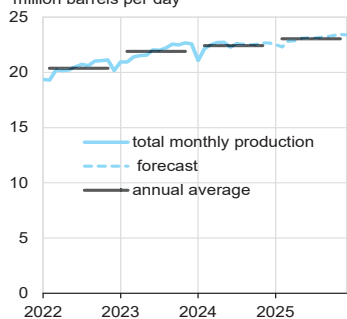


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024, and Refinitiv an LSEG Business

Components of annual diesel price changes

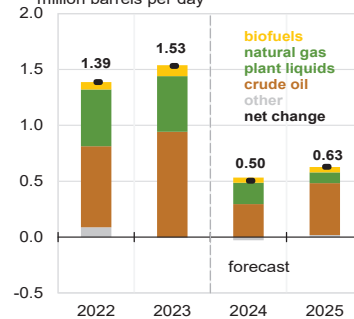


U.S. crude oil and liquid fuels production

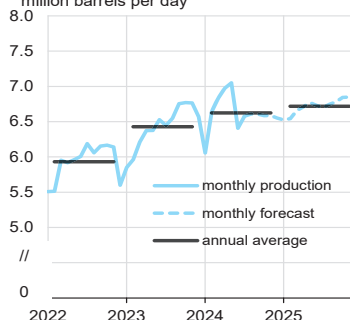


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Components of annual change

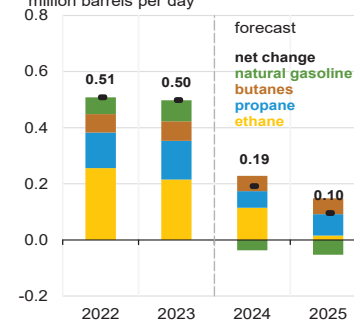


U.S. natural gas plant liquids production

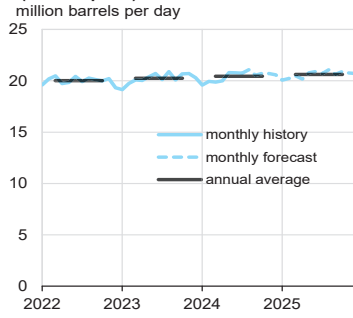


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Components of annual change

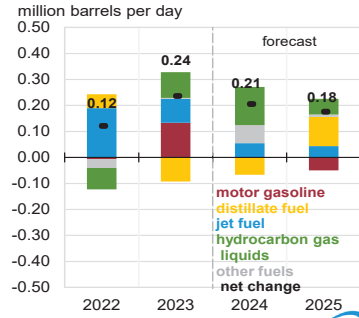


U.S. liquid fuels product supplied (consumption)

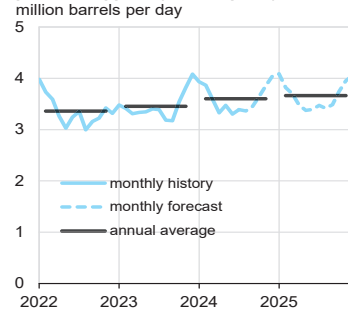


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Components of annual change

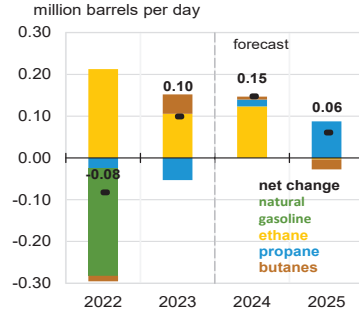


U.S. hydrocarbon gas liquids product supplied (consumption)

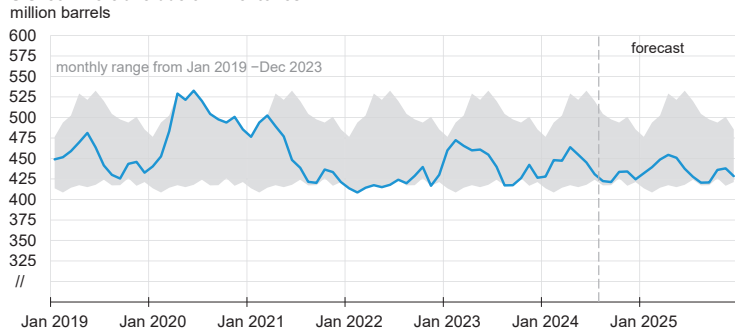


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Components of annual change



U.S. commercial crude oil inventories

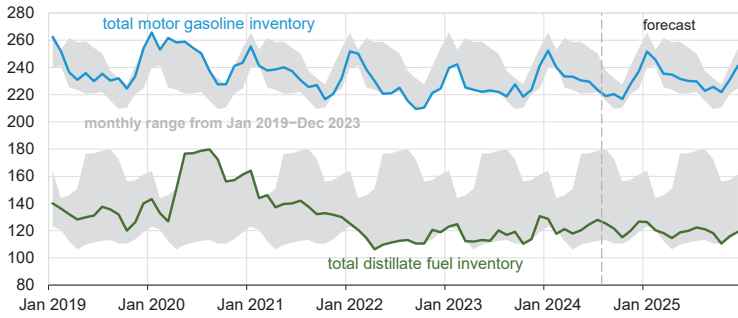


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



U.S. gasoline and distillate inventories

million barrels

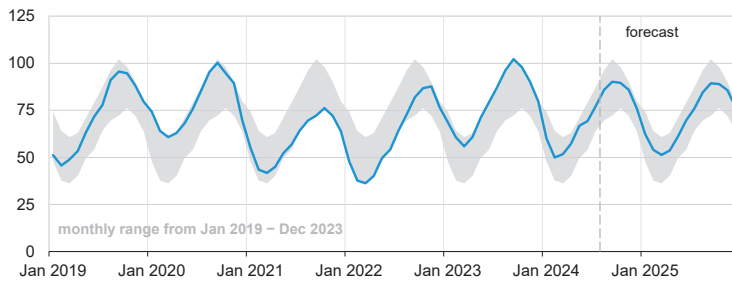


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



U.S. commercial propane inventories

million barrels



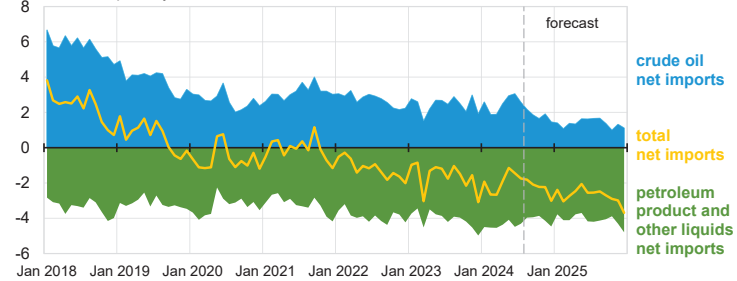
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Note: Excludes propylene.



U.S. net imports of crude oil and liquid fuels

million barrels per day

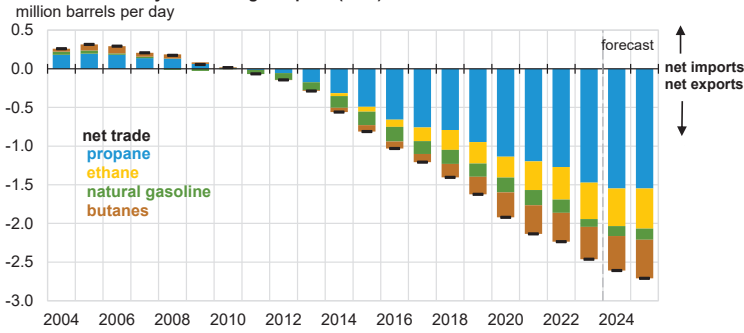


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.



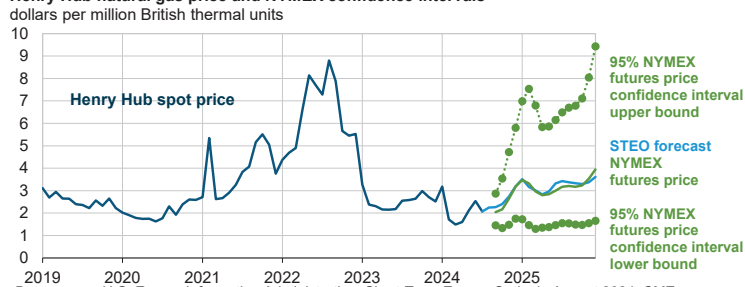
U.S. net trade of hydrocarbon gas liquids (HGL)



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



Henry Hub natural gas price and NYMEX confidence intervals

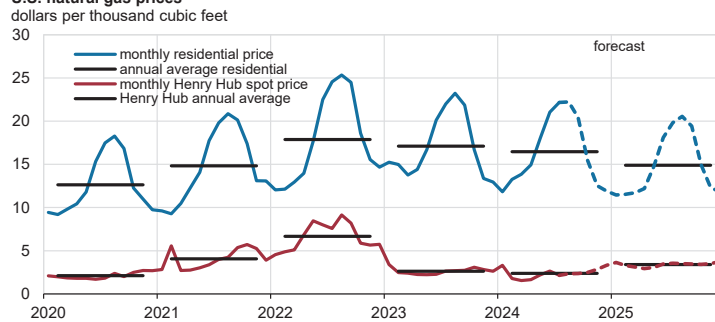


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024, CME Group, and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending August 1, 2024. Intervals not calculated for months with sparse trading in near-the-money options contracts.



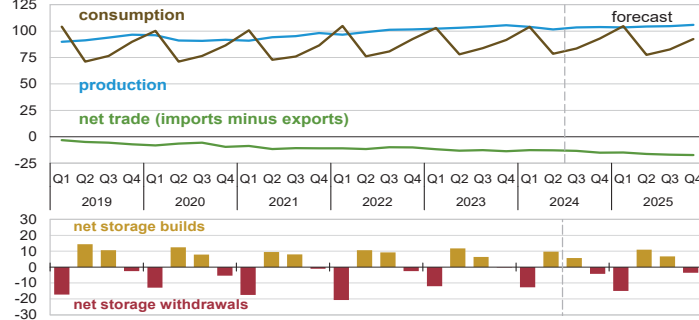
U.S. natural gas prices



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024, and Refinitiv an LSEG Business



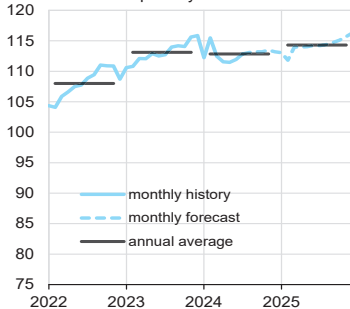
U.S. natural gas production, consumption, and net imports
billion cubic feet per day



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

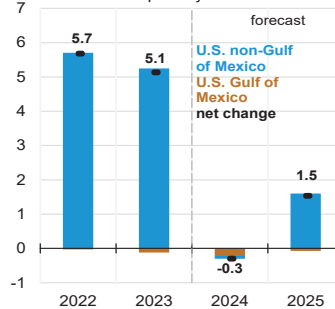


U.S. marketed natural gas production
billion cubic feet per day

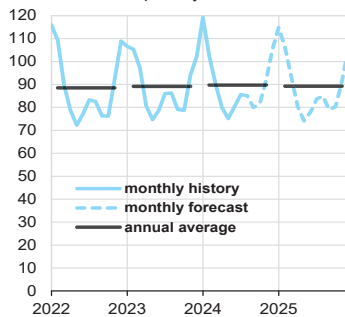


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Components of annual change
billion cubic feet per day



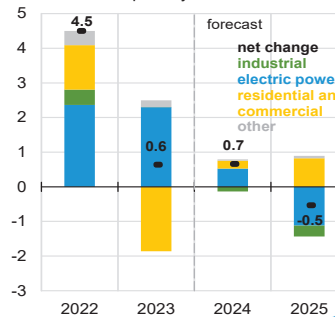
U.S. natural gas consumption
billion cubic feet per day



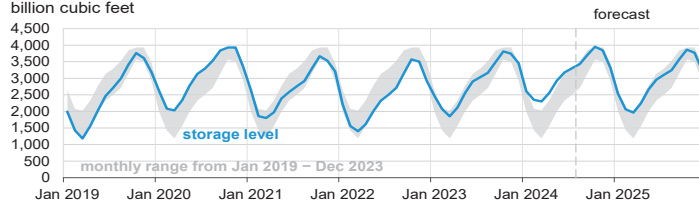
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



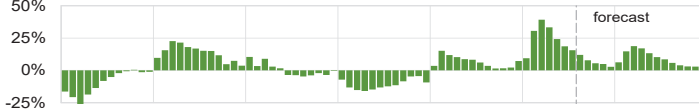
Components of annual change
billion cubic feet per day



U.S. working natural gas in storage



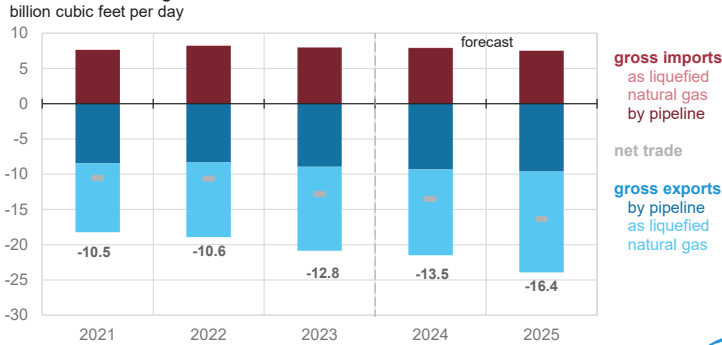
Percentage deviation from 2019 – 2023 average



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



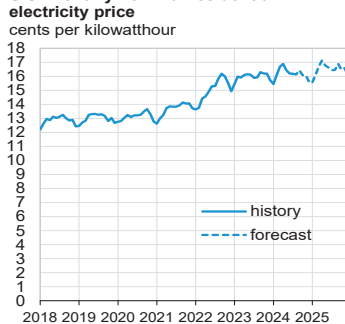
U.S. annual natural gas trade



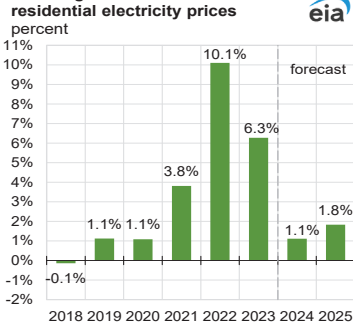
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



U.S. monthly nominal residential electricity price



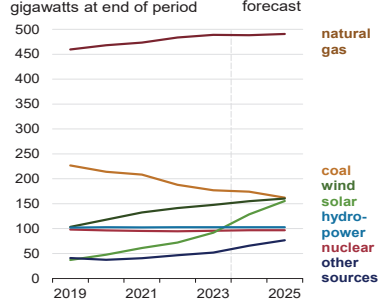
Annual growth in nominal residential electricity prices



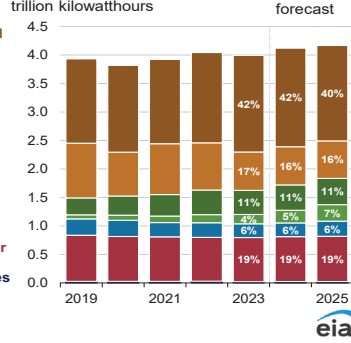
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



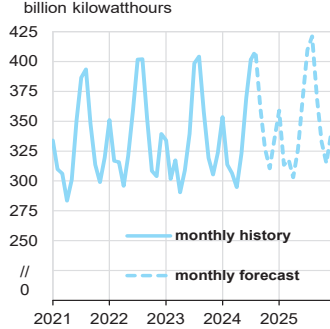
U.S. electric power sector generating capacity



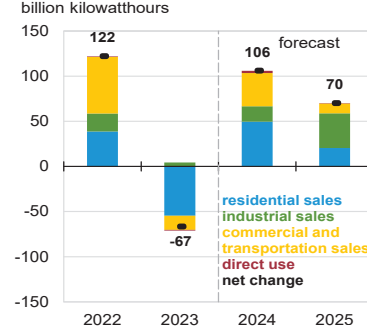
U.S. electricity generation by source



U.S. electricity consumption

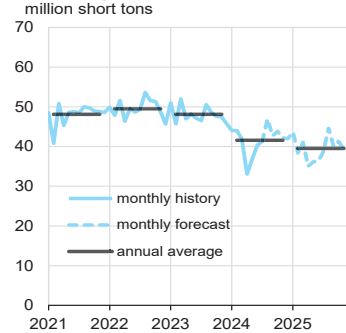


Components of annual change

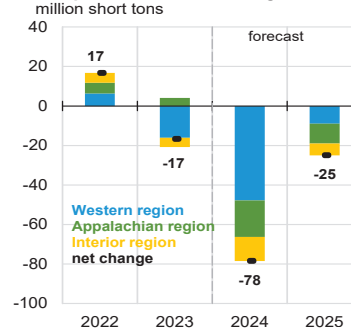


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

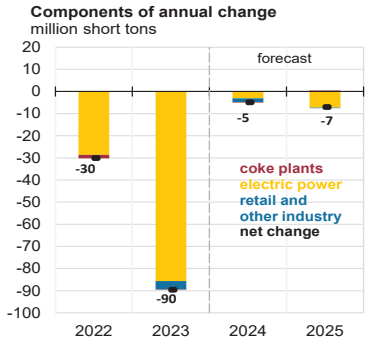
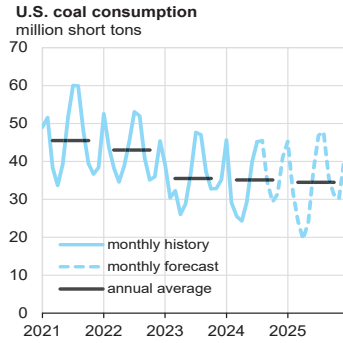
U.S. coal production



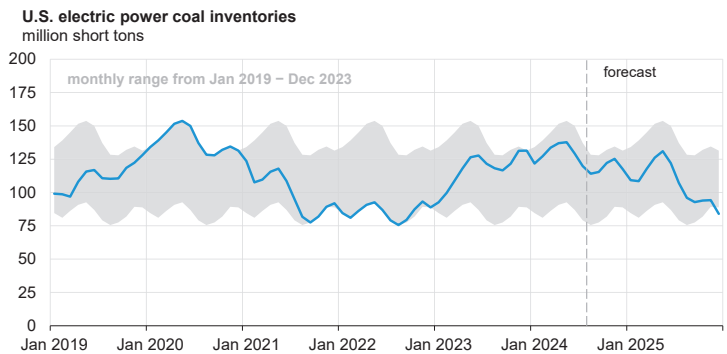
Components of annual change



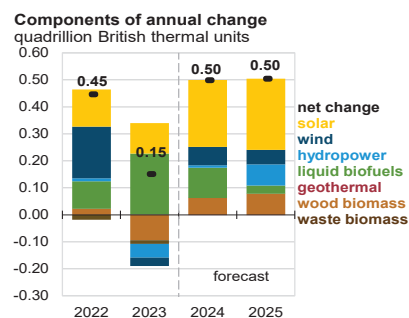
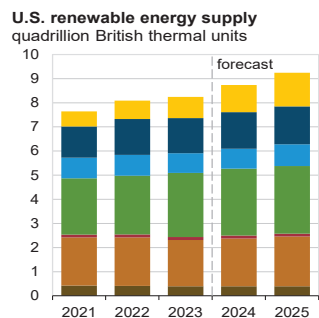
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



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



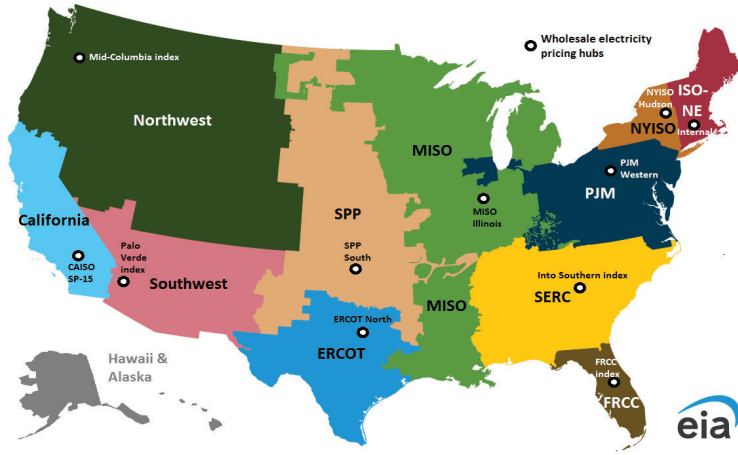
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024



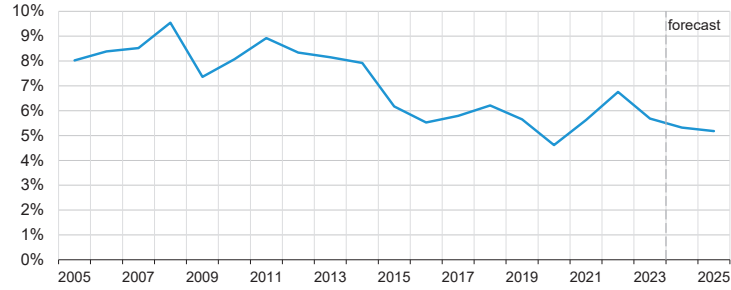
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024

Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts. Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Short-Term Energy Outlook electricity supply regions



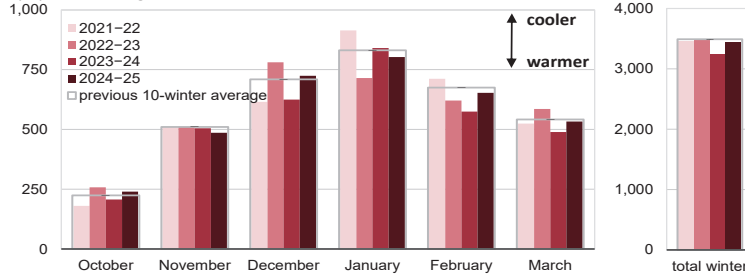
U.S. annual energy expenditures
share of gross domestic product



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



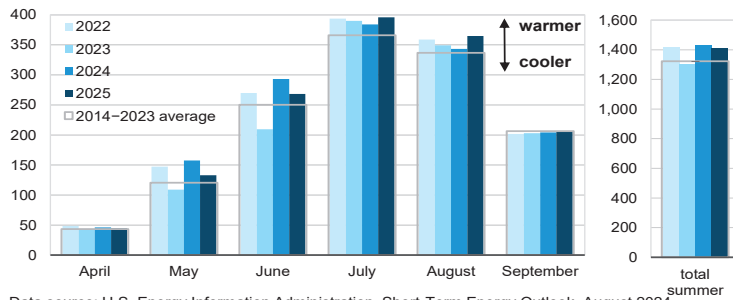
U.S. winter heating degree days
population-weighted



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



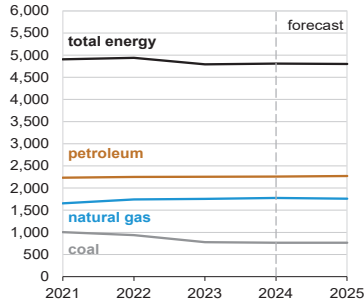
U.S. summer cooling degree days
population-weighted



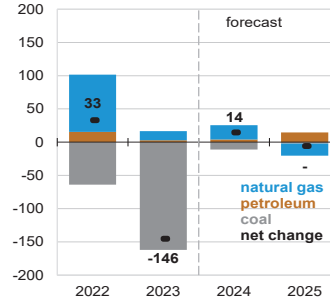
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2024
 Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



U.S. annual CO₂ emissions by source
million metric tons



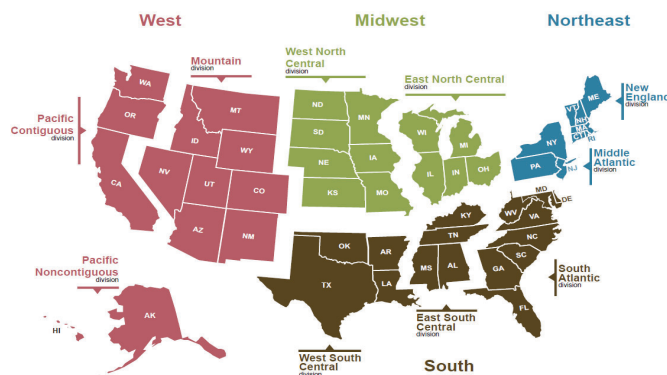
Components of annual change
million metric tons



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



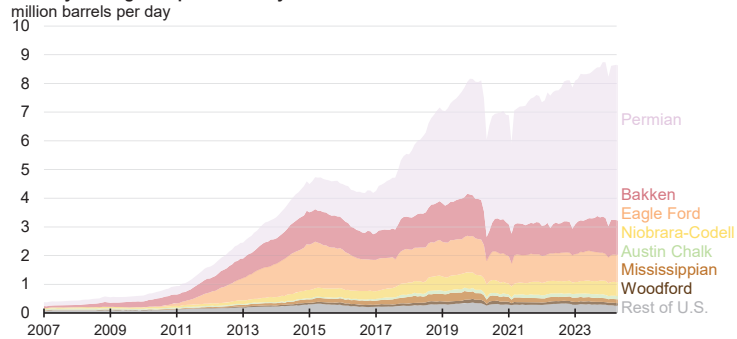
U.S. Census regions and divisions



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



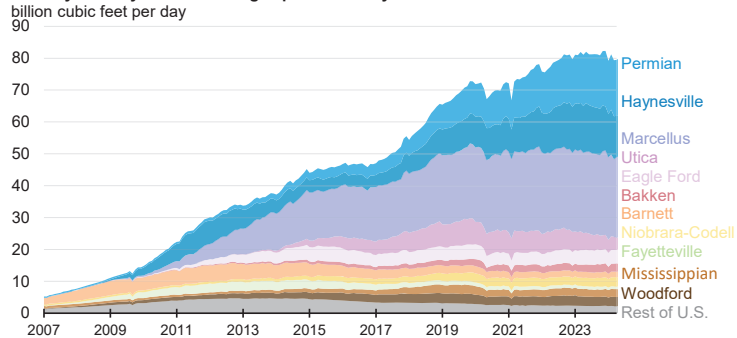
Monthly U.S. tight oil production by formation



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



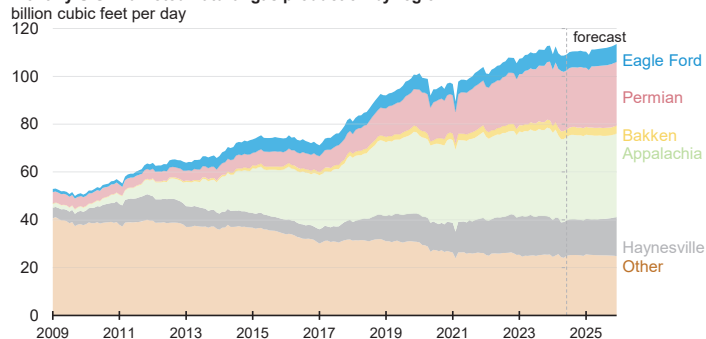
Monthly U.S. dry shale natural gas production by formation



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



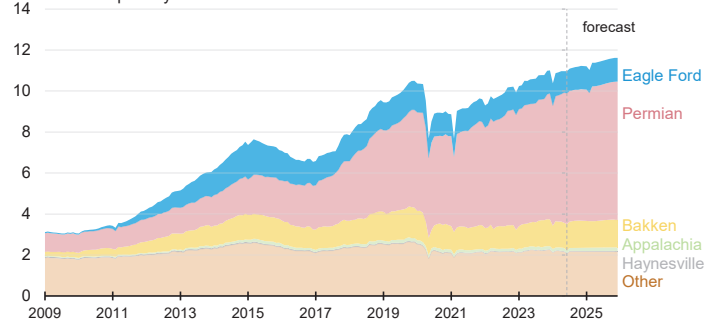
Monthly U.S. marketed natural gas production by region



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



Monthly U.S. crude oil production by region
million barrels per day



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



Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Energy Production															
Crude Oil Production (a) (million barrels per day)	12.67	12.76	13.05	13.25	12.94	13.20	13.33	13.44	13.46	13.66	13.76	13.90	12.93	13.23	13.69
Dry Natural Gas Production (billion cubic feet per day)	102.2	103.2	104.1	105.5	104.0	101.7	103.6	103.8	103.5	104.4	104.8	105.9	103.8	103.3	104.6
Coal Production (million short tons)	149	142	146	141	130	110	131	128	123	108	123	120	577	499	474
Energy Consumption															
Liquid Fuels (million barrels per day)	19.66	20.38	20.37	20.56	19.80	20.53	20.79	20.67	20.26	20.63	20.82	20.79	20.25	20.45	20.63
Natural Gas (billion cubic feet per day)	103.0	78.0	83.9	91.7	104.0	78.5	83.6	93.0	104.7	77.4	82.6	92.4	89.1	89.8	89.2
Coal (b) (million short tons)	102	91	132	101	100	94	125	102	101	81	130	101	426	421	414
Electricity (billion kilowatt hours per day)	10.59	10.32	12.62	10.30	10.70	10.85	12.75	10.57	11.00	10.97	13.06	10.73	10.96	11.22	11.44
Renewables (c) (quadrillion Btu)	2.04	2.10	2.05	2.04	2.09	2.25	2.20	2.20	2.22	2.42	2.33	2.27	8.24	8.74	9.24
Total Energy Consumption (d) (quadrillion Btu)	24.12	22.02	23.73	23.72	24.39	22.29	23.86	24.06	24.66	22.26	24.05	24.14	93.58	94.59	95.10
Energy Prices															
Crude Oil West Texas Intermediate Spo (dollars per barrel)	75.96	73.49	82.25	78.63	77.50	81.77	79.95	81.47	84.16	81.83	80.50	78.50	77.58	80.21	81.21
Natural Gas Henry Hub Spot (dollars per million Btu)	2.65	2.16	2.59	2.74	2.13	2.09	2.20	2.78	3.23	3.04	3.38	3.43	2.54	2.30	3.27
Coal (dollars per million Btu)	2.57	2.49	2.51	2.51	2.50	2.56	2.56	2.52	2.53	2.51	2.51	2.48	2.52	2.53	2.51
Macroeconomic															
Real Gross Domestic Product (billion chained 2017 dollars - SAAR) ...	22,112	22,225	22,491	22,679	22,759	22,873	22,969	23,056	23,136	23,237	23,332	23,443	22,377	22,914	23,287
Percent change from prior year	1.7	2.4	2.9	3.1	2.9	2.9	2.1	1.7	1.7	1.6	1.6	1.7	2.5	2.4	1.6
GDP Implicit Price Deflator (Index, 2017=100)	121.3	121.8	122.8	123.3	124.2	124.9	125.5	126.4	127.2	128.0	128.8	129.5	122.3	125.3	128.4
Percent change from prior year	5.3	3.5	3.2	2.6	2.4	2.6	2.2	2.5	2.4	2.5	2.6	2.5	3.6	2.4	2.5
Real Disposable Personal Income (billion chained 2017 dollars - SAAR) ...	16,663	16,797	16,820	16,856	16,912	16,982	17,121	17,222	17,364	17,495	17,630	17,750	16,784	17,060	17,560
Percent change from prior year	3.7	4.9	4.1	3.8	1.5	1.1	1.8	2.2	2.7	3.0	3.0	3.1	4.1	1.6	2.9
Manufacturing Production Index (Index, 2017=100)	100.0	100.1	100.0	99.7	99.5	99.9	100.5	100.9	101.0	101.5	101.8	102.4	100.0	100.2	101.7
Percent change from prior year	0.0	-0.6	-0.7	-0.3	-0.5	-0.2	0.5	1.2	1.5	1.6	1.3	1.5	-0.4	0.2	1.5
Weather															
U.S. Heating Degree-Days	1,922	485	60	1,336	1,905	413	69	1,450	1,989	469	74	1,443	3,803	3,836	3,975
U.S. Cooling Degree-Days	68	362	942	104	53	497	932	105	51	446	967	106	1,476	1,586	1,569

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's *Monthly Energy Review* (MER). Consequently, the historical data may not precisely match those published in the MER.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Prices are not adjusted for inflation.

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; *Weekly Petroleum Status Report*, DOE/EIA-0208; *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; *Quarterly Coal Report*, DOE/EIA-0121; and *International Petroleum Monthly*, DOE/EIA-0520.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	75.96	73.49	82.25	78.63	77.50	81.77	79.95	81.47	84.16	81.83	80.50	78.50	77.58	80.21	81.21
Brent Spot Average	81.04	78.02	86.64	83.93	82.96	84.72	84.06	85.97	88.66	86.33	85.00	83.00	82.41	84.44	85.71
U.S. Imported Average	69.69	71.37	80.99	76.12	72.40	78.43	77.32	78.71	81.38	79.04	77.75	75.75	74.72	76.76	78.52
U.S. Refiner Average Acquisition Cost	74.49	74.10	82.38	79.37	76.42	81.51	79.45	81.01	83.65	81.32	80.00	78.00	77.68	79.64	80.70
U.S. Liquid Fuels (dollars per gallon)															
Wholesale Petroleum Product Prices															
Gasoline	2.62	2.65	2.96	2.33	2.46	2.58	2.47	2.34	2.40	2.56	2.55	2.30	2.64	2.46	2.45
Diesel Fuel	2.95	2.45	3.09	2.84	2.70	2.51	2.46	2.54	2.66	2.50	2.61	2.59	2.83	2.55	2.59
Fuel Oil	2.77	2.30	2.88	2.80	2.64	2.42	2.34	2.43	2.58	2.40	2.48	2.51	2.69	2.45	2.49
Jet Fuel	3.05	2.33	2.91	2.72	2.68	2.52	2.41	2.43	2.69	2.56	2.56	2.47	2.75	2.50	2.57
No. 6 Residual Fuel Oil (a)	1.96	1.89	2.02	2.05	1.98	2.06	2.05	2.07	2.15	2.09	2.06	2.02	1.99	2.04	2.08
Propane															
Mont Belvieu Spot	0.82	0.68	0.68	0.67	0.84	0.75	0.81	0.83	0.86	0.85	0.84	0.81	0.71	0.81	0.84
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	3.38	3.58	3.76	3.36	3.24	3.56	3.44	3.25	3.24	3.45	3.43	3.20	3.52	3.38	3.33
Gasoline All Grades (b)	3.49	3.69	3.87	3.48	3.36	3.68	3.56	3.37	3.36	3.57	3.55	3.33	3.64	3.50	3.46
On-highway Diesel Fuel	4.40	3.94	4.28	4.25	3.97	3.85	3.77	3.79	3.91	3.82	3.84	3.88	4.22	3.84	3.87
Heating Oil	4.05	3.51	3.82	3.98	3.79	3.66	3.47	3.73	3.76	3.47	3.42	3.64	3.84	3.66	3.57
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	2.76	2.25	2.69	2.84	2.21	2.17	2.28	2.89	3.35	3.16	3.51	3.56	2.63	2.39	3.39
Henry Hub Spot (dollars per million Btu)	2.65	2.16	2.59	2.74	2.13	2.09	2.20	2.78	3.23	3.04	3.38	3.43	2.54	2.30	3.27
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	6.12	3.76	3.87	4.38	4.47	3.38	3.37	4.20	5.03	4.27	4.41	4.90	4.59	3.89	4.68
Commercial Sector	11.82	10.48	10.89	9.82	9.81	10.36	9.99	8.31	8.40	9.07	9.90	8.74	10.89	9.45	8.79
Residential Sector	14.72	16.19	22.33	13.72	12.76	16.96	21.52	12.69	11.55	14.13	19.90	12.48	15.19	13.96	12.84
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.57	2.49	2.51	2.51	2.50	2.56	2.56	2.52	2.53	2.51	2.51	2.48	2.52	2.53	2.51
Natural Gas	4.98	2.60	2.92	3.19	3.37	2.31	2.40	3.14	3.77	3.21	3.47	3.73	3.36	2.77	3.53
Residual Fuel Oil (c)	19.24	17.88	19.16	20.84	18.84	18.43	15.43	15.30	16.05	16.59	15.73	15.42	19.32	17.01	15.91
Distillate Fuel Oil	22.84	19.91	22.08	21.03	20.16	19.69	18.82	19.47	20.24	19.33	19.75	19.82	21.47	19.56	19.86
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	8.06	7.74	8.55	7.83	7.88	7.99	8.45	7.82	7.98	8.07	8.44	7.84	8.05	8.05	8.09
Commercial Sector	12.64	12.45	13.18	12.63	12.75	12.68	13.27	12.62	12.75	12.94	13.65	12.99	12.74	12.85	13.11
Residential Sector	15.77	16.12	16.02	16.02	16.01	16.46	16.24	15.90	16.06	16.82	16.57	16.36	15.98	16.16	16.45

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380;

Weekly Petroleum Status Report, DOE/EIA-0208; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Monthly Energy Review*, DOE/EIA-0035.

WTI and Brent crude oil spot prices, the Mt. Belvieu propane spot price, and the Henry Hub natural gas spot price are from

Refinitiv, an LSEG company, via EIA (https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm).

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. World Petroleum and Other Liquid Fuels Production, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Production (million barrels per day) (a)															
World total	101.15	101.49	101.67	102.84	101.75	102.08	102.67	102.92	102.98	104.14	105.21	105.41	101.79	102.36	104.44
Crude oil	77.15	76.61	76.17	77.13	76.53	76.10	76.62	77.19	77.63	78.04	78.86	79.23	76.76	76.61	78.45
Other liquids	24.00	24.88	25.50	25.71	25.22	25.98	26.05	25.74	25.34	26.10	26.35	26.18	25.03	25.75	26.00
World total	101.15	101.49	101.67	102.84	101.75	102.08	102.67	102.92	102.98	104.14	105.21	105.41	101.79	102.36	104.44
OPEC total (b)	32.77	32.46	31.63	31.88	32.02	31.87	32.06	32.04	32.13	32.40	32.70	32.51	32.18	32.00	32.44
Crude oil	27.38	27.23	26.37	26.58	26.63	26.60	26.76	26.71	26.85	27.11	27.42	27.23	26.89	26.67	27.15
Other liquids	5.40	5.22	5.26	5.30	5.40	5.27	5.30	5.33	5.28	5.28	5.28	5.28	5.29	5.32	5.28
Non-OPEC total	68.38	69.03	70.04	70.96	69.73	70.21	70.61	70.88	70.85	71.74	72.51	72.90	69.61	70.36	72.01
Crude oil	49.77	49.38	49.80	50.54	49.91	49.50	49.86	50.47	50.79	50.92	51.44	52.00	49.88	49.93	51.29
Other liquids	18.60	19.66	20.24	20.41	19.82	20.72	20.75	20.41	20.06	20.82	21.07	20.90	19.74	20.43	20.72
Consumption (million barrels per day) (c)															
World total	100.80	101.82	102.27	102.27	101.81	102.80	103.55	103.58	104.02	104.19	104.91	105.05	101.80	102.94	104.55
OECD total (d)	45.09	45.56	45.95	45.98	44.80	45.41	46.24	46.32	45.66	45.40	46.22	46.39	45.65	45.69	45.92
Canada	2.34	2.48	2.63	2.37	2.37	2.33	2.51	2.49	2.47	2.42	2.52	2.50	2.45	2.42	2.48
Europe	13.12	13.57	13.69	13.39	12.84	13.41	13.75	13.51	13.18	13.34	13.75	13.51	13.45	13.38	13.45
Japan	3.68	3.05	3.06	3.38	3.44	2.95	3.06	3.38	3.48	2.89	2.99	3.30	3.29	3.21	3.16
United States	19.66	20.38	20.37	20.56	19.80	20.53	20.79	20.67	20.26	20.63	20.82	20.79	20.25	20.45	20.63
U.S. Territories	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Other OECD	6.19	5.96	6.09	6.16	6.23	6.07	6.02	6.15	6.14	6.01	6.03	6.16	6.10	6.12	6.08
Non-OECD total	55.71	56.27	56.33	56.29	57.02	57.39	57.31	57.26	58.36	58.79	58.68	58.67	56.15	57.24	58.63
China	16.02	16.22	15.89	16.11	16.48	16.38	16.14	16.36	16.72	16.83	16.44	16.66	16.06	16.34	16.66
Eurasia	4.66	4.82	5.16	5.06	4.69	4.85	5.20	5.10	4.74	4.91	5.26	5.16	4.93	4.96	5.02
Europe	0.74	0.76	0.77	0.77	0.75	0.77	0.77	0.78	0.76	0.78	0.78	0.78	0.76	0.77	0.78
Other Asia	14.57	14.45	13.92	14.22	15.01	15.04	14.42	14.71	15.57	15.55	14.91	15.25	14.29	14.80	15.32
Other non-OECD	19.71	20.02	20.59	20.13	20.08	20.34	20.77	20.31	20.56	20.73	21.29	20.81	20.12	20.38	20.85
Total crude oil and other liquids inventory net withdrawals (million barrels per day)															
World total	-0.35	0.33	0.60	-0.57	0.06	0.72	0.88	0.66	1.04	0.05	-0.30	-0.36	0.00	0.58	0.10
United States	-0.08	-0.11	-0.25	0.30	0.14	-0.53	-0.04	0.20	0.04	-0.37	-0.07	0.27	-0.03	-0.06	-0.03
Other OECD	0.32	-0.02	-0.15	0.09	-0.02	0.38	0.28	0.14	0.31	0.12	-0.07	-0.19	0.06	0.19	0.04
Other inventory draws and balance	-0.59	0.46	1.01	-0.96	-0.06	0.87	0.64	0.31	0.70	0.29	-0.16	-0.44	-0.02	0.44	0.09
End-of-period commercial crude oil and other liquids inventories (million barrels)															
OECD total	2,746	2,782	2,815	2,776	2,756	2,761	2,728	2,685	2,654	2,677	2,689	2,682	2,776	2,685	2,682
United States	1,231	1,264	1,283	1,252	1,230	1,269	1,262	1,233	1,229	1,263	1,269	1,244	1,252	1,233	1,244
Other OECD	1,515	1,517	1,531	1,523	1,526	1,491	1,465	1,452	1,425	1,414	1,420	1,438	1,523	1,452	1,438

(a) Includes crude oil, lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids. Differences in the reported historical production data across countries could result in some inconsistencies in the delineation between crude oil and other liquid fuels.

(b) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela.

(c) Consumption of petroleum by the OECD countries is the same as "petroleum product supplied," defined in the glossary of the EIA Petroleum Supply Monthly (DOE/EIA-0109). Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

(d) OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Türkiye, United Kingdom, and United States.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (<https://www.eia.gov/international/data/world>).

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquid Fuels Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Petroleum and other liquid fuels production (a)															
Non-OPEC total (b)	68.38	69.03	70.04	70.96	69.73	70.21	70.61	70.88	70.85	71.74	72.51	72.90	69.61	70.36	72.01
North America total	28.96	29.30	30.14	30.78	29.91	30.47	30.65	30.90	30.92	31.03	31.31	31.69	29.80	30.48	31.24
Canada	5.79	5.44	5.79	6.11	5.96	5.89	6.11	6.32	6.39	6.07	6.23	6.41	5.78	6.07	6.27
Mexico	2.07	2.16	2.11	2.09	2.05	2.00	1.99	1.96	1.96	1.93	1.91	1.89	2.11	2.00	1.92
United States	21.10	21.70	22.25	22.58	21.91	22.57	22.55	22.63	22.57	23.03	23.17	23.40	21.91	22.42	23.04
Central and South America total	6.31	6.99	7.62	7.40	7.01	7.50	7.92	7.59	7.15	7.84	8.32	8.01	7.09	7.51	7.83
Argentina	0.81	0.81	0.82	0.84	0.86	0.86	0.86	0.90	0.90	0.91	0.92	0.95	0.82	0.87	0.92
Brazil	3.55	4.19	4.82	4.49	3.90	4.39	4.85	4.48	4.09	4.64	4.99	4.67	4.27	4.41	4.60
Colombia	0.79	0.81	0.81	0.81	0.80	0.82	0.81	0.80	0.80	0.80	0.79	0.79	0.81	0.81	0.80
Guyana	0.35	0.37	0.36	0.44	0.64	0.61	0.59	0.62	0.62	0.74	0.87	0.87	0.38	0.61	0.77
Europe total	4.01	3.95	3.84	3.94	3.92	3.93	4.01	4.11	4.25	4.15	4.05	4.16	3.94	3.99	4.15
Norway	2.03	2.03	1.98	2.06	2.06	2.01	2.04	2.18	2.20	2.14	2.12	2.21	2.02	2.07	2.17
United Kingdom	0.87	0.80	0.75	0.76	0.75	0.81	0.83	0.79	0.91	0.89	0.79	0.81	0.79	0.79	0.85
Eurasia total	14.11	13.65	13.42	13.70	13.68	13.29	13.10	13.19	13.41	13.50	13.54	13.68	13.72	13.31	13.53
Azerbaijan	0.65	0.62	0.62	0.61	0.60	0.59	0.61	0.62	0.63	0.65	0.67	0.67	0.62	0.61	0.65
Kazakhstan	2.02	1.97	1.85	1.99	2.00	1.89	1.87	1.92	2.01	2.02	1.97	2.07	1.96	1.92	2.02
Russia	11.06	10.68	10.58	10.70	10.68	10.40	10.22	10.25	10.37	10.44	10.51	10.55	10.75	10.39	10.47
Middle East total	3.22	3.26	3.23	3.20	3.13	3.11	3.12	3.12	3.15	3.18	3.25	3.29	3.23	3.12	3.22
Oman	1.07	1.06	1.05	1.05	1.01	1.00	1.00	1.01	1.02	1.03	1.04	1.03	1.06	1.01	1.03
Qatar	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.88	1.93	1.97	1.86	1.86	1.91
Africa total	2.55	2.64	2.67	2.69	2.61	2.48	2.45	2.57	2.56	2.60	2.61	2.60	2.64	2.53	2.59
Angola	1.17	1.23	1.23	1.24	1.20	1.16	1.13	1.10	1.08	1.07	1.06	1.04	1.22	1.15	1.07
Egypt	0.66	0.67	0.67	0.66	0.66	0.64	0.63	0.63	0.60	0.60	0.60	0.60	0.67	0.64	0.60
Asia and Oceania total	9.21	9.24	9.12	9.25	9.46	9.43	9.37	9.39	9.42	9.44	9.44	9.48	9.20	9.41	9.44
China	5.32	5.32	5.19	5.23	5.39	5.36	5.31	5.35	5.32	5.35	5.34	5.38	5.26	5.35	5.35
India	0.85	0.88	0.92	0.94	0.97	0.98	0.97	0.96	0.99	0.99	0.99	0.99	0.90	0.97	0.99
Indonesia	0.82	0.88	0.87	0.87	0.86	0.88	0.88	0.87	0.88	0.88	0.88	0.87	0.86	0.87	0.88
Malaysia	0.61	0.58	0.58	0.61	0.59	0.59	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.59	0.59
Unplanned production outages															
Non-OPEC total	0.56	1.02	0.92	0.87	1.04	1.09	-	-	-	-	-	-	0.84	-	-

(a) Includes crude oil, lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

(b) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (<https://www.eia.gov/international/data/world>).

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. World Petroleum and Other Liquid Fuels Production (million barrels per day)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Petroleum and other liquid fuels production (a)															
World total	101.15	101.49	101.67	102.84	101.75	102.08	102.67	102.92	102.98	104.14	105.21	105.41	101.79	102.36	104.44
OPEC+ total (b)	44.99	44.21	42.82	43.09	42.95	42.22	42.29	42.49	42.82	43.16	43.48	43.39	43.77	42.49	43.22
United States	21.10	21.70	22.25	22.58	21.91	22.57	22.55	22.63	22.57	23.03	23.17	23.40	21.91	22.42	23.04
Non-OPEC+ excluding United States	35.07	35.58	36.60	37.17	36.90	37.29	37.82	37.81	37.59	37.96	38.56	38.62	36.11	37.46	38.19
OPEC total (c)	32.77	32.46	31.63	31.88	32.02	31.87	32.06	32.04	32.13	32.40	32.70	32.51	32.18	32.00	32.44
Algeria	1.48	1.45	1.42	1.43	1.38	1.38	-	-	-	-	-	-	1.44	-	-
Congo (Brazzaville)	0.27	0.26	0.26	0.27	0.26	0.26	-	-	-	-	-	-	0.27	-	-
Equatorial Guinea	0.10	0.10	0.10	0.09	0.10	0.09	-	-	-	-	-	-	0.10	-	-
Gabon	0.20	0.21	0.20	0.21	0.21	0.22	-	-	-	-	-	-	0.20	-	-
Iran	3.79	3.80	4.06	4.31	4.43	4.32	-	-	-	-	-	-	3.99	-	-
Iraq	4.52	4.30	4.44	4.44	4.40	4.35	-	-	-	-	-	-	4.42	-	-
Kuwait	3.00	2.90	2.88	2.85	2.77	2.81	-	-	-	-	-	-	2.91	-	-
Libya	1.24	1.22	1.25	1.27	1.20	1.28	-	-	-	-	-	-	1.24	-	-
Nigeria	1.57	1.49	1.49	1.60	1.57	1.52	-	-	-	-	-	-	1.54	-	-
Saudi Arabia	11.62	11.78	10.62	10.53	10.74	10.62	-	-	-	-	-	-	11.13	-	-
United Arab Emirates	4.27	4.15	4.12	4.11	4.15	4.17	-	-	-	-	-	-	4.16	-	-
Venezuela	0.73	0.78	0.79	0.78	0.81	0.85	-	-	-	-	-	-	0.77	-	-
OPEC+ total (b)	44.99	44.21	42.82	43.09	42.95	42.22	42.29	42.49	42.82	43.16	43.48	43.39	43.77	42.49	43.22
OPEC members subject to OPEC+ agreements (d)	27.01	26.65	25.54	25.53	25.58	25.42	25.69	25.71	25.82	26.08	26.38	26.18	26.18	25.60	26.12
OPEC+ other participants total	17.97	17.56	17.29	17.56	17.37	16.80	16.60	16.78	17.00	17.07	17.10	17.21	17.59	16.89	17.10
Azerbaijan	0.65	0.62	0.62	0.61	0.60	0.59	0.61	0.62	0.63	0.65	0.67	0.67	0.62	0.61	0.65
Bahrain	0.18	0.21	0.18	0.17	0.14	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.18	0.14	0.13
Brunei	0.11	0.08	0.09	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Kazakhstan	2.02	1.97	1.85	1.99	2.00	1.89	1.87	1.92	2.01	2.02	1.97	2.07	1.96	1.92	2.02
Malaysia	0.61	0.58	0.58	0.61	0.59	0.59	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.59	0.59
Mexico	2.07	2.16	2.11	2.09	2.05	2.00	1.99	1.96	1.96	1.93	1.91	1.89	2.11	2.00	1.92
Oman	1.07	1.06	1.05	1.05	1.01	1.00	1.00	1.01	1.02	1.03	1.04	1.03	1.06	1.01	1.03
Russia	11.06	10.68	10.58	10.70	10.68	10.40	10.22	10.25	10.37	10.44	10.51	10.55	10.75	10.39	10.47
South Sudan	0.13	0.13	0.16	0.17	0.13	0.06	0.06	0.15	0.15	0.15	0.14	0.14	0.15	0.10	0.14
Sudan	0.07	0.07	0.07	0.07	0.06	0.04	0.03	0.06	0.05	0.05	0.05	0.04	0.07	0.05	0.05

(a) Includes crude oil, lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids.

(b) OPEC+ total = OPEC members subject to OPEC+ agreements plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.

(c) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela.

(d) Iran, Libya, and Venezuela are not subject to the OPEC+ agreements.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (<https://www.eia.gov/international/data/world>).

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Crude Oil Production (million barrels per day)
U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Crude oil production (a)															
World total	77.15	76.61	76.17	77.13	76.53	76.10	76.62	77.19	77.63	78.04	78.86	79.23	76.76	76.61	78.45
OPEC+ total (b)	38.20	37.50	36.25	36.34	36.12	35.48	35.56	35.76	36.10	36.45	36.80	36.72	37.07	35.73	36.52
United States	12.67	12.76	13.05	13.25	12.94	13.20	13.33	13.44	13.46	13.66	13.76	13.90	12.93	13.23	13.69
Non-OPEC+ excluding United States	26.27	26.35	26.87	27.54	27.48	27.41	27.73	27.98	28.08	27.93	28.30	28.60	26.76	27.65	28.23
OPEC total (c)	27.38	27.23	26.37	26.58	26.63	26.60	26.76	26.71	26.85	27.11	27.42	27.23	26.89	26.67	27.15
Algeria	1.01	0.98	0.95	0.96	0.91	0.91	-	-	-	-	-	-	0.97	-	-
Congo (Brazzaville)	0.27	0.25	0.26	0.26	0.25	0.25	-	-	-	-	-	-	0.26	-	-
Equatorial Guinea	0.06	0.06	0.06	0.05	0.06	0.05	-	-	-	-	-	-	0.06	-	-
Gabon	0.20	0.21	0.20	0.21	0.21	0.22	-	-	-	-	-	-	0.20	-	-
Iran	2.60	2.74	2.97	3.18	3.24	3.26	-	-	-	-	-	-	2.87	-	-
Iraq	4.41	4.19	4.33	4.33	4.29	4.24	-	-	-	-	-	-	4.32	-	-
Kuwait	2.68	2.59	2.56	2.53	2.46	2.49	-	-	-	-	-	-	2.59	-	-
Libya	1.14	1.15	1.15	1.17	1.10	1.18	-	-	-	-	-	-	1.15	-	-
Nigeria	1.24	1.19	1.21	1.31	1.28	1.24	-	-	-	-	-	-	1.24	-	-
Saudi Arabia	10.02	10.18	9.02	8.93	9.12	9.00	-	-	-	-	-	-	9.53	-	-
United Arab Emirates	3.06	2.94	2.91	2.90	2.91	2.93	-	-	-	-	-	-	2.95	-	-
Venezuela	0.70	0.75	0.76	0.75	0.79	0.83	-	-	-	-	-	-	0.74	-	-
OPEC+ total (b)	38.20	37.50	36.25	36.34	36.12	35.48	35.56	35.76	36.10	36.45	36.80	36.72	37.07	35.73	36.52
OPEC members subject to OPEC+ agreements (d)	22.94	22.60	21.49	21.48	21.49	21.33	21.61	21.63	21.75	22.01	22.32	22.13	22.12	21.52	22.05
OPEC+ other participants total	15.27	14.90	14.76	14.86	14.63	14.15	13.95	14.13	14.35	14.43	14.49	14.59	14.94	14.22	14.47
Azerbaijan	0.52	0.50	0.49	0.49	0.47	0.47	-	-	-	-	-	-	0.50	-	-
Bahrain	0.17	0.20	0.17	0.15	0.13	0.13	-	-	-	-	-	-	0.17	-	-
Brunei	0.08	0.06	0.07	0.08	0.08	0.07	-	-	-	-	-	-	0.07	-	-
Kazakhstan	1.61	1.58	1.49	1.57	1.58	1.52	-	-	-	-	-	-	1.56	-	-
Malaysia	0.39	0.36	0.36	0.38	0.37	0.36	-	-	-	-	-	-	0.37	-	-
Mexico	1.67	1.67	1.65	1.63	1.60	1.56	-	-	-	-	-	-	1.66	-	-
Oman	0.84	0.82	0.80	0.80	0.76	0.76	-	-	-	-	-	-	0.81	-	-
Russia	9.78	9.52	9.49	9.53	9.44	9.19	-	-	-	-	-	-	9.58	-	-
South Sudan	0.13	0.13	0.16	0.17	0.13	0.06	-	-	-	-	-	-	0.15	-	-
Sudan	0.07	0.07	0.07	0.07	0.06	0.03	-	-	-	-	-	-	0.07	-	-
Crude oil production capacity															
OPEC total	30.45	30.33	30.58	30.91	31.06	31.16	31.10	31.03	31.09	31.23	31.34	31.34	30.57	31.09	31.25
Middle East	25.83	25.69	25.92	26.13	26.35	26.37	26.33	26.31	26.41	26.56	26.68	26.68	25.89	26.34	26.58
Other	4.63	4.64	4.67	4.78	4.71	4.79	4.77	4.72	4.68	4.67	4.66	4.66	4.68	4.75	4.67
Surplus crude oil production capacity															
OPEC total	3.08	3.09	4.21	4.33	4.43	4.56	4.34	4.32	4.24	4.12	3.93	4.11	3.68	4.41	4.10
Middle East	3.05	3.04	4.13	4.25	4.33	4.45	4.23	4.21	4.15	4.03	3.86	4.04	3.63	4.31	4.02
Other	0.02	0.05	0.08	0.07	0.11	0.11	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.11	0.08
Unplanned production outages															
OPEC total	1.94	2.13	1.95	1.52	1.52	1.48	-	-	-	-	-	-	1.88	-	-

(a) Differences in the reported historical production data across countries could result in some inconsistencies in the delineation between crude oil and other liquid fuels.

(b) OPEC+ total = OPEC members subject to OPEC+ agreements plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.

(c) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela.

(d) Iran, Libya, and Venezuela are not subject to the OPEC+ agreements.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (<https://www.eia.gov/international/data/world>).

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3e. World Petroleum and Other Liquid Fuels Consumption (million barrels per day)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Petroleum and other liquid fuels consumption (a)															
World total	100.80	101.82	102.27	102.27	101.81	102.80	103.55	103.58	104.02	104.19	104.91	105.05	101.80	102.94	104.55
OECD total (b)	45.09	45.56	45.95	45.98	44.80	45.41	46.24	46.32	45.66	45.40	46.22	46.39	45.65	45.69	45.92
Non-OECD total	55.71	56.27	56.33	56.29	57.02	57.39	57.31	57.26	58.36	58.79	58.68	58.67	56.15	57.24	58.63
World total	100.80	101.82	102.27	102.27	101.81	102.80	103.55	103.58	104.02	104.19	104.91	105.05	101.80	102.94	104.55
North America total	23.72	24.59	24.76	24.68	23.90	24.61	25.03	24.91	24.44	24.77	25.07	25.04	24.44	24.62	24.83
Canada	2.34	2.48	2.63	2.37	2.37	2.33	2.51	2.49	2.47	2.42	2.52	2.50	2.45	2.42	2.48
Mexico	1.72	1.73	1.75	1.75	1.72	1.74	1.73	1.74	1.70	1.72	1.72	1.74	1.74	1.73	1.72
United States	19.66	20.38	20.37	20.56	19.80	20.53	20.79	20.67	20.26	20.63	20.82	20.79	20.25	20.45	20.63
Central and South America total	6.63	6.77	6.88	6.81	6.66	6.82	6.92	6.85	6.76	6.91	7.02	6.95	6.77	6.82	6.91
Brazil	3.05	3.11	3.19	3.17	3.08	3.14	3.22	3.20	3.14	3.20	3.28	3.26	3.13	3.16	3.22
Europe total	13.86	14.34	14.46	14.17	13.59	14.18	14.52	14.28	13.94	14.12	14.53	14.30	14.21	14.14	14.22
Eurasia total	4.66	4.82	5.16	5.06	4.69	4.85	5.20	5.10	4.74	4.91	5.26	5.16	4.93	4.96	5.02
Russia	3.54	3.64	3.95	3.80	3.56	3.65	3.97	3.81	3.59	3.69	4.01	3.85	3.73	3.75	3.79
Middle East total	9.25	9.39	9.94	9.35	9.46	9.57	9.99	9.41	9.74	9.74	10.29	9.69	9.48	9.61	9.87
Africa total	4.57	4.58	4.50	4.66	4.66	4.68	4.59	4.76	4.79	4.80	4.72	4.89	4.58	4.67	4.80
Asia and Oceania total	38.11	37.34	36.57	37.55	38.84	38.09	37.29	38.27	39.60	38.93	38.01	39.03	37.39	38.12	38.89
China	16.02	16.22	15.89	16.11	16.48	16.38	16.14	16.36	16.72	16.83	16.44	16.66	16.06	16.34	16.66
India	5.38	5.35	5.05	5.38	5.59	5.71	5.33	5.64	5.92	6.00	5.60	5.96	5.29	5.57	5.87
Japan	3.68	3.05	3.06	3.38	3.44	2.95	3.06	3.38	3.48	2.89	2.99	3.30	3.29	3.21	3.16
Real gross domestic product (c)															
World index, 2015 Q1 = 100	126.0	127.0	127.9	129.0	130.0	130.8	131.8	133.0	133.9	135.1	136.2	137.5	127.5	131.4	135.7
Percent change from prior year	2.7	3.5	3.2	3.3	3.2	3.0	3.0	3.1	3.0	3.3	3.4	3.4	3.2	3.0	3.3
OECD index, 2015 = 100	-	-	-	-	-	-	-	-	-	-	-	-	115.9	117.8	120.0
Percent change from prior year	-	-	-	-	-	-	-	-	-	-	-	-	1.7	1.6	1.9
Non-OECD index, 2015 = 100	-	-	-	-	-	-	-	-	-	-	-	-	135.1	140.8	146.9
Percent change from prior year	-	-	-	-	-	-	-	-	-	-	-	-	4.4	4.2	4.3
Nominal U.S. Dollar index (d)															
Index, 2015 Q1 = 100	114.1	113.4	114.0	115.6	114.8	116.6	118.3	118.6	118.8	118.8	118.6	118.3	114.3	117.1	118.6
Percent change from prior year	4.2	0.5	-2.7	-2.4	0.6	2.8	3.8	2.7	3.5	1.9	0.2	-0.3	-0.2	2.5	1.3

(a) Consumption of petroleum by the OECD countries is the same as "petroleum product supplied," defined in the glossary of the EIA Petroleum Supply Monthly (DOE/EIA-0109). Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

(b) OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Türkiye, United Kingdom, and United States.

(c) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(d) An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies, and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index accessed via Oxford Economics. Forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (<https://www.eia.gov/international/data/world>) and Oxford Economics.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
HGL production, consumption, and inventories															
Total HGL production	6.45	7.23	7.31	7.04	6.95	7.64	7.35	6.92	7.05	7.58	7.50	7.19	7.01	7.21	7.33
Natural gas processing plant production	6.01	6.42	6.58	6.70	6.51	6.81	6.60	6.57	6.58	6.74	6.74	6.82	6.43	6.62	6.72
Ethane	2.49	2.65	2.63	2.71	2.63	2.87	2.72	2.72	2.70	2.77	2.72	2.81	2.62	2.74	2.75
Propane	1.89	2.00	2.05	2.10	2.05	2.06	2.08	2.08	2.12	2.14	2.15	2.16	2.01	2.07	2.14
Butanes	0.99	1.06	1.09	1.10	1.07	1.10	1.13	1.15	1.15	1.16	1.17	1.19	1.06	1.11	1.17
Natural gasoline (pentanes plus)	0.64	0.73	0.81	0.79	0.75	0.77	0.67	0.63	0.61	0.66	0.69	0.66	0.74	0.71	0.65
Refinery and blender net production	0.47	0.83	0.75	0.36	0.46	0.84	0.76	0.37	0.49	0.86	0.78	0.39	0.60	0.61	0.63
Ethane/ethylene	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Propane	0.27	0.29	0.28	0.27	0.27	0.28	0.28	0.27	0.28	0.30	0.30	0.29	0.28	0.27	0.29
Propylene (refinery-grade)	0.24	0.26	0.25	0.26	0.24	0.28	0.27	0.28	0.28	0.28	0.27	0.28	0.25	0.27	0.28
Butanes/butylenes	-0.05	0.28	0.21	-0.19	-0.05	0.28	0.20	-0.19	-0.08	0.27	0.20	-0.18	0.07	0.06	0.05
Renewable/oxygenate plant net production of natural gasoli	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
Total HGL consumption	3.40	3.36	3.25	3.81	3.80	3.37	3.40	3.85	3.87	3.42	3.46	3.91	3.46	3.60	3.66
Ethane/Ethylene	1.99	2.19	2.07	2.25	2.24	2.26	2.23	2.26	2.23	2.24	2.25	2.26	2.13	2.25	2.25
Propane	0.98	0.62	0.62	0.95	1.02	0.53	0.61	1.01	1.13	0.62	0.66	1.06	0.79	0.79	0.87
Propylene (refinery-grade)	0.25	0.27	0.27	0.28	0.26	0.29	0.29	0.29	0.30	0.29	0.29	0.29	0.27	0.28	0.29
Butanes/butylenes	0.18	0.28	0.29	0.34	0.28	0.28	0.27	0.29	0.22	0.26	0.25	0.30	0.27	0.28	0.26
HGL net imports	-2.47	-2.39	-2.42	-2.58	-2.59	-2.70	-2.62	-2.53	-2.69	-2.77	-2.71	-2.67	-2.46	-2.61	-2.71
Ethane	-0.50	-0.49	-0.50	-0.40	-0.48	-0.47	-0.50	-0.50	-0.50	-0.51	-0.51	-0.55	-0.47	-0.49	-0.52
Propane/propylene	-1.40	-1.40	-1.45	-1.65	-1.60	-1.60	-1.50	-1.48	-1.52	-1.60	-1.55	-1.51	-1.47	-1.55	-1.55
Butanes/butylenes	-0.42	-0.41	-0.42	-0.41	-0.41	-0.48	-0.50	-0.40	-0.48	-0.52	-0.52	-0.46	-0.42	-0.45	-0.50
Natural gasoline (pentanes plus)	-0.15	-0.09	-0.06	-0.11	-0.11	-0.15	-0.11	-0.14	-0.18	-0.13	-0.13	-0.14	-0.10	-0.13	-0.15
HGL inventories (million barrels)	174.3	225.4	279.1	223.3	169.2	225.5	265.3	218.4	180.0	232.3	271.9	229.8	223.3	218.4	229.8
Ethane	54.3	51.5	58.0	65.8	58.3	71.3	71.2	68.7	67.4	69.9	67.7	68.0	65.8	68.7	68.0
Propane	55.83	79.2	102.2	79.8	51.7	69.3	90.1	75.8	51.3	69.7	89.4	76.5	79.8	75.8	76.5
Propylene (at refineries only)	1.13	1.1	1.2	0.9	0.9	1.2	1.5	1.5	1.3	1.6	1.7	1.6	0.9	1.5	1.6
Butanes/butylenes	40.2	70.1	90.2	50.1	35.1	60.4	78.7	49.8	40.1	70.2	91.4	62.7	50.1	49.8	62.7
Natural gasoline (pentanes plus)	22.9	23.4	27.4	26.8	23.2	23.3	23.7	22.6	19.8	20.9	21.8	21.0	26.8	22.6	21.0
Refining															
Total refinery and blender net inputs	17.58	18.90	18.92	18.25	17.61	19.10	19.13	18.20	17.33	18.82	18.81	17.96	18.41	18.51	18.24
Crude oil	15.25	16.15	16.51	15.93	15.39	16.47	16.27	15.68	15.20	16.04	16.22	15.69	15.96	15.95	15.79
HGL	0.66	0.49	0.56	0.78	0.69	0.54	0.54	0.74	0.62	0.48	0.53	0.71	0.62	0.63	0.59
Other hydrocarbons/oxygenates	1.13	1.20	1.21	1.18	1.12	1.21	1.20	1.17	1.13	1.19	1.19	1.17	1.18	1.18	1.17
Unfinished oils	0.19	0.21	0.00	0.12	-0.03	0.15	0.32	0.30	0.09	0.30	0.31	0.28	0.13	0.19	0.25
Motor gasoline blending components	0.34	0.85	0.64	0.23	0.43	0.73	0.80	0.31	0.28	0.83	0.56	0.11	0.52	0.57	0.44
Refinery Processing Gain	0.97	1.01	1.07	1.05	0.91	1.00	1.05	1.04	0.97	1.03	1.07	1.05	1.03	1.00	1.03
Total refinery and blender net production	18.54	19.91	19.99	19.30	18.52	20.10	20.18	19.24	18.30	19.85	19.88	19.01	19.44	19.51	19.26
HGL	0.47	0.83	0.75	0.36	0.46	0.84	0.76	0.37	0.49	0.86	0.78	0.39	0.60	0.61	0.63
Finished motor gasoline	9.28	9.83	9.81	9.64	9.24	9.84	9.80	9.62	9.08	9.68	9.61	9.37	9.64	9.62	9.43
Jet fuel	1.62	1.72	1.78	1.71	1.70	1.84	1.85	1.68	1.65	1.77	1.83	1.73	1.71	1.77	1.74
Distillate fuel oil	4.69	4.91	4.99	5.04	4.57	4.95	4.99	4.93	4.56	4.84	4.88	4.88	4.91	4.86	4.79
Residual fuel oil	0.27	0.27	0.27	0.28	0.37	0.30	0.34	0.33	0.30	0.30	0.31	0.30	0.27	0.34	0.31
Other oils (a)	2.21	2.35	2.40	2.26	2.17	2.34	2.45	2.31	2.22	2.40	2.48	2.35	2.30	2.32	2.36
Refinery distillation inputs	15.78	16.75	17.02	16.47	15.80	16.93	16.67	16.08	15.61	16.42	16.66	16.08	16.51	16.37	16.20
Refinery operable distillation capacity	18.12	18.27	18.27	18.32	18.39	18.33	18.34	18.34	18.08	18.08	18.08	18.08	18.25	18.35	18.08
Refinery distillation utilization factor	0.87	0.92	0.93	0.90	0.86	0.92	0.91	0.88	0.86	0.91	0.92	0.89	0.90	0.89	0.90

(a) Other oils include aviation gasoline blending components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Wholesale price (dollars per gallon)															
United States average	2.62	2.65	2.96	2.33	2.46	2.58	2.47	2.34	2.40	2.56	2.55	2.30	2.64	2.46	2.45
Retail prices (dollars per gallon) (a)															
All grades United States average	3.49	3.69	3.87	3.48	3.36	3.68	3.56	3.37	3.36	3.57	3.55	3.33	3.64	3.50	3.46
Regular grade United States average	3.38	3.58	3.76	3.36	3.24	3.56	3.44	3.25	3.24	3.45	3.43	3.20	3.52	3.38	3.33
PADD 1	3.30	3.44	3.61	3.25	3.19	3.45	3.34	3.15	3.15	3.31	3.29	3.08	3.40	3.28	3.21
PADD 2	3.24	3.48	3.60	3.14	3.07	3.39	3.36	3.09	3.06	3.29	3.28	3.01	3.37	3.23	3.16
PADD 3	3.02	3.15	3.34	2.84	2.86	3.12	3.05	2.83	2.85	3.05	3.04	2.78	3.09	2.97	2.93
PADD 4	3.57	3.59	3.93	3.32	2.92	3.38	3.35	3.16	3.21	3.32	3.45	3.16	3.61	3.21	3.29
PADD 5	4.18	4.52	4.80	4.56	4.13	4.59	4.16	4.15	4.10	4.38	4.35	4.19	4.52	4.26	4.26
End-of-period inventories (million barrels) (b)															
Total U.S. gasoline inventories	225.3	223.2	227.6	241.3	233.4	229.7	220.5	237.1	235.4	230.0	225.8	241.4	241.3	237.1	241.4
PADD 1	52.7	57.1	58.8	60.1	54.9	56.5	55.4	58.8	59.5	58.1	58.3	60.6	60.1	58.8	60.6
PADD 2	49.5	45.2	46.9	54.6	54.6	47.9	44.7	51.2	53.3	48.2	46.8	52.3	54.6	51.2	52.3
PADD 3	84.1	85.0	84.9	90.2	85.4	86.1	83.3	88.4	84.4	86.5	83.4	89.6	90.2	88.4	89.6
PADD 4	7.8	6.8	7.2	7.9	8.6	7.6	7.3	7.8	8.1	7.4	7.6	8.2	7.9	7.8	8.2
PADD 5	31.2	29.0	29.9	28.5	29.9	31.7	29.8	30.9	30.2	29.8	29.7	30.6	28.5	30.9	30.6

(a) Retail prices include all federal, state, and local taxes.

(b) Inventories include both finished motor gasoline and motor gasoline blending components

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Prices are not adjusted for inflation.

PADD = Petroleum Administration for Defense District (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Petroleum Supply Monthly*, DOE/EIA-0109; *Petroleum Supply Annual*, DOE/EIA-0340/2; and *Weekly Petroleum Status Report*, DOE/EIA-0208.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (billion cubic feet per day)															
U.S. total marketed natural gas production	111.2	112.5	113.6	115.2	113.4	111.7	113.0	113.3	113.0	114.1	114.5	115.7	113.1	112.8	114.3
Alaska	1.1	1.0	0.9	1.0	1.1	1.0	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0
Federal Gulf of Mexico (a)	2.1	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	2.0	1.8	1.7
Lower 48 States (excl GOM) (b)	108.0	109.6	110.7	112.2	110.4	108.8	110.3	110.5	110.2	111.4	111.9	113.0	110.1	110.0	111.6
Appalachia region	35.4	35.7	36.0	36.7	36.0	34.8	35.3	35.3	35.2	35.0	34.7	34.8	36.0	35.3	34.9
Bakken region	2.9	3.0	3.2	3.3	3.2	3.3	3.3	3.3	3.2	3.3	3.3	3.3	3.1	3.3	3.3
Eagle Ford region	6.5	6.7	6.7	6.7	6.6	6.6	6.7	6.8	6.8	7.1	7.3	7.4	6.6	6.7	7.1
Haynesville region	16.4	16.6	16.4	15.9	15.4	14.8	15.0	14.8	14.9	15.0	15.3	16.0	16.4	15.0	15.3
Permian region	21.7	22.5	23.2	24.1	24.2	24.9	24.9	25.2	24.8	25.8	26.1	26.5	22.9	24.8	25.8
Rest of Lower 48 States	25.0	25.1	25.1	25.5	25.1	24.5	25.2	25.1	25.4	25.2	25.1	25.0	25.2	25.0	25.2
Total primary supply	103.0	78.0	83.9	91.7	104.0	78.5	83.6	93.0	104.7	77.4	82.6	92.4	89.1	89.8	89.2
Balancing item (c)	0.4	-0.4	-1.4	-0.6	-0.2	-0.8	-1.0	-0.2	0.8	0.1	1.3	0.2	-0.5	-0.6	0.6
Total supply	102.6	78.5	85.2	92.3	104.2	79.3	84.6	93.2	103.9	77.3	81.2	92.2	89.6	90.3	88.6
U.S. total dry natural gas production	102.2	103.2	104.1	105.5	104.0	101.7	103.6	103.8	103.5	104.4	104.8	105.9	103.8	103.3	104.6
Net inventory withdrawals	12.0	-11.7	-6.4	0.3	12.7	-9.7	-5.7	4.3	15.0	-10.9	-6.7	3.5	-1.5	0.4	0.2
Supplemental gaseous fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Net imports	-11.8	-13.2	-12.6	-13.7	-12.7	-12.9	-13.4	-15.1	-14.8	-16.3	-17.0	-17.4	-12.8	-13.5	-16.4
LNG gross imports (d)	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1
LNG gross exports (d)	11.4	11.8	11.4	13.0	12.4	11.4	11.5	13.4	13.7	13.8	14.4	15.3	11.9	12.2	14.3
Pipeline gross imports	8.4	7.3	7.9	8.2	9.0	7.6	7.5	7.6	8.3	7.0	7.2	7.5	8.0	7.9	7.5
Pipeline gross exports	8.9	8.7	9.2	8.9	9.4	9.1	9.4	9.3	9.5	9.5	9.9	9.6	9.0	9.3	9.6
Consumption (billion cubic feet per day)															
Total consumption	103.0	78.0	83.9	91.7	104.0	78.5	83.6	93.0	104.7	77.4	82.6	92.4	89.1	89.8	89.2
Residential	23.5	7.3	3.6	15.0	22.8	6.6	3.7	16.1	24.2	7.3	3.8	16.1	12.3	12.3	12.8
Commercial	14.5	6.4	4.7	10.7	14.3	6.3	5.2	11.4	15.1	6.7	5.3	11.4	9.1	9.3	9.6
Industrial	24.8	22.4	22.0	24.3	24.9	22.3	21.9	23.9	24.7	21.7	21.5	23.8	23.4	23.3	22.9
Electric power (e)	30.8	33.4	44.8	32.6	32.5	34.8	44.0	32.4	31.1	33.1	43.1	31.9	35.4	36.0	34.8
Lease and plant fuel	5.3	5.4	5.4	5.5	5.4	5.3	5.4	5.4	5.4	5.4	5.5	5.5	5.4	5.4	5.5
Pipeline and distribution	3.9	2.9	3.1	3.4	3.9	2.9	3.1	3.5	4.0	2.9	3.1	3.5	3.3	3.4	3.4
Vehicle	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
End-of-period working natural gas inventories (billion cubic feet) (f)															
United States total	1,850	2,902	3,490	3,457	2,301	3,179	3,706	3,314	1,963	2,956	3,573	3,250	3,457	3,314	3,250
East region	334	646	853	787	369	666	848	748	347	624	804	729	787	748	729
Midwest region	417	701	993	950	507	785	1,051	917	449	707	1,025	896	950	917	896
South Central region	919	1,138	1,092	1,183	1,003	1,177	1,206	1,156	853	1,146	1,193	1,144	1,183	1,156	1,144
Mountain region	79	171	239	228	168	241	259	205	120	188	238	204	228	205	204
Pacific region	74	216	278	280	231	284	309	260	170	266	282	248	280	260	248
Alaska	27	30	35	30	24	27	33	29	24	27	32	28	30	29	28

- (a) Marketed production from U.S. Federal leases in the Gulf of Mexico.
- (b) Regional production in this table is based on geographic regions and not geologic formations.
- (c) The balancing item is the difference between total natural gas consumption (NGTCPUS) and total natural gas supply (NGPSUPP).
- (d) LNG: liquefied natural gas
- (e) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.
- (f) For a list of states in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions* (<http://ir.eia.gov/ngs/notes.html>).

Notes:
 EIA completed modeling and analysis for this report on August 1, 2024.
 - = no data available
 The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.
 Minor discrepancies with published historical data are due to independent rounding.

Sources:
 Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; and *Electric Power Monthly*, DOE/EIA-0226.
 Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Wholesale price															
Henry Hub spot price	2.76	2.25	2.69	2.84	2.21	2.17	2.28	2.89	3.35	3.16	3.51	3.56	2.63	2.39	3.39
Residential retail (a)															
United States average	14.72	16.19	22.33	13.72	12.76	16.96	21.52	12.69	11.55	14.13	19.90	12.48	15.19	13.96	12.84
New England	21.06	20.48	22.57	18.66	19.12	20.60	23.16	17.62	17.26	18.03	21.23	16.82	20.33	19.18	17.54
Middle Atlantic	15.60	16.03	20.74	14.33	13.44	15.94	20.89	13.44	12.17	13.58	18.94	13.12	15.64	14.35	13.15
East North Central	11.06	13.26	22.96	10.49	9.29	15.06	22.76	10.10	8.59	11.72	19.93	9.64	11.91	11.16	10.05
West North Central	13.24	15.41	22.07	11.29	10.61	15.55	22.67	11.35	10.00	13.07	20.37	10.72	13.42	12.19	11.23
South Atlantic	17.33	20.92	30.29	16.00	14.48	21.36	27.12	14.59	13.76	18.74	26.78	15.08	18.39	16.32	15.87
East South Central	13.63	16.66	23.41	13.47	11.57	16.35	21.76	11.99	10.92	14.74	21.80	12.37	14.56	12.83	12.53
West South Central	14.58	19.81	28.70	16.42	12.75	22.30	26.10	13.49	10.75	15.99	23.01	13.32	17.00	15.17	13.23
Mountain	12.61	13.86	18.75	12.88	12.56	13.91	18.71	12.04	11.19	12.92	17.91	11.74	13.29	13.06	12.14
Pacific	20.13	17.11	18.10	17.87	17.78	18.20	16.84	15.31	15.92	15.21	16.36	15.53	18.74	16.97	15.72
Commercial retail (a)															
United States average	11.82	10.48	10.89	9.82	9.81	10.36	9.99	8.31	8.40	9.07	9.90	8.74	10.89	9.45	8.79
New England	15.21	13.66	12.55	12.15	12.88	13.17	12.69	11.15	11.29	11.70	11.98	11.15	13.74	12.36	11.39
Middle Atlantic	11.94	9.25	8.06	9.48	10.49	9.97	8.19	7.87	8.58	7.98	7.79	8.22	10.23	9.35	8.28
East North Central	9.20	8.63	10.65	7.73	7.41	8.94	9.63	6.42	6.60	7.84	9.90	7.08	8.79	7.45	7.16
West North Central	11.58	11.33	11.77	8.39	8.53	9.72	10.11	7.40	7.57	8.30	9.82	7.74	10.66	8.46	7.91
South Atlantic	12.97	11.26	11.39	10.73	10.31	10.32	10.05	9.09	9.07	9.82	10.34	9.66	11.75	9.90	9.54
East South Central	11.89	10.94	11.80	10.55	9.91	9.98	10.36	8.93	8.71	9.95	11.14	9.77	11.30	9.66	9.51
West South Central	11.01	9.68	10.37	9.73	9.21	9.75	9.26	7.72	7.27	8.30	9.30	8.36	10.31	8.88	8.07
Mountain	10.89	10.77	12.16	10.66	10.30	10.11	10.75	9.22	9.09	9.59	10.47	9.15	10.92	9.97	9.34
Pacific	16.85	12.61	13.49	13.58	14.05	12.43	11.92	11.08	11.86	11.23	11.69	11.34	14.59	12.47	11.55
Industrial retail (a)															
United States average	6.12	3.76	3.87	4.38	4.47	3.38	3.37	4.20	5.03	4.27	4.41	4.90	4.59	3.89	4.68
New England	13.56	10.07	7.88	9.28	11.17	9.91	7.70	8.12	9.17	8.46	7.43	8.47	10.66	9.24	8.52
Middle Atlantic	11.94	8.97	7.89	9.35	10.14	9.00	7.34	7.79	8.47	7.55	7.93	8.51	10.34	8.84	8.25
East North Central	9.18	6.67	6.91	6.22	6.54	6.18	5.64	5.40	5.85	6.03	6.32	6.26	7.62	5.98	6.06
West North Central	8.23	4.54	4.33	4.69	5.21	3.44	3.34	4.09	5.22	4.45	4.59	5.15	5.64	4.06	4.89
South Atlantic	6.92	4.78	5.01	5.36	5.16	4.22	4.12	4.55	5.43	4.93	5.31	5.52	5.57	4.53	5.31
East South Central	5.46	3.74	4.09	4.32	4.13	3.26	3.56	4.16	4.97	4.45	4.76	5.02	4.44	3.80	4.81
West South Central	3.39	2.22	2.71	2.79	2.47	2.09	2.41	3.10	3.63	3.23	3.56	3.76	2.77	2.53	3.55
Mountain	8.90	7.73	8.05	7.76	8.17	7.25	6.70	5.93	5.93	5.87	6.26	6.03	8.19	7.08	6.00
Pacific	10.84	8.16	8.03	9.02	8.82	7.38	6.77	6.86	7.78	6.87	7.00	7.23	9.22	7.46	7.28

(a) For a list of states in each region see "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>).

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly*, DOE/EIA-0130. Henry Hub spot price is from Refinitiv, an LSEG company, via EIA (https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm).

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories (million short tons)
U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply															
Total supply	105.5	102.3	138.6	103.2	102.2	91.5	123.9	101.8	101.1	81.2	130.2	101.3	449.6	419.4	413.9
Secondary inventory withdrawals	-20.1	-19.1	11.1	-14.8	-2.0	4.4	13.6	-2.2	0.5	-4.6	28.9	8.8	-42.8	13.8	33.7
Waste coal (a)	2.0	1.9	2.2	2.3	2.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	8.3	5.9	4.8
Total primary supply	123.5	119.5	125.3	115.7	101.8	85.9	109.1	102.9	99.4	84.6	100.1	91.3	484.1	399.7	375.4
U.S. total coal production	148.7	142.3	145.6	140.8	129.9	110.2	130.9	128.0	123.1	107.5	123.3	120.1	577.5	499.0	474.0
Appalachia	42.9	42.5	40.0	39.7	39.6	32.9	37.3	36.9	36.5	33.3	32.6	34.1	165.1	146.6	136.5
Interior	25.4	23.5	22.6	22.3	22.2	17.5	20.9	21.0	21.1	17.6	18.6	18.3	93.7	81.5	75.6
Western	80.4	76.4	83.0	78.9	68.1	59.9	72.8	70.2	65.5	56.7	72.1	67.7	318.7	270.9	262.0
Net imports	-23.6	-23.1	-23.9	-25.2	-26.5	-24.6	-23.9	-25.1	-23.3	-23.1	-25.3	-28.9	-95.8	-100.1	-100.5
Gross imports	1.0	1.0	1.0	1.0	0.3	0.6	1.1	0.9	0.6	0.7	1.1	0.8	4.0	2.9	3.2
Gross exports	24.6	24.1	24.9	26.2	26.8	25.1	25.0	26.0	23.9	23.8	26.4	29.7	99.8	103.0	103.8
Metallurgical coal	12.4	12.6	13.6	12.7	14.3	12.2	11.4	11.4	11.5	12.9	12.8	13.3	51.3	49.3	50.4
Steam coal	12.2	11.5	11.3	13.5	12.5	13.0	13.6	14.6	12.4	10.9	13.7	16.4	48.5	53.6	53.4
Primary inventory withdrawals	-1.6	0.3	3.6	0.1	-1.6	0.3	2.1	0.0	-0.4	0.1	2.2	0.0	2.4	0.8	1.9
Consumption															
U.S. total coal consumption	101.7	91.5	132.0	100.8	100.2	93.6	125.3	101.8	101.1	81.2	130.2	101.3	425.9	420.9	413.9
Coke plants	4.0	3.9	4.0	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	4.1	15.8	15.6	16.1
Electric power sector (b)	91.2	82.0	122.7	91.3	90.7	84.7	116.5	92.2	91.6	72.4	121.3	91.6	387.2	384.1	376.8
Retail and other industry	6.5	5.6	5.3	5.5	5.7	5.0	4.9	5.7	5.7	4.8	4.9	5.6	22.9	21.2	21.0
Residential and commercial	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.7	0.6	0.7
Other industrial	6.3	5.5	5.1	5.3	5.4	4.9	4.8	5.5	5.4	4.7	4.8	5.4	22.2	20.6	20.3
Discrepancy (c)	3.8	10.9	6.6	2.4	2.0	-2.1	-1.4	0.0	0.0	0.0	0.0	0.0	23.6	-1.5	0.0
End-of-period inventories															
Primary inventories (d)	135.7	154.4	139.7	154.4	158.0	153.3	137.6	139.8	139.7	144.2	113.1	104.2	154.4	139.8	104.2
Primary inventories (d)	22.4	22.1	18.5	18.4	20.0	19.7	17.6	17.6	18.1	18.0	15.8	15.7	18.4	17.6	15.7
Secondary inventories	113.3	132.3	121.2	136.0	138.0	133.6	120.0	122.2	121.7	126.2	97.3	88.5	136.0	122.2	88.5
Electric power sector	109.0	127.7	116.6	131.4	133.6	129.2	115.4	117.6	117.7	122.1	92.8	84.0	131.4	117.6	84.0
Retail and general industry	2.5	2.8	2.7	2.9	2.8	2.6	2.9	2.9	2.4	2.5	2.8	2.9	2.9	2.9	2.9
Coke plants	1.7	1.7	1.7	1.6	1.4	1.6	1.6	1.5	1.3	1.4	1.4	1.4	1.6	1.5	1.4
Commercial & institutional	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Coal market indicators															
Coal miner productivity (tons per hour)	6.03	6.03	6.03	6.03	5.85	5.85	5.85	5.85	5.80	5.80	5.80	5.80	6.03	5.85	5.80
Total raw steel production (million short tons) ..	21.227	22.165	22.510	22.298	22.216	22.362	23.146	23.284	22.688	23.425	23.908	24.120	88.200	91.007	94.142
Cost of coal to electric utilities (dollars per million Btu) ..	2.57	2.49	2.51	2.51	2.50	2.56	2.56	2.52	2.53	2.51	2.51	2.48	2.52	2.53	2.51

(a) Waste coal includes waste coal and coal slurry reprocessed into briquettes.

(b) Coal used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(c) The discrepancy reflects an unaccounted-for shipper and receiver reporting difference, assumed to be zero in the forecast period.

(d) Primary stocks are held at the mines and distribution points.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Electricity supply (billion kilowatthours)															
Total utility-scale power supply	995	990	1,212	1,000	1,025	1,048	1,222	1,026	1,036	1,052	1,251	1,037	4,197	4,321	4,376
Electricity generation (a)	987	984	1,209	998	1,024	1,045	1,216	1,022	1,030	1,046	1,243	1,032	4,178	4,307	4,352
Electric power sector	949	947	1,168	958	984	1,007	1,175	982	991	1,007	1,202	992	4,022	4,148	4,193
Industrial sector	35	33	36	36	35	34	37	36	34	34	37	36	139	141	141
Commercial sector	4	4	5	4	4	4	5	4	4	4	5	5	17	18	18
Net imports	8	6	3	2	2	4	6	4	6	6	8	5	19	15	24
Small-scale solar generation (c)	14	22	22	16	17	25	25	17	19	29	29	20	74	85	96
Residential sector	10	15	15	11	12	17	17	12	13	19	19	13	50	58	65
Commercial sector	4	6	6	4	4	7	7	5	5	8	8	5	19	22	26
Industrial sector	1	1	1	1	1	1	1	1	1	2	2	1	4	5	5
Losses and Unaccounted for (b)	42	52	51	52	51	61	49	54	46	54	50	50	197	215	199
Electricity consumption (billion kilowatthours)															
Total consumption	953	939	1,161	948	974	987	1,173	973	990	998	1,201	987	4,000	4,106	4,176
Sales to ultimate customers	919	906	1,124	912	939	953	1,136	937	956	964	1,164	951	3,861	3,965	4,035
Residential sector	355	319	455	325	365	344	459	337	371	343	471	339	1,455	1,504	1,525
Commercial sector	322	330	392	331	330	349	396	338	334	349	401	339	1,375	1,412	1,423
Industrial sector	239	256	275	254	243	259	279	261	249	269	290	271	1,025	1,042	1,080
Transportation sector	2	2	2	2	2	2	2	2	2	2	2	2	7	7	7
Direct use (d)	34	33	36	36	35	34	37	36	35	34	37	36	139	141	142
Average residential electricity usage per customer (kWh)	2,530	2,268	3,243	2,316	2,567	2,425	3,233	2,370	2,583	2,391	3,281	2,360	10,357	10,596	10,615
End-of-period fuel inventories held by electric power sector															
Coal (million short tons)	109.0	127.7	116.6	131.4	133.6	129.2	115.4	117.6	117.7	122.1	92.8	84.0	131.4	117.6	84.0
Residual fuel (million barrels)	6.1	6.2	6.4	6.3	6.4	5.9	3.4	3.8	2.5	2.8	1.0	1.9	6.3	3.8	1.9
Distillate fuel (million barrels)	17.0	16.9	16.1	16.1	15.5	15.3	15.4	15.7	15.6	15.5	15.4	15.7	16.1	15.7	15.7
Prices															
Power generation fuel costs (dollars per million Btu)															
Coal	2.57	2.49	2.51	2.51	2.50	2.56	2.56	2.52	2.53	2.51	2.51	2.48	2.52	2.53	2.51
Natural gas	4.98	2.60	2.92	3.19	3.37	2.31	2.40	3.14	3.77	3.21	3.47	3.73	3.36	2.77	3.53
Residual fuel oil	19.24	17.88	19.16	20.84	18.84	18.43	15.43	15.30	16.05	16.59	15.73	15.42	19.32	17.01	15.91
Distillate fuel oil	22.84	19.91	22.08	21.03	20.16	19.69	18.82	19.47	20.24	19.33	19.75	19.82	21.47	19.56	19.86
Prices to ultimate customers (cents per kilowatthour)															
Residential sector	15.77	16.12	16.02	16.02	16.01	16.46	16.24	15.90	16.06	16.82	16.57	16.36	15.98	16.16	16.45
Commercial sector	12.64	12.45	13.18	12.63	12.75	12.68	13.27	12.62	12.75	12.94	13.65	12.99	12.74	12.85	13.11
Industrial sector	8.06	7.74	8.55	7.83	7.88	7.99	8.45	7.82	7.98	8.07	8.44	7.84	8.05	8.05	8.09
Wholesale electricity prices (dollars per megawatthour)															
ERCOT North hub	28.05	57.27	188.81	33.85	32.53	39.94	39.64	28.67	28.95	26.31	34.32	27.28	77.00	35.20	29.21
CAISO SP15 zone	92.54	30.00	67.59	50.54	33.41	7.97	43.01	43.47	45.24	37.31	46.85	49.19	60.17	31.97	44.65
ISO-NE Internal hub	52.63	32.55	40.41	39.84	47.50	34.50	49.44	46.87	60.55	42.68	49.79	51.51	41.36	44.58	51.13
NYISO Hudson Valley zone	44.65	31.38	39.45	36.35	43.48	33.82	43.28	41.66	46.07	41.52	46.44	43.90	37.96	40.56	44.48
PJM Western hub	36.49	35.41	43.27	42.17	35.76	37.75	49.57	41.40	47.21	42.46	49.63	43.81	39.34	41.12	45.78
Midcontinent ISO Illinois hub	31.39	32.13	40.60	33.58	32.52	30.38	37.51	32.55	36.50	36.21	40.11	35.19	34.42	33.24	37.00
SPP ISO South hub	28.96	34.56	46.96	28.50	31.66	33.95	37.66	31.31	33.76	34.50	40.61	34.71	34.74	33.65	35.89
SERC index, Into Southern	30.53	31.66	36.45	30.40	27.96	29.20	31.63	30.58	32.97	31.56	35.98	32.40	32.26	29.84	33.23
FRCC index, Florida Reliability	30.31	33.06	36.79	32.05	30.01	31.81	32.85	31.82	32.95	34.50	37.38	34.27	33.05	31.62	34.78
Northwest index, Mid-Columbia	105.99	58.61	82.36	79.49	99.74	32.91	68.34	63.00	66.33	51.59	58.78	67.50	81.61	66.00	61.05
Southwest index, Palo Verde	84.19	31.60	71.95	50.10	29.62	11.22	57.11	37.55	39.17	33.97	41.05	39.93	59.46	33.87	38.53

(a) Generation supplied by utility-scale power plants with capacity of at least one megawatt.

(b) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.

(c) Solar photovoltaic systems smaller than one megawatt such as those installed on rooftops.

(d) Direct use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities for which revenue information is not available. See Table 7.6 of the EIA Monthly Energy Review.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

Sources:

consumption, fuel inventories and costs, and retail electricity prices); S&P Global Market Intelligence (wholesale electricity prices).

Table 7b. U.S. Regional Electricity Sales to Ultimate Customers (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
All sectors (a)	918.5	906.0	1,124.5	912.3	938.8	953.3	1,135.8	937.0	955.7	963.6	1,164.0	951.2	3,861.3	3,964.9	4,034.6
New England	27.9	25.1	31.4	26.2	28.5	26.6	32.6	26.6	28.8	26.4	32.1	26.4	110.6	114.3	113.8
Middle Atlantic	86.4	79.2	99.7	82.7	90.3	87.5	102.9	83.1	90.9	87.1	103.1	83.4	348.1	363.7	364.6
E. N. Central	133.8	127.6	148.9	129.4	136.4	135.5	151.3	131.7	138.9	135.5	153.3	132.3	539.7	554.9	559.9
W. N. Central	78.7	74.8	86.6	75.1	79.4	75.9	87.8	78.8	83.0	77.6	90.7	80.3	315.2	321.9	331.6
S. Atlantic	196.4	200.9	251.0	199.0	204.1	213.8	256.1	204.7	207.8	216.9	263.4	207.4	847.3	878.7	895.5
E. S. Central	73.1	71.1	89.1	70.9	76.9	76.1	91.2	72.0	76.3	75.7	91.5	71.9	304.3	316.1	315.5
W. S. Central	152.7	166.1	219.2	162.8	154.9	169.6	213.0	171.7	162.7	175.7	227.6	180.4	700.8	709.2	746.3
Mountain	68.9	71.1	90.4	69.3	69.9	75.7	90.9	70.6	70.6	76.3	92.6	71.5	299.6	307.1	310.9
Pacific contiguous	96.8	86.6	104.4	93.0	94.6	89.1	106.2	94.0	92.9	89.0	106.0	93.8	380.9	383.9	381.6
AK and HI	3.7	3.6	3.7	3.9	3.7	3.5	3.8	3.9	3.7	3.6	3.7	3.8	14.9	14.9	14.8
Residential sector	355.4	318.6	455.4	325.2	364.5	344.3	459.0	336.5	371.0	343.5	471.4	339.0	1,454.7	1,504.4	1,524.9
New England	12.2	9.8	13.7	10.8	12.7	10.9	14.9	11.2	13.2	10.9	14.7	11.2	46.5	49.7	50.1
Middle Atlantic	33.3	27.5	40.1	30.2	36.2	32.6	42.6	30.5	37.1	32.5	42.7	30.7	131.2	141.9	143.1
E. N. Central	46.5	39.8	52.5	41.7	47.1	43.7	55.0	43.5	49.4	43.3	56.2	43.6	180.5	189.4	192.5
W. N. Central	29.4	24.1	30.8	24.2	28.8	24.1	31.3	26.1	30.8	24.5	32.6	26.5	108.6	110.4	114.4
S. Atlantic	87.2	83.8	117.9	84.2	91.6	91.6	121.5	87.2	92.6	92.4	125.2	87.8	373.0	391.9	398.0
E. S. Central	29.3	25.4	37.3	26.0	32.0	27.8	38.4	26.7	31.7	27.6	38.8	26.9	118.0	124.9	125.0
W. S. Central	51.6	52.4	86.9	49.5	52.7	56.0	77.5	50.9	53.2	55.1	82.6	51.8	240.4	237.1	242.8
Mountain	25.3	24.5	36.4	23.4	24.4	26.6	36.4	24.0	24.6	26.3	37.0	24.2	109.5	111.5	112.1
Pacific contiguous	39.5	30.2	38.7	33.8	37.8	30.0	40.2	34.9	37.1	29.9	40.3	35.0	142.2	142.9	142.3
AK and HI	1.2	1.1	1.1	1.3	1.2	1.1	1.1	1.3	1.2	1.1	1.1	1.3	4.7	4.7	4.7
Commercial sector	322.0	329.7	391.9	331.3	329.5	348.7	395.9	337.8	333.8	349.3	400.6	339.4	1,374.9	1,412.0	1,423.1
New England	11.9	11.5	13.6	11.7	12.2	12.0	13.7	11.7	12.1	11.8	13.5	11.5	48.7	49.7	49.0
Middle Atlantic	35.0	33.1	39.7	34.4	35.9	35.4	40.5	34.4	35.7	35.1	40.3	34.3	142.2	146.2	145.4
E. N. Central	42.4	41.9	48.0	42.1	43.3	44.3	48.4	42.5	43.4	43.8	48.6	42.3	174.5	178.5	178.2
W. N. Central	25.3	25.1	28.6	25.0	25.5	26.3	29.3	26.3	26.7	26.6	29.9	26.6	104.0	107.3	109.8
S. Atlantic	75.4	81.7	96.5	80.4	78.6	86.5	98.5	83.1	81.1	87.9	101.0	84.3	333.9	346.7	354.3
E. S. Central	20.6	21.8	27.1	21.6	21.5	23.6	27.6	21.8	21.2	23.2	27.4	21.5	91.1	94.4	93.4
W. S. Central	47.5	51.2	63.6	50.7	48.2	53.6	62.5	52.3	49.6	53.6	64.1	53.0	213.1	216.6	220.3
Mountain	23.8	25.0	29.9	24.6	24.6	26.8	30.1	24.9	25.0	27.2	30.8	25.4	103.2	106.4	108.3
Pacific contiguous	38.9	37.0	43.6	39.4	38.4	38.9	44.0	39.5	37.6	38.9	43.5	39.2	158.8	160.8	159.2
AK and HI	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.3	5.3	5.4	5.3
Industrial sector	239.4	256.2	275.3	254.1	243.1	258.5	279.2	261.0	249.2	269.3	290.5	271.2	1,024.9	1,041.8	1,080.2
New England	3.7	3.7	3.9	3.6	3.5	3.6	3.8	3.5	3.4	3.6	3.8	3.5	14.9	14.5	14.3
Middle Atlantic	17.3	17.7	18.9	17.3	17.3	18.6	19.0	17.3	17.2	18.7	19.3	17.6	71.3	72.2	72.8
E. N. Central	44.8	45.8	48.2	45.4	45.9	47.4	47.7	45.6	45.9	48.2	48.4	46.2	184.3	186.6	188.7
W. N. Central	24.1	25.5	27.2	25.8	25.1	25.5	27.2	26.4	25.5	26.5	28.2	27.3	102.6	104.1	107.4
S. Atlantic	33.5	35.2	36.4	34.0	33.6	35.4	35.9	34.1	33.9	36.4	36.9	35.0	139.1	139.0	142.2
E. S. Central	23.2	23.9	24.7	23.3	23.4	24.7	25.2	23.5	23.3	24.9	25.3	23.5	95.2	96.7	97.1
W. S. Central	53.6	62.4	68.6	62.5	54.0	60.0	72.9	68.5	59.8	66.9	80.8	75.5	247.2	255.4	282.9
Mountain	19.8	21.5	24.1	21.3	20.9	22.3	24.4	21.6	21.0	22.8	24.7	21.9	86.7	89.1	90.4
Pacific contiguous	18.3	19.2	21.9	19.6	18.2	20.0	21.8	19.4	18.0	20.0	21.9	19.4	79.0	79.3	79.3
AK and HI	1.1	1.2	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.3	1.2	4.8	4.8	4.8

(a) Total includes sales of electricity to ultimate customers in transportation sector (not shown), as well as residential, commercial, and industrial sectors.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Electricity sales to ultimate customers are sold by electric utilities and power marketers for direct consumption by the customer and not available for resale. Includes electric sales to end users by third-party owners of behind-the-meter solar photovoltaic systems.

Regions refer to U.S. Census divisions (https://www.eia.gov/tools/glossary/index.php?id=C#census_division).

Sources:

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Table 7c. U.S. Regional Electricity Prices to Ultimate Customers (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
All sectors (a)															
United States average ...	12.66	12.41	13.20	12.50	12.75	12.77	13.28	12.46	12.79	12.96	13.53	12.72	12.72	12.84	13.03
New England	24.39	22.26	22.02	22.28	23.18	21.54	21.30	21.79	23.19	22.20	22.41	23.20	22.73	21.94	22.74
Middle Atlantic	15.39	14.75	16.17	15.25	15.57	15.72	16.96	15.75	16.15	16.23	17.47	16.17	15.43	16.04	16.55
E. N. Central	12.20	11.97	12.08	11.86	12.06	12.21	12.22	12.00	12.31	12.48	12.54	12.31	12.03	12.13	12.42
W. N. Central	9.89	10.60	11.47	9.89	9.99	10.61	11.38	9.84	10.00	10.71	11.52	9.98	10.49	10.48	10.57
S. Atlantic	12.03	11.91	12.20	11.95	12.08	11.84	11.87	11.56	11.82	11.82	12.05	11.81	12.03	11.84	11.89
E. S. Central	11.04	10.66	11.00	10.74	11.02	10.88	11.13	10.91	11.30	11.20	11.46	11.21	10.87	10.99	11.30
W. S. Central	9.80	9.24	10.41	9.40	9.50	9.48	10.12	9.29	9.42	9.50	10.26	9.28	9.76	9.63	9.66
Mountain	10.53	11.01	11.79	10.72	10.70	11.28	11.69	10.50	10.55	11.45	12.02	11.01	11.07	11.09	11.31
Pacific	17.49	18.63	21.48	18.76	19.17	20.58	22.74	19.40	19.73	21.35	23.37	19.90	19.15	20.54	21.16
Residential sector															
United States average ...	15.77	16.12	16.02	16.02	16.01	16.46	16.24	15.90	16.06	16.82	16.57	16.36	15.98	16.16	16.45
New England	30.65	29.58	27.18	27.72	27.62	26.49	25.29	26.40	27.10	27.09	26.72	28.41	28.72	26.40	27.28
Middle Atlantic	19.70	19.13	19.86	19.63	19.63	20.18	21.08	20.63	20.59	21.12	21.87	21.33	19.61	20.41	21.25
E. N. Central	16.13	16.58	15.98	16.21	16.02	16.74	15.92	16.15	16.10	17.19	16.37	16.66	16.20	16.19	16.55
W. N. Central	11.85	13.52	14.23	12.65	12.28	13.76	13.99	12.30	12.06	13.83	14.06	12.45	13.08	13.09	13.10
S. Atlantic	14.30	14.74	14.54	14.64	14.51	14.57	14.10	14.06	14.15	14.56	14.29	14.42	14.55	14.30	14.35
E. S. Central	13.17	13.20	12.94	13.27	13.17	13.51	13.18	13.48	13.58	14.05	13.56	13.88	13.13	13.32	13.74
W. S. Central	13.57	13.57	13.51	13.75	13.47	13.85	13.87	13.49	13.24	14.04	13.95	13.61	13.59	13.70	13.74
Mountain	12.96	13.89	14.10	13.74	13.58	14.38	13.97	13.38	13.35	14.49	14.51	14.32	13.71	13.86	14.21
Pacific	19.60	22.32	23.94	21.02	22.03	25.08	25.40	21.84	22.99	26.37	26.32	22.27	21.70	23.57	24.47
Commercial sector															
United States average ...	12.64	12.45	13.18	12.63	12.75	12.68	13.27	12.62	12.75	12.94	13.65	12.99	12.74	12.85	13.11
New England	20.56	18.40	18.70	19.33	20.58	18.89	18.56	19.22	20.82	19.58	19.48	20.26	19.23	19.29	20.02
Middle Atlantic	14.86	14.89	16.41	15.19	15.09	15.62	16.77	15.40	15.35	16.00	17.28	15.84	15.38	15.76	16.16
E. N. Central	12.01	12.07	11.90	11.86	12.07	12.17	11.92	12.00	12.27	12.46	12.23	12.35	11.96	12.04	12.33
W. N. Central	9.95	10.66	11.38	9.90	9.93	10.39	11.26	9.82	9.89	10.52	11.46	10.01	10.50	10.38	10.50
S. Atlantic	11.32	10.95	10.90	11.01	11.16	10.74	10.50	10.55	10.82	10.71	10.69	10.81	11.03	10.72	10.75
E. S. Central	12.57	12.09	12.07	12.02	12.44	12.23	12.28	12.25	12.69	12.62	12.73	12.67	12.18	12.30	12.68
W. S. Central	9.35	8.83	9.54	9.14	9.06	9.02	9.97	9.74	9.69	9.95	10.89	10.26	9.23	9.47	10.24
Mountain	10.35	11.09	11.65	10.77	10.57	11.14	11.39	10.38	10.17	11.06	11.71	10.79	11.00	10.90	10.98
Pacific	18.06	18.84	22.70	19.62	19.51	20.30	23.54	19.93	19.60	20.47	23.93	20.45	19.90	20.91	21.21
Industrial sector															
United States average ...	8.06	7.74	8.55	7.83	7.88	7.99	8.45	7.82	7.98	8.07	8.44	7.84	8.05	8.05	8.09
New England	16.25	15.24	15.80	15.91	16.58	15.76	15.84	15.95	16.86	16.26	16.50	16.62	15.80	16.02	16.56
Middle Atlantic	8.21	7.72	7.82	7.76	8.19	8.19	8.19	7.93	8.38	8.30	8.19	7.92	7.87	8.13	8.20
E. N. Central	8.31	7.89	8.02	7.88	8.01	8.08	8.28	8.04	8.29	8.29	8.42	8.19	8.02	8.10	8.30
W. N. Central	7.44	7.79	8.43	7.29	7.42	7.87	8.50	7.42	7.61	7.99	8.64	7.55	7.75	7.81	7.96
S. Atlantic	7.72	7.38	8.07	7.54	7.64	7.48	8.08	7.64	7.86	7.58	8.24	7.73	7.68	7.71	7.85
E. S. Central	6.98	6.66	6.90	6.73	6.76	6.64	6.72	6.74	6.94	6.74	6.87	6.84	6.82	6.72	6.85
W. S. Central	6.56	5.95	7.27	6.16	6.03	5.82	6.27	5.83	5.78	5.41	5.99	5.62	6.50	6.00	5.71
Mountain	7.65	7.64	8.45	7.36	7.48	7.74	8.66	7.45	7.75	8.42	8.70	7.59	7.80	7.86	8.14
Pacific	11.81	12.47	14.83	13.19	12.57	14.41	16.28	13.97	13.38	15.71	16.92	14.64	13.15	14.39	15.25

(a) Average price to all sectors is weighted by sales of electricity to ultimate customers in the residential, commercial, industrial and transportation (not shown) sectors.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

consumers by the corresponding sales of electricity.

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions (https://www.eia.gov/tools/glossary/index.php?id=C#census_division).

Sources:

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), continued from Table 7d part 1
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Midwest (MISO)															
Total generation	145.1	142.9	171.5	143.6	147.1	151.6	173.5	154.0	156.9	151.2	179.5	155.8	603.2	626.1	643.4
Natural gas	45.4	54.7	67.3	47.8	48.9	56.7	66.6	50.9	47.9	56.5	70.6	54.4	215.2	223.1	229.5
Coal	43.0	38.0	57.3	44.9	42.8	40.5	57.4	44.4	47.6	37.6	56.3	41.8	183.2	185.1	183.3
Nuclear	23.4	21.1	24.3	18.4	20.9	21.8	24.5	23.0	22.4	20.9	24.2	22.2	87.2	90.2	89.7
Conventional hydropower	2.2	2.0	1.9	2.0	2.1	2.1	2.1	2.1	2.5	2.9	2.4	2.2	8.0	8.4	9.9
Nonhydro renewables (d)	30.3	26.5	19.4	29.8	31.7	29.7	21.6	32.1	35.6	32.3	24.8	33.9	106.0	115.1	126.6
Other energy sources (e)	0.8	0.7	1.3	0.8	0.6	0.8	1.4	1.4	0.9	1.0	1.3	1.3	3.6	4.2	4.4
Net energy for load (f)	158.6	157.9	184.3	155.2	159.9	160.1	186.5	163.8	165.0	163.4	191.7	165.4	656.0	670.4	685.5
Central (Southwest Power Pool)															
Total generation	75.0	71.6	87.6	73.3	75.8	75.9	86.9	72.3	73.5	73.8	87.1	71.6	307.5	310.9	306.0
Natural gas	15.8	21.6	30.5	18.3	19.9	22.6	29.6	19.5	18.2	19.8	28.4	18.2	86.1	91.6	84.5
Coal	20.4	17.2	27.4	18.4	17.7	15.8	25.9	15.6	16.0	13.2	26.1	14.9	83.4	74.9	70.2
Nuclear	4.3	4.3	4.3	4.4	4.3	3.2	4.4	3.5	4.2	4.3	4.2	3.1	17.2	15.3	15.9
Conventional hydropower	2.9	2.8	2.7	2.7	3.1	3.0	3.2	2.9	3.5	4.2	3.7	3.1	11.1	12.2	14.4
Nonhydro renewables (d)	31.4	25.6	22.5	29.4	30.6	31.1	23.6	30.7	31.4	32.2	24.6	32.2	108.9	116.0	120.4
Other energy sources (e)	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.7	0.9	0.7
Net energy for load (f)	66.6	66.6	81.8	65.7	68.9	70.1	81.5	66.3	66.6	66.6	81.2	65.5	280.7	286.9	279.9
Texas (ERCOT)															
Total generation	95.4	108.1	134.7	100.1	101.6	114.5	136.6	112.4	105.5	120.7	145.5	115.0	438.3	465.1	486.7
Natural gas	36.5	49.6	70.1	42.7	42.4	51.8	65.9	48.4	40.6	47.8	64.6	47.5	198.9	208.5	200.6
Coal	11.4	15.2	19.7	15.0	12.0	13.1	18.5	15.1	13.3	12.2	19.9	14.0	61.3	58.8	59.4
Nuclear	10.5	9.0	10.9	10.3	10.0	9.1	10.3	9.3	10.7	9.9	10.7	10.2	40.7	38.7	41.5
Conventional hydropower	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.6	0.5	0.6
Nonhydro renewables (d)	36.6	33.8	33.6	31.7	36.6	40.1	41.5	39.3	40.5	50.2	50.2	43.2	135.6	157.5	184.1
Other energy sources (e)	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.1	1.2	1.1	0.4
Net energy for load (f)	94.2	109.8	140.6	100.0	101.0	116.4	136.6	112.4	105.5	120.7	145.5	115.0	444.5	466.5	486.7
Northwest															
Total generation	91.8	82.6	95.4	88.0	90.3	84.6	97.8	90.9	94.2	89.1	101.8	91.3	357.8	363.6	376.3
Natural gas	24.3	17.9	27.8	23.9	25.7	20.0	27.1	18.7	23.3	15.1	22.6	17.1	93.9	91.5	78.1
Coal	20.2	14.4	23.6	20.2	17.4	12.0	23.8	25.1	17.8	11.1	24.3	24.6	78.4	78.3	77.7
Nuclear	2.4	1.0	2.5	2.5	2.5	2.5	2.5	2.4	2.4	1.2	2.4	2.4	8.4	9.9	8.5
Conventional hydropower	25.8	29.9	23.5	23.8	25.6	26.5	24.1	26.3	29.8	35.7	30.3	28.0	103.0	102.5	123.8
Nonhydro renewables (d)	18.9	19.2	17.8	17.5	18.9	23.3	20.2	18.2	20.7	25.9	22.1	19.0	73.3	80.6	87.7
Other energy sources (e)	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.8	0.7	0.6
Net energy for load (f)	88.1	76.7	86.5	84.3	89.4	80.5	87.2	83.1	84.7	77.3	86.4	82.9	335.6	340.2	331.2
Southwest															
Total generation	34.5	35.4	46.2	35.6	35.2	37.8	48.6	37.8	35.8	38.9	49.0	38.2	151.8	159.4	161.9
Natural gas	12.5	16.5	23.0	16.7	13.2	16.1	22.6	15.8	11.9	14.2	21.6	15.8	68.8	67.7	63.5
Coal	5.5	3.1	6.5	4.3	5.1	4.1	6.4	4.9	4.7	4.5	7.1	4.7	19.4	20.5	20.9
Nuclear	8.6	6.8	8.6	7.6	8.7	7.4	8.6	7.5	8.4	7.4	8.6	7.5	31.5	32.3	31.9
Conventional hydropower	1.4	2.5	2.0	1.4	1.7	2.3	2.0	1.5	1.8	2.2	2.0	1.6	7.3	7.5	7.6
Nonhydro renewables (d)	6.4	6.5	6.1	5.6	6.6	7.8	9.0	8.1	9.1	10.7	9.8	8.8	24.6	31.6	38.5
Other energy sources (e)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	-0.1	-0.4
Net energy for load (f)	28.3	32.9	45.8	29.9	28.9	35.7	44.0	29.9	28.8	35.3	45.3	29.9	136.9	138.5	139.4
California															
Total generation	46.7	47.7	63.7	49.5	46.8	48.2	63.3	47.3	43.7	49.5	62.5	47.0	207.6	205.6	202.8
Natural gas	20.2	11.5	27.2	25.6	18.8	10.9	25.3	18.8	14.3	10.7	23.8	20.4	84.6	73.8	69.1
Coal	1.1	0.6	1.7	1.1	0.7	0.5	1.9	2.9	3.1	1.4	1.2	0.0	4.4	6.0	5.6
Nuclear	4.7	4.9	4.9	3.2	4.9	3.6	4.8	4.7	4.6	3.7	4.7	3.6	17.7	18.1	16.7
Conventional hydropower	6.5	10.5	9.4	4.9	7.2	9.9	7.7	3.8	4.8	8.7	7.6	3.9	31.3	28.6	25.0
Nonhydro renewables (d)	14.7	20.3	20.5	14.9	15.4	23.5	23.9	17.4	17.3	25.5	25.6	19.5	70.5	80.2	87.9
Other energy sources (e)	-0.6	-0.2	0.0	-0.2	-0.3	-0.2	-0.3	-0.3	-0.4	-0.3	-0.4	-0.5	-1.0	-1.1	-1.6
Net energy for load (f)	60.5	59.9	76.7	62.9	59.1	61.5	78.4	63.1	60.2	65.0	81.6	63.6	260.0	262.1	270.4

- (a) Generation from utility-scale (larger than 1 megawatt) solar photovoltaic and solar thermal power plants. Excludes generation from small-scale solar photovoltaic systems (see Table 7a).
 - (b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.
 - (c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.
 - (d) Wind, large-scale solar, biomass, and geothermal
 - (e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).
 - (f) Includes regional generation from generating units operated by electric power sector, plus energy receipts from neighboring U.S. balancing authorities outside region minus energy deliveries to
- Notes:**

EIA completed modeling and analysis for this report on August 1, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

The electric power sector includes utility-scale generating power plants (total capacity is larger than 1 megawatt) operated by electric utilities and independent power producers whose primary business is to sell electricity over the transmission grid for consumption by the public.

Sources:

Table 7e. U.S. Electricity Generating Capacity (gigawatts at end of period)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Electric power sector (power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	486.3	487.8	488.2	489.0	488.3	487.1	488.4	488.3	487.5	489.5	490.7	490.7	489.0	488.3	490.7
Coal	184.0	180.3	178.2	177.1	176.3	175.0	175.0	174.3	174.3	170.5	168.7	162.2	177.1	174.3	162.2
Petroleum	28.2	28.0	28.0	28.0	28.0	27.9	27.9	27.5	27.5	26.5	26.5	26.2	28.0	27.5	26.2
Other gases	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3
Renewable energy sources															
Wind	143.0	144.4	144.6	147.6	148.8	150.6	151.8	155.2	155.2	155.8	157.0	160.3	147.6	155.2	160.3
Solar photovoltaic	73.3	77.0	80.5	90.2	96.1	103.9	114.9	127.2	131.5	137.2	141.6	154.0	90.2	127.2	154.0
Solar thermal	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4
Geothermal	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Waste biomass	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Wood biomass	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Conventional hydroelectric	79.7	79.7	79.7	79.7	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.7	79.7	79.6	79.7
Pumped storage hydroelectric	23.1	23.1	23.1	23.1	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.2	23.2
Nuclear	94.7	94.7	95.8	95.8	95.8	96.9	96.9	96.9	96.9	96.9	96.9	96.9	95.8	96.9	96.9
Battery storage	9.6	10.8	13.3	15.6	16.8	21.7	25.5	30.1	31.5	35.4	37.2	42.0	15.6	30.1	42.0
Other nonrenewable sources (a)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Industrial and commercial sectors (combined heat and power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	18.7	18.6	18.6	18.6	18.6	18.5	18.4	18.3	18.4	18.4	18.4	18.4	18.6	18.3	18.4
Coal	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Petroleum	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Other gases	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Renewable energy sources															
Wood biomass	5.4	5.3	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.3	5.2	5.2	5.3
Waste biomass	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.3
Solar	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Geothermal	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Conventional hydroelectric	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Battery storage	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other nonrenewable sources (a)	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Small-scale solar photovoltaic capacity (systems smaller than one megawatt)															
All sectors total	41.7	43.8	45.9	47.7	49.3	50.8	52.5	54.4	56.2	58.1	60.1	62.1	47.7	54.4	62.1
Residential sector	27.8	29.6	31.4	32.9	33.8	34.7	35.9	37.2	38.5	39.8	41.2	42.6	32.9	37.2	42.6
Commercial sector	11.5	11.8	12.0	12.3	12.9	13.4	13.9	14.4	14.9	15.4	16.0	16.5	12.3	14.4	16.5
Industrial sector	2.4	2.5	2.5	2.6	2.6	2.6	2.7	2.8	2.8	2.9	2.9	3.0	2.6	2.8	3.0

(a) Other sources include hydrogen, pitch, chemicals, sulfur, purchased steam, nonrenewable waste, and miscellaneous technologies.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Capacity values represent the amount of generating capacity that is operating (or expected to be operating) at the end of each period.

Changes in capacity reflect various factors including new generators coming online, retiring generators, capacity uprates and derates, delayed planned capacity projects, cancelled projects, and other

Sources:

Historical data: Utility-scale capacity (power plants larger than one megawatt): EIA-860M Preliminary Monthly Electric Generator Inventory, May 2024.

Small-scale solar capacity (systems smaller than one megawatt): Form EIA-861M Monthly Electric Power Industry Report.

Historical capacity data may differ from other EIA publications due to frequent updates to the Preliminary Monthly Electric Generator Inventory.

Table 8. U.S. Renewable Energy Consumption (quadrillion Btu)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
All Sectors	2.045	2.104	2.048	2.044	2.092	2.251	2.200	2.195	2.218	2.420	2.332	2.273	8.241	8.738	9.243
Biodiesel, renewable diesel, and other (g)	0.140	0.173	0.175	0.172	0.177	0.193	0.188	0.199	0.188	0.199	0.200	0.208	0.660	0.757	0.795
Biofuel losses and co-products (d)	0.199	0.202	0.206	0.214	0.209	0.209	0.207	0.209	0.204	0.206	0.207	0.211	0.821	0.834	0.828
Ethanol (f)	0.281	0.298	0.299	0.300	0.279	0.300	0.302	0.298	0.279	0.298	0.301	0.299	1.177	1.179	1.177
Geothermal	0.030	0.029	0.030	0.030	0.029	0.029	0.030	0.031	0.029	0.028	0.030	0.031	0.120	0.119	0.118
Hydroelectric power (a)	0.209	0.220	0.201	0.189	0.218	0.219	0.196	0.195	0.226	0.257	0.220	0.203	0.818	0.827	0.906
Solar (b)(f)	0.162	0.262	0.272	0.181	0.201	0.328	0.359	0.237	0.259	0.418	0.435	0.278	0.878	1.125	1.389
Waste biomass (c)	0.102	0.098	0.097	0.101	0.101	0.098	0.098	0.102	0.100	0.098	0.099	0.102	0.398	0.399	0.399
Wood biomass	0.493	0.472	0.478	0.475	0.461	0.477	0.522	0.520	0.501	0.504	0.532	0.522	1.918	1.980	2.059
Wind	0.430	0.350	0.289	0.382	0.418	0.398	0.299	0.404	0.433	0.413	0.309	0.417	1.450	1.518	1.572
Electric power sector	0.838	0.830	0.766	0.773	0.855	0.929	0.852	0.859	0.933	1.061	0.950	0.912	3.207	3.495	3.856
Geothermal	0.014	0.014	0.014	0.014	0.013	0.013	0.014	0.015	0.013	0.012	0.014	0.015	0.056	0.055	0.054
Hydroelectric power (a)	0.208	0.219	0.200	0.188	0.217	0.218	0.195	0.194	0.225	0.256	0.219	0.202	0.814	0.823	0.902
Solar (b)	0.100	0.167	0.177	0.114	0.128	0.222	0.252	0.164	0.179	0.299	0.316	0.196	0.558	0.765	0.990
Waste biomass (c)	0.043	0.041	0.042	0.041	0.042	0.039	0.041	0.041	0.041	0.040	0.042	0.041	0.167	0.164	0.165
Wood biomass	0.044	0.040	0.045	0.033	0.038	0.040	0.051	0.040	0.043	0.040	0.050	0.039	0.162	0.169	0.172
Wind	0.430	0.350	0.289	0.382	0.418	0.398	0.299	0.404	0.433	0.413	0.309	0.417	1.450	1.518	1.572
Industrial sector (e)	0.568	0.553	0.554	0.573	0.563	0.571	0.595	0.607	0.593	0.594	0.606	0.614	2.249	2.336	2.406
Biofuel losses and co-products (d)	0.199	0.202	0.206	0.214	0.209	0.209	0.207	0.209	0.204	0.206	0.207	0.211	0.821	0.834	0.828
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Hydroelectric power (a)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003
Solar (b)	0.003	0.005	0.005	0.003	0.004	0.005	0.005	0.004	0.004	0.006	0.006	0.004	0.016	0.018	0.019
Waste biomass (c)	0.041	0.040	0.037	0.042	0.042	0.040	0.039	0.042	0.041	0.040	0.039	0.042	0.160	0.162	0.162
Wood biomass	0.318	0.300	0.299	0.307	0.302	0.310	0.337	0.346	0.338	0.335	0.347	0.350	1.224	1.294	1.369
Commercial sector (e)	0.064	0.071	0.073	0.066	0.066	0.074	0.076	0.069	0.069	0.078	0.080	0.071	0.274	0.285	0.298
Geothermal	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.020	0.020	0.020
Solar (b)	0.014	0.021	0.021	0.014	0.016	0.023	0.024	0.017	0.019	0.027	0.027	0.019	0.069	0.079	0.093
Waste biomass (c)	0.017	0.017	0.018	0.018	0.018	0.018	0.018	0.019	0.017	0.018	0.018	0.019	0.071	0.072	0.072
Wood biomass	0.020	0.020	0.021	0.021	0.020	0.020	0.021	0.021	0.020	0.020	0.021	0.021	0.082	0.082	0.082
Residential sector	0.166	0.191	0.193	0.174	0.163	0.196	0.201	0.177	0.167	0.204	0.209	0.182	0.725	0.737	0.762
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.039	0.040
Solar (f)	0.045	0.069	0.070	0.051	0.054	0.078	0.077	0.053	0.057	0.086	0.086	0.059	0.235	0.263	0.288
Wood biomass	0.111	0.112	0.114	0.114	0.100	0.108	0.114	0.114	0.100	0.108	0.114	0.114	0.450	0.435	0.435
Transportation sector	0.408	0.457	0.462	0.458	0.444	0.481	0.476	0.484	0.456	0.484	0.487	0.494	1.785	1.884	1.920
Biodiesel, renewable diesel, and other (g)	0.140	0.173	0.175	0.172	0.177	0.193	0.188	0.199	0.188	0.199	0.200	0.208	0.660	0.757	0.795
Ethanol (g)	0.268	0.284	0.286	0.286	0.267	0.287	0.288	0.285	0.267	0.284	0.288	0.286	1.125	1.127	1.125

(a) Energy consumption for conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.
 (b) Solar energy consumption by utility-scale power plants (capacity greater than or equal to 1 megawatt) in the electric power, commercial, and industrial sectors and energy consumption by small-scale solar photovoltaic systems (less than 1 megawatts in size).
 (c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.
 (d) Losses and co-products from the production of fuel ethanol and biomass-based diesel
 (e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.
 (f) Solar consumption in the residential sector includes energy from small-scale solar photovoltaic systems (<1 megawatt), and it includes solar heating consumption in all sectors.
 (g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports.
 Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes:
 EIA completed modeling and analysis for this report on August 1, 2024.
 The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.
Sources:
 Monthly Energy Review, and Petroleum Supply Monthly.
 Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.
 Forecasts: EIA Short-Term Integrated Forecasting System.

Table 9a. U.S. Macroeconomic Indicators and CO₂ Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Macroeconomic															
Real Gross Domestic Product (billion chained 2017 dollars - SAAR)	22,112	22,225	22,491	22,679	22,759	22,873	22,969	23,056	23,136	23,237	23,332	23,443	22,377	22,914	23,287
Real Personal Consumption Expend. (billion chained 2017 dollars - SAAR)	15,313	15,344	15,461	15,587	15,643	15,705	15,806	15,888	15,962	16,032	16,103	16,181	15,426	15,760	16,069
Real Private Fixed Investment (billion chained 2017 dollars - SAAR)	3,906	3,956	3,981	4,016	4,084	4,123	4,118	4,123	4,147	4,171	4,197	4,223	3,965	4,112	4,185
Business Inventory Change (billion chained 2017 dollars - SAAR)	24	19	102	70	36	121	106	103	87	92	99	102	54	91	95
Real Government Expenditures (billion chained 2017 dollars - SAAR)	3,759	3,790	3,843	3,887	3,904	3,908	3,919	3,926	3,933	3,938	3,943	3,948	3,820	3,914	3,941
Real Exports of Goods & Services (billion chained 2017 dollars - SAAR)	2,525	2,465	2,497	2,528	2,538	2,534	2,559	2,586	2,612	2,641	2,671	2,705	2,504	2,554	2,657
Real Imports of Goods & Services (billion chained 2017 dollars - SAAR)	3,460	3,393	3,428	3,447	3,498	3,563	3,586	3,620	3,667	3,700	3,747	3,781	3,432	3,567	3,724
Real Disposable Personal Income (billion chained 2017 dollars - SAAR)	16,663	16,797	16,820	16,856	16,912	16,982	17,121	17,222	17,364	17,495	17,630	17,750	16,784	17,060	17,560
Non-Farm Employment (millions)	155.0	155.8	156.4	157.1	157.8	158.4	159.0	159.3	159.5	159.7	159.8	159.9	156.1	158.6	159.7
Civilian Unemployment Rate (percent)	3.5	3.6	3.7	3.7	3.8	4.0	4.1	4.1	4.2	4.3	4.4	4.4	3.6	4.0	4.3
Housing Starts (millions - SAAR)	1.37	1.46	1.38	1.48	1.41	1.31	1.32	1.32	1.33	1.35	1.36	1.37	1.42	1.34	1.35
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	102.8	102.9	103.2	102.7	102.3	103.0	103.4	103.6	103.8	104.2	104.5	104.9	102.9	103.1	104.3
Manufacturing	100.0	100.1	100.0	99.7	99.5	99.9	100.5	100.9	101.0	101.5	101.8	102.4	100.0	100.2	101.7
Food	104.7	103.4	101.9	102.5	101.7	102.0	102.6	103.2	103.6	104.0	104.6	105.0	103.1	102.4	104.3
Paper	86.8	85.2	84.8	86.2	86.7	87.3	87.9	88.5	88.6	89.3	89.2	89.5	85.7	87.6	89.2
Petroleum and coal products	89.0	89.7	91.1	93.0	93.1	92.2	93.2	93.5	93.5	93.4	93.2	93.0	90.7	93.0	93.3
Chemicals	103.3	104.0	104.0	103.4	103.0	103.9	105.2	106.4	107.0	108.1	108.4	109.1	103.7	104.6	108.1
Nonmetallic mineral products	108.6	105.5	104.5	104.2	100.6	99.0	99.4	99.7	100.0	100.6	101.0	101.8	105.7	99.7	100.9
Primary metals	94.7	95.5	94.9	94.3	93.2	93.1	94.3	95.2	95.1	97.1	96.7	98.0	94.8	93.9	96.7
Coal-weighted manufacturing (a)	96.2	95.9	95.8	95.8	94.3	93.8	94.7	95.3	95.3	96.4	96.2	96.9	95.9	94.5	96.2
Distillate-weighted manufacturing (a)	98.8	98.1	97.9	97.9	96.6	96.5	97.1	97.6	97.8	98.5	98.7	99.3	98.2	96.9	98.6
Electricity-weighted manufacturing (a)	97.2	97.4	97.4	97.1	96.3	96.6	97.3	98.0	98.1	99.1	99.2	99.9	97.3	97.0	99.1
Natural Gas-weighted manufacturing (a)	95.0	95.1	95.5	95.3	94.2	94.2	95.1	95.8	95.8	96.8	96.6	97.1	95.2	94.8	96.6
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	3.01	3.03	3.06	3.08	3.11	3.13	3.14	3.16	3.18	3.19	3.21	3.23	3.05	3.14	3.20
Producer Price Index: All Commodities (index, 1982=1.00)	2.60	2.53	2.55	2.55	2.55	2.53	2.51	2.53	2.53	2.53	2.53	2.54	2.56	2.53	2.53
Producer Price Index: Petroleum (index, 1982=1.00)	3.09	2.91	3.17	2.82	2.79	2.79	2.52	2.49	2.56	2.59	2.60	2.48	3.00	2.65	2.56
GDP Implicit Price Deflator (index, 2017=100)	121.3	121.8	122.8	123.3	124.2	124.9	125.5	126.4	127.2	128.0	128.8	129.5	122.3	125.3	128.4
Miscellaneous															
Vehicle Miles Traveled (a) (million miles/day)	8,426	9,159	9,334	8,835	8,381	9,291	9,495	8,898	8,554	9,362	9,539	8,929	8,941	9,017	9,098
Raw Steel Production (million short tons)	21,227	22,165	22,510	22,298	22,216	22,362	23,146	23,284	22,688	23,425	23,908	24,120	88,200	91,007	94,142
Carbon Dioxide (CO₂) Emissions (million metric tons)															
Total Energy (c)	1,237	1,115	1,228	1,213	1,240	1,121	1,222	1,224	1,249	1,101	1,229	1,223	4,793	4,807	4,801
Petroleum	548	563	570	572	543	567	575	572	551	569	577	575	2,253	2,257	2,272
Natural gas	501	383	416	455	512	388	415	462	510	380	410	459	1,756	1,778	1,759
Coal	186	167	240	184	183	165	230	188	187	150	239	187	777	765	763

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey*.

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

SAAR = Seasonally-adjusted annual rate

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Sources:

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Real Gross State Product (billion \$2017)															
New England	1,148	1,153	1,166	1,175	1,179	1,183	1,187	1,189	1,192	1,195	1,199	1,204	1,161	1,184	1,197
Middle Atlantic	3,192	3,202	3,235	3,255	3,269	3,287	3,302	3,313	3,323	3,336	3,347	3,362	3,221	3,293	3,342
E. N. Central	2,832	2,841	2,870	2,891	2,900	2,914	2,924	2,932	2,934	2,942	2,949	2,959	2,858	2,918	2,946
W. N. Central	1,353	1,360	1,377	1,384	1,389	1,396	1,401	1,404	1,407	1,413	1,417	1,423	1,369	1,397	1,415
S. Atlantic	4,092	4,107	4,154	4,192	4,207	4,228	4,248	4,265	4,282	4,302	4,322	4,344	4,136	4,237	4,312
E. S. Central	998	1,000	1,011	1,019	1,022	1,027	1,031	1,034	1,036	1,039	1,042	1,046	1,007	1,028	1,041
W. S. Central	2,563	2,590	2,634	2,664	2,676	2,691	2,706	2,721	2,737	2,754	2,771	2,789	2,613	2,698	2,762
Mountain	1,527	1,535	1,556	1,574	1,581	1,589	1,597	1,605	1,612	1,622	1,630	1,639	1,548	1,593	1,626
Pacific	4,249	4,277	4,327	4,362	4,373	4,393	4,409	4,428	4,446	4,467	4,487	4,509	4,304	4,401	4,477
Industrial Output, Manufacturing (index, year 2017=100)															
New England	96.6	96.2	95.8	95.2	95.1	95.5	96.0	96.3	96.4	96.9	97.2	97.7	96.0	95.7	97.1
Middle Atlantic	95.4	95.4	95.4	94.8	94.4	94.7	95.2	95.5	95.7	96.1	96.3	96.8	95.2	94.9	96.2
E. N. Central	96.8	96.8	96.6	96.1	95.7	96.1	96.7	97.1	97.0	97.5	97.7	98.1	96.6	96.4	97.6
W. N. Central	101.5	101.6	101.5	101.0	100.9	101.3	101.8	102.1	102.2	102.7	103.0	103.6	101.4	101.5	102.8
S. Atlantic	102.7	103.0	103.1	103.0	102.8	103.2	103.9	104.3	104.5	105.1	105.5	106.2	102.9	103.6	105.3
E. S. Central	100.3	100.4	100.2	99.9	99.8	100.4	101.1	101.4	101.3	101.7	101.9	102.3	100.2	100.7	101.8
W. S. Central	104.6	105.3	105.6	105.2	105.4	105.8	106.6	107.2	107.5	108.1	108.5	109.1	105.2	106.2	108.3
Mountain	111.2	111.3	111.3	111.1	111.4	111.9	112.5	113.0	113.1	113.8	114.2	114.8	111.2	112.2	114.0
Pacific	97.2	96.8	96.3	96.4	95.7	95.8	96.1	96.3	96.4	96.9	97.1	97.7	96.7	96.0	97.0
Real Personal Income (billion \$2017)															
New England	953	955	957	961	970	974	982	988	995	1,002	1,009	1,015	957	978	1,005
Middle Atlantic	2,518	2,530	2,543	2,546	2,566	2,577	2,597	2,611	2,631	2,649	2,666	2,682	2,534	2,588	2,657
E. N. Central	2,615	2,624	2,627	2,631	2,650	2,662	2,682	2,695	2,713	2,731	2,747	2,762	2,624	2,672	2,738
W. N. Central	1,295	1,296	1,300	1,298	1,305	1,309	1,317	1,322	1,333	1,341	1,351	1,360	1,297	1,313	1,346
S. Atlantic	3,712	3,728	3,741	3,758	3,797	3,819	3,855	3,882	3,918	3,951	3,985	4,015	3,735	3,838	3,967
E. S. Central	1,010	1,011	1,013	1,017	1,028	1,034	1,043	1,047	1,054	1,061	1,067	1,073	1,013	1,038	1,064
W. S. Central	2,318	2,311	2,327	2,335	2,357	2,369	2,391	2,407	2,429	2,449	2,470	2,490	2,323	2,381	2,459
Mountain	1,428	1,440	1,441	1,448	1,460	1,466	1,478	1,487	1,499	1,511	1,523	1,534	1,439	1,473	1,517
Pacific	3,087	3,109	3,115	3,119	3,144	3,157	3,181	3,200	3,224	3,247	3,270	3,292	3,107	3,170	3,258
Households (thousands)															
New England	6,088	6,103	6,118	6,126	6,140	6,154	6,171	6,185	6,200	6,214	6,227	6,239	6,126	6,185	6,239
Middle Atlantic	16,074	16,101	16,128	16,146	16,180	16,210	16,248	16,285	16,324	16,360	16,392	16,422	16,146	16,285	16,422
E. N. Central	19,005	19,040	19,079	19,106	19,146	19,178	19,215	19,249	19,286	19,321	19,351	19,379	19,106	19,249	19,379
W. N. Central	8,702	8,729	8,754	8,773	8,798	8,818	8,841	8,863	8,887	8,909	8,929	8,948	8,773	8,863	8,948
S. Atlantic	27,263	27,363	27,466	27,554	27,673	27,781	27,900	28,012	28,120	28,223	28,314	28,406	27,554	28,012	28,406
E. S. Central	7,902	7,933	7,962	7,987	8,018	8,044	8,071	8,096	8,122	8,144	8,166	8,187	7,987	8,096	8,187
W. S. Central	15,960	16,022	16,091	16,150	16,220	16,285	16,362	16,437	16,512	16,584	16,650	16,713	16,150	16,437	16,713
Mountain	9,791	9,820	9,852	9,878	9,914	9,948	9,987	10,026	10,068	10,110	10,148	10,187	9,878	10,026	10,187
Pacific	18,984	19,002	19,028	19,041	19,072	19,098	19,138	19,173	19,210	19,246	19,278	19,312	19,041	19,173	19,312
Total Non-farm Employment (millions)															
New England	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.6	7.7	7.7
Middle Atlantic	20.0	20.1	20.2	20.3	20.4	20.5	20.5	20.6	20.6	20.6	20.6	20.6	20.2	20.5	20.6
E. N. Central	22.4	22.5	22.5	22.5	22.6	22.7	22.8	22.8	22.8	22.8	22.8	22.7	22.5	22.7	22.8
W. N. Central	10.9	10.9	11.0	11.0	11.1	11.1	11.2	11.2	11.2	11.2	11.2	11.2	11.0	11.2	11.2
S. Atlantic	30.6	30.8	30.9	31.1	31.2	31.4	31.5	31.6	31.7	31.7	31.8	31.8	30.8	31.4	31.8
E. S. Central	8.6	8.7	8.7	8.7	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.8	8.8
W. S. Central	18.9	19.0	19.1	19.2	19.3	19.3	19.4	19.5	19.5	19.6	19.6	19.7	19.0	19.4	19.6
Mountain	11.8	11.9	12.0	12.1	12.2	12.2	12.3	12.3	12.3	12.3	12.4	12.4	12.0	12.2	12.3
Pacific	24.3	24.4	24.4	24.6	24.7	24.7	24.8	24.8	24.9	24.9	24.9	24.9	24.4	24.8	24.9

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.

Sources:

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Heating Degree Days															
United States average	1,922	485	60	1,336	1,905	413	69	1,450	1,989	469	74	1,443	3,803	3,836	3,975
New England	2,713	818	91	1,928	2,764	749	121	2,037	2,944	818	130	2,029	5,550	5,671	5,921
Middle Atlantic	2,452	653	70	1,774	2,519	562	79	1,865	2,721	654	86	1,857	4,949	5,025	5,318
E. N. Central	2,727	700	96	1,901	2,656	547	121	2,135	3,002	701	120	2,130	5,424	5,458	5,953
W. N. Central	3,172	659	93	2,014	2,842	600	146	2,355	3,172	706	154	2,352	5,937	5,943	6,385
South Atlantic	1,061	190	10	892	1,253	137	12	883	1,272	178	12	876	2,153	2,286	2,338
E. S. Central	1,390	257	13	1,161	1,658	165	19	1,228	1,685	232	19	1,223	2,821	3,071	3,160
W. S. Central	930	92	1	695	1,078	50	5	767	1,094	85	5	764	1,719	1,899	1,947
Mountain	2,562	728	127	1,662	2,223	686	134	1,842	2,167	711	154	1,840	5,079	4,885	4,872
Pacific	1,829	651	96	1,037	1,565	614	80	1,160	1,441	583	94	1,157	3,614	3,419	3,275
Heating Degree Days, Prior 10-year average															
United States average	2,133	485	60	1,477	2,103	483	58	1,444	2,048	476	57	1,435	4,155	4,088	4,016
New England	3,151	859	106	2,093	3,110	856	98	2,057	3,031	842	96	2,052	6,209	6,121	6,021
Middle Atlantic	2,939	689	69	1,907	2,889	685	63	1,878	2,798	671	61	1,868	5,604	5,516	5,399
E. N. Central	3,215	741	93	2,169	3,159	735	91	2,113	3,031	717	86	2,090	6,218	6,098	5,924
W. N. Central	3,319	754	121	2,374	3,295	730	120	2,303	3,193	714	117	2,287	6,568	6,448	6,312
South Atlantic	1,403	190	10	905	1,357	188	9	896	1,311	182	9	880	2,508	2,450	2,382
E. S. Central	1,811	251	14	1,231	1,756	248	14	1,206	1,695	241	14	1,187	3,307	3,224	3,138
W. S. Central	1,188	95	3	762	1,164	90	3	731	1,124	86	3	723	2,048	1,987	1,935
Mountain	2,193	696	128	1,833	2,208	696	128	1,800	2,218	694	126	1,808	4,850	4,832	4,847
Pacific	1,444	523	75	1,148	1,471	539	77	1,129	1,501	553	79	1,147	3,191	3,216	3,280
Cooling Degree Days															
United States average	68	362	942	104	53	497	932	105	51	446	967	106	1,476	1,586	1,569
New England	0	52	466	5	0	147	529	1	0	99	509	1	523	677	609
Middle Atlantic	0	91	584	10	0	244	648	5	0	183	657	5	686	897	845
E. N. Central	0	179	521	10	2	310	566	7	1	245	598	7	710	885	851
W. N. Central	1	318	708	14	11	331	691	11	5	297	733	11	1,040	1,043	1,045
South Atlantic	201	585	1,237	240	146	759	1,247	257	139	715	1,288	260	2,263	2,410	2,402
E. S. Central	63	442	1,096	72	40	624	1,110	67	34	545	1,127	68	1,673	1,841	1,774
W. S. Central	149	896	1,864	214	125	1,052	1,534	212	105	936	1,648	213	3,123	2,922	2,903
Mountain	3	352	1,030	98	9	491	1,000	83	20	451	1,015	83	1,484	1,582	1,569
Pacific	26	110	616	79	20	198	697	77	28	200	704	77	831	992	1,010
Cooling Degree Days, Prior 10-year average															
United States average	50	415	895	109	53	414	909	111	55	424	925	112	1,470	1,488	1,517
New England	0	87	480	2	0	83	482	2	0	90	501	2	569	568	593
Middle Atlantic	0	160	617	8	0	154	623	9	0	162	644	8	785	785	815
E. N. Central	1	234	561	10	1	230	566	10	1	238	585	10	805	807	835
W. N. Central	4	292	674	12	4	301	680	12	5	307	695	12	982	997	1,020
South Atlantic	144	675	1,192	272	153	674	1,212	271	157	685	1,231	277	2,283	2,309	2,350
E. S. Central	36	520	1,058	83	41	519	1,077	85	44	531	1,096	85	1,697	1,721	1,756
W. S. Central	101	861	1,549	223	108	872	1,584	228	117	899	1,594	227	2,734	2,792	2,837
Mountain	24	460	960	83	22	447	971	88	20	452	984	87	1,527	1,528	1,543
Pacific	32	213	676	86	32	202	678	89	30	199	678	85	1,006	1,000	992

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (<http://www.eia.gov/tools/glossary/>) for a list of states in each region.

Sources:

Table 10a. Drilling Productivity Metrics
U.S. Energy Information Administration | Short-Term Energy Outlook - August 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Active rigs															
Appalachia region	51	50	43	40	42	39	-	-	-	-	-	-	46	-	-
Bakken region	41	37	34	33	34	34	-	-	-	-	-	-	36	-	-
Eagle Ford region	78	67	55	55	57	56	-	-	-	-	-	-	64	-	-
Haynesville region	72	63	49	46	43	36	-	-	-	-	-	-	58	-	-
Permian region	352	349	326	311	312	313	-	-	-	-	-	-	334	-	-
Rest of Lower 48 States, excluding GOM	141	127	112	108	104	96	-	-	-	-	-	-	122	-	-
New wells drilled															
Appalachia region	292	284	247	226	239	222	-	-	-	-	-	-	1,049	-	-
Bakken region	240	223	202	200	206	207	-	-	-	-	-	-	865	-	-
Eagle Ford region	353	307	269	273	286	285	-	-	-	-	-	-	1,202	-	-
Haynesville region	221	192	148	133	124	103	-	-	-	-	-	-	694	-	-
Permian region	1,418	1,412	1,356	1,314	1,321	1,324	-	-	-	-	-	-	5,500	-	-
Rest of Lower 48 States, excluding GOM	815	766	719	661	602	551	-	-	-	-	-	-	2,961	-	-
New wells drilled per rig															
Appalachia region	5.7	5.7	5.7	5.7	5.6	5.7	-	-	-	-	-	-	22.8	-	-
Bakken region	5.9	6.0	6.0	6.1	6.1	6.1	-	-	-	-	-	-	23.9	-	-
Eagle Ford region	4.5	4.6	4.9	5.0	5.0	5.1	-	-	-	-	-	-	19.0	-	-
Haynesville region	3.1	3.0	3.0	2.9	2.9	2.9	-	-	-	-	-	-	12.0	-	-
Permian region	4.0	4.0	4.2	4.2	4.2	4.2	-	-	-	-	-	-	16.5	-	-
Rest of Lower 48 States, excluding GOM	5.8	6.1	6.4	6.1	5.8	5.7	-	-	-	-	-	-	24.4	-	-
New wells completed															
Appalachia region	258	241	236	245	263	231	-	-	-	-	-	-	980	-	-
Bakken region	258	310	310	225	191	241	-	-	-	-	-	-	1,103	-	-
Eagle Ford region	454	403	368	301	364	301	-	-	-	-	-	-	1,526	-	-
Haynesville region	168	121	121	139	113	110	-	-	-	-	-	-	549	-	-
Permian region	1,459	1,343	1,352	1,399	1,352	1,339	-	-	-	-	-	-	5,553	-	-
Rest of Lower 48 States, excluding GOM	694	768	735	748	628	596	-	-	-	-	-	-	2,945	-	-
Cumulative drilled but uncompleted wells															
Appalachia region	785	828	839	820	796	787	-	-	-	-	-	-	820	-	-
Bakken region	584	497	389	364	379	345	-	-	-	-	-	-	364	-	-
Eagle Ford region	638	542	443	415	337	321	-	-	-	-	-	-	415	-	-
Haynesville region	715	786	813	807	818	811	-	-	-	-	-	-	807	-	-
Permian region	929	998	1,002	917	899	895	-	-	-	-	-	-	917	-	-
Rest of Lower 48 States, excluding GOM	2,496	2,494	2,478	2,391	2,365	2,320	-	-	-	-	-	-	2,391	-	-
Crude oil production from newly completed wells, one-year trend (thousand barrels per day) (a) (c)															
Appalachia region	14	14	14	14	12	12	-	-	-	-	-	-	14	-	-
Bakken region	51	59	66	62	56	57	-	-	-	-	-	-	60	-	-
Eagle Ford region	82	89	81	63	62	69	-	-	-	-	-	-	79	-	-
Haynesville region	1	0	0	0	0	0	-	-	-	-	-	-	0	-	-
Permian region	436	434	443	438	429	430	-	-	-	-	-	-	438	-	-
Rest of Lower 48 States, excluding GOM	78	82	86	87	87	86	-	-	-	-	-	-	83	-	-
Crude oil production from newly completed wells per rig, one-year trend (thousand barrels per day) (a)															
Appalachia region	0.3	0.3	0.3	0.3	0.3	0.3	-	-	-	-	-	-	0.3	-	-
Bakken region	1.2	1.5	1.8	1.9	1.7	1.7	-	-	-	-	-	-	1.6	-	-
Eagle Ford region	1.1	1.2	1.3	1.2	1.1	1.2	-	-	-	-	-	-	1.2	-	-
Haynesville region	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-	0.0	-	-
Permian region	1.2	1.2	1.3	1.4	1.4	1.4	-	-	-	-	-	-	1.3	-	-
Rest of Lower 48 States, excluding GOM	0.5	0.6	0.7	0.8	0.8	0.8	-	-	-	-	-	-	0.7	-	-
Existing crude oil production change, one-year trend (thousand barrels per day) (a) (c)															
Appalachia region	-9.2	-12.0	-14.3	-14.4	-13.2	-12.6	-	-	-	-	-	-	-12.5	-	-
Bakken region	-41.4	-37.2	-48.6	-58.6	-57.1	-49.7	-	-	-	-	-	-	-46.5	-	-
Eagle Ford region	-73.5	-80.6	-87.5	-80.5	-72.5	-73.1	-	-	-	-	-	-	-80.5	-	-
Haynesville region	-0.8	-0.9	-0.7	-0.5	-0.6	-0.7	-	-	-	-	-	-	-0.7	-	-
Permian region	-410.1	-412.7	-404.7	-389.5	-392.0	-394.8	-	-	-	-	-	-	-404.2	-	-
Rest of Lower 48 States, excluding GOM	-71.2	-69.0	-77.3	-82.8	-87.5	-87.5	-	-	-	-	-	-	-75.1	-	-
Natural gas production from newly completed wells, one-year trend (million cubic feet per day) (a) (d)															
Appalachia region	1,278.9	1,274.1	1,323.2	1,320.6	1,255.3	1,217.7	-	-	-	-	-	-	1,299.4	-	-
Bakken region	59.7	68.2	73.9	69.1	62.8	64.1	-	-	-	-	-	-	67.8	-	-
Eagle Ford region	387.8	337.6	327.7	323.0	301.7	294.9	-	-	-	-	-	-	343.8	-	-
Haynesville region	995.5	922.6	761.7	597.2	518.0	540.1	-	-	-	-	-	-	818.0	-	-
Permian region	833.2	829.5	835.3	817.5	781.9	777.5	-	-	-	-	-	-	828.8	-	-
Rest of Lower 48 States, excluding GOM	382.6	357.6	390.2	392.6	346.3	322.8	-	-	-	-	-	-	380.8	-	-
Natural gas production from newly completed wells per rig, one-year trend (million cubic feet per day) (a) (d)															
Appalachia region	24.6	24.8	27.2	32.5	30.9	28.8	-	-	-	-	-	-	27.3	-	-
Bakken region	1.5	1.7	2.1	2.1	1.9	1.9	-	-	-	-	-	-	1.8	-	-
Eagle Ford region	5.1	4.4	5.3	5.9	5.4	5.1	-	-	-	-	-	-	5.2	-	-
Haynesville region	13.7	12.9	13.4	12.6	11.3	13.7	-	-	-	-	-	-	13.1	-	-
Permian region	2.4	2.4	2.4	2.6	2.5	2.5	-	-	-	-	-	-	2.4	-	-
Rest of Lower 48 States, excluding GOM	2.4	2.6	3.2	3.6	3.2	3.2	-	-	-	-	-	-	3.0	-	-
Existing natural gas production change, one-year trend (million cubic feet per day) (a) (c) (d)															
Appalachia region	-1,172.8	-1,156.4	-1,233.9	-1,279.0	-1,222.7	-1,251.8	-	-	-	-	-	-	-1,210.9	-	-
Bakken region	-51.5	-22.8	-44.8	-71.2	-64.4	-45.7	-	-	-	-	-	-	-47.6	-	-
Eagle Ford region	-309.7	-286.7	-310.7	-319.2	-326.5	-319.5	-	-	-	-	-	-	-306.6	-	-
Haynesville region	-912.8	-913.6	-853.3	-766.1	-806.6	-854.7	-	-	-	-	-	-	-861.0	-	-
Permian region	-644.3	-617.1	-629.5	-587.4	-599.3	-611.1	-	-	-	-	-	-	-619.4	-	-
Rest of Lower 48 States, excluding GOM	-537.6	-412.3	-396.4	-369.1	-442.0	-445.0	-	-	-	-	-	-	-413.2	-	-

(a) The Production From Newly Completed Wells and the Existing Production Change data series are reported as smoothed monthly data over a twelve-month period. The smoothing is done using the Locally Weighted Scatterplot Smoothing (LOWESS) function. LOWESS calculates a locally weighted average for each point, giving more weight to nearby monthly data and less weights to distant data. The smoothed data may change each month according to updated data.

(b) The most recent six months of well-level data is incomplete due to known lags in reporting. For these months, the values are imputed based on historical reporting patterns and other relevant factors.

(c) The sum of "Production from Newly Completed Wells" and "Existing Production Change" may not equal the month-over-month crude oil or natural gas production changes reported in tables 4a and 5a, respectively. This discrepancy arises from the statistical smoothing techniques applied to aggregated basin level data, variations in data imputation methodologies, and utilizing different data sources.

(d) Natural gas production in this table is marketed natural gas production.

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

-- no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Latest data available from Baker Hughes, Energen, FracFocus.org.

Table 10b. Crude Oil and Natural Gas Production from Shale and Tight Formations

U.S. Energy Information Administration | Short-Term Energy Outlook

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Total U.S. tight oil production (million barrels per day) (a)	8.20	8.33	8.48	8.68	8.49	8.62	-	-	-	-	-	-	8.42	-	-
Austin Chalk formation	0.13	0.12	0.13	0.12	0.11	0.12	-	-	-	-	-	-	0.13	-	-
Bakken formation	1.08	1.11	1.19	1.24	1.17	1.19	-	-	-	-	-	-	1.16	-	-
Eagle Ford formation	1.00	1.02	1.02	0.96	0.93	0.95	-	-	-	-	-	-	1.00	-	-
Mississippian formation	0.15	0.14	0.14	0.14	0.13	0.13	-	-	-	-	-	-	0.14	-	-
Niobrara Codell formation	0.42	0.45	0.46	0.48	0.47	0.48	-	-	-	-	-	-	0.45	-	-
Permian formations	5.03	5.07	5.15	5.35	5.32	5.41	-	-	-	-	-	-	5.15	-	-
Woodford formation	0.10	0.10	0.10	0.09	0.09	0.09	-	-	-	-	-	-	0.10	-	-
Other U.S. formations	0.30	0.30	0.29	0.29	0.27	0.25	-	-	-	-	-	-	0.29	-	-
Total U.S. shale dry natural gas production (billion cubic feet per day) (a)	81.3	81.5	81.2	81.8	79.9	79.9	-	-	-	-	-	-	81.5	-	-
Bakken formation	2.2	2.3	2.5	2.6	2.4	2.6	-	-	-	-	-	-	2.4	-	-
Barnett formation	1.9	1.9	1.8	1.8	1.7	1.7	-	-	-	-	-	-	1.8	-	-
Eagle Ford formation	4.4	4.5	4.5	4.5	4.3	4.3	-	-	-	-	-	-	4.5	-	-
Fayetteville formation	0.9	0.9	0.9	0.9	0.8	0.8	-	-	-	-	-	-	0.9	-	-
Haynesville formation	14.6	14.8	14.6	14.2	13.7	13.1	-	-	-	-	-	-	14.5	-	-
Marcellus formation	25.6	25.5	25.4	26.1	25.3	25.4	-	-	-	-	-	-	25.7	-	-
Mississippian formation	2.4	2.4	2.3	2.3	2.4	2.5	-	-	-	-	-	-	2.4	-	-
Niobrara Codell formation	2.6	2.6	2.7	2.8	2.8	2.9	-	-	-	-	-	-	2.7	-	-
Permian formations	15.5	16.1	16.6	17.1	17.2	17.7	-	-	-	-	-	-	16.3	-	-
Utica formation	5.9	5.3	4.8	4.5	4.2	3.9	-	-	-	-	-	-	5.1	-	-
Woodford formation	3.1	2.9	2.9	2.9	2.8	2.9	-	-	-	-	-	-	2.9	-	-
Other U.S. formations	2.3	2.3	2.3	2.3	2.2	2.2	-	-	-	-	-	-	2.3	-	-

(a) These production estimates are based on geologic formations, not geographic regions

Notes:

EIA completed modeling and analysis for this report on August 1, 2024.

- = no data available

The approximate break between historical and forecast values is shown with historical data with no shading; estimates and forecasts are shaded gray.

Minor discrepancies with published historical data are due to independent rounding.

Sources:

Historical data: Latest data available from Enverus state administrative data.

Appendix to the August 2024 Short-Term Energy Outlook

This appendix is prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The data in this appendix, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing the NDAA report, which was previously published as a stand-alone report. Detailed background and contextual information not repeated here can be found in [early editions of the NDAA report](#).

This appendix is published in the *Short-Term Energy Outlook* in even numbered months.

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Jun 2024	Jul 2024	Jun 2024 – Jul 2024 Average	Jun 2023 – Jul 2023 Average	2021 – 2023 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	101.8	102.9	102.3	101.9	99.2
Global Petroleum and Other Liquids Consumption (b)	103.7	103.4	103.5	102.6	99.7
Biofuels Production (c)	3.2	3.2	3.2	3.1	2.8
Biofuels Consumption (c)	2.8	2.8	2.8	2.8	2.7
Iran Liquid Fuels Production	4.3	4.4	4.3	3.9	3.7
Iran Liquid Fuels Consumption	2.0	2.0	2.0	2.1	2.1
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	94.3	95.3	94.8	94.8	96.4
Consumption (d)	99.0	98.5	98.7	97.8	94.9
Production minus Consumption	-4.7	-3.2	-3.9	-2.9	1.6
World Inventory Net Withdrawals Including Iran	2.0	0.5	1.2	0.8	0.5
Estimated OECD Inventory Level (e) (million barrels)	2761	2753	2757	2796	2778
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	4.9	4.5	4.7	3.7	3.7

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

(a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.

(b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.

(c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.

(d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.

(e) Estimated inventory level is for OECD countries only.

(f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field.

Data source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Jun 2024	Jul 2024	Jun 2024 – Jul 2024	Jun 2023 – Jul	2021 – 2023
			Average	2023 Average	Average
Brent Front Month Futures Price (\$ per barrel)	83.00	83.88	83.47	77.51	84.06
WTI Front Month Futures Price (\$ per barrel)	78.70	80.48	79.66	73.08	80.01
Dubai Front Month Futures Price (\$ per barrel)	82.78	83.51	83.17	77.85	82.59
Brent 1st - 13th Month Futures Spread (\$ per barrel)	5.30	5.81	5.57	3.40	7.69
WTI 1st - 13th Month Futures Spread (\$ per barrel)	5.79	7.09	6.49	3.29	7.73
RBOB Front Month Futures Price (\$ per gallon)	2.44	2.50	2.47	2.64	2.53
Heating Oil Front Month Futures Price (\$ per gallon)	2.45	2.49	2.47	2.54	2.81
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.47	0.50	0.48	0.80	0.53
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.47	0.50	0.48	0.69	0.81

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).

(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.

(c) RBOB refers to *reformulated blendstock for oxygenate blending* traded on the NYMEX.

Data source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).