



Independent Statistics and Analysis
**U.S. Energy Information
Administration**

Short-Term Energy Outlook

STEO

May 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	\$88	\$85
Retail gasoline price (dollars per gallon)	\$3.50	\$3.50	\$3.50
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	\$2.20	\$3.10
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%	41%
Coal	17%	16%	14%
Renewables	21%	23%	25%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	2.5%	2.5%	1.9%
U.S. CO ₂ emissions (billion metric tons)	4.8	4.8	4.7

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

- **Global oil prices.** We expect voluntary OPEC+ crude oil production cuts and ongoing geopolitical risks will keep the Brent crude oil spot price near \$90 per barrel (b) for the remainder of 2024 before falling to an average of \$85/b in 2025 as global oil production growth picks up.
- **Global oil production tables.** This month we are [publishing streamlined global oil data tables](#). These tables provide a more complete breakout of OPEC+ production data and provide a new breakout of world crude oil and other liquid fuels production.
- **U.S. retail gasoline prices.** Across the United States, we forecast that retail gasoline prices will average near [\\$3.70 per gallon from April through September](#), which is similar to prices during the same period last year. Refinery operations are a source of uncertainty for gasoline markets this summer. An upcoming *Perspectives* supplement looks in more depth at the effect refinery operations could have on retail gasoline prices.
- **Natural gas production.** We expect U.S. dry natural gas production to fall by 2% from the first quarter of 2024 (1Q24) to 2Q24 as a result of low natural gas prices. We expect 1% less natural gas will be produced in the United States in 2024 than last year before production increases by 2% in 2025 to a record of almost 105 billion cubic feet per day (Bcf/d).
- **Natural gas consumption.** U.S. natural gas consumption in our forecast is mostly unchanged in 2024 compared with last year, averaging 89 Bcf/d. We expect that less consumption in the industrial

sector will offset increases in natural gas consumption in the electric power, residential, and commercial sectors.

- **Electricity generation.** Solar supplies most of our forecast growth in U.S. electricity generation this year. We expect total U.S. electricity generation will grow by 3% (114 billion kilowatthours) in 2024, and we forecast generation from utility-scale solar will contribute almost 60% of that increase. Among other renewable sources, wind contributes 19% of 2024 U.S. electricity generation growth, and [hydropower](#) contributes 13%.
- **Coal markets.** We have revised our estimate of U.S. coal exports in 2024 upwards by 4% compared with the April *Short-Term Energy Outlook* (STEO) due to more-than-expected metallurgical coal exports from the Appalachia region in February. We now expect U.S. coal exports in 2024 will be almost unchanged from 2023. However, we still expect coal production will decline by 14% in 2024 to about 500 million short tons and then fall by about 1% next year. But more coal exports in this STEO compared with last month's forecast mean the decline is less than we had forecast last month; we raised our forecast for U.S. coal production from last month by 3% in 2024 and by 6% in 2025.

Notable forecast changes

Current forecast: May 7, 2024; previous forecast: April 9, 2024

	2024	2025
Coal exports (million short tons)	99	106
Previous forecast	94	105
Percentage change	4.5%	0.8%
Coal production (million short tons)	499	494
Previous forecast	485	464
Percentage change	2.9%	6.3%
Secondary coal inventories (million short tons)	142	154
Previous forecast	138	128
Percentage change	2.4%	20.9%

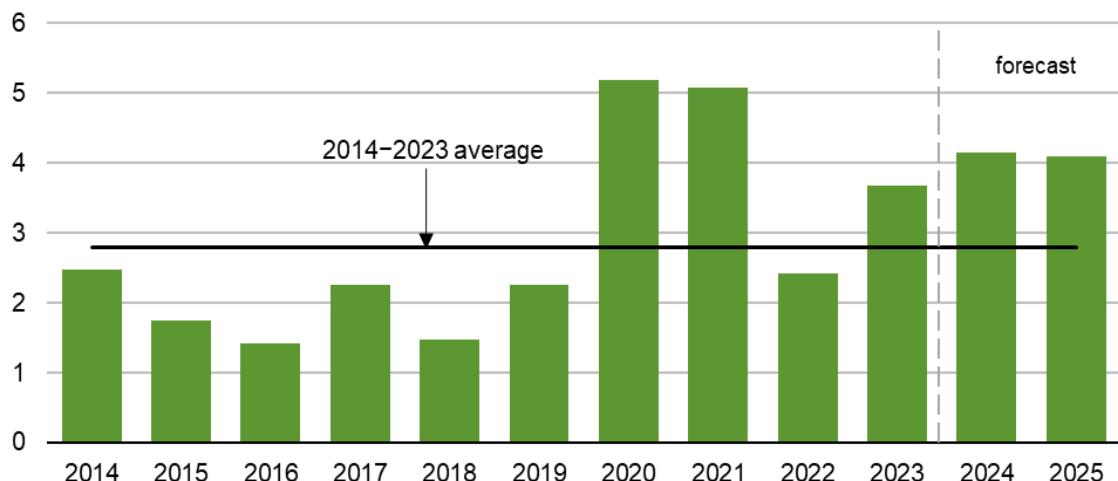
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Global Oil Markets

Global oil prices and inventories

The spot price of Brent crude oil averaged \$90 per barrel (b) in April, up \$5/b from March and the fourth consecutive monthly increase. However, daily crude oil spot prices have since fallen, and the Brent spot price settled at \$84/b on May 2. Prices increased in April due to falling global oil inventories. Geopolitical tensions also supported crude oil prices amid conflict between Iran and Israel, which added uncertainty to already heightened tensions in the Middle East. Despite these tensions, crude oil price volatility has been subdued for much of this year by significant spare crude oil production capacity. If holders of spare production capacity choose to deploy it, supply can be available to the oil market in the event of any short-term supply disruption. We estimate OPEC spare production capacity will be around 4 million barrels per day (b/d) through 2025.

OPEC surplus crude oil production capacity
million barrels per day



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

Note: Black line represents 2014–2023 average (2.8 million barrels per day).



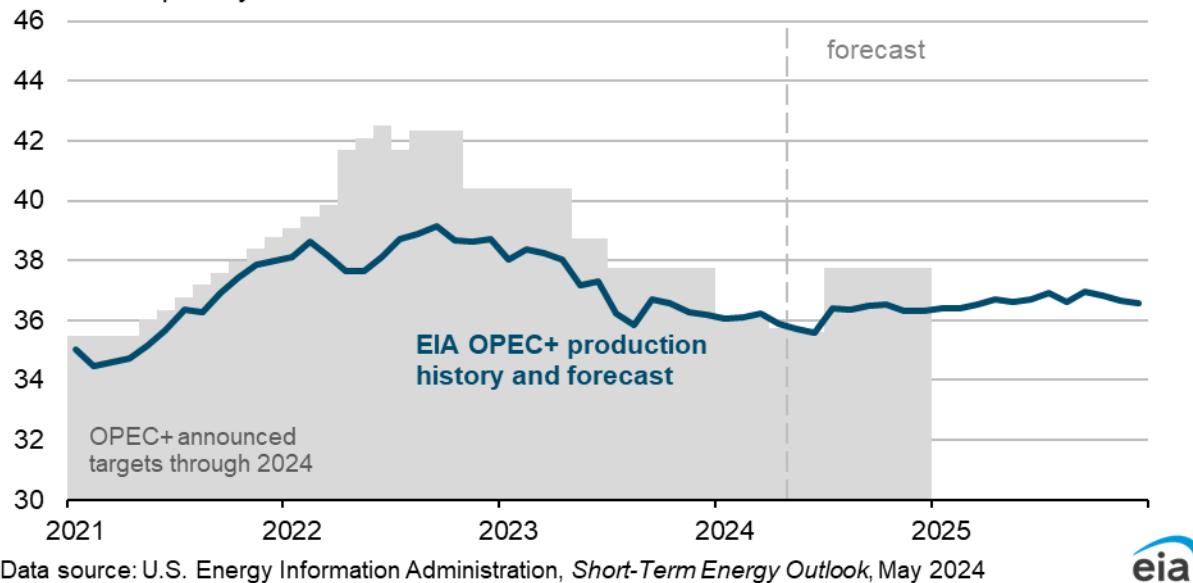
We assess that [voluntary OPEC+ production cuts](#) are reducing global oil inventories in the first half of 2024 (1H24). We estimate that global oil inventories are decreasing by an average of 0.3 million b/d in 1H24. We anticipate some OPEC+ producers will continue to limit production after current voluntary OPEC+ cuts expire at the end of June. Our expectation of ongoing production restraint leads to our forecast of a relatively balanced oil market in 2H24, which we expect will keep oil prices near \$90/b for the remainder of 2024, before stronger supply growth contributes to global oil inventory builds of 0.4 million b/d in 2025, causing prices to fall to an average of \$85/b next year. However, there remains significant uncertainty centered around ongoing developments in the Middle East, which have the potential to increase oil price volatility and lead to sharp increases in oil prices.

Global oil production

Beginning with this month's STEO, we will include new [streamlined global oil data tables](#). These tables provide a more complete breakout of OPEC+ production data and provide a new breakout of world

crude oil production that is separate from other liquid fuels production. We are also including liquid fuels and crude oil production breakouts for OPEC+ members. Given the large role OPEC+ plays in global oil markets, this new layout will allow stakeholders to more easily find relevant OPEC+ production data in our tables while also accurately summarizing the role that the OPEC+ agreement plays in our STEO forecast.

OPEC+ crude oil production and targets million barrels per day



Based on our estimates, OPEC+ producers have largely adhered to the latest round of OPEC+ voluntary production cuts, which are set to expire at the end of June 2024. The production cuts removed approximately 2.2 million b/d of supply from the world oil market in 1Q24 and have tightened markets further in 2Q24 as additional voluntary production cuts from OPEC+ have taken effect. Many of the current OPEC+ voluntary production cuts are set to expire beginning in 2H24, but we assume some OPEC+ members will continue to voluntarily limit production to keep global oil supplies balanced and to prevent significant builds in global oil inventories. Although we assume some extension of voluntary cuts, we expect a gradual unwinding of the cuts leads to OPEC+ crude oil production increasing by 0.5 million b/d from 1H24 to 2H24, before increasing by an additional 0.5 million b/d on average in 2025.

The OPEC+ cuts are restraining world oil production growth this year, partly offsetting growth from outside of OPEC+. We expect that global production of petroleum and other liquid fuels will increase by 1.0 million b/d in 2024, slowing from growth of 1.8 million b/d in 2023. Although OPEC+ liquid fuels production decreases by 0.8 million b/d in 2024, production outside of OPEC+ increases by 1.8 million b/d, led by growth in the United States, Canada, Brazil, and Guyana.

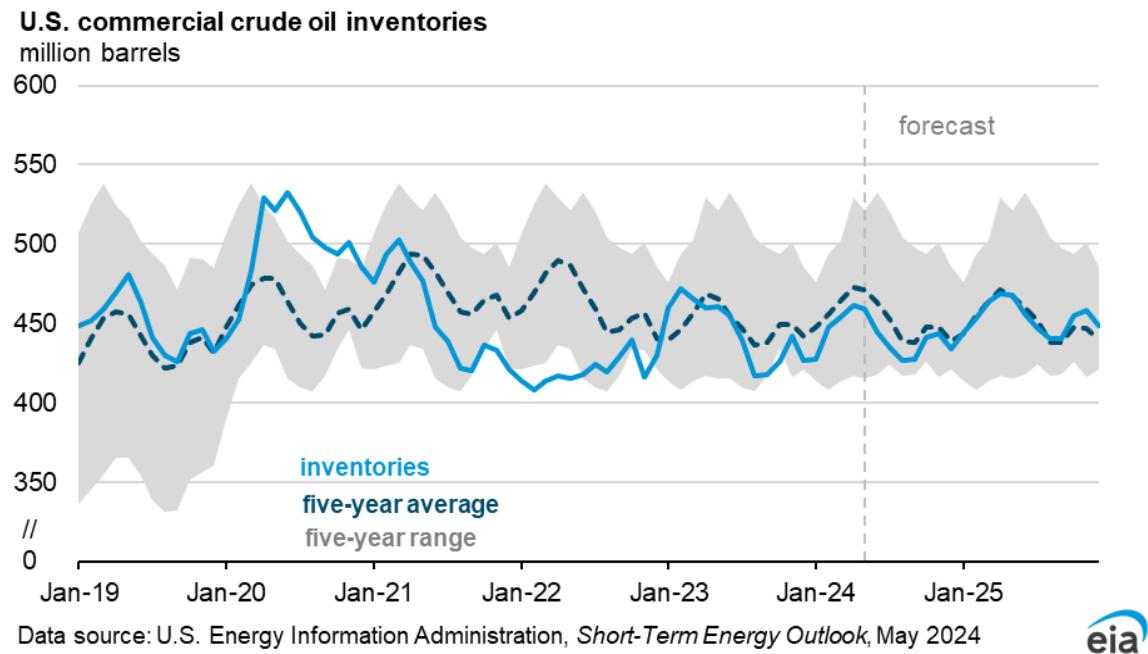
In Canada, we expect the [startup of the Trans Mountain pipeline expansion](#) (TMX) on May 1 will alleviate existing distribution bottlenecks and allow for gradual increases in crude oil production. We forecast liquid fuels production will increase in Canada by 0.5 million b/d over the forecast period, which is more than 0.2 million b/d above our forecast in last month's STEO prior to the announcement of the pipeline's startup.

Global liquid fuels production increases by 1.9 million b/d in 2025 as the OPEC+ production cuts expire and production outside of OPEC+ continues to grow.

Petroleum Products

Crude oil inventories

We forecast that [U.S. commercial crude oil inventories](#) (inventories that exclude crude oil in the [Strategic Petroleum Reserve](#)) will fall near the bottom of the five-year (2019–23) range in July and August 2024 and then increase to near the 2020–24 average during the second half of 2025 (2H25).



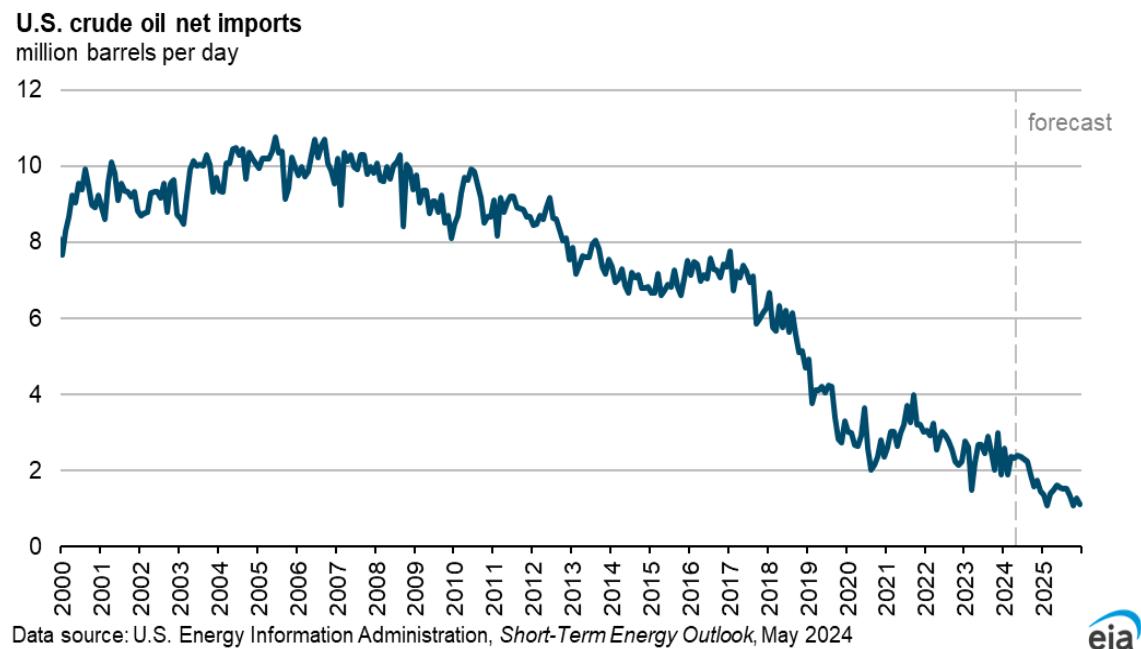
At the end of April, U.S. commercial crude oil inventories were 461 million barrels. We forecast that U.S. commercial crude oil inventories will fall to below 430 million barrels in August, near the previous five-year low for that month. The decline in commercial crude oil inventories reflects our expectation of increasing U.S. refinery runs in the coming months. We forecast that refinery runs will increase from an average of 15.4 million b/d in 1Q24 to an average of 16.2 million b/d in 3Q24 contributing to a draw in inventories between the end of 1Q24 and the end of 3Q24. Our forecast of U.S. crude oil production growth over the same period does not increase inventories because we expect relatively tight global oil markets in the coming months will mean that additional production will either be exported due to strong global demand for U.S. crude oil or displace some existing crude oil imports. Despite the strong increase in runs between 1Q24 and 3Q24, we forecast that overall refinery runs in 2024 will average 15.9 million b/d, down slightly from 16.0 million b/d in 2023.

We forecast that U.S. commercial crude oil inventories will generally increase relative to the five-year average after August 2024, surpassing the average in October 2025. Rising crude oil inventories are driven by increasing U.S. crude oil production and decreasing U.S. refinery runs, along with loosening global oil market balances. We forecast that U.S. crude oil production will increase to an average of 13.7

million b/d in 2025, surpassing the previous record of 12.9 million b/d set in 2023. We forecast that U.S. refinery runs will fall by 1%, averaging 15.8 million b/d in 2025, down from 16.0 million b/d in 2023.

Crude oil net imports

Increasing U.S. crude oil production and decreasing refinery runs will reduce net imports of crude oil (the difference between crude oil imports and crude oil exports) in late 2024 and in 2025. Crude oil net imports have been generally declining for many years, and we expect that trend to continue. The United States has imported less crude annually in most years since 2005, and U.S. crude oil exports have generally increased since December 2015, when the United States lifted restrictions on exporting crude. In the STEO, however, we forecast net crude oil imports and not gross exports and gross imports separately. We forecast that U.S. crude oil net imports will fall from 2.4 million b/d in 2023 to 2.1 million b/d in 2024 and then fall to 1.3 million b/d in 2025.



An area of uncertainty for net crude oil imports is the effect of the [TMX pipeline](#), which began operations on May 1, 2024. Most of Canada's crude oil exports go to the U.S. Midwest. We expect the startup of TMX will result in more of Canada's crude oil being exported from Canada's West Coast. This change could have two effects. First it could decrease imports from Canada to Midwest refiners. Second, crude oil imports from Canada to the U.S. West Coast could increase. However, the ultimate effect on U.S. crude oil trade from the TMX expansion will depend on demand for Canada's crude oil from refiners globally relative to those in the United States and on the pace of crude oil production increases in Canada.

Natural Gas

Natural gas production

Low natural gas prices are reducing natural gas production in the United States. We expect U.S. dry natural gas production to fall by 2% from 1Q24 to 2Q24, with natural gas production in June averaging 102 billion cubic feet per day (Bcf/d), down 4% from the monthly record set in December 2023.

Production is falling as some producers [have announced](#) curtailments because of low natural gas prices. In addition, a wide difference between the price of natural gas and petroleum products is encouraging producers to [extract higher-value hydrocarbon gas liquids \(HGLs\)](#) from the natural gas stream.

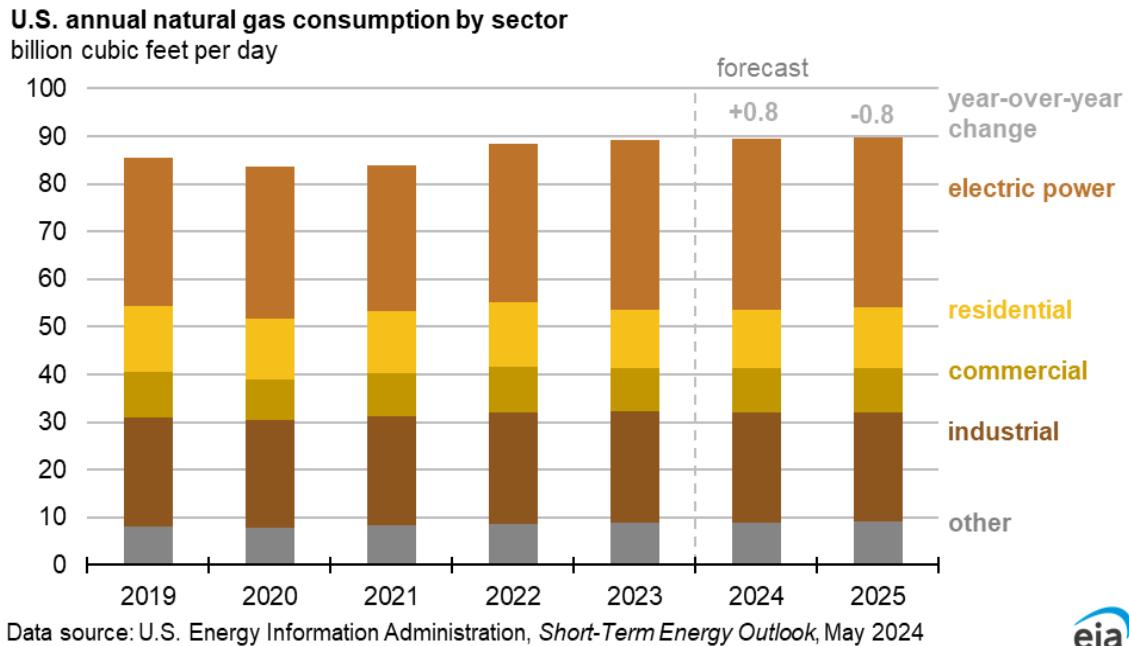
We expect dry natural gas production in the United States will be down 1% this year compared with last year before production rises by 2% in 2025 to a record of almost 105 Bcf/d. The increase in production next year is the result of our forecast of rising natural gas prices, which will create an incentive for more drilling in dry natural gas production regions. Increases in crude oil production in our forecast next year also result in more associated natural gas production. We expect the gap between natural gas and petroleum prices will narrow in 2025, which could keep more HGLs in the natural gas stream next year.

Natural gas consumption

We forecast U.S. natural gas consumption in 2024 will be unchanged from last year, averaging 89 Bcf/d for the year. Small consumption increases in our forecast occur in the residential, commercial, and electric power sectors, and those increases are offset by a slight year-over-year decline in industrial sector consumption of natural gas.

In May 2024, we forecast natural gas consumption to average 72 Bcf/d, 3% less than in May 2023. The decrease from May 2023 mostly reflects our expectation of less natural gas used to generate electricity because of cooler temperatures and more generation from renewables. Less natural gas is typically consumed in May in the United States than in other months of the year because demand for space heating declines and demand for air conditioning brought on by warmer weather has yet to increase.

Following the year-over-year drop in natural gas consumption in May, we forecast relatively flat consumption through the end of next year. We forecast that U.S. natural gas consumption will average 88 Bcf/d in 2H24, about 1% more than in 2H23. The increase comes mostly from the residential and commercial sectors. We expect the sectors to consume 7% more because our forecast assumes that 4Q24 will be colder than 4Q23, which was very mild, increasing demand for space heating.

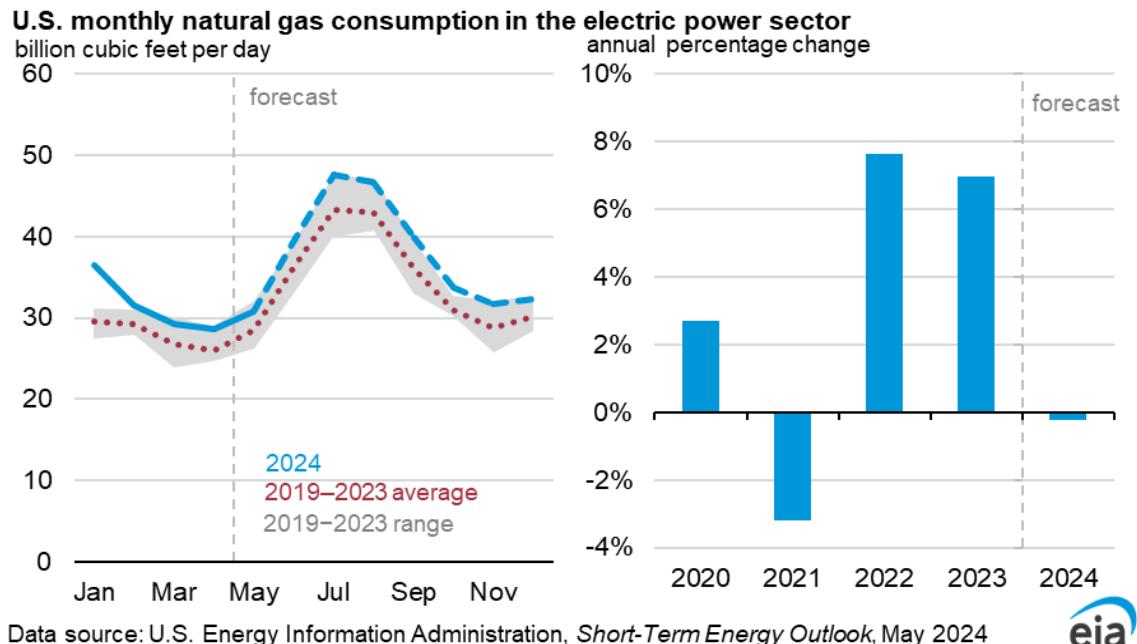


Natural gas consumption for electric power

The availability of [more electricity generation from renewable sources](#), particularly solar, in 2024 compared with 2023 is preventing growth in natural gas consumption beyond 2023 levels. Despite our expectation that 3% more electricity will be generated in the United States this summer (May–September) compared with last summer, we forecast that natural gas consumption in the electric power sector will be about the same as last summer, which saw the most power sector consumption on record. U.S. natural gas consumption for electricity generation typically peaks in the summer months as warm temperatures increase air-conditioning use.

Similar to last year, natural gas-fired electric power generation this summer is driven by both declines in coal-fired electricity generation due to [retirements](#) and more overall electricity generation because of warmer-than-normal temperatures in our forecast. We also expect low natural gas prices will encourage the dispatch of natural gas-fired power plants. These factors help keep U.S. natural gas consumption to generate electricity near last year's record.

In the summer of 2025, we forecast natural gas consumed for electricity generation will again average about 41 Bcf/d, as trends toward growing electricity demand, less coal-fired generation, and more renewables generation continue.

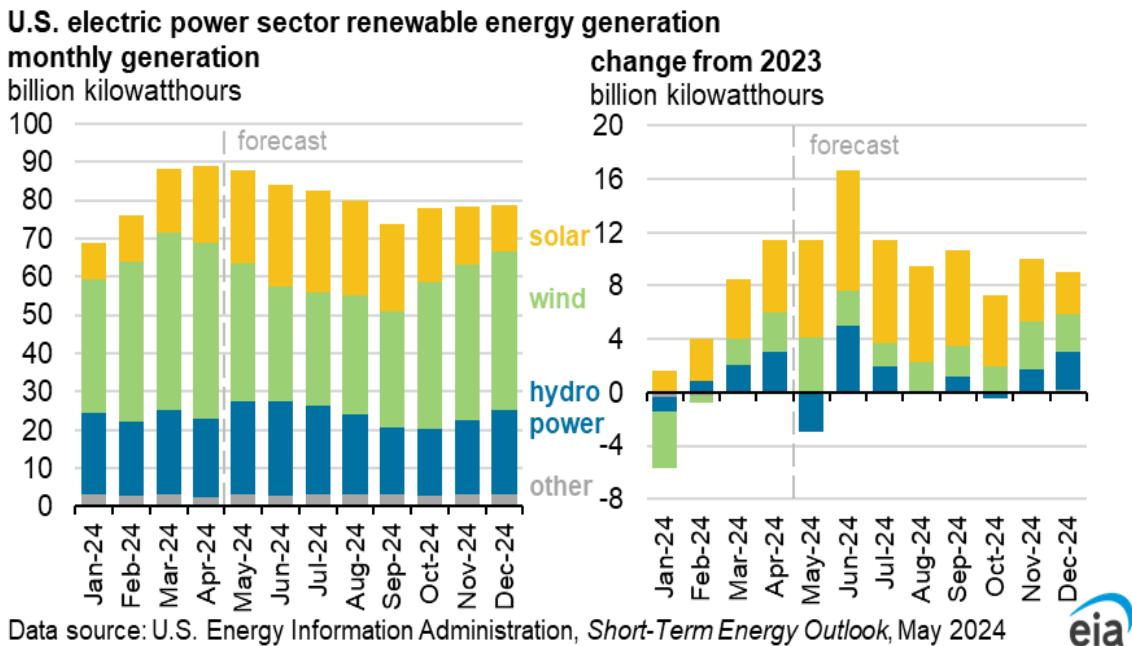


Electricity, Coal, and Renewables

Electricity generation

U.S. electricity generation in our forecast grows in 2024 compared with last year because warmer weather drives air-conditioning demand, manufacturing activity increases, and large-scale data centers and computing facilities expand. We expect total U.S. generation will grow by 3%, or 114 billion kilowatthours (BkWh), in 2024 and by 1%, or 33 BkWh, in 2025. Renewable energy sources supply most of that growth.

Utility-scale solar photovoltaic power plants generate 41% (66 BkWh) more electricity in 2024 in our forecast compared with 2023 as a result of 19 gigawatts (GW) of generating capacity that was added late last year and 37 GW of solar capacity scheduled to be added this year. The increase in solar generation will be especially pronounced in summer 2024 (June–September). We expect solar generation will increase a further 25% (58 BkWh) in 2025.



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

Renewables have historically generated the most electricity in the spring when output from wind turbines peaks. We expect an increase of 5% (21 BkWh) from wind generation in 2024 with about 7 GW more generating capacity at the end of April than at the same time last year. However, [wind speeds in recent months](#) have been slower than normal. If this pattern continues, annual wind generation this year could be less than expected. Our forecast of wind generation grows 3% (14 BkWh) in 2025.

Hydropower output can vary greatly from year-to-year in the United States, and hydropower generation typically peaks during the water runoff season in late spring. On an annual basis, we forecast 6% (14 BkWh) more [U.S. hydropower](#) in 2024 than in 2023. Higher water supply in key areas of the Southeast and Northwest this year are the main driver of our forecast increase in hydropower generation. Most hydropower is generated in the western half of the country, but we expect that the Southeast will be the region with the largest increase in hydroelectric generation this year (up 10%). We expect U.S. hydropower will again grow by 6% in 2025, with growth centered in the Northwest.

The increased generation from renewables is likely to constrain growth in generation from natural gas-fired power plants, even with relatively low natural gas prices in the forecast. We expect U.S. natural gas generation in 2024 will be relatively flat throughout the forecast period. Low natural gas prices and retirements of coal-fired capacity will continue to reduce U.S. coal generation, which we forecast will decline 4% (28 BkWh) in 2024 and 7% (48 BkWh) in 2025.

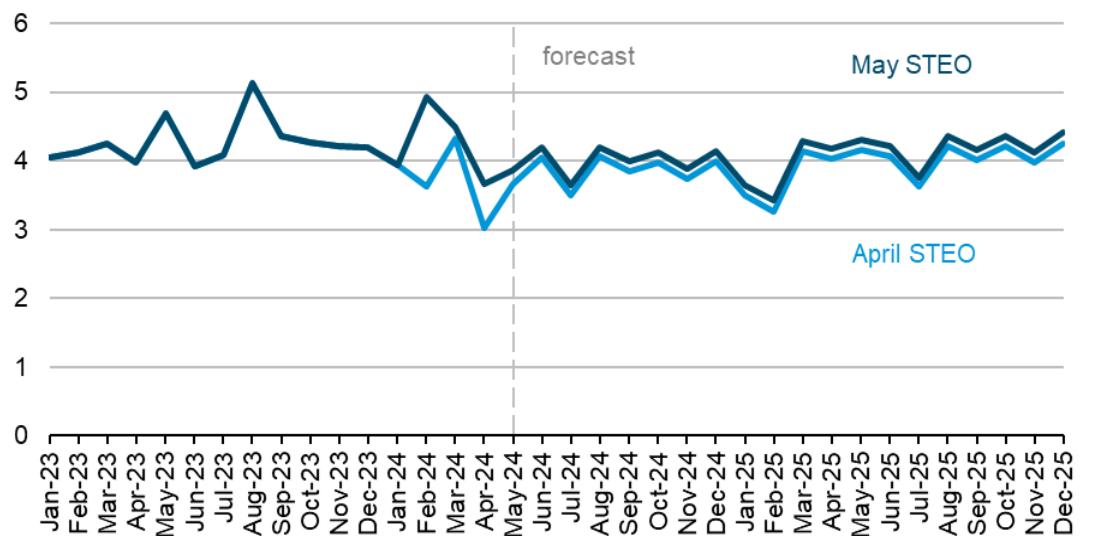
Coal markets

Data for metallurgical coal exports in February, which we receive with a two-month lag, were greater than we expected in the April STEO. The bulk of metallurgical coal is produced in Appalachia and roughly 20% of metallurgical coal exports flow through the Port of Baltimore. With February exports higher than we expected and efforts to clear the Port of Baltimore progressing, we expect metallurgical coal exports to total nearly 8 million short tons (MMst) in April and May, an increase of 13% from the April STEO,

when uncertainty surrounding the Port of Baltimore led us to expect a significant slowdown in metallurgical coal exports. As a result, we have lifted our estimate of total coal exports in April and May 2024 to 13 MMst, up 9% from the April STEO. We now forecast coal exports in 2024 to total 99 MMst, up 4% from the April STEO, and we expect exports to rise to 106 MMst in 2025.

U.S. metallurgical coal exports

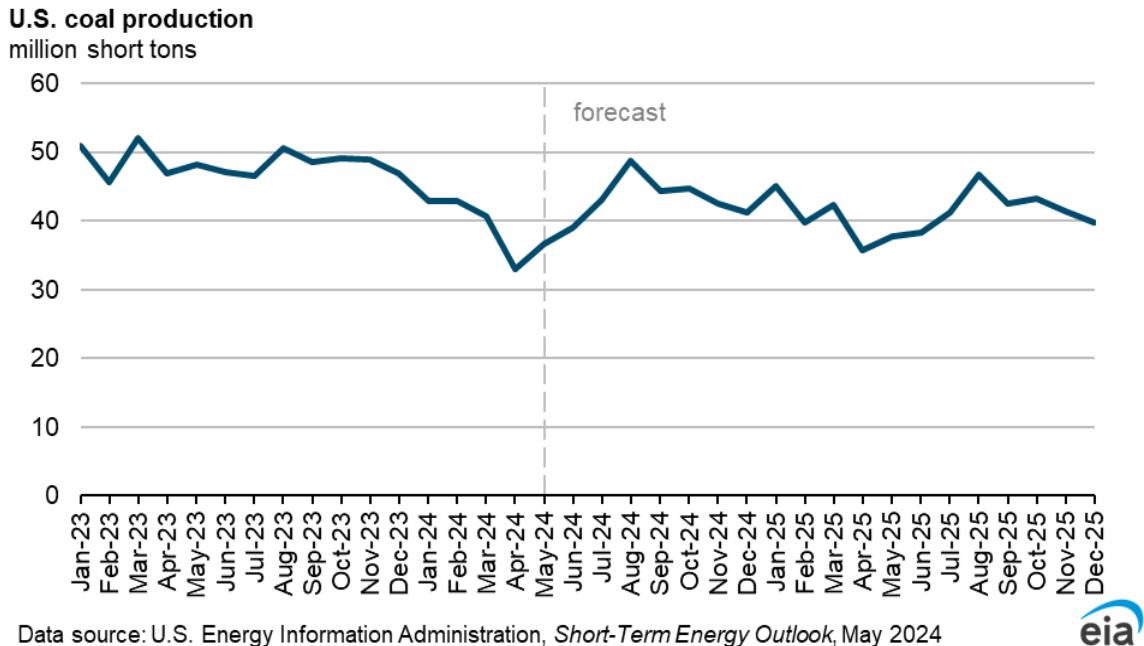
million short tons



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*(STEO), May 2024



Coal production declined by 19% from March to April. Production fell as miners reduced activity because the coal industry was starting the shoulder season with increasing inventories. We expect production to increase in subsequent months, peaking at 49 MMst in August before declining through the end of the year. Our expectation of more coal exports than in last month's STEO contributed to a 3% increase in our forecast for coal production in 2024. We now expect U.S. coal production will total about 500 MMst in 2024 and decline by about 1% to near 490 MMst next year.



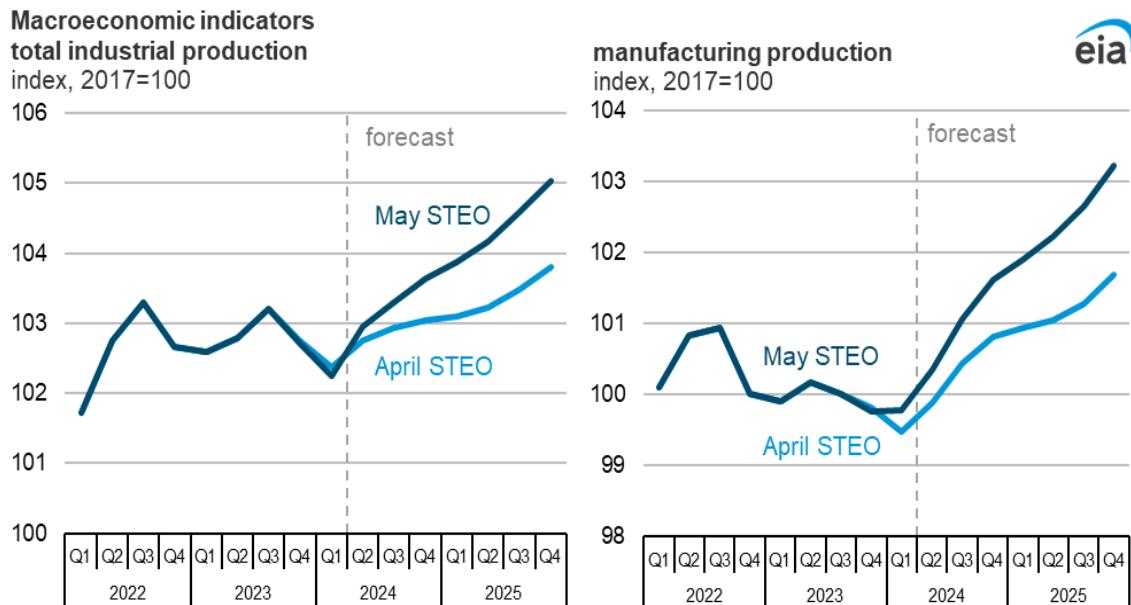
Economy, Weather, and CO₂

U.S. macroeconomics

Our forecast for May 2024 assumes real GDP will grow by 2.5% in 2024, unchanged from the forecast in April. The forecast for GDP growth was revised lower in 1Q24 but higher in 2H24 and beyond, resulting in the unchanged overall growth rate for 2024. We revised our assumption of annual GDP growth in 2025 higher by 0.3 percentage points to 1.9%.

Our macroeconomic forecasts are based on S&P Global's macroeconomic model. We incorporate energy price forecasts from STEO into the model to obtain the final macroeconomic assumptions.

This month's forecast includes an upward revision to industrial and manufacturing production from last month's STEO. The revision follows the release of the U.S. Bureau of Economic Analysis's third estimate of 4Q23 GDP. The report showed value added from private-goods-producing industries increased 7.0%, led by both durable and non-durable goods manufacturing as well as construction. An increase in the forecast for industrial production increased our forecast for residual fuel oil consumption in 2025 compared with last month's STEO. Residual fuel oil is used in a variety of industrial processes. An increase in manufacturing tends to increase demand for transporting goods by trucks and trains, and the forecast for more manufacturing production led us to increase our distillate fuel demand in 2025. We now expect U.S. distillate consumption to rise by 2% next year, up from our forecast of 1% last month.



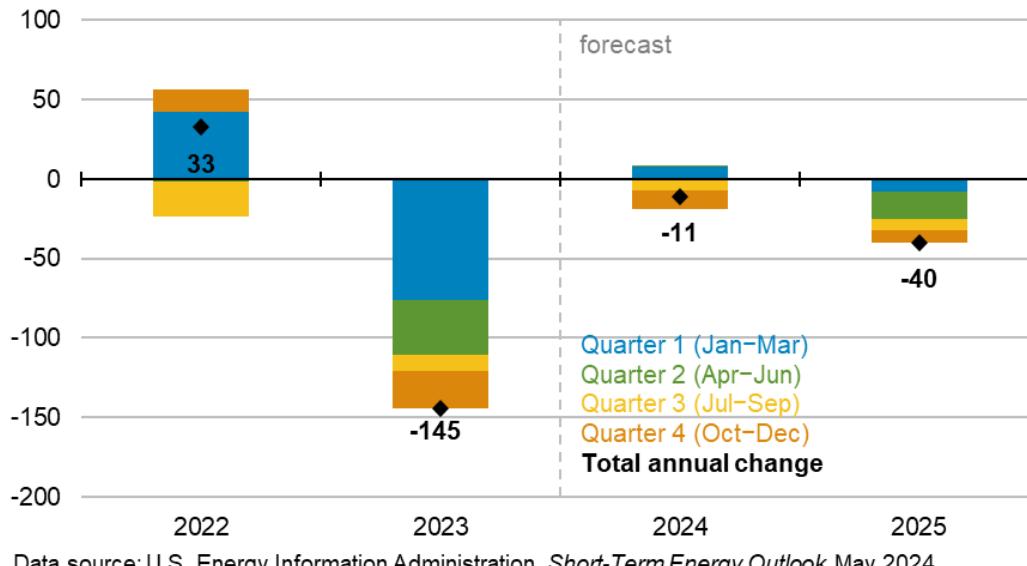
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*(STEO), May 2024

Emissions

U.S. energy-related carbon dioxide (CO₂) emissions decrease year-over-year in almost every quarter during the forecast period, continuing [an ongoing downward trend](#), and leading to 1% fewer annual emissions in 2025 compared with 2023. Coal-related CO₂ emissions decline by 4% in 2024 as coal-fired electricity generation continues to fall. Natural gas emission rise by around 1% over the course of the year, mostly from increased natural-gas-fired power generation during 1Q24 and increased residential and commercial sector consumption in 4Q24. Petroleum emissions remain relatively unchanged in 2024.

U.S. CO₂ emissions in our forecast decline by 1% from 2024 to 2025. Small reductions in CO₂ emissions are mostly a result of continued changes in the electricity generation mix. Continued decreases in coal-fired generation reduce emissions in 2Q24 and 4Q24, and decreasing natural gas-fired generation reduces emissions in 3Q24.

Change in U.S. energy-related CO₂ emissions by quarter million metric tons



Weather

Our forecast assumes the United States will experience a warmer summer (May–September) in 2024 than in 2023, averaging almost 440 [cooling degree days](#) (CDDs) in 2Q24, 21% more CDDs than in 2Q23. As a result, we expect 2024 to be hotter than it was last year with around 1,550 CDDs (5% more than in 2023). We expect the summer warming trend to continue into 2025 with about 1% more CDDs during 2Q25 through 3Q25 than during the same period in 2024. However, we expect next winter to be slightly cooler than last winter with the United States averaging 3,440 [heating degree days](#) in 4Q24 through 1Q25, 6% more than in the same period last winter.

Short-Term Energy Outlook Chart Gallery

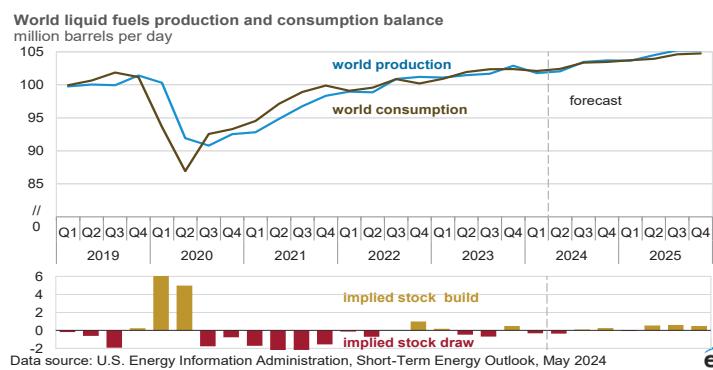
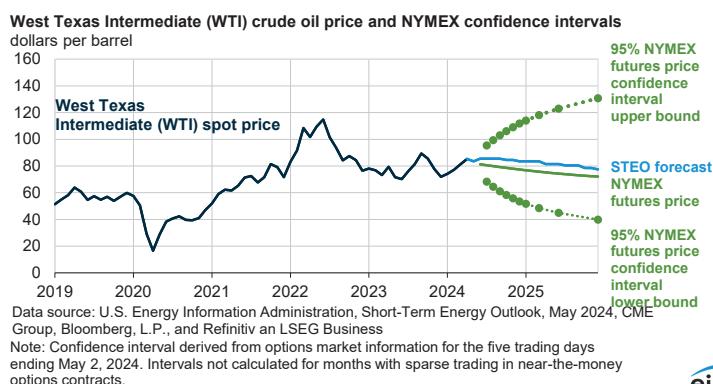


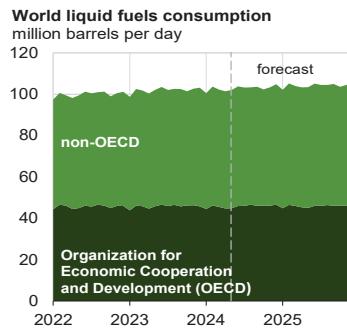
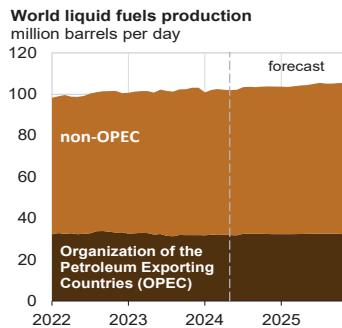
May 7, 2024



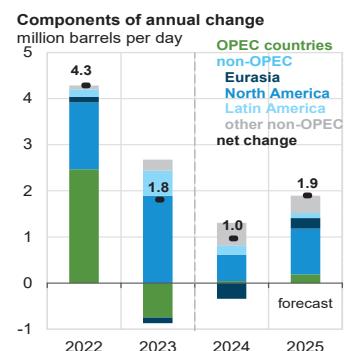
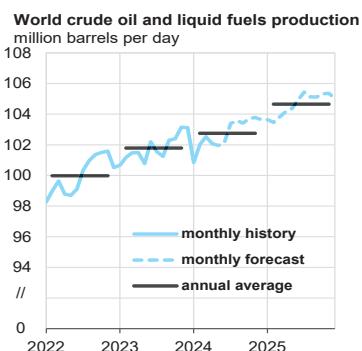
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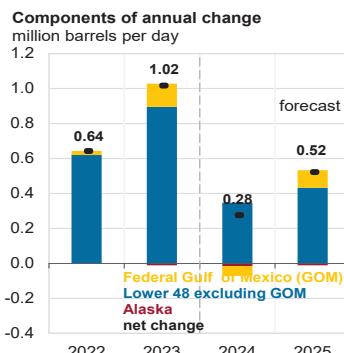
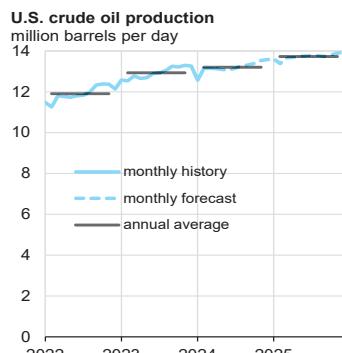




Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024



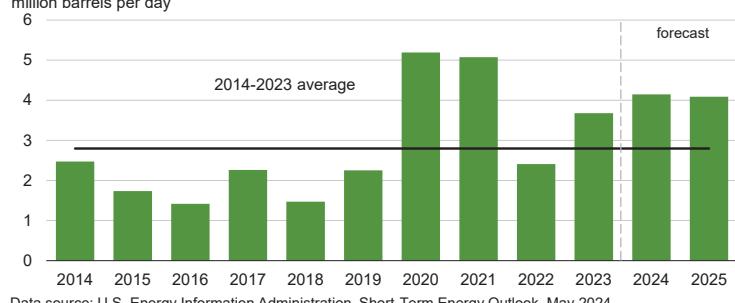
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024



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



Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day

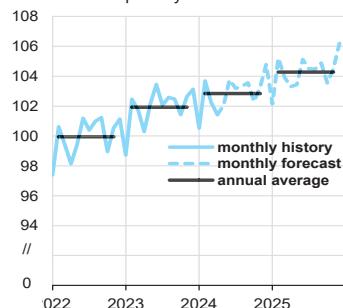


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

Note: Black line represents 2014-2023 average (2.8 million barrels per day).

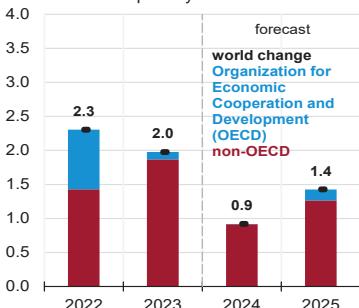


World liquid fuels consumption
million barrels per day

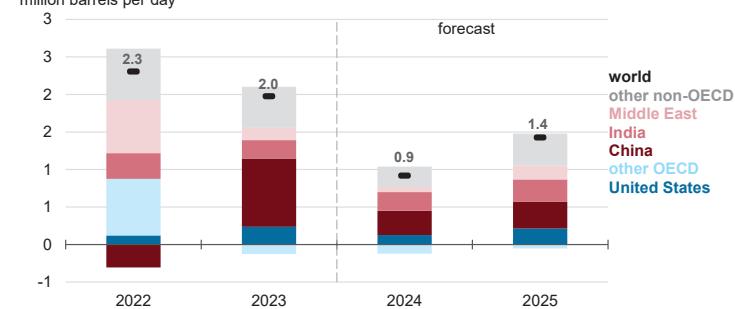


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

Components of annual change
million barrels per day



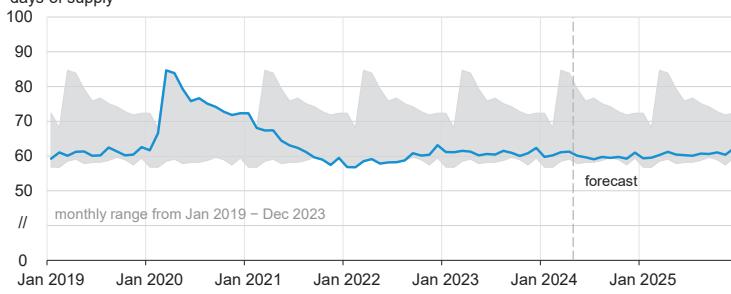
Annual change in world liquid fuels consumption
million barrels per day



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



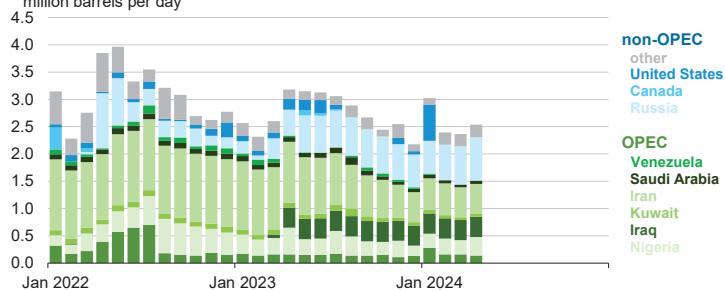
Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids
days of supply



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



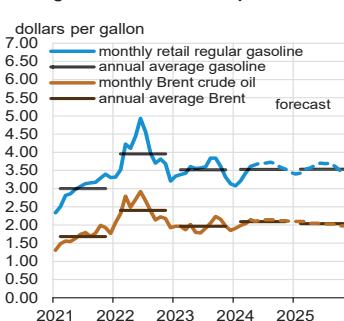
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day



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

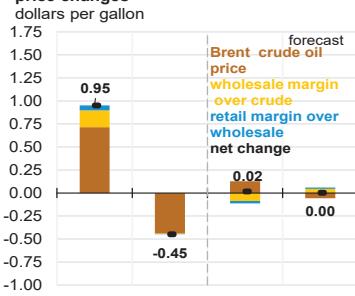


U.S. gasoline and crude oil prices

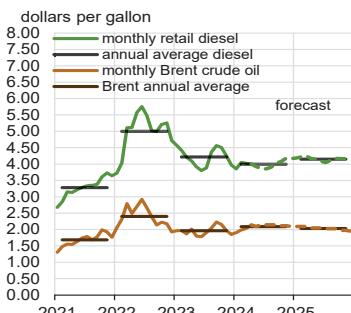


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024, and Refinitiv an ISEG Business

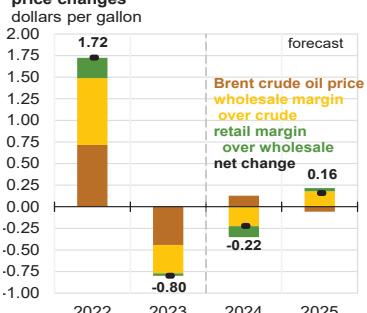
Components of annual gasoline price changes



U.S. diesel and crude oil prices



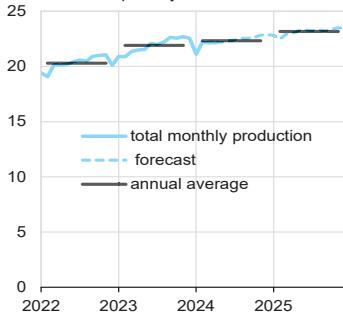
Components of annual diesel price changes



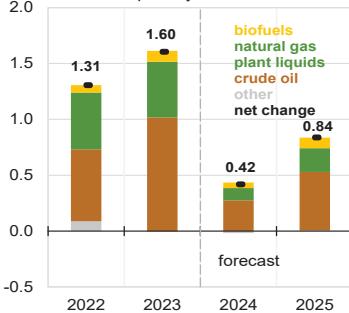
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024, and Refinitiv an LSEG Business

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U.S. crude oil and liquid fuels production



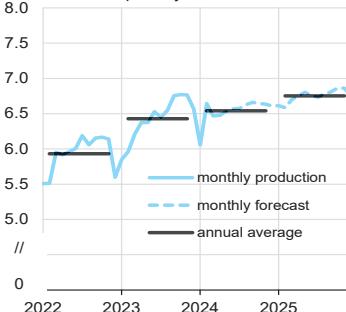
Components of annual change



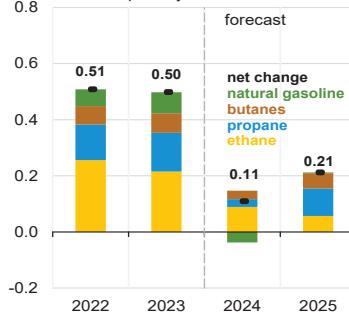
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

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U.S. natural gas plant liquids production



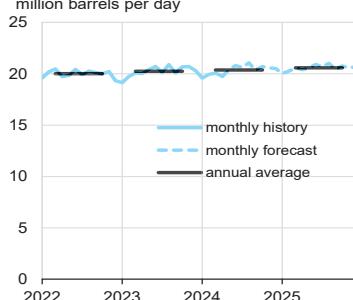
Components of annual change



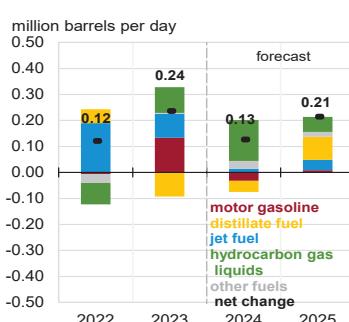
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

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**U.S. liquid fuels product supplied
(consumption)**
million barrels per day



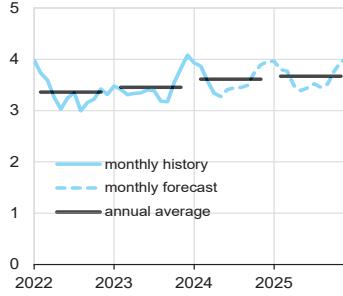
Components of annual change



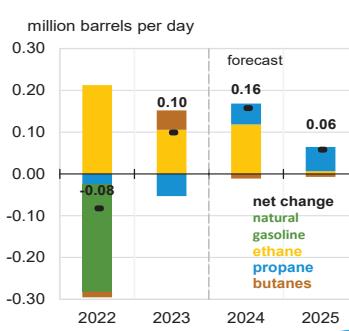
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024



**U.S. hydrocarbon gas liquids
product supplied (consumption)**
million barrels per day



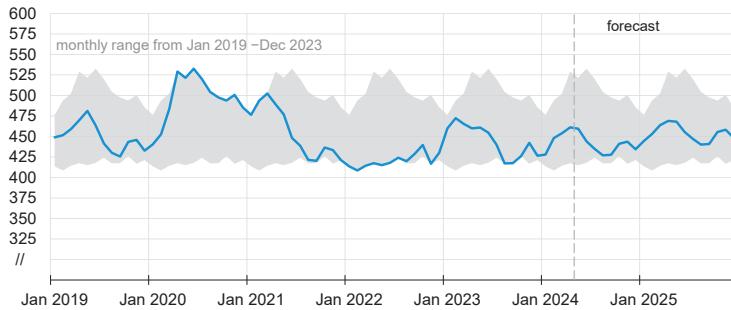
Components of annual change



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

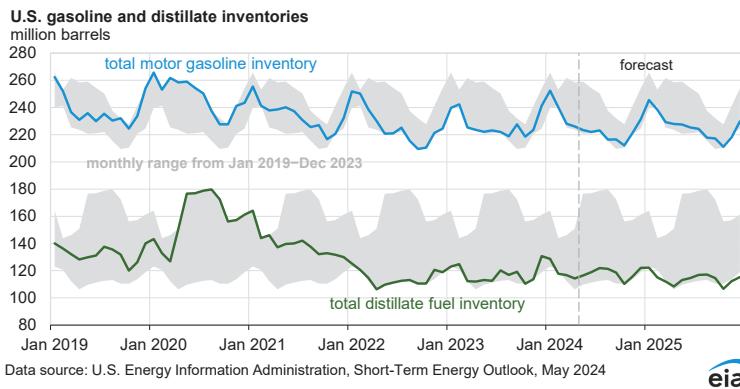


U.S. commercial crude oil inventories
million barrels

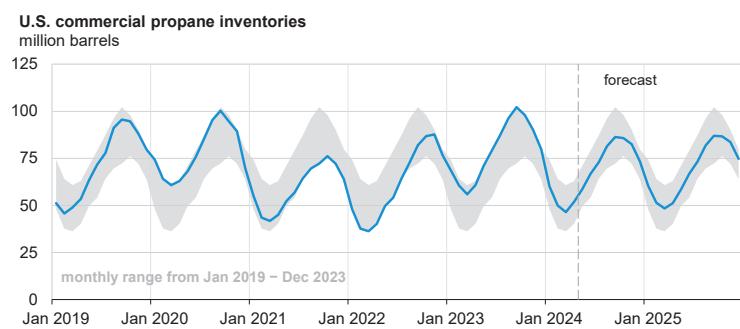


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

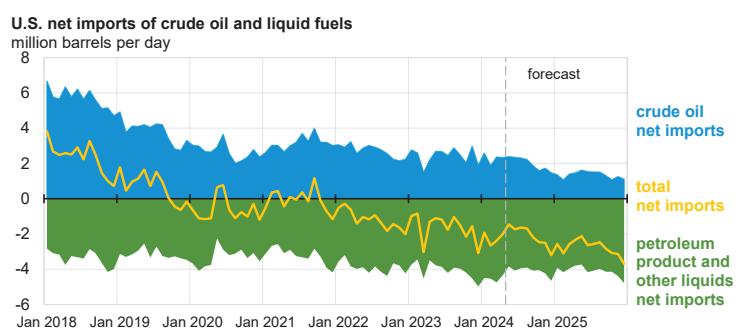




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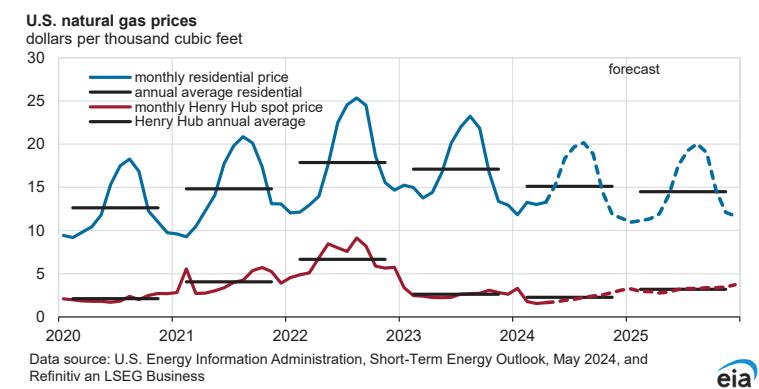
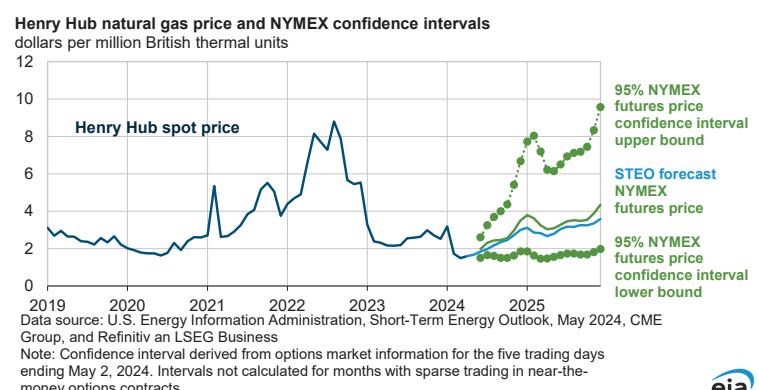
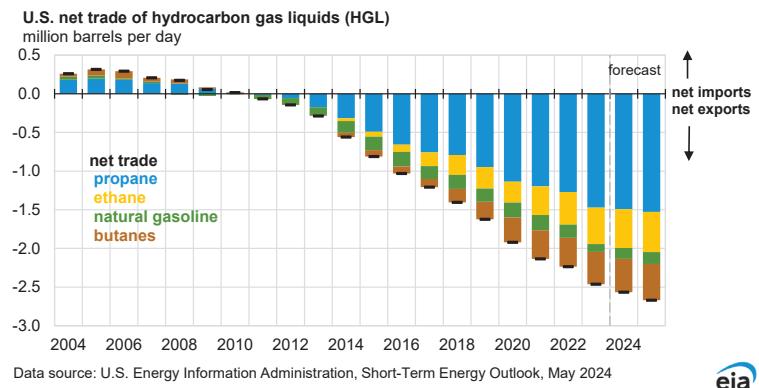


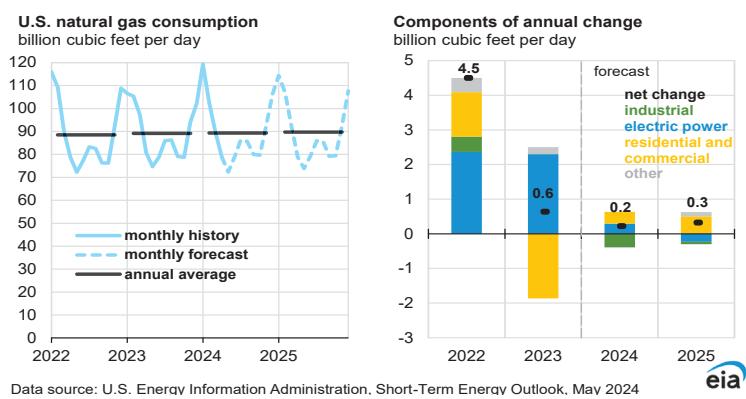
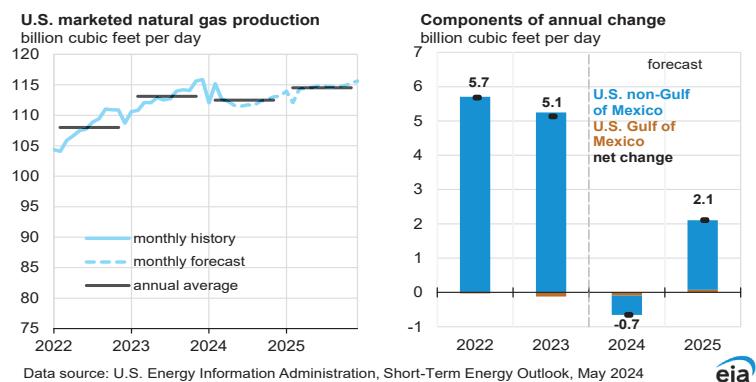
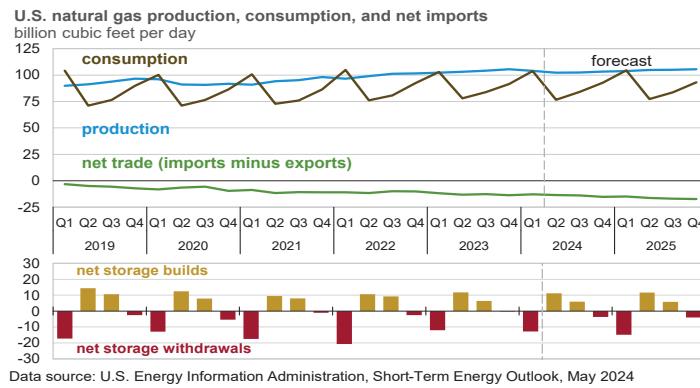
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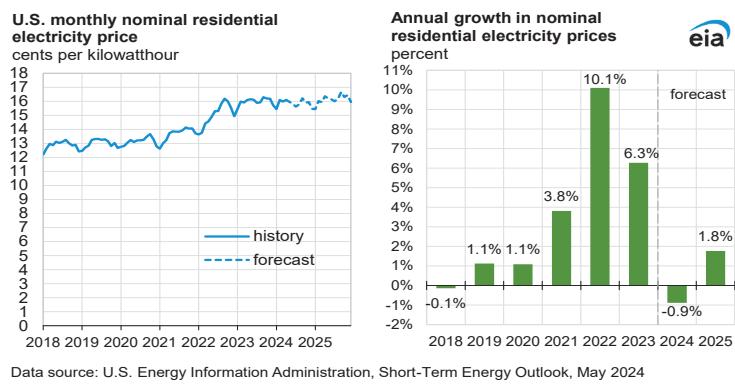
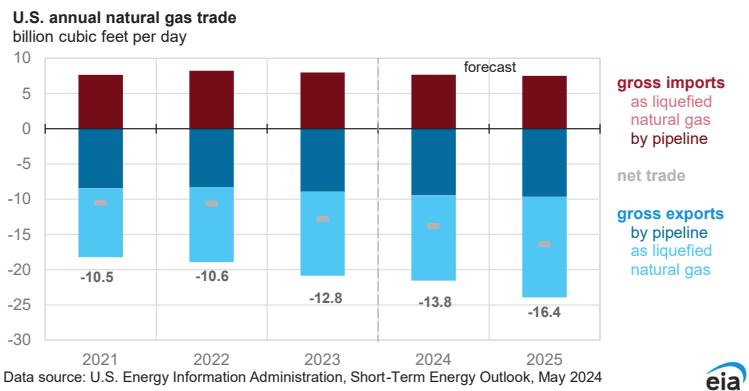
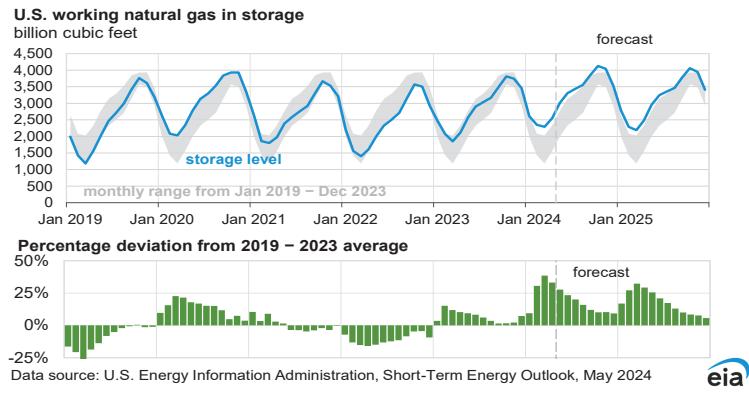


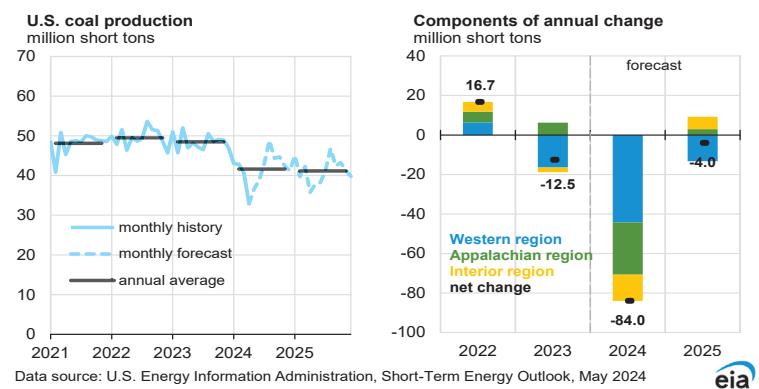
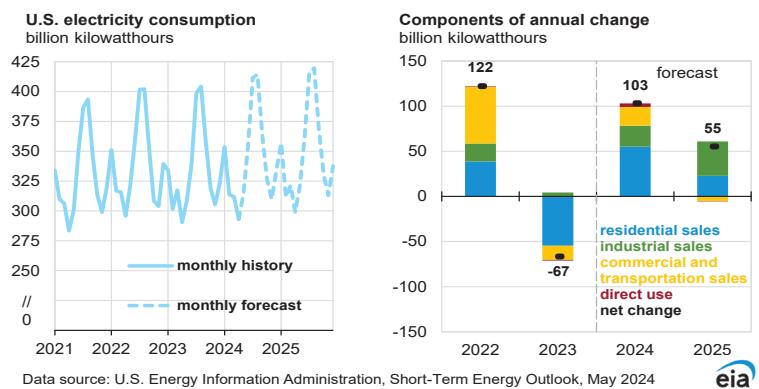
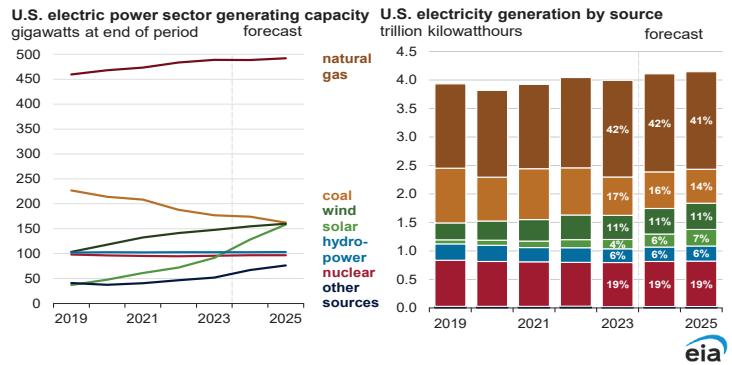
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

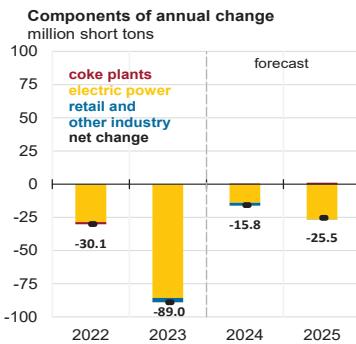
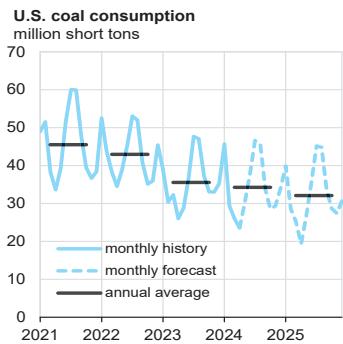
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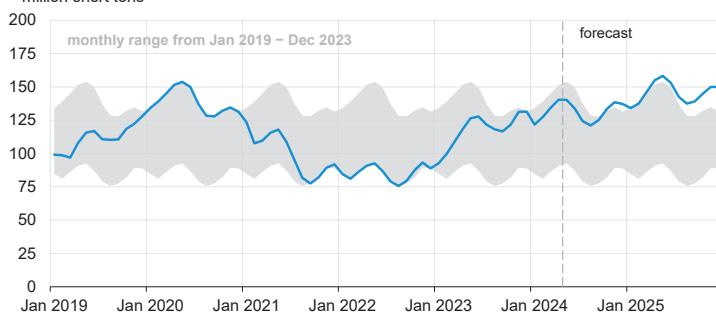




Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024



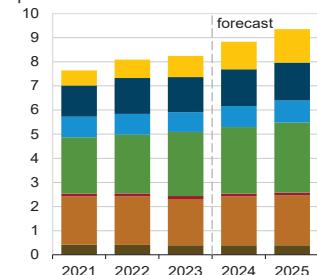
U.S. electric power coal inventories
million short tons



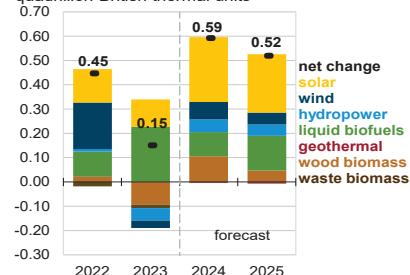
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024



U.S. renewable energy supply
quadrillion British thermal units



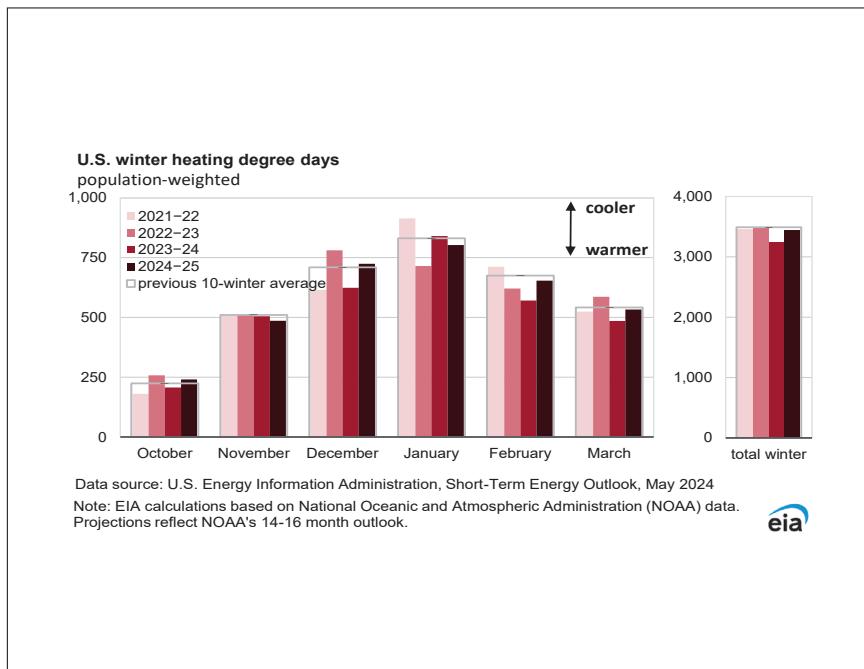
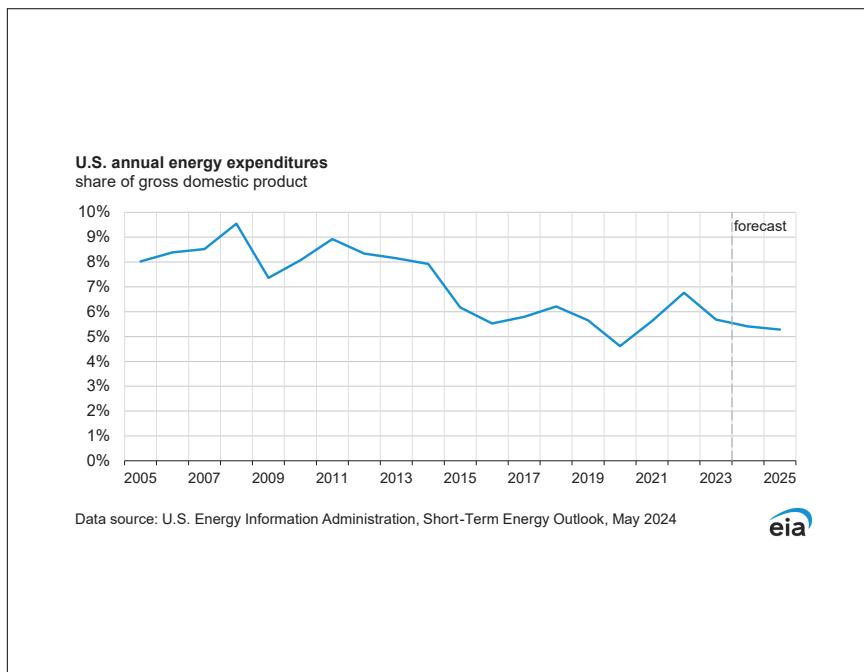
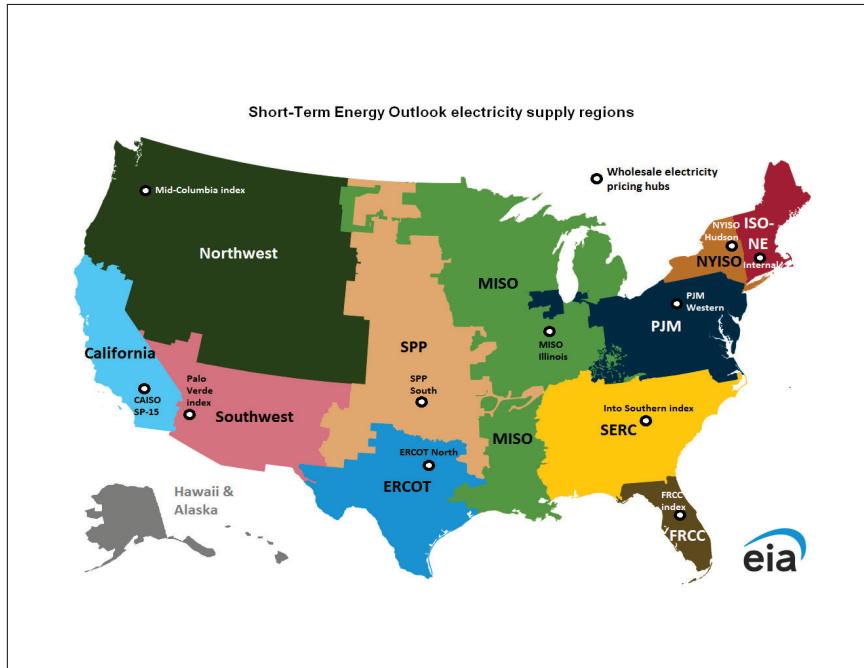
Components of annual change
quadrillion British thermal units



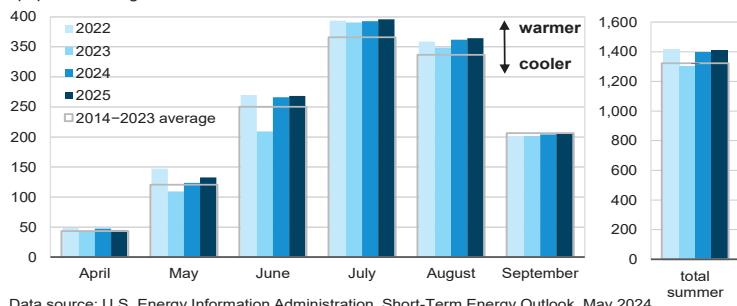
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024

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.





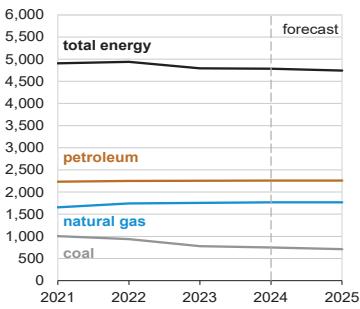
U.S. summer cooling degree days
population-weighted



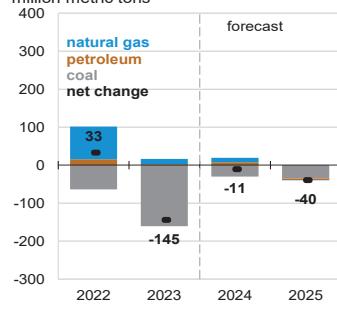
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, May 2024
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
Projections reflect NOAA's 14-16 month outlook.

eria

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, May 2024

eria

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - May 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)	12.63	12.75	13.07	13.26	12.96	13.10	13.25	13.50	13.55	13.73	13.76	13.87	12.93	13.20	13.73
Dry Natural Gas Production (billion cubic feet per day)	102.3	103.2	104.1	105.6	104.0	102.3	102.4	103.3	103.8	104.9	105.0	105.5	103.8	103.0	104.8
Coal Production (million short tons)	149	142	146	145	126	109	136	128	127	112	130	124	582	499	494
Energy Consumption															
Liquid Fuels (million barrels per day)	19.66	20.38	20.37	20.56	19.87	20.32	20.69	20.60	20.29	20.63	20.73	20.68	20.25	20.37	20.59
Natural Gas (billion cubic feet per day)	103.0	78.0	83.9	91.7	103.7	76.7	84.1	92.8	104.6	77.3	83.7	93.1	89.1	89.3	89.6
Coal (b) (million short tons)	102	91	132	101	101	92	126	92	94	81	124	87	427	411	385
Electricity (billion kilowatt hours per day)	10.59	10.32	12.62	10.30	10.76	10.60	12.93	10.55	11.00	10.80	13.10	10.66	10.96	11.21	11.39
Renewables (c) (quadrillion Btu)	2.04	2.10	2.05	2.04	2.10	2.28	2.23	2.21	2.25	2.44	2.36	2.30	8.24	8.83	9.35
Total Energy Consumption (d) (quadrillion Btu)	24.12	22.01	23.73	23.73	24.50	22.25	23.97	23.83	24.54	22.24	23.98	23.86	93.59	94.55	94.61
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	75.96	73.49	82.25	78.63	77.50	84.76	85.50	84.17	83.50	81.50	80.50	78.16	77.58	83.05	80.88
Natural Gas Henry Hub Spot (dollars per million Btu)	2.65	2.16	2.59	2.74	2.13	1.71	2.16	2.73	2.93	2.84	3.19	3.39	2.54	2.18	3.09
Coal (dollars per million Btu)	2.57	2.49	2.51	2.51	2.49	2.49	2.48	2.43	2.43	2.42	2.41	2.37	2.52	2.47	2.41
Macroeconomic															
Real Gross Domestic Product (billion chained 2017 dollars - SAAR)	22,112	22,225	22,491	22,679	22,769	22,882	23,008	23,124	23,217	23,315	23,420	23,531	22,377	22,946	23,370
Percent change from prior year	1.7	2.4	2.9	3.1	3.0	3.0	2.3	2.0	2.0	1.9	1.8	1.8	2.5	2.5	1.9
GDP Implicit Price Deflator (Index, 2017=100)	121.3	121.8	122.8	123.3	124.2	124.8	125.5	126.4	127.3	128.0	128.7	129.5	122.3	125.2	128.4
Percent change from prior year	5.3	3.5	3.2	2.6	2.4	2.5	2.2	2.5	2.5	2.5	2.5	2.4	3.6	2.4	2.5
Real Disposable Personal Income (billion chained 2017 dollars - SAAR)	16,663	16,797	16,820	16,902	16,963	17,104	17,238	17,357	17,513	17,657	17,779	17,889	16,795	17,165	17,709
Percent change from prior year	3.7	4.9	4.1	4.1	1.8	1.8	2.5	2.7	3.2	3.2	3.1	3.1	4.2	2.2	3.2
Manufacturing Production Index (Index, 2017=100)	99.9	100.2	100.0	99.8	99.8	100.3	101.1	101.6	101.9	102.2	102.7	103.2	100.0	100.7	102.5
Percent change from prior year	-0.2	-0.7	-0.9	-0.2	-0.1	0.2	1.0	1.9	2.1	1.9	1.6	1.6	-0.5	0.7	1.8
Weather															
U.S. Heating Degree-Days	1,922	486	61	1,336	1,896	447	75	1,451	1,990	469	74	1,445	3,805	3,869	3,978
U.S. Cooling Degree-Days	68	362	941	105	54	437	959	105	50	445	966	106	1,476	1,555	1,568

(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.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

Prices are not adjusted for inflation.

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.

Weather forecasts from National Oceanic and Atmospheric Administration and Energy Information Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - May 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	84.76	85.50	84.17	83.50	81.50	80.50	78.16	77.58	83.05	80.88
Brent Spot Average	81.04	78.02	86.64	83.93	82.96	89.30	90.00	88.67	88.00	86.00	85.00	82.66	82.41	87.79	85.38
U.S. Imported Average	69.58	71.08	80.97	76.14	73.30	82.01	82.75	81.44	83.50	81.50	80.50	78.18	74.62	79.73	80.99
U.S. Refiner Average Acquisition Cost	74.44	73.99	82.38	79.38	76.85	84.27	85.00	83.66	83.50	81.50	80.50	78.15	77.64	82.52	80.88
U.S. Liquid Fuels (cents per gallon)															
Wholesale Petroleum Product Prices															
Gasoline	262	265	296	233	245	282	283	261	259	278	280	249	264	268	267
Diesel Fuel	295	245	308	285	268	259	274	291	294	281	286	282	283	273	286
Fuel Oil	279	231	292	274	263	251	258	279	287	271	275	273	271	266	280
Jet Fuel	305	233	291	272	267	262	266	285	293	279	281	278	275	270	282
No. 6 Residual Fuel Oil (a)	196	189	202	205	198	211	217	215	216	209	207	203	199	210	208
Propane															
Mont Belvieu Spot	82	68	68	67	84	82	82	81	80	80	78	75	71	82	78
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	338	358	376	336	324	366	370	352	346	364	366	339	352	354	354
Gasoline All Grades (b)	349	369	387	348	336	378	383	365	358	377	379	352	364	366	367
On-highway Diesel Fuel	439	394	428	426	397	393	393	413	422	413	411	414	421	399	415
Heating Oil	407	353	387	395	379	361	357	399	400	376	368	388	393	380	390
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	2.76	2.25	2.69	2.84	2.21	1.77	2.25	2.83	3.05	2.95	3.32	3.52	2.63	2.27	3.21
Henry Hub Spot (dollars per million Btu)	2.65	2.16	2.59	2.74	2.13	1.71	2.16	2.73	2.93	2.84	3.19	3.39	2.54	2.18	3.09
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	6.12	3.76	3.87	4.38	4.50	3.19	3.24	4.13	4.77	4.04	4.21	4.82	4.59	3.82	4.49
Commercial Sector	11.81	10.48	10.89	9.82	9.65	9.38	9.33	7.99	8.06	8.78	9.62	8.57	10.89	9.05	8.52
Residential Sector	14.72	16.19	22.33	13.72	12.56	14.90	19.53	12.06	11.13	13.70	19.40	12.30	15.19	13.26	12.49
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.57	2.49	2.51	2.51	2.49	2.49	2.48	2.43	2.43	2.42	2.41	2.37	2.52	2.47	2.41
Natural Gas	4.98	2.60	2.92	3.19	3.33	2.03	2.34	3.07	3.43	2.98	3.23	3.65	3.36	2.66	3.31
Residual Fuel Oil (c)	19.23	17.88	19.17	20.84	18.17	16.90	16.41	16.62	16.88	17.18	16.30	15.96	19.32	17.06	16.55
Distillate Fuel Oil	22.84	19.91	22.08	21.03	20.19	19.91	20.70	22.17	22.45	21.59	21.68	21.48	21.47	20.87	21.84
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	8.06	7.74	8.55	7.83	7.82	7.58	8.28	7.80	7.94	7.64	8.32	7.83	8.05	7.88	7.94
Commercial Sector	12.64	12.45	13.18	12.63	12.65	12.34	13.19	12.68	12.79	12.70	13.67	13.07	12.74	12.73	13.08
Residential Sector	15.77	16.12	16.02	16.02	15.81	15.95	15.85	15.75	15.77	16.22	16.26	16.21	15.98	15.84	16.12

(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.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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

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_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 - May 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	101.11	101.48	101.69	102.88	101.79	102.05	103.46	103.71	103.65	104.48	105.23	105.23	101.79	102.76	104.65
Crude oil	77.10	76.60	76.19	77.16	76.68	76.40	77.46	77.93	78.20	78.38	78.89	79.07	76.76	77.12	78.64
Other liquids	24.00	24.88	25.50	25.72	25.12	25.65	26.01	25.78	25.45	26.10	26.34	26.16	25.03	25.64	26.02
World total	101.11	101.48	101.69	102.88	101.79	102.05	103.46	103.71	103.65	104.48	105.23	105.23	101.79	102.76	104.65
OPEC total (b)	32.77	32.46	31.63	31.88	32.04	31.91	32.52	32.42	32.33	32.44	32.58	32.30	32.18	32.22	32.41
Crude oil	27.38	27.23	26.37	26.58	26.65	26.64	27.23	27.09	27.05	27.16	27.30	27.02	26.89	26.90	27.13
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	68.33	69.02	70.06	71.00	69.75	70.14	70.94	71.29	71.32	72.04	72.65	72.93	69.61	70.53	72.24
Crude oil	49.73	49.36	49.82	50.57	50.03	49.76	50.23	50.84	51.15	51.23	51.59	52.05	49.87	50.22	51.51
Other liquids	18.60	19.66	20.24	20.43	19.72	20.39	20.71	20.45	20.17	20.82	21.06	20.88	19.74	20.32	20.73
Consumption (million barrels per day) (c)															
World total	100.93	101.95	102.37	102.39	102.11	102.41	103.35	103.46	103.72	103.95	104.62	104.75	101.92	102.84	104.26
OECD total (d)	45.22	45.68	46.04	46.08	45.38	45.18	46.18	46.29	45.74	45.44	46.18	46.32	45.76	45.76	45.92
Canada	2.33	2.47	2.63	2.37	2.44	2.39	2.49	2.47	2.49	2.43	2.54	2.51	2.45	2.45	2.49
Europe	13.09	13.55	13.64	13.33	13.10	13.25	13.66	13.42	13.06	13.22	13.62	13.39	13.40	13.36	13.32
Japan	3.73	3.10	3.10	3.44	3.63	3.02	3.12	3.45	3.56	2.96	3.06	3.38	3.34	3.30	3.24
United States	19.66	20.38	20.37	20.56	19.87	20.32	20.69	20.60	20.29	20.63	20.73	20.68	20.25	20.37	20.59
U.S. Territories	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.11	0.11
Other OECD	6.29	6.06	6.19	6.26	6.23	6.09	6.11	6.24	6.23	6.09	6.12	6.25	6.20	6.17	6.17
Non-OECD total	55.71	56.27	56.33	56.32	56.73	57.23	57.17	57.16	57.98	58.50	58.44	58.43	56.16	57.07	58.34
China	16.02	16.22	15.89	16.11	16.35	16.54	16.21	16.43	16.70	16.90	16.57	16.79	16.06	16.38	16.74
Eurasia	4.66	4.82	5.16	5.06	4.67	4.84	5.18	5.08	4.70	4.87	5.22	5.12	4.93	4.94	4.98
Europe	0.74	0.76	0.77	0.77	0.75	0.77	0.77	0.78	0.76	0.78	0.78	0.79	0.76	0.77	0.78
Other Asia	14.58	14.45	13.92	14.24	14.94	14.91	14.30	14.62	15.42	15.39	14.76	15.09	14.30	14.69	15.16
Other non-OECD	19.71	20.02	20.59	20.13	20.02	20.17	20.71	20.26	20.40	20.56	21.12	20.65	20.12	20.29	20.68
Total crude oil and other liquids inventory net withdrawals (million barrels per day)															
World total	-0.18	0.47	0.68	-0.49	0.32	0.35	-0.11	-0.25	0.07	-0.54	-0.61	-0.49	0.12	0.08	-0.39
United States	-0.08	-0.11	-0.25	0.30	0.34	-0.44	-0.19	0.30	0.00	-0.43	-0.09	0.32	-0.03	0.00	-0.05
Other OECD	0.32	-0.02	-0.15	0.11	0.00	0.24	0.02	-0.17	0.02	-0.03	-0.16	-0.25	0.06	0.02	-0.10
Other inventory draws and balance	-0.42	0.60	1.09	-0.90	-0.01	0.55	0.05	-0.38	0.05	-0.08	-0.36	-0.56	0.09	0.05	-0.24
End-of-period commercial crude oil and other liquids inventories (million barrels)															
OECD total	2,746	2,782	2,815	2,773	2,734	2,743	2,748	2,737	2,735	2,777	2,800	2,793	2,773	2,737	2,793
United States	1,231	1,264	1,283	1,252	1,212	1,243	1,251	1,223	1,224	1,263	1,271	1,241	1,252	1,223	1,241
Other OECD	1,515	1,517	1,531	1,521	1,500	1,498	1,513	1,511	1,514	1,529	1,552	1,521	1,513	1,552	1,552

(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, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkiye, United Kingdom, and United States.

Notes:

EIA completed modeling and analysis for this report on May 2, 2024.

- = no data available

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

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 - May 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)	68.33	69.02	70.06	71.00	69.75	70.14	70.94	71.29	71.32	72.04	72.65	72.93	69.61	70.53	72.24
North America total	28.91	29.29	30.16	30.79	29.79	30.07	30.55	31.04	31.10	31.19	31.39	31.73	29.79	30.36	31.35
Canada	5.79	5.44	5.79	6.10	5.93	5.83	6.08	6.30	6.38	6.06	6.22	6.40	5.78	6.04	6.26
Mexico	2.07	2.16	2.11	2.09	2.05	2.02	2.00	1.97	1.97	1.94	1.92	1.90	2.11	2.01	1.93
United States	21.05	21.69	22.27	22.59	21.81	22.22	22.48	22.77	22.76	23.19	23.25	23.43	21.91	22.32	23.16
Central and South America total	6.31	6.99	7.62	7.40	7.08	7.63	7.97	7.50	7.20	7.77	8.22	7.82	7.09	7.55	7.75
Argentina	0.81	0.81	0.82	0.84	0.85	0.86	0.88	0.90	0.90	0.91	0.93	0.95	0.82	0.88	0.92
Brazil	3.55	4.19	4.82	4.49	3.97	4.53	4.86	4.41	4.15	4.59	4.91	4.50	4.27	4.44	4.54
Colombia	0.79	0.81	0.81	0.80	0.80	0.80	0.79	0.78	0.77	0.77	0.76	0.75	0.81	0.79	0.76
Guyana	0.35	0.37	0.36	0.44	0.64	0.63	0.63	0.63	0.62	0.74	0.87	0.87	0.38	0.63	0.77
Europe total	4.01	3.95	3.84	3.94	3.98	4.05	3.97	4.07	4.21	4.11	4.01	4.12	3.94	4.02	4.11
Norway	2.03	2.03	1.98	2.06	2.06	2.02	2.03	2.16	2.19	2.12	2.11	2.20	2.02	2.07	2.16
United Kingdom	0.87	0.80	0.75	0.76	0.81	0.91	0.80	0.76	0.88	0.86	0.77	0.78	0.79	0.82	0.82
Eurasia total	14.11	13.65	13.42	13.70	13.68	13.32	13.21	13.37	13.48	13.60	13.61	13.79	13.72	13.39	13.62
Azerbaijan	0.65	0.62	0.62	0.61	0.60	0.60	0.61	0.62	0.63	0.65	0.66	0.66	0.62	0.61	0.65
Kazakhstan	2.02	1.97	1.85	1.99	1.99	1.92	1.93	1.99	2.08	2.11	2.00	2.18	1.96	1.96	2.09
Russia	11.06	10.68	10.58	10.70	10.68	10.39	10.27	10.37	10.37	10.45	10.55	10.55	10.75	10.43	10.48
Middle East total	3.22	3.26	3.23	3.21	3.14	3.14	3.20	3.21	3.23	3.25	3.32	3.36	3.23	3.17	3.29
Oman	1.07	1.06	1.05	1.05	1.01	1.00	1.05	1.05	1.07	1.07	1.07	1.07	1.06	1.03	1.07
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	2.71	2.63	2.56	2.66	2.70	2.67	2.68	2.66	2.64	2.64	2.64	2.66
Angola	1.17	1.23	1.23	1.24	1.20	1.14	1.12	1.10	1.08	1.07	1.06	1.04	1.22	1.14	1.07
Egypt	0.66	0.67	0.67	0.66	0.65	0.64	0.64	0.64	0.62	0.62	0.62	0.62	0.67	0.65	0.62
Asia and Oceania total	9.21	9.24	9.12	9.25	9.45	9.38	9.37	9.41	9.43	9.45	9.45	9.49	9.20	9.40	9.45
China	5.32	5.32	5.19	5.23	5.36	5.32	5.31	5.35	5.32	5.35	5.34	5.38	5.26	5.34	5.35
India	0.85	0.88	0.92	0.94	0.97	0.97	0.96	0.95	0.98	0.98	0.98	0.98	0.90	0.96	0.98
Indonesia	0.82	0.88	0.87	0.87	0.88	0.88	0.88	0.87	0.89	0.88	0.88	0.88	0.86	0.88	0.88
Malaysia	0.61	0.58	0.58	0.61	0.59	0.59	0.58	0.58	0.58	0.58	0.59	0.59	0.60	0.58	0.59

Unplanned production outages

Non-OPEC total	0.56	1.02	0.92	0.87	1.07	-	-	-	-	-	-	-	0.84	-	-
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(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 May 2, 2024.

- = no data available

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

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 - May 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	101.11	101.48	101.69	102.88	101.79	102.05	103.46	103.71	103.65	104.48	105.23	105.23	101.79	102.76	104.65
OPEC+ total (b)	44.99	44.21	42.82	43.09	42.94	42.50	43.17	43.13	43.20	43.40	43.52	43.38	43.77	42.94	43.38
United States	21.05	21.69	22.27	22.59	21.81	22.22	22.48	22.77	22.76	23.19	23.25	23.43	21.91	22.32	23.16
Non-OPEC+ excluding United States	35.07	35.58	36.60	37.20	37.04	37.34	37.81	37.81	37.69	37.90	38.46	38.42	36.12	37.50	38.12
OPEC total (c)	32.77	32.46	31.63	31.88	32.04	31.91	32.52	32.42	32.33	32.44	32.58	32.30	32.18	32.22	32.41
Algeria	1.48	1.45	1.42	1.43	1.38	-	-	-	-	-	-	-	1.44	-	-
Congo (Brazzaville)	0.27	0.26	0.26	0.27	0.26	-	-	-	-	-	-	-	0.27	-	-
Equatorial Guinea	0.10	0.10	0.10	0.09	0.10	-	-	-	-	-	-	-	0.10	-	-
Gabon	0.20	0.21	0.20	0.21	0.21	-	-	-	-	-	-	-	0.20	-	-
Iran	3.79	3.80	4.06	4.31	4.42	-	-	-	-	-	-	-	3.99	-	-
Iraq	4.52	4.30	4.44	4.44	4.40	-	-	-	-	-	-	-	4.42	-	-
Kuwait	3.00	2.90	2.88	2.85	2.78	-	-	-	-	-	-	-	2.91	-	-
Libya	1.24	1.22	1.25	1.27	1.20	-	-	-	-	-	-	-	1.24	-	-
Nigeria	1.57	1.49	1.49	1.60	1.57	-	-	-	-	-	-	-	1.54	-	-
Saudi Arabia	11.62	11.78	10.62	10.53	10.75	-	-	-	-	-	-	-	11.13	-	-
United Arab Emirates	4.27	4.15	4.12	4.11	4.16	-	-	-	-	-	-	-	4.16	-	-
Venezuela	0.73	0.78	0.79	0.78	0.81	-	-	-	-	-	-	-	0.77	-	-
OPEC+ total (b)	44.99	44.21	42.82	43.09	42.94	42.50	43.17	43.13	43.20	43.40	43.52	43.38	43.77	42.94	43.38
OPEC members subject to OPEC+ agreements (d)	27.01	26.65	25.54	25.53	25.61	25.61	26.29	26.13	26.08	26.17	26.31	26.02	26.18	25.91	26.15
OPEC+ other participants total	17.97	17.56	17.29	17.56	17.33	16.89	16.87	17.00	17.13	17.22	17.21	17.36	17.59	17.02	17.23
Azerbaijan	0.65	0.62	0.62	0.61	0.60	0.60	0.61	0.62	0.63	0.65	0.66	0.66	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	0.10	0.09	0.10	0.09
Kazakhstan	2.02	1.97	1.85	1.99	1.99	1.92	1.93	1.99	2.08	2.11	2.00	2.18	1.96	1.96	2.09
Malaysia	0.61	0.58	0.58	0.61	0.59	0.59	0.58	0.58	0.58	0.58	0.59	0.59	0.60	0.58	0.59
Mexico	2.07	2.16	2.11	2.09	2.05	2.02	2.00	1.97	1.97	1.94	1.92	1.90	2.11	2.01	1.93
Oman	1.07	1.06	1.05	1.05	1.01	1.00	1.05	1.05	1.07	1.07	1.07	1.07	1.06	1.03	1.07
Russia	11.06	10.68	10.58	10.70	10.68	10.39	10.27	10.37	10.37	10.45	10.55	10.55	10.75	10.43	10.48
South Sudan	0.13	0.13	0.16	0.17	0.11	0.08	0.15	0.15	0.15	0.15	0.15	0.14	0.15	0.12	0.14
Sudan	0.07	0.07	0.07	0.07	0.06	0.05	0.06	0.06	0.05	0.05	0.05	0.04	0.07	0.06	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 May 2, 2024.

- = no data available

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

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 - May 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	77.10	76.60	76.19	77.16	76.68	76.40	77.46	77.93	78.20	78.38	78.89	79.07	76.76	77.12	78.64
OPEC+ total (b)	38.20	37.50	36.25	36.34	36.12	35.73	36.42	36.38	36.45	36.67	36.82	36.68	37.07	36.16	36.66
United States	12.63	12.75	13.07	13.26	12.96	13.10	13.25	13.50	13.55	13.73	13.76	13.87	12.93	13.20	13.73
Non-OPEC+ excluding United States	26.27	26.35	26.87	27.56	27.60	27.58	27.78	28.05	28.20	27.99	28.31	28.52	26.77	27.75	28.26
OPEC total (c)	27.38	27.23	26.37	26.58	26.65	26.64	27.23	27.09	27.05	27.16	27.30	27.02	26.89	26.90	27.13
Algeria	1.01	0.98	0.95	0.96	0.91	-	-	-	-	-	-	-	0.97	-	-
Congo (Brazzaville)	0.27	0.25	0.26	0.26	0.25	-	-	-	-	-	-	-	0.26	-	-
Equatorial Guinea	0.06	0.06	0.06	0.05	0.06	-	-	-	-	-	-	-	0.06	-	-
Gabon	0.20	0.21	0.20	0.21	0.21	-	-	-	-	-	-	-	0.20	-	-
Iran	2.60	2.74	2.97	3.18	3.23	-	-	-	-	-	-	-	2.87	-	-
Iraq	4.41	4.19	4.33	4.33	4.29	-	-	-	-	-	-	-	4.32	-	-
Kuwait	2.68	2.59	2.56	2.53	2.47	-	-	-	-	-	-	-	2.59	-	-
Libya	1.14	1.15	1.15	1.17	1.10	-	-	-	-	-	-	-	1.15	-	-
Nigeria	1.24	1.19	1.21	1.31	1.28	-	-	-	-	-	-	-	1.24	-	-
Saudi Arabia	10.02	10.18	9.02	8.93	9.13	-	-	-	-	-	-	-	9.53	-	-
United Arab Emirates	3.06	2.94	2.91	2.90	2.92	-	-	-	-	-	-	-	2.95	-	-
Venezuela	0.70	0.75	0.76	0.75	0.79	-	-	-	-	-	-	-	0.74	-	-
OPEC+ total (b)	38.20	37.50	36.25	36.34	36.12	35.73	36.42	36.38	36.45	36.67	36.82	36.68	37.07	36.16	36.66
OPEC members subject to OPEC+ agreements (d)	22.94	22.60	21.49	21.48	21.52	21.52	22.21	22.04	22.00	22.11	22.25	21.97	22.12	21.82	22.08
OPEC+ other participants total	15.27	14.90	14.76	14.86	14.60	14.20	14.22	14.33	14.45	14.56	14.58	14.71	14.94	14.34	14.58
Azerbaijan	0.52	0.50	0.49	0.49	0.47	-	-	-	-	-	-	-	0.50	-	-
Bahrain	0.17	0.20	0.17	0.15	0.13	-	-	-	-	-	-	-	0.17	-	-
Brunei	0.08	0.06	0.07	0.08	0.08	-	-	-	-	-	-	-	0.07	-	-
Kazakhstan	1.61	1.58	1.49	1.57	1.58	-	-	-	-	-	-	-	1.56	-	-
Malaysia	0.39	0.36	0.36	0.38	0.37	-	-	-	-	-	-	-	0.37	-	-
Mexico	1.67	1.67	1.65	1.63	1.60	-	-	-	-	-	-	-	1.66	-	-
Oman	0.84	0.82	0.80	0.80	0.76	-	-	-	-	-	-	-	0.81	-	-
Russia	9.78	9.52	9.49	9.53	9.44	-	-	-	-	-	-	-	9.58	-	-
South Sudan	0.13	0.13	0.16	0.17	0.11	-	-	-	-	-	-	-	0.15	-	-
Sudan	0.07	0.07	0.07	0.07	0.06	-	-	-	-	-	-	-	0.07	-	-
Crude oil production capacity															
OPEC total	30.50	30.31	30.56	30.89	30.97	30.97	30.97	31.28	31.23	31.22	31.21	31.21	30.57	31.05	31.22
Middle East	25.88	25.67	25.90	26.11	26.26	26.25	26.30	26.60	26.60	26.60	26.60	26.60	25.89	26.35	26.60
Other	4.63	4.64	4.67	4.78	4.71	4.72	4.66	4.68	4.63	4.62	4.61	4.61	4.68	4.69	4.62
Surplus crude oil production capacity															
OPEC total	3.13	3.07	4.19	4.31	4.33	4.33	3.74	4.19	4.18	4.07	3.92	4.19	3.68	4.15	4.09
Middle East	3.10	3.02	4.11	4.23	4.22	4.22	3.68	4.13	4.12	4.00	3.85	4.12	3.62	4.06	4.02
Other	0.02	0.05	0.08	0.07	0.11	0.11	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.08	0.07
Unplanned production outages															
OPEC total	1.94	2.13	1.95	1.52	1.53	-	-	-	-	-	-	-	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 May 2, 2024.

- = no data available

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

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 - May 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	100.93	101.95	102.37	102.39	102.11	102.41	103.35	103.46	103.72	103.95	104.62	104.75	101.92	102.84	104.26
OECD total (b)	45.22	45.68	46.04	46.08	45.38	45.18	46.18	46.29	45.74	45.44	46.18	46.32	45.76	45.76	45.92
Non-OECD total	55.71	56.27	56.33	56.32	56.73	57.23	57.17	57.16	57.98	58.50	58.44	58.43	56.16	57.07	58.34
World total	100.93	101.95	102.37	102.39	102.11	102.41	103.35	103.46	103.72	103.95	104.62	104.75	101.92	102.84	104.26
North America total	23.83	24.70	24.87	24.80	24.13	24.56	25.03	24.93	24.60	24.91	25.12	25.05	24.55	24.66	24.92
Canada	2.33	2.47	2.63	2.37	2.44	2.39	2.49	2.47	2.49	2.43	2.54	2.51	2.45	2.45	2.49
Mexico	1.83	1.84	1.86	1.85	1.82	1.84	1.84	1.86	1.81	1.84	1.84	1.86	1.85	1.84	1.84
United States	19.66	20.38	20.37	20.56	19.87	20.32	20.69	20.60	20.29	20.63	20.73	20.68	20.25	20.37	20.59
Central and South America total	6.60	6.73	6.85	6.77	6.60	6.75	6.86	6.79	6.68	6.84	6.95	6.87	6.74	6.75	6.84
Brazil	3.05	3.11	3.19	3.17	3.07	3.13	3.21	3.19	3.12	3.18	3.26	3.25	3.13	3.15	3.20
Europe total	13.84	14.31	14.41	14.10	13.85	14.02	14.43	14.20	13.82	13.99	14.41	14.17	14.17	14.13	14.10
Eurasia total	4.66	4.82	5.16	5.06	4.67	4.84	5.18	5.08	4.70	4.87	5.22	5.12	4.93	4.94	4.98
Russia	3.54	3.64	3.95	3.80	3.54	3.64	3.95	3.80	3.55	3.65	3.97	3.81	3.73	3.73	3.75
Middle East total	9.24	9.38	9.94	9.35	9.44	9.42	9.95	9.38	9.62	9.61	10.15	9.56	9.48	9.55	9.74
Africa total	4.57	4.58	4.50	4.66	4.66	4.68	4.59	4.76	4.78	4.80	4.71	4.88	4.58	4.67	4.79
Asia and Oceania total	38.20	37.42	36.66	37.66	38.75	38.14	37.31	38.32	39.51	38.92	38.06	39.09	37.48	38.13	38.89
China	16.02	16.22	15.89	16.11	16.35	16.54	16.21	16.43	16.70	16.90	16.57	16.79	16.06	16.38	16.74
India	5.38	5.35	5.05	5.39	5.59	5.67	5.29	5.63	5.89	5.97	5.57	5.93	5.29	5.54	5.84
Japan	3.73	3.10	3.10	3.44	3.63	3.02	3.12	3.45	3.56	2.96	3.06	3.38	3.34	3.30	3.24
Real gross domestic product (c)															
World index, 2015 Q1 = 100	125.8	127.0	127.8	128.8	129.5	130.5	131.6	132.8	133.6	134.8	135.8	137.0	127.4	131.1	135.3
Percent change from prior year	2.8	3.6	3.2	3.2	2.9	2.8	3.0	3.1	3.2	3.3	3.2	3.2	3.2	2.9	3.2
OECD index, 2015 = 100	-	-	-	-	-	-	-	-	-	-	-	-	115.9	117.7	119.9
Percent change from prior year	-	-	-	-	-	-	-	-	-	-	-	-	1.7	1.6	1.9
Non-OECD index, 2015 = 100	-	-	-	-	-	-	-	-	-	-	-	-	134.9	140.3	146.4
Percent change from prior year	-	-	-	-	-	-	-	-	-	-	-	-	4.5	4.0	4.3
Nominal U.S. Dollar index (d)															
Index, 2015 Q1 = 100	114.1	113.4	114.0	115.6	114.8	115.0	115.2	115.5	115.7	115.7	115.7	115.7	114.3	115.1	115.7
Percent change from prior year	4.2	0.5	-2.7	-2.4	0.6	1.4	1.1	-0.1	0.8	0.7	0.4	0.2	-0.2	0.7	0.5

(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, Turkey, 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 May 2, 2024.

- = no data available

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

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 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	12.63	12.75	13.07	13.26	12.96	13.10	13.25	13.50	13.55	13.73	13.76	13.87	12.93	13.20	13.73
Alaska	0.44	0.43	0.40	0.43	0.43	0.41	0.39	0.42	0.42	0.40	0.38	0.41	0.43	0.41	0.40
Federal Gulf of Mexico (b)	1.87	1.77	1.94	1.87	1.78	1.80	1.81	1.85	1.92	1.93	1.88	1.91	1.86	1.81	1.91
Lower 48 States (excl GOM)	10.31	10.55	10.73	10.96	10.75	10.89	11.06	11.24	11.22	11.40	11.50	11.55	10.64	10.99	11.42
Transfers to Crude Oil Supply	0.39	0.51	0.70	0.58	0.51	0.48	0.50	0.48	0.46	0.50	0.54	0.51	0.55	0.49	0.50
Crude Oil Net Imports (c)	2.27	2.51	2.61	2.29	2.28	2.35	2.14	1.59	1.28	1.54	1.44	1.14	2.42	2.09	1.35
SPR Net Withdrawals	0.01	0.26	-0.04	-0.04	-0.10	-0.10	-0.10	0.00	0.00	0.00	0.00	0.00	0.05	-0.08	0.00
Commercial Inventory Net Withdrawals	-0.39	0.12	0.41	-0.10	-0.30	0.11	0.18	-0.07	-0.33	0.09	0.16	-0.08	0.01	-0.02	-0.04
Crude Oil Adjustment (d)	0.34	0.00	-0.22	-0.06	0.03	0.27	0.23	0.25	0.27	0.23	0.20	0.23	0.01	0.20	0.23
Total Crude Oil Input to Refineries	15.25	16.15	16.51	15.93	15.38	16.20	16.20	15.75	15.23	16.09	16.09	15.66	15.96	15.88	15.77
Other Supply															
Refinery Processing Gain	0.97	1.01	1.07	1.05	0.94	1.04	1.05	1.04	0.97	1.03	1.06	1.05	1.03	1.02	1.03
Natural Gas Plant Liquids Production	6.01	6.42	6.58	6.70	6.38	6.53	6.62	6.63	6.63	6.77	6.77	6.83	6.43	6.54	6.75
Renewables and Oxygenate Production (e)	1.24	1.29	1.31	1.35	1.32	1.34	1.35	1.38	1.40	1.45	1.45	1.47	1.30	1.35	1.44
Fuel Ethanol Production	1.00	1.00	1.02	1.05	1.03	1.02	1.03	1.02	1.03	1.03	1.02	1.04	1.02	1.03	1.03
Petroleum Products Adjustment (f)	0.20	0.22	0.23	0.23	0.21	0.21	0.21	0.22	0.20	0.21	0.21	0.22	0.21	0.21	0.21
Petroleum Products Transfers to Crude Oil Supply	-0.39	-0.51	-0.70	-0.58	-0.51	-0.48	-0.50	-0.48	-0.46	-0.50	-0.54	-0.51	-0.55	-0.49	-0.50
Product Net Imports (c)	-3.91	-3.71	-4.03	-4.56	-4.59	-4.08	-3.97	-4.32	-4.01	-3.89	-4.06	-4.44	-4.06	-4.24	-4.10
Hydrocarbon Gas Liquids	-2.47	-2.39	-2.42	-2.58	-2.62	-2.62	-2.53	-2.49	-2.70	-2.73	-2.64	-2.61	-2.46	-2.57	-2.67
Unfinished Oils	0.28	0.27	0.22	0.18	0.13	0.37	0.42	0.32	0.30	0.38	0.41	0.32	0.24	0.31	0.35
Other HC/Oxygenates	-0.05	-0.07	-0.04	-0.05	-0.05	-0.06	-0.05	-0.05	-0.08	-0.08	-0.07	-0.08	-0.05	-0.05	-0.08
Motor Gasoline Blend Comp.	0.45	0.67	0.57	0.41	0.37	0.65	0.63	0.46	0.53	0.68	0.62	0.35	0.52	0.53	0.54
Finished Motor Gasoline	-0.75	-0.58	-0.67	-0.81	-0.75	-0.62	-0.68	-0.93	-0.68	-0.51	-0.61	-0.78	-0.70	-0.74	-0.65
Jet Fuel	-0.05	0.01	-0.05	-0.09	-0.09	-0.05	-0.02	-0.05	-0.06	0.01	0.01	-0.01	-0.05	-0.05	-0.01
Distillate Fuel Oil	-0.76	-0.97	-1.01	-1.01	-0.88	-1.02	-0.99	-0.92	-0.63	-0.90	-0.98	-0.91	-0.94	-0.95	-0.85
Residual Fuel Oil	0.01	-0.04	-0.03	0.00	-0.02	-0.07	-0.09	-0.01	-0.04	-0.04	-0.10	-0.02	-0.01	-0.05	-0.05
Other Oils (g)	-0.58	-0.61	-0.59	-0.61	-0.67	-0.68	-0.65	-0.65	-0.64	-0.71	-0.70	-0.72	-0.60	-0.66	-0.69
Product Inventory Net Withdrawals	0.30	-0.49	-0.61	0.44	0.74	-0.44	-0.26	0.37	0.32	-0.52	-0.25	0.40	-0.09	0.10	-0.01
Total Supply	19.67	20.38	20.37	20.56	19.87	20.32	20.69	20.60	20.29	20.63	20.73	20.68	20.25	20.37	20.59
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.40	3.36	3.25	3.81	3.79	3.34	3.46	3.86	3.84	3.44	3.50	3.91	3.46	3.61	3.67
Other HC/Oxygenates	0.22	0.28	0.28	0.28	0.29	0.30	0.30	0.33	0.34	0.37	0.38	0.40	0.27	0.30	0.37
Unfinished Oils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor Gasoline	8.67	9.13	9.05	8.93	8.62	9.08	9.14	8.81	8.67	9.15	9.10	8.76	8.94	8.91	8.92
Fuel Ethanol blended into Motor Gasoline	0.90	0.94	0.94	0.94	0.89	0.95	0.95	0.94	0.90	0.96	0.95	0.94	0.93	0.93	0.94
Jet Fuel	1.55	1.67	1.72	1.66	1.58	1.70	1.72	1.67	1.61	1.74	1.76	1.72	1.65	1.67	1.71
Distillate Fuel Oil	4.01	3.93	3.90	3.90	3.83	3.83	3.91	3.99	4.07	3.95	3.90	3.99	3.93	3.89	3.98
Residual Fuel Oil	0.29	0.22	0.27	0.31	0.30	0.27	0.22	0.25	0.23	0.24	0.22	0.25	0.27	0.26	0.24
Other Oils (g)	1.53	1.79	1.89	1.67	1.46	1.80	1.94	1.69	1.53	1.75	1.89	1.64	1.72	1.73	1.70
Total Consumption	19.66	20.38	20.37	20.56	19.87	20.32	20.69	20.60	20.29	20.63	20.73	20.68	20.25	20.37	20.59
Total Petroleum and Other Liquids Net Imports	-1.64	-1.20	-1.42	-2.28	-2.31	-1.73	-1.83	-2.72	-2.73	-2.35	-2.62	-3.30	-1.64	-2.15	-2.75
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	465.4	454.7	417.5	426.4	453.9	444.3	427.7	434.3	463.8	455.5	440.9	448.2	426.4	434.3	448.2
Hydrocarbon Gas Liquids	174.3	225.4	279.1	223.3	161.2	211.6	252.0	208.4	171.2	224.6	265.3	224.1	223.3	208.4	224.1
Unfinished Oils	88.6	87.0	88.3	84.1	90.5	87.2	86.7	79.6	88.8	86.6	86.5	80.7	84.1	79.6	80.7
Other HC/Oxygenates	34.3	30.1	30.3	33.2	37.9	36.1	35.8	36.1	38.2	36.9	36.6	36.9	33.2	36.1	36.9
Total Motor Gasoline	225.3	223.2	227.6	241.3	228.1	222.0	216.5	231.4	229.2	225.4	217.3	229.8	241.3	231.4	229.8
Finished Motor Gasoline	14.7	17.6	15.3	18.1	13.5	18.4	17.3	19.3	15.8	18.1	17.0	20.0	18.1	19.3	20.0
Motor Gasoline Blend Comp.	210.6	205.6	212.3	223.2	212.6	203.5	199.2	212.1	213.5	207.2	200.3	209.8	223.2	212.1	209.8
Jet Fuel	37.7	42.7	43.5	39.8	41.0	40.2	41.8	38.5	36.7	37.3	39.0	34.6	39.8	38.5	34.6
Distillate Fuel Oil	112.3	112.6	119.2	130.7	116.8	118.9	118.6	122.1	112.0	114.6	114.7	115.3	130.7	122.1	115.3
Residual Fuel Oil	29.6	30.4	27.5	24.1	29.6	29.5	27.3	26.7	28.1	27.8	25.7	25.2	24.1	26.7	25.2
Other Oils (g)	63.3	58.3	50.5	49.3	55.5	53.2	44.4	46.2	55.7	53.8	44.8	46.5	49.3	46.2	46.5
Total Commercial Inventory	1230.8	1264.4	1283.4	1252.2	1212.4	1243.1	1250.9	1223.2	1223.6	1262.5	1270.8	1241.4	1252.2	1223.2	1241.4
Crude Oil in SPR	371.2	347.2	351.3	354.7	363.9	373.1	382.3	382.3	382.3	382.3	382.3	382.3	354.7	382.3	382.3

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equal gross imports minus gross exports.

(d) Crude oil adjustment equals the sum of disposition items (e.g. refinery inputs) minus the sum of supply items (e.g. production).

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blending components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

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 - May 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
HGL Production															
Natural Gas Processing Plants															
Ethane	2.49	2.65	2.63	2.71	2.59	2.75	2.76	2.74	2.73	2.78	2.73	2.82	2.62	2.71	2.77
Propane	1.89	2.00	2.05	2.10	2.01	2.01	2.04	2.08	2.11	2.14	2.14	2.15	2.01	2.04	2.13
Butanes	0.99	1.06	1.09	1.10	1.06	1.08	1.10	1.12	1.12	1.14	1.15	1.16	1.06	1.09	1.14
Natural Gasoline (Pentanes Plus)	0.64	0.73	0.81	0.79	0.72	0.69	0.72	0.69	0.67	0.71	0.75	0.71	0.74	0.71	0.71
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.00	0.01	0.02	0.01	0.01	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	0.29	0.28	0.28	0.28	0.29
Propylene (refinery-grade)	0.24	0.26	0.25	0.26	0.25	0.28	0.27	0.28	0.27	0.28	0.27	0.28	0.25	0.27	0.28
Butanes/Butylenes	-0.05	0.28	0.21	-0.19	-0.06	0.26	0.20	-0.19	-0.08	0.27	0.20	-0.19	0.07	0.05	0.05
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	-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
HGL Net Imports															
Ethane	-0.50	-0.49	-0.50	-0.40	-0.50	-0.51	-0.50	-0.50	-0.50	-0.51	-0.51	-0.55	-0.47	-0.50	-0.52
Propane/Propylene	-1.40	-1.40	-1.45	-1.65	-1.60	-1.49	-1.42	-1.46	-1.55	-1.57	-1.50	-1.49	-1.47	-1.49	-1.53
Butanes/Butylenes	-0.42	-0.41	-0.42	-0.41	-0.41	-0.48	-0.47	-0.37	-0.45	-0.50	-0.50	-0.42	-0.42	-0.43	-0.47
Natural Gasoline (Pentanes Plus)	-0.15	-0.09	-0.06	-0.11	-0.11	-0.14	-0.14	-0.16	-0.19	-0.14	-0.14	-0.15	-0.10	-0.14	-0.15
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.48	0.29	0.35	0.57	0.46	0.30	0.35	0.56	0.46	0.30	0.34	0.55	0.42	0.42	0.41
Natural Gasoline (Pentanes Plus)	0.18	0.20	0.21	0.21	0.19	0.17	0.18	0.18	0.16	0.17	0.18	0.18	0.20	0.18	0.17
HGL Consumption															
Ethane/Ethylene	1.99	2.19	2.07	2.25	2.24	2.23	2.25	2.26	2.23	2.24	2.26	2.27	2.13	2.24	2.25
Propane	0.98	0.62	0.62	0.95	1.04	0.57	0.66	1.02	1.10	0.64	0.70	1.05	0.79	0.82	0.87
Propylene (refinery-grade)	0.25	0.27	0.27	0.28	0.26	0.30	0.29	0.29	0.30	0.30	0.29	0.29	0.27	0.29	0.29
Butanes/Butylenes	0.18	0.28	0.29	0.34	0.25	0.25	0.26	0.29	0.22	0.26	0.25	0.30	0.27	0.26	0.26
Natural Gasoline (Pentanes Plus)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HGL Inventories (million barrels)															
Ethane	53.0	54.2	52.4	68.0	55.0	54.1	56.1	56.8	56.3	60.2	58.9	60.4	56.9	55.5	59.0
Propane	55.8	79.2	102.2	79.8	46.4	66.8	86.4	73.4	48.4	66.8	86.9	74.7	79.8	73.4	74.7
Propylene (at refineries only)	1.1	1.1	1.2	0.9	0.9	1.3	1.6	1.5	1.4	1.6	1.8	1.6	0.9	1.5	1.6
Butanes/Butylenes	40.2	70.1	90.2	50.1	37.0	64.5	82.5	53.5	43.7	74.0	95.2	66.3	50.1	53.5	66.3
Natural Gasoline (Pentanes Plus)	22.9	23.4	27.4	26.8	23.8	24.5	24.8	23.5	20.7	21.8	22.5	21.7	26.8	23.5	21.7
Refinery and Blender Net Inputs															
Crude Oil	15.25	16.15	16.51	15.93	15.38	16.20	16.20	15.75	15.23	16.09	16.09	15.66	15.96	15.88	15.77
Hydrocarbon Gas Liquids	0.66	0.49	0.56	0.78	0.65	0.47	0.54	0.74	0.63	0.46	0.52	0.72	0.62	0.60	0.58
Other Hydrocarbons/Oxygenates	1.13	1.20	1.21	1.18	1.12	1.20	1.20	1.17	1.14	1.20	1.19	1.17	1.18	1.17	1.18
Unfinished Oils	0.19	0.21	0.00	0.12	-0.01	0.30	0.31	0.29	0.08	0.29	0.30	0.27	0.13	0.22	0.24
Motor Gasoline Blend Components	0.34	0.85	0.64	0.23	0.46	0.89	0.73	0.28	0.39	0.60	0.57	0.33	0.52	0.59	0.47
Aviation Gasoline Blend Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Refinery and Blender Net Inputs	17.58	18.90	18.92	18.25	17.61	19.06	18.97	18.23	17.47	18.65	18.68	18.16	18.41	18.47	18.24
Refinery Processing Gain	0.97	1.01	1.07	1.05	0.94	1.04	1.05	1.04	0.97	1.03	1.06	1.05	1.03	1.02	1.03
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.47	0.83	0.75	0.36	0.47	0.85	0.76	0.37	0.49	0.86	0.78	0.38	0.60	0.61	0.63
Finished Motor Gasoline	9.28	9.83	9.81	9.64	9.25	9.85	9.82	9.66	9.15	9.50	9.53	9.59	9.64	9.65	9.44
Jet Fuel	1.62	1.72	1.78	1.71	1.68	1.74	1.76	1.68	1.65	1.73	1.77	1.68	1.71	1.71	1.71
Distillate Fuel	4.69	4.91	4.99	5.04	4.56	4.87	4.89	4.95	4.59	4.88	4.88	4.91	4.91	4.82	4.81
Residual Fuel	0.27	0.27	0.27	0.28	0.38	0.34	0.29	0.26	0.29	0.28	0.30	0.26	0.27	0.32	0.28
Other Oils (a)	2.21	2.35	2.40	2.26	2.21	2.45	2.49	2.36	2.27	2.44	2.49	2.38	2.30	2.38	2.40
Total Refinery and Blender Net Production	18.54	19.91	19.99	19.30	18.54	20.10	20.02	19.28	18.43	19.67	19.74	19.20	19.44	19.49	19.27
Refinery Distillation Inputs	15.78	16.75	17.02	16.47	15.75	16.59	16.63	16.15	15.64	16.48	16.53	16.06	16.51	16.28	16.18
Refinery Operable Distillation Capacity	18.12	18.27	18.27	18.32	18.35	18.19	18.20	18.20	17.94	17.94	17.94	17.94	18.25	18.24	17.94
Refinery Distillation Utilization Factor	0.87	0.92	0.93	0.90	0.86	0.91	0.89	0.87	0.92	0.92	0.90	0.90	0.90	0.89	0.90

(a) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Prices (cents per gallon)															
Refiner Wholesale Price	262	265	296	233	245	282	283	261	259	278	280	249	264	268	267
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	330	344	361	325	319	352	356	342	338	354	355	330	340	342	345
PADD 2	324	348	360	314	307	346	350	331	329	348	350	320	337	334	337
PADD 3	302	315	334	284	287	322	326	308	303	323	325	295	309	311	312
PADD 4	357	359	393	332	292	345	357	350	339	364	371	341	361	336	354
PADD 5	418	452	480	456	414	478	478	452	430	451	454	428	452	456	441
U.S. Average	338	358	376	336	324	366	370	352	346	364	366	339	352	354	354
Gasoline All Grades Including Taxes	349	369	387	348	336	378	383	365	358	377	379	352	364	366	367
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	52.7	57.1	58.8	60.1	54.1	53.8	53.1	56.3	56.5	56.6	55.2	57.0	60.1	56.3	57.0
PADD 2	49.5	45.2	46.9	54.6	53.7	47.4	46.0	52.0	52.9	49.3	46.3	50.8	54.6	52.0	50.8
PADD 3	84.1	85.0	84.9	90.2	82.7	84.2	81.2	84.9	81.5	83.2	80.6	84.9	90.2	84.9	84.9
PADD 4	7.8	6.8	7.2	7.9	8.5	7.8	7.6	8.0	8.1	7.4	7.8	8.4	7.9	8.0	8.4
PADD 5	31.2	29.0	29.9	28.5	29.1	28.8	28.5	30.2	30.2	28.9	27.3	28.7	28.5	30.2	28.7
U.S. Total	225.3	223.2	227.6	241.3	228.1	222.0	216.5	231.4	229.2	225.4	217.3	229.8	241.3	231.4	229.8
Finished Gasoline Inventories															
U.S. Total	14.7	17.6	15.3	18.1	13.5	18.4	17.3	19.3	15.8	18.1	17.0	20.0	18.1	19.3	20.0
Gasoline Blending Components Inventories															
U.S. Total	210.6	205.6	212.3	223.2	212.6	203.5	199.2	212.1	213.5	207.2	200.3	209.8	223.2	212.1	209.8

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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.**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.

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

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 - May 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)															
Total Marketed Production	111.18	112.50	113.64	115.19	113.26	111.78	111.90	112.92	113.50	114.64	114.72	115.26	113.14	112.46	114.54
Alaska	1.08	1.01	0.91	1.04	1.08	0.98	0.89	1.01	1.02	0.95	0.87	0.99	1.01	0.99	0.96
Federal GOM (a)	2.13	1.89	2.02	1.93	1.89	1.89	1.89	1.93	2.00	2.00	1.94	1.97	1.99	1.90	1.98
Lower 48 States (excl GOM)	107.97	109.60	110.70	112.22	110.29	108.91	109.12	110.48	111.69	111.91	112.30	110.14	109.57	111.60	
Total Dry Gas Production	102.26	103.16	104.12	105.57	104.01	102.27	102.38	103.31	103.84	104.89	104.97	105.46	103.79	102.99	104.79
LNG Gross Imports	0.09	0.02	0.02	0.03	0.10	0.04	0.04	0.06	0.10	0.04	0.04	0.06	0.04	0.06	0.06
LNG Gross Exports	11.45	11.76	11.40	12.97	12.38	11.00	11.64	13.37	13.71	13.81	14.39	15.26	11.90	12.10	14.30
Pipeline Gross Imports	8.45	7.32	7.94	8.23	9.00	6.93	7.22	7.47	8.29	6.98	7.24	7.48	7.98	7.66	7.49
Pipeline Gross Exports	8.93	8.75	9.19	8.94	9.57	9.40	9.51	9.36	9.53	9.53	9.87	9.65	8.95	9.46	9.65
Supplemental Gaseous Fuels	0.22	0.17	0.16	0.15	0.18	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Net Inventory Withdrawals	11.96	-11.71	-6.38	0.29	12.84	-11.18	-5.94	3.61	14.83	-11.60	-5.84	4.06	-1.51	-0.17	0.31
Total Supply	102.60	78.45	85.27	92.36	104.17	77.82	82.72	91.90	103.98	77.12	82.32	92.32	89.63	89.14	88.89
Balancing Item (b)	0.39	-0.41	-1.40	-0.69	-0.44	-1.16	1.36	0.91	0.60	0.20	1.40	0.81	-0.53	0.17	0.75
Total Primary Supply	102.99	78.04	83.87	91.67	103.74	76.66	84.08	92.80	104.57	77.32	83.72	93.13	89.10	89.31	89.64
Consumption (billion cubic feet per day)															
Residential	23.51	7.29	3.57	14.95	22.79	6.84	3.83	16.15	24.18	7.26	3.83	16.09	12.28	12.39	12.79
Commercial	14.52	6.43	4.72	10.69	14.23	6.57	5.23	11.20	14.54	6.76	5.23	11.16	9.07	9.30	9.40
Industrial	24.83	22.43	21.98	24.35	24.76	21.94	21.56	23.77	24.70	21.73	21.53	23.81	23.39	23.01	22.93
Electric Power (c)	30.77	33.41	44.84	32.56	32.46	32.93	44.79	32.62	31.61	33.02	44.33	32.87	35.43	35.72	35.48
Lease and Plant Fuel	5.31	5.37	5.43	5.50	5.41	5.34	5.34	5.39	5.42	5.47	5.48	5.50	5.40	5.37	5.47
Pipeline and Distribution Use	3.87	2.93	3.15	3.44	3.89	2.84	3.13	3.48	3.94	2.88	3.13	3.50	3.34	3.33	3.36
Vehicle Use	0.18	0.18	0.18	0.18	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.18	0.20	0.20
Total Consumption	102.99	78.04	83.87	91.67	103.74	76.66	84.08	92.80	104.57	77.32	83.72	93.13	89.10	89.31	89.64
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,850	2,902	3,490	3,457	2,289	3,307	3,854	3,521	2,187	3,243	3,780	3,407	3,457	3,521	3,407
East Region (d)	334	646	853	787	363	687	875	787	407	701	853	760	787	787	760
Midwest Region (d)	417	701	993	950	511	779	1,053	938	472	774	1,063	925	950	938	925
South Central Region (d)	919	1,138	1,092	1,183	1,001	1,292	1,302	1,249	933	1,247	1,271	1,212	1,183	1,249	1,212
Mountain Region (d)	79	171	239	228	163	196	248	217	144	202	249	211	228	217	211
Pacific Region (d)	74	216	278	280	228	326	342	302	207	292	312	270	280	302	270
Alaska	27	30	35	30	24	28	33	29	24	27	32	28	30	29	28

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

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

(d) 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>).

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; and *Electric Power Monthly*.

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

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 - May 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Wholesale/Spot															
Henry Hub Spot Price	2.76	2.25	2.69	2.84	2.21	1.77	2.25	2.83	3.05	2.95	3.32	3.52	2.63	2.27	3.21
Residential Retail															
New England	21.04	20.48	22.57	18.69	18.86	19.16	21.53	16.61	16.32	17.13	20.33	16.24	20.33	18.41	16.71
Middle Atlantic	15.60	16.03	20.74	14.33	13.25	14.21	18.48	12.48	11.56	13.05	18.37	12.87	15.64	13.54	12.67
E. N. Central	11.06	13.26	22.96	10.49	9.11	12.37	19.31	9.20	8.07	11.15	19.09	9.42	11.91	10.28	9.62
W. N. Central	13.24	15.41	22.07	11.28	10.75	14.08	20.91	10.69	9.52	12.29	19.56	10.42	13.41	11.81	10.76
S. Atlantic	17.33	20.92	30.29	16.00	14.34	18.35	25.09	14.33	13.60	18.48	26.51	15.07	18.39	15.69	15.73
E. S. Central	13.63	16.66	23.41	13.48	11.39	15.05	20.76	11.87	10.80	14.78	21.61	12.36	14.56	12.51	12.45
W. S. Central	14.58	19.81	28.70	16.41	12.14	17.33	22.43	12.82	10.25	15.44	22.54	13.40	17.00	13.85	12.88
Mountain	12.61	13.86	18.75	12.88	12.44	14.46	19.08	12.25	11.28	13.29	18.01	11.79	13.29	13.20	12.26
Pacific	20.13	17.11	18.10	17.87	17.38	16.22	16.05	14.96	15.51	15.06	16.12	15.44	18.74	16.27	15.48
U.S. Average	14.72	16.19	22.33	13.72	12.56	14.90	19.53	12.06	11.13	13.70	19.40	12.30	15.19	13.26	12.49
Commercial Retail															
New England	15.19	13.66	12.55	12.15	12.63	11.97	11.40	10.35	10.61	11.15	11.52	10.83	13.73	11.68	10.86
Middle Atlantic	11.94	9.25	8.06	9.48	10.29	8.15	6.99	7.35	8.14	7.65	7.50	8.06	10.23	8.67	7.96
E. N. Central	9.20	8.63	10.71	7.78	7.14	7.67	8.75	6.09	6.21	7.57	9.63	6.94	8.80	7.00	6.88
W. N. Central	11.58	11.33	11.77	8.39	8.57	8.85	9.25	6.88	7.07	7.87	9.43	7.46	10.66	8.13	7.49
S. Atlantic	12.97	11.26	11.39	10.73	10.22	9.99	9.79	8.92	8.84	9.59	10.10	9.48	11.75	9.73	9.33
E. S. Central	11.89	10.94	11.80	10.56	9.81	10.01	10.27	8.88	8.52	9.74	10.91	9.65	11.31	9.60	9.32
W. S. Central	11.01	9.68	10.37	9.74	8.79	8.38	8.35	7.27	6.83	7.92	8.95	8.15	10.31	8.22	7.71
Mountain	10.76	10.77	12.16	10.66	10.28	10.46	10.93	9.38	9.19	9.64	10.45	9.13	10.87	10.10	9.37
Pacific	16.85	12.61	13.49	13.58	13.88	12.33	11.69	10.94	11.65	11.00	11.45	11.17	14.59	12.34	11.34
U.S. Average	11.81	10.48	10.89	9.82	9.65	9.38	9.33	7.99	8.06	8.78	9.62	8.57	10.89	9.05	8.52
Industrial Retail															
New England	13.55	10.07	7.87	9.27	10.80	8.69	6.72	7.53	8.63	8.00	7.02	8.19	10.65	8.61	8.09
Middle Atlantic	11.94	8.97	7.89	9.35	9.28	6.87	6.70	7.65	8.20	7.34	7.71	8.43	10.34	8.03	8.04
E. N. Central	9.18	6.67	6.91	6.22	6.57	5.84	5.27	5.22	5.58	5.77	6.05	6.10	7.62	5.86	5.82
W. N. Central	8.23	4.55	4.33	4.69	5.33	3.63	3.31	4.07	5.02	4.23	4.34	5.01	5.64	4.13	4.68
S. Atlantic	6.92	4.78	5.03	5.37	4.99	3.61	3.81	4.47	5.15	4.69	5.06	5.42	5.58	4.25	5.09
E. S. Central	5.46	3.74	4.10	4.34	4.18	3.07	3.38	4.12	4.70	4.23	4.54	4.95	4.44	3.72	4.62
W. S. Central	3.39	2.21	2.71	2.79	2.43	1.91	2.34	3.05	3.34	3.03	3.38	3.72	2.77	2.44	3.37
Mountain	8.86	7.73	8.05	7.76	8.26	7.35	6.60	5.86	5.76	5.67	6.02	5.85	8.18	7.10	5.81
Pacific	10.84	8.16	8.03	9.02	8.64	7.05	6.68	6.81	7.67	6.74	6.86	7.13	9.22	7.32	7.16
U.S. Average	6.12	3.76	3.87	4.38	4.50	3.19	3.24	4.13	4.77	4.04	4.21	4.82	4.59	3.82	4.49

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

Prices are not adjusted for inflation.

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.**Historical data:** Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly*, DOE/EIA-0130.Natural gas Henry Hub spot price is 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 6. U.S. Coal Supply, Consumption, and Inventories

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (million short tons)															
Production	148.7	142.3	145.6	145.0	126.4	108.5	136.1	128.3	127.0	111.8	130.4	124.4	581.6	499.4	493.6
Appalachia	42.9	42.5	40.0	41.8	37.9	32.3	35.1	35.4	37.7	34.9	35.2	36.0	167.2	140.7	143.7
Interior	25.4	23.5	22.6	24.6	21.0	17.8	22.3	21.6	23.7	21.1	22.6	21.6	96.1	82.7	89.0
Western	80.4	76.4	83.0	78.5	65.6	58.4	78.8	71.3	65.6	55.8	72.6	66.8	318.3	274.1	260.9
Primary Inventory Withdrawals	-1.6	0.3	3.6	0.1	-1.5	0.3	3.6	0.0	-1.8	0.1	3.5	-0.1	2.4	2.3	1.7
Imports	1.0	1.0	1.0	1.0	0.6	0.8	1.2	1.0	0.7	0.8	1.2	0.9	4.0	3.5	3.6
Exports	24.6	24.1	24.9	26.2	26.3	21.7	24.4	26.4	24.9	25.8	26.3	28.7	99.8	98.7	105.8
Metallurgical Coal	12.4	12.6	13.6	12.7	13.4	11.7	11.9	12.2	11.3	12.7	12.3	12.9	51.3	49.1	49.2
Steam Coal	12.2	11.5	11.3	13.5	12.9	9.9	12.5	14.2	13.6	13.1	14.0	15.9	48.5	49.6	56.5
Total Primary Supply	123.5	119.5	125.3	119.8	99.1	87.9	116.5	102.9	100.9	87.0	108.7	96.4	488.2	406.5	393.1
Secondary Inventory Withdrawals	-20.1	-19.1	11.1	-15.1	-2.1	0.3	8.4	-12.1	-8.5	-7.0	13.7	-10.8	-43.1	-5.5	-12.6
Waste Coal (a)	2.0	1.9	2.2	2.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	8.1	4.8	4.8
Total Supply	105.5	102.3	138.6	106.8	98.2	89.4	126.1	92.0	93.7	81.2	123.6	86.8	453.1	405.8	385.2
Consumption (million short tons)															
Coke Plants	4.0	3.9	4.0	3.9	3.8	4.0	4.1	4.2	4.1	4.3	4.4	4.5	15.8	16.2	17.3
Electric Power Sector (b)	91.2	82.0	122.7	91.3	91.1	82.8	117.1	82.1	83.8	72.0	114.2	76.6	387.2	373.1	346.5
Retail and Other Industry	6.5	5.6	5.3	6.2	5.9	4.8	4.9	5.7	5.8	4.9	5.0	5.8	23.6	21.4	21.4
Residential and Commercial	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.7	0.7	0.8
Other Industrial	6.3	5.5	5.1	6.0	5.6	4.7	4.8	5.5	5.5	4.8	4.8	5.5	22.9	20.6	20.6
Total Consumption	101.7	91.5	132.0	101.4	100.9	91.6	126.1	92.0	93.7	81.2	123.6	86.8	426.5	410.7	385.2
Discrepancy (c)	3.8	10.9	6.6	5.4	-2.7	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	26.6	-4.9	0.0
End-of-period Inventories (million short tons)															
Primary Inventories (d)	22.4	22.1	18.5	18.4	20.0	19.7	16.1	16.1	17.9	17.8	14.3	14.4	18.4	16.1	14.4
Secondary Inventories	113.3	132.3	121.2	136.3	138.4	138.1	129.7	141.8	150.3	157.3	143.6	154.4	136.3	141.8	154.4
Electric Power Sector	109.0	127.7	116.6	131.4	134.2	133.8	125.1	137.1	146.3	153.1	139.1	149.9	131.4	137.1	149.9
Retail and General Industry	2.5	2.8	2.7	3.0	2.5	2.6	2.9	2.9	2.4	2.5	2.8	2.9	3.0	2.9	2.9
Coke Plants	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.4	1.5	1.5	1.5	1.7	1.6	1.5
Commercial & Institutional	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	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 per day)	0.236	0.244	0.245	0.242	0.244	0.254	0.265	0.260	0.256	0.267	0.275	0.271	0.242	0.256	0.267
Cost of Coal to Electric Utilities (Dollars per million Btu)	2.57	2.49	2.51	2.51	2.49	2.49	2.48	2.43	2.43	2.42	2.41	2.37	2.52	2.47	2.41

(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.

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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. Minor discrepancies with published historical data are due to independent rounding.**Forecasts:** EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Electricity Supply (billion kilowatthours)															
Electricity generation (a)	987	984	1,209	998	1,025	1,029	1,234	1,010	1,023	1,040	1,248	1,019	4,178	4,297	4,330
Electric power sector	949	947	1,168	958	985	990	1,192	969	984	1,001	1,206	979	4,022	4,136	4,170
Industrial sector	35	33	36	36	35	34	37	36	35	34	37	36	139	142	142
Commercial sector	4	4	5	4	4	4	5	5	4	4	5	5	17	18	18
Net imports	8	6	3	2	4	8	12	10	11	12	15	11	19	33	49
Total utility-scale power supply	995	990	1,212	1,000	1,029	1,036	1,246	1,019	1,034	1,052	1,262	1,030	4,197	4,330	4,379
Losses and Unaccounted for (b)	42	52	51	52	50	72	56	49	44	70	57	49	197	227	220
Small-scale solar generation (c)	14	22	22	16	17	25	25	17	19	29	29	20	74	85	97
Residential sector	10	15	15	11	12	17	17	12	13	20	20	14	50	58	66
Commercial sector	4	6	6	4	4	7	7	5	5	8	8	5	19	22	25
Industrial sector	1	1	1	1	1	1	1	1	1	2	2	1	4	5	5
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	919	906	1,124	912	944	930	1,152	934	955	948	1,168	945	3,861	3,960	4,016
Residential Sector	355	319	455	325	367	332	472	338	375	340	478	340	1,455	1,510	1,533
Commercial Sector	322	330	392	331	330	336	396	334	328	336	395	332	1,375	1,396	1,391
Industrial Sector	239	256	275	254	245	260	283	261	251	270	294	271	1,025	1,048	1,086
Transportation Sector	2	2	2	2	2	2	2	2	2	2	2	2	7	6	7
Direct Use (d)	34	33	36	36	35	34	37	36	35	34	37	36	139	143	142
Total Consumption	953	939	1,161	948	979	964	1,190	970	990	983	1,205	981	4,000	4,103	4,159
Average residential electricity usage per customer (kWh)	2,530	2,268	3,243	2,316	2,587	2,341	3,325	2,377	2,610	2,365	3,325	2,364	10,357	10,630	10,665
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	109.0	127.7	116.6	131.4	134.2	133.8	125.1	137.1	146.3	153.1	139.1	149.9	131.4	137.1	149.9
Residual Fuel (mmb)	6.1	6.2	6.4	6.3	5.7	5.2	2.9	3.4	2.1	2.3	0.6	1.5	6.3	3.4	1.5
Distillate Fuel (mmb)	17.0	16.9	16.1	16.1	15.6	15.5	15.5	15.8	15.6	15.5	15.4	15.6	16.1	15.8	15.6
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.57	2.49	2.51	2.51	2.49	2.49	2.48	2.43	2.43	2.42	2.41	2.37	2.52	2.47	2.41
Natural Gas	4.98	2.60	2.92	3.19	3.33	2.03	2.34	3.07	3.43	2.98	3.23	3.65	3.36	2.66	3.31
Residual Fuel Oil	19.23	17.88	19.17	20.84	18.17	16.90	16.41	16.62	16.88	17.18	16.30	15.96	19.32	17.06	16.55
Distillate Fuel Oil	22.84	19.91	22.08	21.03	20.19	19.91	20.70	22.17	22.45	21.59	21.68	21.48	21.47	20.87	21.84
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	15.77	16.12	16.02	16.02	15.81	15.95	15.85	15.75	15.77	16.22	16.26	16.21	15.98	15.84	16.12
Commercial Sector	12.64	12.45	13.18	12.63	12.65	12.34	13.19	12.68	12.79	12.70	13.67	13.07	12.74	12.73	13.08
Industrial Sector	8.06	7.74	8.55	7.83	7.82	7.58	8.28	7.80	7.94	7.64	8.32	7.83	8.05	7.88	7.94
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	28.05	57.27	188.81	33.85	32.53	27.42	36.63	26.83	26.84	24.14	37.35	27.49	77.00	30.85	28.96
CAISO SP15 zone	92.54	30.00	67.59	50.54	33.41	29.58	27.70	37.31	44.08	22.90	42.44	44.00	60.17	32.00	38.35
ISO-NE Internal hub	52.63	32.55	40.41	39.84	47.50	33.81	50.76	53.63	64.94	38.44	67.64	48.58	41.36	46.42	54.90
NYISO Hudson Valley zone	44.65	31.38	39.45	36.35	43.48	28.62	42.53	34.62	46.98	31.95	46.83	35.70	37.96	37.31	40.37
PJM Western hub	36.49	35.41	43.27	42.17	35.76	34.49	47.58	39.63	44.99	39.96	48.00	42.20	39.34	39.37	43.79
Midcontinent ISO Illinois hub	31.39	32.13	40.60	33.58	32.52	29.62	40.38	36.52	44.09	39.68	46.59	40.80	34.42	34.76	42.79
SPP ISO South hub	28.96	34.56	46.96	28.50	31.66	34.25	43.36	37.60	40.17	40.28	50.30	40.74	34.74	36.72	42.87
SERC index, Into Southern	30.53	31.66	36.45	30.40	27.96	28.65	34.82	32.93	35.90	32.81	37.91	34.76	32.26	31.09	35.34
FRCC index, Florida Reliability	30.31	33.06	36.79	32.05	30.01	31.05	35.72	34.88	35.49	35.25	38.83	36.14	33.05	32.91	36.42
Northwest index, Mid-Columbia	105.99	58.61	82.36	79.49	99.74	45.63	43.64	54.72	61.24	36.32	53.58	61.51	81.61	60.93	53.16
Southwest index, Palo Verde	84.19	31.60	71.95	50.10	29.62	29.26	41.45	41.17	42.36	32.54	44.52	42.28	59.46	35.37	40.43

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(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.

Historical data: Latest data available from EIA databases supporting the following reports: Electric Power Monthly and Electric Power Annual (electricity supply and consumption, fuel inventories and costs, and retail electricity prices); S&P Global Market Intelligence (wholesale electricity prices).

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

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

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Residential Sector															
New England	12.2	9.8	13.7	10.8	12.6	10.2	14.7	11.2	13.1	10.4	14.8	11.2	46.5	48.7	49.6
Middle Atlantic	33.3	27.5	40.1	30.2	35.3	28.5	42.8	30.5	36.2	29.0	43.2	30.7	131.2	137.1	139.2
E. N. Central	46.5	39.8	52.5	41.7	47.7	41.8	56.7	43.8	50.4	42.7	57.1	43.9	180.5	190.0	194.0
W. N. Central	29.4	24.1	30.8	24.2	29.0	24.1	32.7	26.2	31.2	24.8	33.2	26.5	108.6	112.0	115.6
S. Atlantic	87.2	83.8	117.9	84.2	93.2	89.7	125.4	87.4	94.3	92.4	126.9	87.8	373.0	395.7	401.4
E. S. Central	29.3	25.4	37.3	26.0	32.2	26.4	38.9	26.8	31.9	26.6	39.2	26.9	118.0	124.2	124.7
W. S. Central	51.6	52.4	86.9	49.5	53.6	55.0	82.7	51.3	54.6	55.9	84.3	52.1	240.4	242.6	246.9
Mountain	25.3	24.5	36.4	23.4	24.6	25.8	36.9	24.1	24.8	26.6	37.4	24.3	109.5	111.4	113.1
Pacific contiguous	39.5	30.2	38.7	33.8	38.0	29.9	40.4	35.0	37.4	30.3	40.6	35.1	142.2	143.2	143.5
AK and HI	1.2	1.1	1.1	1.3	1.3	1.1	1.1	1.3	1.3	1.1	1.1	1.3	4.7	4.8	4.8
Total	355.4	318.6	455.4	325.2	367.5	332.5	472.3	337.6	375.1	339.9	477.9	339.8	1,454.7	1,509.9	1,532.8
Commercial Sector															
New England	11.9	11.5	13.6	11.7	12.2	11.6	13.8	11.7	12.1	11.5	13.6	11.5	48.7	49.3	48.8
Middle Atlantic	35.0	33.1	39.7	34.4	35.8	33.6	40.6	34.3	35.5	33.6	40.4	34.2	142.2	144.3	143.7
E. N. Central	42.4	41.9	48.0	42.1	43.2	42.5	49.0	42.5	43.3	42.6	48.9	42.3	174.5	177.1	177.0
W. N. Central	25.3	25.1	28.6	25.0	25.4	25.3	29.3	25.7	25.8	25.5	29.4	25.7	104.0	105.8	106.3
S. Atlantic	75.4	81.7	96.5	80.4	78.5	84.4	98.2	81.3	78.2	85.1	98.5	81.3	333.9	342.4	343.0
E. S. Central	20.6	21.8	27.1	21.6	21.4	22.0	27.4	21.7	21.2	21.9	27.1	21.5	91.1	92.6	91.6
W. S. Central	47.5	51.2	63.6	50.7	48.4	52.2	62.3	50.7	47.5	51.5	61.7	50.5	213.1	213.6	211.2
Mountain	23.8	25.0	29.9	24.6	24.6	25.9	30.1	24.8	24.4	26.2	30.2	24.8	103.2	105.4	105.6
Pacific contiguous	38.9	37.0	43.6	39.4	39.2	37.3	44.1	39.6	38.5	37.2	43.6	39.1	158.8	160.2	158.5
AK and HI	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.3	5.3	5.3	5.2
Total	322.0	329.7	391.9	331.3	330.0	336.2	396.0	333.8	327.6	336.2	394.7	332.2	1,374.9	1,395.9	1,390.8
Industrial Sector															
New England	3.7	3.7	3.9	3.6	3.5	3.6	3.9	3.6	3.5	3.6	3.8	3.5	14.9	14.5	14.4
Middle Atlantic	17.3	17.7	18.9	17.3	16.9	17.6	19.0	17.3	16.8	17.9	19.3	17.6	71.3	70.8	71.7
E. N. Central	44.8	45.8	48.2	45.4	45.5	45.8	48.4	46.0	45.9	46.6	49.2	46.7	184.3	185.7	188.4
W. N. Central	24.1	25.5	27.2	25.8	24.9	25.8	27.8	26.6	25.5	26.8	28.8	27.5	102.6	105.0	108.6
S. Atlantic	33.5	35.2	36.4	34.0	33.8	35.2	36.4	34.2	33.8	36.0	37.1	34.9	139.1	139.5	141.8
E. S. Central	23.2	23.9	24.7	23.3	23.3	23.4	24.4	23.2	23.1	23.5	24.5	23.3	95.2	94.3	94.5
W. S. Central	53.6	62.4	68.6	62.5	56.6	66.1	75.4	68.4	61.8	73.3	83.1	75.1	247.2	266.4	293.2
Mountain	19.8	21.5	24.1	21.3	20.6	22.1	24.4	21.6	20.8	22.5	24.8	22.0	86.7	88.7	90.1
Pacific contiguous	18.3	19.2	21.9	19.6	18.4	18.9	21.7	19.4	18.2	19.0	21.8	19.5	79.0	78.5	78.5
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	1.3	4.8	4.8	4.9
Total	239.4	256.2	275.3	254.1	244.6	259.5	282.6	261.5	250.5	270.5	293.7	271.4	1,024.9	1,048.2	1,086.1
Total All Sectors (a)															
New England	27.9	25.1	31.4	26.2	28.5	25.6	32.4	26.6	28.8	25.6	32.4	26.4	110.6	113.1	113.2
Middle Atlantic	86.4	79.2	99.7	82.7	88.8	80.5	103.1	83.0	89.4	81.4	103.8	83.3	348.1	355.5	357.9
E. N. Central	133.8	127.6	148.9	129.4	136.5	130.2	154.2	132.3	139.6	132.0	155.3	133.1	539.7	553.3	560.0
W. N. Central	78.7	74.8	86.6	75.1	79.4	75.2	89.8	78.5	82.4	77.1	91.3	79.7	315.2	322.9	330.5
S. Atlantic	196.4	200.9	251.0	199.0	205.7	209.5	260.2	203.2	206.5	213.7	262.8	204.2	847.3	878.6	887.2
E. S. Central	73.1	71.1	89.1	70.9	76.9	71.7	90.7	71.7	76.2	72.0	90.9	71.7	304.3	311.1	310.8
W. S. Central	152.7	166.1	219.2	162.8	158.6	173.3	220.4	170.5	163.9	180.7	229.1	177.8	700.8	722.8	751.4
Mountain	68.9	71.1	90.4	69.3	69.8	73.8	91.4	70.6	70.1	75.4	92.4	71.1	299.6	305.7	309.0
Pacific contiguous	96.8	86.6	104.4	93.0	95.8	86.3	106.4	94.2	94.3	86.8	106.3	94.0	380.9	382.7	381.3
AK and HI	3.7	3.6	3.7	3.9	3.8	3.6	3.7	3.9	3.7	3.5	3.7	3.8	14.9	14.9	14.8
Total	918.5	906.0	1,124.5	912.3	943.7	929.8	1,152.5	934.4	955.0	948.2	1,167.9	945.1	3,861.3	3,960.4	4,016.2

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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).

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

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

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

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

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Residential Sector															
New England	30.65	29.58	27.17	27.72	28.00	27.71	25.51	26.46	27.56	28.44	27.07	28.68	28.72	26.84	27.85
Middle Atlantic	19.70	19.13	19.86	19.63	19.43	19.12	20.07	19.94	19.88	19.64	20.61	20.46	19.61	19.68	20.18
E. N. Central	16.14	16.58	15.97	16.21	15.94	16.16	15.58	16.01	15.92	16.49	16.04	16.55	16.20	15.90	16.22
W. N. Central	11.85	13.52	14.23	12.65	12.09	13.38	13.85	12.32	11.92	13.50	14.08	12.57	13.07	12.93	13.03
S. Atlantic	14.31	14.74	14.54	14.64	14.28	14.26	13.88	14.01	13.95	14.29	14.19	14.45	14.55	14.09	14.21
E. S. Central	13.17	13.20	12.94	13.27	12.96	13.19	13.05	13.50	13.40	13.72	13.43	13.86	13.13	13.15	13.58
W. S. Central	13.57	13.57	13.51	13.75	13.28	13.21	13.30	13.16	12.84	13.21	13.49	13.38	13.58	13.25	13.26
Mountain	12.96	13.88	14.10	13.74	13.48	13.85	13.67	13.27	13.23	13.93	14.12	14.02	13.71	13.58	13.86
Pacific	19.60	22.32	23.93	21.02	21.75	24.37	25.37	21.83	22.67	25.54	26.16	22.14	21.69	23.34	24.14
U.S. Average	15.77	16.12	16.02	16.02	15.81	15.95	15.85	15.75	15.77	16.22	16.26	16.21	15.98	15.84	16.12
Commercial Sector															
New England	20.56	18.40	18.71	19.33	20.41	17.68	18.03	19.07	20.66	18.36	19.00	20.21	19.23	18.78	19.55
Middle Atlantic	14.86	14.89	16.41	15.19	15.10	15.10	16.51	15.25	15.23	15.39	16.91	15.62	15.38	15.53	15.83
E. N. Central	12.01	12.07	11.90	11.86	11.97	11.80	11.82	11.97	12.16	12.10	12.21	12.41	11.96	11.89	12.22
W. N. Central	9.95	10.67	11.38	9.90	9.87	10.57	11.31	9.89	9.96	10.84	11.67	10.17	10.50	10.44	10.69
S. Atlantic	11.31	10.95	10.90	11.01	11.03	10.46	10.45	10.59	10.79	10.56	10.72	10.88	11.03	10.62	10.73
E. S. Central	12.57	12.10	12.07	12.02	12.19	12.04	12.24	12.27	12.49	12.49	12.74	12.69	12.18	12.19	12.61
W. S. Central	9.35	8.83	9.55	9.14	8.94	8.74	10.04	10.02	10.02	10.08	11.30	10.63	9.23	9.47	10.56
Mountain	10.35	11.09	11.65	10.76	10.50	10.75	11.16	10.32	10.11	10.66	11.38	10.58	11.00	10.71	10.72
Pacific	18.06	18.85	22.70	19.62	19.39	19.88	23.45	19.90	19.43	19.92	23.58	20.17	19.90	20.75	20.87
U.S. Average	12.64	12.45	13.18	12.63	12.65	12.34	13.19	12.68	12.79	12.70	13.67	13.07	12.74	12.73	13.08
Industrial Sector															
New England	16.24	15.24	15.80	15.91	16.52	14.89	15.42	15.78	16.75	15.38	16.13	16.53	15.80	15.64	16.19
Middle Atlantic	8.20	7.72	7.82	7.77	8.13	7.79	7.91	7.73	8.23	7.83	7.89	7.71	7.88	7.89	7.91
E. N. Central	8.31	7.89	8.02	7.88	8.05	7.79	8.05	7.93	8.30	8.00	8.19	8.07	8.02	7.96	8.14
W. N. Central	7.44	7.79	8.43	7.29	7.43	7.89	8.53	7.47	7.69	8.08	8.70	7.60	7.75	7.84	8.03
S. Atlantic	7.72	7.38	8.07	7.54	7.57	7.34	8.12	7.69	7.88	7.50	8.25	7.79	7.68	7.69	7.86
E. S. Central	6.98	6.67	6.91	6.73	6.52	6.41	6.82	6.79	6.75	6.54	6.93	6.89	6.82	6.64	6.78
W. S. Central	6.56	5.94	7.27	6.16	5.99	5.39	6.21	5.89	5.81	5.15	6.03	5.71	6.50	5.88	5.68
Mountain	7.65	7.64	8.45	7.36	7.47	7.66	8.43	7.41	7.71	8.00	8.60	7.55	7.80	7.77	7.99
Pacific	11.80	12.47	14.83	13.18	12.52	13.15	15.46	13.76	13.26	13.99	16.20	14.40	13.15	13.79	14.53
U.S. Average	8.06	7.74	8.55	7.83	7.82	7.58	8.28	7.80	7.94	7.64	8.32	7.83	8.05	7.88	7.94
All Sectors (a)															
New England	24.39	22.26	22.01	22.28	23.26	21.27	21.07	21.72	23.29	22.01	22.31	23.28	22.73	21.82	22.72
Middle Atlantic	15.39	14.75	16.16	15.25	15.49	14.91	16.39	15.39	15.78	15.23	16.76	15.71	15.43	15.59	15.92
E. N. Central	12.20	11.97	12.08	11.86	12.05	11.79	12.02	11.90	12.25	12.06	12.34	12.24	12.03	11.94	12.23
W. N. Central	9.89	10.60	11.47	9.90	9.92	10.55	11.37	9.88	10.00	10.74	11.61	10.08	10.49	10.46	10.64
S. Atlantic	12.03	11.90	12.20	11.95	11.93	11.56	11.78	11.57	11.75	11.65	12.05	11.88	12.03	11.71	11.84
E. S. Central	11.04	10.66	11.00	10.74	10.79	10.63	11.12	10.96	11.13	11.00	11.47	11.25	10.87	10.89	11.23
W. S. Central	9.80	9.24	10.40	9.40	9.35	8.88	9.96	9.31	9.38	9.05	10.19	9.36	9.76	9.41	9.54
Mountain	10.52	11.01	11.79	10.72	10.65	10.91	11.44	10.44	10.50	11.02	11.74	10.82	11.07	10.90	11.07
Pacific	17.49	18.63	21.48	18.76	19.00	19.94	22.53	19.33	19.51	20.56	23.03	19.69	19.15	20.27	20.77
U.S. Average	12.66	12.41	13.20	12.50	12.63	12.30	13.08	12.42	12.69	12.52	13.38	12.69	12.72	12.63	12.85

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

Historical data for average price of electricity to ultimate consumers represents the cost per unit of electricity sold and is calculated by dividing electric revenue from ultimate 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).

(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.

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

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

Table 7d part 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), continues on Table 7d part 2

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
United States															
Natural Gas	367.6	395.1	537.6	394.9	393.0	391.1	539.1	397.0	380.2	394.1	535.8	401.5	1,695.3	1,720.2	1,711.6
Coal	156.7	140.6	216.1	157.3	157.5	141.4	204.2	139.7	144.2	122.4	199.3	129.2	670.7	642.8	595.1
Nuclear	194.5	183.1	205.2	192.6	196.9	192.7	208.3	192.6	198.4	192.9	208.8	196.6	775.3	790.5	796.6
Renewable Energy Sources:	225.8	224.8	204.8	209.4	233.4	261.4	236.3	235.1	257.4	289.0	258.6	247.2	864.7	966.3	1,052.1
Conventional Hydropower	60.8	64.1	58.5	55.2	62.8	69.4	61.6	59.3	68.2	77.9	63.0	58.2	238.7	253.0	267.4
Wind	125.9	102.6	84.6	111.8	123.0	112.2	90.9	120.0	127.4	115.8	93.7	123.7	425.0	446.2	460.6
Solar (a)	29.2	49.0	52.0	33.3	38.4	70.9	74.0	46.5	52.8	87.1	92.1	56.0	163.5	229.9	287.9
Biomass	5.6	5.1	5.7	4.7	5.3	5.3	5.9	5.2	5.4	5.2	5.8	5.1	21.1	21.7	21.5
Geothermal	4.2	4.0	4.0	4.2	4.0	3.6	3.9	4.1	3.7	2.9	4.0	4.1	16.5	15.5	14.7
Pumped Storage Hydropower	-1.6	-1.3	-1.8	-1.2	-1.3	-1.3	-1.7	-1.1	-1.4	-1.3	-1.6	-1.1	-5.9	-5.4	-5.5
Petroleum (b)	3.9	3.5	4.7	3.5	3.9	3.5	4.4	4.6	4.4	3.4	4.2	4.5	15.6	16.5	16.5
Other Gases	0.8	0.7	0.9	0.8	0.7	0.8	0.9	0.8	0.8	0.8	0.9	0.8	3.2	3.3	3.3
Other Nonrenewable Fuels (c)	0.9	0.9	0.8	0.8	0.7	0.3	0.8	0.4	0.0	0.2	-0.1	-0.1	3.4	2.3	0.1
Total Generation	948.6	947.4	1,168.3	958.1	984.9	990.0	1,192.3	969.2	983.9	1,001.4	1,205.9	978.6	4,022.3	4,136.4	4,169.8
New England (ISO-NE)															
Natural Gas	11.5	12.3	15.8	12.5	12.2	11.3	17.9	12.6	11.0	11.5	17.7	11.1	52.2	54.0	51.3
Coal	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.3	0.1	0.2	0.3	0.4
Nuclear	7.1	3.4	6.9	5.8	7.1	7.2	7.2	5.6	7.0	6.1	7.2	7.2	23.2	27.1	27.5
Conventional hydropower	1.9	1.4	1.6	1.8	2.1	2.2	1.2	1.7	2.0	2.2	1.2	1.7	6.7	7.2	7.1
Nonhydro renewables (d)	2.6	2.8	2.6	2.4	2.7	2.9	3.0	3.3	4.2	3.9	3.6	3.9	10.4	11.9	15.6
Other energy sources (e)	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.6	0.2	0.2	0.4	1.0	1.1	1.5
Total generation	23.6	20.2	27.2	22.8	24.3	23.9	29.7	23.7	24.9	23.8	30.2	24.5	93.7	101.6	103.3
Net energy for load (f)	29.0	25.6	32.2	27.9	29.6	27.4	34.2	29.0	30.4	28.2	35.0	29.5	114.7	120.2	123.2
New York (NYISO)															
Natural Gas	13.5	14.2	21.1	15.6	15.7	13.6	20.8	14.4	13.9	14.1	21.5	14.3	64.4	64.4	63.8
Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear	6.8	6.6	6.9	7.2	6.5	7.2	7.0	6.5	6.7	7.0	7.2	7.2	27.5	27.2	28.0
Conventional hydropower	7.1	6.6	6.9	7.0	7.6	7.4	7.2	7.3	7.0	6.9	7.1	7.1	27.6	29.5	28.0
Nonhydro renewables (d)	2.1	2.0	1.8	2.1	2.5	2.5	2.2	2.4	2.7	2.6	2.4	2.8	8.1	9.6	10.6
Other energy sources (e)	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4	0.0	0.1	0.2	0.2	0.4	0.7
Total generation	29.7	29.4	36.7	32.0	32.4	30.6	37.3	30.7	30.7	30.7	38.0	31.6	127.9	131.1	131.0
Net energy for load (f)	36.1	33.3	42.1	35.5	37.0	35.5	45.1	36.4	37.9	36.9	46.3	37.2	147.0	153.9	158.3
Mid-Atlantic (PJM)															
Natural Gas	85.1	81.5	112.3	85.4	92.7	82.1	106.0	84.3	95.0	85.9	112.5	89.5	364.3	365.2	382.9
Coal	28.3	22.9	36.2	25.7	29.1	23.7	36.6	23.1	22.2	17.7	30.3	18.3	113.1	112.5	88.4
Nuclear	67.6	65.7	70.6	68.8	68.9	65.6	71.7	68.3	67.4	66.3	71.3	67.8	272.6	274.5	272.8
Conventional hydropower	2.6	1.8	2.0	2.5	3.0	2.6	1.6	2.1	2.6	2.5	1.6	2.1	8.9	9.2	8.8
Nonhydro renewables (d)	13.1	12.0	9.8	12.4	14.5	15.5	12.9	14.0	15.9	16.8	13.9	15.0	47.2	57.0	61.5
Other energy sources (e)	0.3	0.1	0.2	0.4	0.3	0.2	0.2	0.6	0.3	0.2	0.2	0.6	1.0	1.3	1.3
Total generation	197.1	183.9	231.0	195.1	208.6	189.8	229.0	192.4	203.4	189.4	229.9	193.1	807.2	819.8	815.8
Net energy for load (f)	192.5	176.2	214.4	187.0	199.4	183.0	220.4	185.7	198.5	183.8	222.2	186.9	770.1	788.5	791.3
Southeast (SERC)															
Natural Gas	63.7	65.7	82.4	62.6	63.4	68.2	88.5	67.8	62.5	70.0	89.1	64.6	274.4	287.9	286.2
Coal	23.7	26.5	39.7	25.2	29.1	25.1	39.2	21.8	28.2	24.0	40.0	23.7	115.0	115.1	115.8
Nuclear	51.7	52.9	57.4	57.4	55.6	57.4	59.6	54.9	56.5	58.8	60.7	57.4	219.3	227.4	233.4
Conventional hydropower	9.9	6.2	8.0	8.6	10.4	8.5	7.9	9.1	11.4	9.0	8.1	9.1	32.7	35.9	37.6
Nonhydro renewables (d)	4.9	7.2	7.4	5.0	5.6	7.9	7.9	5.6	6.5	9.5	9.1	6.1	24.5	27.1	31.1
Other energy sources (e)	-0.3	-0.2	-0.5	-0.4	-0.1	-0.2	-0.4	-0.1	-0.2	-0.3	-0.4	-0.1	-1.3	-0.9	-0.9
Total generation	153.6	158.2	194.5	158.4	164.0	166.8	202.7	159.1	164.9	171.0	206.4	160.8	664.7	692.5	703.1
Net energy for load (f)	148.9	149.2	171.6	149.4	155.4	158.8	190.9	151.7	156.5	159.7	192.7	152.6	619.2	656.7	661.5
Florida (FRCC)															
Natural Gas	38.3	48.8	59.0	42.9	39.1	46.7	57.0	42.4	36.7	46.9	57.0	41.5	189.0	185.2	182.0
Coal	2.7	2.6	3.9	2.5	1.5	1.7	2.7	1.5	1.0	1.6	2.5	1.1	11.7	7.3	6.2
Nuclear	7.4	7.5	8.0	7.1	7.5	7.7	7.9	6.7	7.8	7.4	7.5	7.7	29.9	29.8	30.4
Conventional hydropower	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Nonhydro renewables (d)	3.5	4.2	4.1	3.1	4.3	5.6	5.4	4.1	5.5	6.8	6.4	4.8	14.8	19.5	23.6
Other energy sources (e)	0.6	0.5	0.6	0.4	0.4	0.5	0.6	0.4	0.5	0.5	0.6	0.4	2.1	1.9	2.0
Total generation	52.5	63.6	75.7	55.9	52.8	62.3	73.6	55.2	51.6	63.1	74.0	55.6	247.7	243.8	244.4
Net energy for load (f)	54.4	65.5	77.2	56.6	52.9	62.9	75.1	55.4	50.9	64.0	75.6	55.7	253.8	246.3	246.1

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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.

(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 neighboring balancing authorities.

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

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

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 - May 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Midwest (MISO)															
Natural Gas	45.4	54.7	67.3	47.8	49.7	57.9	78.3	53.7	54.0	61.0	77.0	57.2	215.2	239.5	249.1
Coal	43.0	38.0	57.3	44.9	43.3	39.5	52.8	41.7	43.2	35.2	53.5	38.7	183.2	177.3	170.6
Nuclear	23.4	21.1	24.3	18.4	20.9	21.3	24.2	23.1	22.4	20.9	24.2	22.1	87.2	89.5	89.7
Conventional hydropower	2.2	2.0	1.9	2.0	2.2	2.7	2.3	2.2	2.5	2.9	2.4	2.2	8.0	9.4	9.9
Nonhydro renewables (d)	30.3	26.5	19.4	29.8	30.4	28.1	21.5	32.0	34.9	32.4	24.8	34.2	106.0	112.0	126.3
Other energy sources (e)	0.8	0.7	1.3	0.8	1.0	1.2	1.4	1.4	1.0	1.1	1.3	1.3	3.6	4.9	4.7
Total generation	145.1	142.9	171.5	143.6	147.5	150.7	180.5	154.1	158.0	153.5	183.2	155.7	603.2	632.7	650.3
Net energy for load (f)	158.6	157.9	184.3	155.2	159.9	162.3	193.1	163.3	166.2	165.6	196.1	165.6	656.0	678.6	693.5
Central (Southwest Power Pool)															
Natural Gas	15.8	21.6	30.5	18.3	19.0	22.1	30.0	16.8	16.8	20.9	29.1	16.6	86.1	88.0	83.5
Coal	20.4	17.2	27.4	18.4	17.4	16.8	26.2	16.4	16.5	15.4	25.7	15.3	83.4	76.9	73.0
Nuclear	4.3	4.3	4.3	4.4	4.3	3.1	4.3	3.5	4.2	4.3	4.2	3.4	17.2	15.2	16.2
Conventional hydropower	2.9	2.8	2.7	2.7	3.1	4.0	3.6	3.0	3.5	4.2	3.7	3.1	11.1	13.7	14.5
Nonhydro renewables (d)	31.4	25.6	22.5	29.4	32.0	29.4	24.9	31.8	32.0	29.4	25.8	32.8	108.9	118.2	120.0
Other energy sources (e)	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.7	0.7	0.6
Total generation	75.0	71.6	87.6	73.3	76.1	75.6	89.3	71.7	73.3	74.4	88.7	71.5	307.5	312.7	307.9
Net energy for load (f)	66.6	66.6	81.8	65.7	68.9	69.8	83.3	65.5	66.4	67.7	82.7	65.2	280.7	287.5	282.0
Texas (ERCOT)															
Natural Gas	36.5	49.6	70.1	42.7	42.6	45.3	64.3	45.1	40.6	43.4	63.0	45.2	198.9	197.3	192.3
Coal	11.4	15.2	19.7	15.0	12.2	12.8	15.2	10.6	8.9	11.3	14.0	9.8	61.3	50.8	44.1
Nuclear	10.5	9.0	10.9	10.3	10.0	9.7	10.6	9.3	10.8	10.0	10.7	10.2	40.7	39.6	41.7
Conventional hydropower	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.6	0.7	0.6
Nonhydro renewables (d)	36.6	33.8	33.6	31.7	36.5	45.0	44.7	39.3	40.0	51.5	51.7	43.0	135.6	165.5	186.2
Other energy sources (e)	0.2	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.0	0.1	-0.1	-0.1	1.2	0.9	0.0
Total generation	95.4	108.1	134.7	100.1	101.7	113.2	135.1	104.6	100.5	116.6	139.5	108.2	438.3	454.7	464.7
Net energy for load (f)	94.2	109.8	140.6	100.0	101.1	113.2	135.1	104.6	100.5	116.6	139.5	108.2	444.5	454.1	464.7
Northwest															
Natural Gas	24.3	17.9	27.8	23.9	25.4	16.6	22.0	22.0	22.8	12.8	21.1	23.5	93.9	86.0	80.1
Coal	20.2	14.4	23.6	20.2	17.6	15.9	24.3	17.6	16.3	11.2	25.5	16.4	78.4	75.3	69.5
Nuclear	2.4	1.0	2.5	2.5	2.5	2.5	2.4	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	25.3	29.8	27.1	27.5	32.1	38.5	28.9	26.7	103.0	109.5	126.2
Nonhydro renewables (d)	18.9	19.2	17.8	17.5	20.3	21.7	23.1	19.9	21.4	24.3	23.0	20.1	73.3	85.0	88.7
Other energy sources (e)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.8	0.7	0.4
Total generation	91.8	82.6	95.4	88.0	91.3	86.5	99.0	89.6	95.1	88.2	101.0	89.3	357.8	366.4	373.5
Net energy for load (f)	88.7	76.7	86.5	82.7	89.4	77.6	86.1	81.9	84.4	76.4	86.0	81.8	334.6	335.0	328.6
Southwest															
Natural Gas	12.5	16.5	23.0	16.7	11.8	14.9	23.6	14.5	9.9	13.8	22.3	14.7	68.8	64.9	60.6
Coal	5.5	3.1	6.5	4.3	6.5	4.9	5.8	5.6	6.4	4.8	6.2	5.5	19.4	22.8	22.8
Nuclear	8.6	6.8	8.6	7.6	8.7	7.5	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	1.6	2.2	1.9	1.5	1.7	2.2	1.9	1.6	7.3	7.1	7.4
Nonhydro renewables (d)	6.4	6.5	6.1	5.6	6.6	7.6	8.5	7.8	8.4	10.4	9.6	8.7	24.6	30.5	37.2
Other energy sources (e)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.1	0.0	-0.3
Total generation	34.5	35.4	46.2	35.6	35.3	37.1	48.5	36.9	34.7	38.6	48.5	37.8	151.8	157.7	159.6
Net energy for load (f)	28.3	32.9	45.8	29.9	28.9	33.9	44.8	29.4	28.5	34.8	45.1	29.4	136.9	136.9	137.8
California															
Natural Gas	20.2	11.5	27.2	25.6	20.4	11.7	30.1	22.5	16.3	13.2	25.0	22.6	84.6	84.8	77.1
Coal	1.1	0.6	1.7	1.1	0.5	0.5	0.8	1.0	1.0	0.9	0.9	0.0	4.4	2.9	2.8
Nuclear	4.7	4.9	4.9	3.2	5.0	3.7	4.7	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	7.0	9.4	8.3	4.5	4.8	8.7	7.9	4.1	31.3	29.2	25.5
Nonhydro renewables (d)	14.7	20.3	20.5	14.9	14.7	25.2	19.9	14.9	17.3	22.7	24.6	17.1	70.5	74.7	81.7
Other energy sources (e)	-0.6	-0.2	0.0	-0.2	-0.4	-0.6	0.2	-0.2	-0.7	-0.4	-0.3	-0.5	-1.0	-1.0	-2.0
Total generation	46.7	47.7	63.7	49.5	47.3	50.0	64.0	47.4	43.2	48.8	62.8	46.9	207.6	208.7	201.7
Net energy for load (f)	60.5	59.9	76.7	62.9	59.1	62.1	80.6	62.7	60.2	64.3	81.2	62.7	260.0	264.4	268.5

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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.

(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 neighboring balancing authorities.

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

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Table 7e. U.S. Electricity Generating Capacity (gigawatts at end of period)

U.S. Energy Information Administration | Short-Term Energy Outlook - May 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	486.4	488.0	488.4	489.1	488.4	486.8	487.9	488.5	488.4	490.9	491.9	492.0	489.1	488.5	492.0
Coal	184.1	180.4	178.3	177.2	175.7	175.1	175.1	174.3	174.3	170.6	168.8	162.2	177.2	174.3	162.2
Petroleum	28.1	27.9	27.9	27.9	27.9	27.6	27.6	27.5	27.5	26.5	26.5	26.3	27.9	27.5	26.3
Other gases	0.4	0.4	0.4	0.4	0.3	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	149.9	151.9	152.0	154.9	155.7	156.2	156.7	160.0	147.6	154.9	160.0
Solar photovoltaic	73.3	76.8	80.5	90.1	98.4	110.9	116.6	126.7	132.2	139.0	143.0	156.7	90.1	126.7	156.7
Solar thermal	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
Geothermal	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	2.7
Waste biomass	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.9	2.9	2.9	2.9	2.8	2.9
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	79.7	79.7	79.7	79.7	79.7	79.7	79.8	79.8	79.7	79.7	79.8
Pumped storage hydroelectric	23.1	23.1	23.1	23.1	23.1	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	9.5	10.9	13.5	15.8	18.5	24.6	26.3	31.4	32.6	36.0	37.8	41.7	15.8	31.4	41.7
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	18.8	18.8	18.8	18.7	18.7	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.7	18.5	18.5
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	1.4	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
Renewable energy sources															
Wood biomass	5.4	5.3	5.3	5.2	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.2	5.3	5.3
Waste biomass	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)															
Residential sector	27.8	29.6	31.4	32.9	33.9	35.2	36.5	37.9	39.3	40.7	42.1	43.7	32.9	37.9	43.7
Commercial sector	11.5	11.8	12.0	12.3	12.7	13.2	13.6	14.1	14.6	15.1	15.7	16.2	12.3	14.1	16.2
Industrial sector	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.0	2.6	2.8	3.0
All sectors total	41.7	43.8	45.9	47.7	49.3	51.0	52.9	54.8	56.7	58.7	60.8	62.9	47.7	54.8	62.9

Notes:

EIA completed modeling and analysis for this report on May 2, 2024.

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

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 factors.

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

Data sources:

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Electric Power Sector															
Geothermal	0.014	0.014	0.014	0.014	0.013	0.012	0.013	0.014	0.012	0.010	0.014	0.014	0.056	0.053	0.050
Hydroelectric Power (a)	0.208	0.219	0.200	0.188	0.217	0.237	0.210	0.202	0.233	0.266	0.215	0.199	0.814	0.866	0.912
Solar (b)	0.100	0.167	0.177	0.114	0.131	0.242	0.253	0.159	0.180	0.297	0.314	0.191	0.558	0.784	0.982
Waste Biomass (c)	0.043	0.041	0.042	0.041	0.042	0.041	0.041	0.041	0.041	0.040	0.041	0.041	0.167	0.165	0.162
Wood Biomass	0.044	0.040	0.045	0.033	0.041	0.042	0.051	0.041	0.044	0.041	0.051	0.039	0.162	0.175	0.175
Wind	0.430	0.350	0.289	0.382	0.420	0.383	0.310	0.410	0.435	0.395	0.320	0.422	1.450	1.522	1.572
Subtotal	0.838	0.830	0.766	0.773	0.864	0.956	0.879	0.866	0.945	1.049	0.954	0.906	3.207	3.565	3.854
Industrial Sector															
Biofuel Losses and Co-products (d)	0.199	0.202	0.206	0.214	0.206	0.208	0.209	0.210	0.205	0.208	0.208	0.212	0.821	0.833	0.834
Geothermal	0.001	0.004	0.004	0.004											
Hydroelectric Power (a)	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	0.017	0.019
Waste Biomass (c)	0.041	0.040	0.037	0.042	0.040	0.039	0.039	0.042	0.040	0.040	0.039	0.041	0.160	0.160	0.160
Wood Biomass	0.318	0.300	0.299	0.307	0.308	0.324	0.343	0.347	0.337	0.335	0.347	0.349	1.224	1.322	1.368
Subtotal (e)	0.568	0.553	0.554	0.573	0.564	0.583	0.602	0.610	0.593	0.595	0.606	0.614	2.249	2.359	2.407
Commercial Sector															
Geothermal	0.005	0.020	0.020	0.020											
Solar (b)	0.014	0.021	0.021	0.014	0.016	0.023	0.023	0.016	0.019	0.027	0.027	0.019	0.069	0.079	0.091
Waste Biomass (c)	0.017	0.017	0.018	0.018	0.017	0.017	0.018	0.018	0.017	0.017	0.018	0.018	0.071	0.071	0.071
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
Subtotal (e)	0.064	0.071	0.073	0.066	0.066	0.074	0.076	0.069	0.069	0.078	0.079	0.071	0.274	0.284	0.296
Residential Sector															
Geothermal	0.010	0.040	0.040	0.040											
Solar (f)	0.045	0.069	0.070	0.051	0.053	0.079	0.078	0.054	0.058	0.087	0.087	0.060	0.235	0.264	0.292
Wood Biomass	0.111	0.112	0.114	0.114	0.107	0.112	0.114	0.114	0.107	0.112	0.114	0.114	0.450	0.446	0.446
Subtotal	0.166	0.191	0.193	0.174	0.170	0.201	0.202	0.177	0.175	0.209	0.211	0.183	0.725	0.750	0.778
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	0.140	0.173	0.175	0.172	0.173	0.184	0.187	0.202	0.201	0.220	0.226	0.237	0.660	0.744	0.884
Ethanol (g)	0.268	0.284	0.286	0.286	0.268	0.285	0.290	0.285	0.269	0.288	0.289	0.286	1.125	1.129	1.132
Subtotal	0.408	0.457	0.462	0.458	0.440	0.469	0.476	0.487	0.470	0.508	0.515	0.523	1.785	1.873	2.015
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	0.140	0.173	0.175	0.172	0.173	0.184	0.187	0.202	0.201	0.220	0.226	0.237	0.660	0.744	0.884
Biofuel Losses and Co-products (d)	0.199	0.202	0.206	0.214	0.206	0.208	0.209	0.210	0.205	0.208	0.208	0.212	0.821	0.833	0.834
Ethanol (f)	0.281	0.298	0.299	0.300	0.280	0.299	0.303	0.299	0.281	0.301	0.302	0.300	1.177	1.181	1.184
Geothermal	0.030	0.029	0.030	0.030	0.030	0.028	0.029	0.030	0.028	0.026	0.030	0.030	0.120	0.117	0.114
Hydroelectric Power (a)	0.209	0.220	0.201	0.189	0.218	0.238	0.211	0.203	0.234	0.267	0.216	0.200	0.818	0.870	0.916
Solar (b)(f)	0.162	0.262	0.272	0.181	0.203	0.349	0.360	0.232	0.260	0.417	0.434	0.273	0.878	1.145	1.384
Waste Biomass (c)	0.102	0.098	0.097	0.101	0.100	0.097	0.098	0.101	0.098	0.097	0.098	0.101	0.398	0.396	0.393
Wood Biomass	0.493	0.472	0.478	0.475	0.476	0.498	0.528	0.522	0.508	0.509	0.532	0.522	1.918	2.024	2.071
Wind	0.430	0.350	0.289	0.382	0.420	0.383	0.310	0.410	0.435	0.395	0.320	0.422	1.450	1.522	1.572
Total Consumption	2.045	2.104	2.048	2.044	2.105	2.284	2.235	2.209	2.250	2.439	2.365	2.297	8.241	8.832	9.351

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

(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

(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.

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

Minor discrepancies with published historical data are due to independent rounding and possible revisions not yet reflected in the STEO.

Forecast data: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 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	22,769	22,882	23,008	23,124	23,217	23,315	23,420	23,531	22,377	22,946	23,370
Real Personal Consumption Expend. (billion chained 2017 dollars - SAAR)	15,313	15,344	15,461	15,587	15,674	15,783	15,876	15,977	16,057	16,138	16,219	16,302	15,426	15,828	16,179
Real Private Fixed Investment (billion chained 2017 dollars - SAAR)	3,906	3,956	3,981	4,016	4,047	4,072	4,095	4,116	4,141	4,165	4,188	4,213	3,965	4,083	4,177
Business Inventory Change (billion chained 2017 dollars - SAAR)	24	19	102	70	80	75	97	110	117	113	112	113	54	91	114
Real Government Expenditures (billion chained 2017 dollars - SAAR)	3,759	3,790	3,843	3,887	3,901	3,912	3,919	3,922	3,926	3,930	3,934	3,937	3,820	3,913	3,932
Real Exports of Goods & Services (billion chained 2017 dollars - SAAR)	2,525	2,465	2,497	2,528	2,554	2,569	2,599	2,627	2,652	2,676	2,706	2,734	2,504	2,587	2,692
Real Imports of Goods & Services (billion chained 2017 dollars - SAAR)	3,460	3,393	3,428	3,447	3,547	3,588	3,637	3,692	3,744	3,779	3,813	3,842	3,432	3,616	3,794
Real Disposable Personal Income (billion chained 2017 dollars - SAAR)	16,663	16,797	16,820	16,902	16,963	17,104	17,238	17,357	17,513	17,657	17,779	17,889	16,795	17,165	17,709
Non-Farm Employment (millions)	155.0	155.8	156.4	157.1	157.8	158.5	159.0	159.3	159.4	159.5	159.6	159.6	156.1	158.7	159.5
Civilian Unemployment Rate (percent)	3.5	3.6	3.7	3.7	3.8	3.8	3.8	3.9	3.9	3.9	4.0	4.0	3.6	3.8	4.0
Housing Starts (millions - SAAR)	1.39	1.45	1.37	1.48	1.42	1.42	1.39	1.37	1.36	1.36	1.35	1.36	1.42	1.40	1.36
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	102.6	102.8	103.2	102.7	102.2	102.9	103.3	103.6	103.9	104.2	104.6	105.0	102.8	103.0	104.4
Manufacturing	99.9	100.2	100.0	99.8	99.8	100.3	101.1	101.6	101.9	102.2	102.7	103.2	100.0	100.7	102.5
Food	105.1	103.6	101.6	102.4	101.7	102.3	102.7	103.2	103.6	104.0	104.6	105.1	103.2	102.5	104.3
Paper	87.8	86.6	86.7	88.0	87.3	87.2	87.9	88.3	88.6	88.8	89.0	89.4	87.3	87.7	89.0
Petroleum and Coal Products	88.5	89.9	91.3	92.9	91.4	91.3	91.2	91.0	90.6	90.3	90.1	90.0	90.7	91.2	90.3
Chemicals	103.2	103.8	103.5	102.8	103.6	104.3	105.6	106.3	107.0	107.7	108.3	109.1	103.3	105.0	108.0
Nonmetallic Mineral Products	111.4	108.6	107.4	107.4	103.3	103.7	104.6	105.4	106.5	107.5	108.3	109.2	108.7	104.2	107.9
Primary Metals	92.7	95.7	94.8	93.8	92.2	92.9	95.2	96.3	96.7	97.5	98.4	100.0	94.3	94.2	98.2
Coal-weighted Manufacturing (a)	95.7	96.2	96.0	95.9	94.2	94.6	95.9	96.4	96.8	97.3	97.8	98.6	95.9	95.3	97.6
Distillate-weighted Manufacturing (a)	99.3	99.1	98.7	98.8	97.4	97.9	98.7	99.3	99.7	100.2	100.8	101.4	99.0	98.3	100.5
Electricity-weighted Manufacturing (a)	96.4	96.8	96.9	96.6	96.1	96.7	97.9	98.5	98.9	99.4	100.0	100.8	96.7	97.3	99.8
Natural Gas-weighted Manufacturing (a)	94.0	94.1	94.5	94.4	93.9	94.4	95.6	96.0	96.2	96.6	96.9	97.6	94.2	94.9	96.8
Price Indexes	3.01	3.03	3.06	3.08	3.11	3.13	3.15	3.17	3.19	3.20	3.22	3.24	3.05	3.14	3.21
Producer Price Index: All Commodities (index, 1982=1.00)	2.60	2.53	2.55	2.55	2.52	2.50	2.50	2.51	2.51	2.51	2.51	2.52	2.56	2.51	2.51
Producer Price Index: Petroleum (index, 1982=1.00)	3.09	2.91	3.17	2.82	2.80	2.75	2.79	2.74	2.73	2.77	2.79	2.63	3.00	2.77	2.73
GDP Implicit Price Deflator (index, 2017=100)	121.3	121.8	122.8	123.3	124.2	124.8	125.5	126.4	127.3	128.0	128.7	129.5	122.3	125.2	128.4
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,426	9,159	9,335	8,837	8,413	9,316	9,512	8,889	8,624	9,469	9,605	8,963	8,942	9,033	9,167
Raw Steel Production (million short tons per day)	0.236	0.244	0.245	0.242	0.244	0.254	0.265	0.260	0.256	0.267	0.275	0.271	0.242	0.256	0.267
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	548	563	570	572	554	568	571	568	553	566	570	568	2,253	2,260	2,257
Natural Gas	501	383	416	456	513	376	418	461	509	379	416	463	1,756	1,768	1,767
Coal	186	167	240	185	177	170	230	171	173	151	226	162	778	747	712
Total Energy (c)	1,237	1,115	1,228	1,214	1,245	1,115	1,221	1,202	1,236	1,098	1,214	1,194	4,794	4,783	4,743

(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.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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.

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 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 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	1,188	1,192	1,195	1,199	1,203	1,208	1,161	1,185	1,202
Middle Atlantic	3,192	3,202	3,235	3,255	3,271	3,287	3,304	3,319	3,330	3,342	3,355	3,369	3,221	3,295	3,349
E. N. Central	2,832	2,841	2,870	2,891	2,900	2,915	2,929	2,941	2,946	2,954	2,964	2,975	2,858	2,921	2,960
W. N. Central	1,353	1,360	1,377	1,384	1,389	1,396	1,402	1,408	1,412	1,417	1,423	1,429	1,369	1,399	1,420
S. Atlantic	4,092	4,107	4,154	4,192	4,209	4,232	4,257	4,280	4,298	4,318	4,338	4,360	4,136	4,244	4,328
E. S. Central	998	1,000	1,011	1,019	1,023	1,028	1,032	1,037	1,039	1,043	1,046	1,050	1,007	1,030	1,045
W. S. Central	2,563	2,590	2,634	2,664	2,677	2,692	2,709	2,726	2,743	2,758	2,775	2,792	2,613	2,701	2,767
Mountain	1,527	1,535	1,556	1,574	1,582	1,590	1,600	1,610	1,619	1,628	1,637	1,646	1,548	1,596	1,633
Pacific	4,249	4,277	4,327	4,362	4,375	4,397	4,421	4,446	4,467	4,488	4,510	4,532	4,304	4,410	4,499
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	96.3	96.2	95.8	95.2	95.1	95.6	96.2	96.7	97.0	97.3	97.7	98.2	95.9	95.9	97.6
Middle Atlantic	95.2	95.3	95.3	94.8	94.6	95.1	95.6	96.1	96.4	96.7	97.0	97.6	95.2	95.4	96.9
E. N. Central	96.6	96.8	96.5	96.1	95.9	96.6	97.3	97.9	98.0	98.2	98.6	99.1	96.5	96.9	98.5
W. N. Central	101.2	101.6	101.4	101.0	101.0	101.5	102.2	102.7	103.0	103.3	103.7	104.3	101.3	101.8	103.6
S. Atlantic	102.4	103.0	103.0	103.0	103.0	103.7	104.4	105.0	105.4	105.8	106.3	107.0	102.8	104.0	106.1
E. S. Central	100.1	100.4	100.1	99.9	99.9	100.5	101.3	101.8	101.9	102.1	102.4	102.9	100.1	100.9	102.3
W. S. Central	104.3	105.3	105.5	105.2	105.6	106.4	107.3	108.0	108.5	108.9	109.4	110.1	105.1	106.8	109.3
Mountain	111.0	111.3	111.2	111.1	111.5	112.1	112.9	113.5	113.9	114.3	114.8	115.5	111.1	112.5	114.6
Pacific	97.0	96.8	96.2	96.4	95.9	96.3	96.9	97.3	97.5	97.8	98.1	98.7	96.6	96.6	98.0
Real Personal Income (Billion \$2017)															
New England	953	955	957	964	974	980	987	994	1,002	1,010	1,016	1,023	957	984	1,013
Middle Atlantic	2,518	2,530	2,543	2,553	2,577	2,590	2,607	2,623	2,644	2,663	2,679	2,693	2,536	2,599	2,670
E. N. Central	2,615	2,624	2,627	2,639	2,662	2,678	2,697	2,712	2,733	2,752	2,767	2,781	2,626	2,687	2,758
W. N. Central	1,295	1,296	1,300	1,302	1,311	1,317	1,325	1,333	1,345	1,353	1,361	1,368	1,298	1,322	1,357
S. Atlantic	3,712	3,728	3,741	3,769	3,813	3,841	3,874	3,902	3,940	3,975	4,006	4,033	3,737	3,857	3,989
E. S. Central	1,010	1,011	1,013	1,020	1,032	1,040	1,047	1,052	1,060	1,068	1,074	1,079	1,014	1,043	1,070
W. S. Central	2,318	2,311	2,327	2,342	2,367	2,383	2,402	2,420	2,444	2,466	2,485	2,504	2,325	2,393	2,475
Mountain	1,428	1,440	1,441	1,452	1,466	1,474	1,485	1,495	1,508	1,521	1,532	1,542	1,440	1,480	1,526
Pacific	3,087	3,109	3,115	3,128	3,157	3,176	3,199	3,221	3,248	3,273	3,294	3,314	3,110	3,188	3,282
Households (Thousands)															
New England	6,088	6,103	6,118	6,126	6,141	6,159	6,177	6,191	6,206	6,221	6,234	6,246	6,126	6,191	6,246
Middle Atlantic	16,074	16,101	16,127	16,143	16,174	16,209	16,244	16,277	16,310	16,341	16,367	16,391	16,143	16,277	16,391
E. N. Central	19,005	19,040	19,080	19,109	19,156	19,203	19,250	19,293	19,337	19,381	19,417	19,450	19,109	19,293	19,450
W. N. Central	8,702	8,729	8,755	8,775	8,804	8,831	8,858	8,884	8,911	8,937	8,960	8,982	8,775	8,884	8,982
S. Atlantic	27,263	27,363	27,465	27,550	27,668	27,784	27,900	28,005	28,105	28,203	28,287	28,373	27,550	28,005	28,373
E. S. Central	7,902	7,933	7,963	7,988	8,021	8,052	8,081	8,109	8,136	8,161	8,184	8,207	7,988	8,109	8,207
W. S. Central	15,960	16,022	16,090	16,146	16,214	16,282	16,355	16,424	16,492	16,559	16,619	16,679	16,146	16,424	16,679
Mountain	9,791	9,820	9,852	9,879	9,916	9,954	9,993	10,033	10,074	10,117	10,155	10,194	9,879	10,033	10,194
Pacific	18,984	19,002	19,028	19,043	19,076	19,113	19,154	19,191	19,227	19,264	19,295	19,328	19,043	19,191	19,328
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	20.5	20.5	20.5	20.2	20.5	20.5
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	22.8	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	11.1	11.2
S. Atlantic	30.6	30.8	30.9	31.1	31.2	31.4	31.5	31.6	31.7	31.7	31.7	31.8	30.8	31.4	31.7
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	19.4	19.4	19.5	19.5	19.5	19.6	19.6	19.0	19.4	19.6
Mountain	11.8	11.9	12.0	12.1	12.1	12.2	12.3	12.3	12.3	12.3	12.3	12.4	12.0	12.2	12.3
Pacific	24.3	24.4	24.4	24.6	24.7	24.8	24.8	24.9	24.9	24.9	24.9	24.9	24.4	24.8	24.9

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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.doe.gov/glossary/index.html>) for a list of States in each region.**Historical data:** Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

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

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

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

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Heating Degree Days															
New England	2,707	813	89	1,923	2,759	826	131	2,036	2,943	818	130	2,028	5,532	5,752	5,920
Middle Atlantic	2,456	655	73	1,782	2,525	606	86	1,865	2,723	654	86	1,858	4,966	5,082	5,320
E. N. Central	2,727	699	95	1,900	2,654	627	121	2,135	3,002	701	120	2,129	5,420	5,537	5,953
W. N. Central	3,169	656	93	2,011	2,831	659	154	2,354	3,171	706	154	2,352	5,929	5,998	6,383
South Atlantic	1,059	191	10	889	1,249	172	13	884	1,274	178	12	878	2,148	2,317	2,342
E. S. Central	1,387	256	13	1,158	1,654	220	19	1,228	1,685	232	19	1,223	2,814	3,121	3,159
W. S. Central	928	91	1	692	1,067	79	5	767	1,094	85	5	764	1,713	1,918	1,948
Mountain	2,559	729	127	1,662	2,216	706	154	1,842	2,167	710	154	1,839	5,076	4,918	4,870
Pacific	1,838	661	101	1,037	1,535	577	95	1,161	1,443	584	95	1,159	3,637	3,368	3,280
U.S. Average	1,922	486	61	1,336	1,896	447	75	1,451	1,990	469	74	1,445	3,805	3,869	3,978
Heating Degree Days, Prior 10-year Average															
New England	3,151	859	106	2,093	3,110	855	98	2,056	3,029	850	97	2,051	6,209	6,119	6,027
Middle Atlantic	2,939	689	69	1,907	2,890	685	63	1,879	2,799	676	62	1,869	5,604	5,518	5,407
E. N. Central	3,215	741	93	2,169	3,159	735	91	2,113	3,030	725	86	2,090	6,218	6,097	5,932
W. N. Central	3,319	754	121	2,374	3,295	729	120	2,303	3,192	720	118	2,287	6,568	6,447	6,316
South Atlantic	1,403	190	10	905	1,357	188	9	895	1,310	185	9	880	2,508	2,449	2,385
E. S. Central	1,811	251	14	1,231	1,756	248	14	1,205	1,694	247	14	1,186	3,307	3,223	3,142
W. S. Central	1,188	95	3	762	1,164	90	3	730	1,122	89	3	722	2,048	1,987	1,936
Mountain	2,193	696	128	1,833	2,208	696	128	1,800	2,217	696	128	1,808	4,850	4,832	4,850
Pacific	1,444	523	75	1,148	1,472	540	77	1,129	1,499	550	81	1,147	3,191	3,218	3,277
U.S. Average	2,133	485	60	1,477	2,103	483	59	1,444	2,047	479	58	1,435	4,155	4,088	4,019
Cooling Degree Days															
New England	0	53	472	5	0	97	505	1	0	99	510	1	531	603	610
Middle Atlantic	0	90	579	10	0	183	650	5	0	183	656	5	679	838	844
E. N. Central	0	180	523	10	2	246	595	7	1	245	598	7	713	850	851
W. N. Central	1	319	708	14	11	290	730	11	5	297	733	11	1,041	1,042	1,046
South Atlantic	202	584	1,235	241	149	693	1,279	256	139	713	1,287	258	2,262	2,377	2,398
E. S. Central	64	443	1,097	73	41	553	1,123	68	34	545	1,128	68	1,676	1,784	1,775
W. S. Central	151	901	1,872	216	129	964	1,641	212	105	936	1,649	213	3,141	2,947	2,904
Mountain	3	349	1,023	98	10	421	1,010	83	20	451	1,015	83	1,473	1,523	1,569
Pacific	26	106	606	79	21	173	697	77	28	200	702	77	817	968	1,008
U.S. Average	68	362	941	105	54	437	959	105	50	445	966	106	1,476	1,555	1,568
Cooling Degree Days, Prior 10-year Average															
New England	0	87	480	2	0	83	483	2	0	85	499	2	569	568	587
Middle Atlantic	0	160	617	8	0	154	623	9	0	156	644	8	785	785	808
E. N. Central	1	234	561	10	1	231	566	10	1	232	588	10	805	808	832
W. N. Central	4	292	674	12	4	301	680	12	5	303	699	12	982	997	1,020
South Atlantic	144	675	1,192	272	153	674	1,212	271	157	679	1,234	277	2,283	2,309	2,347
E. S. Central	36	520	1,058	83	41	519	1,077	85	44	524	1,097	85	1,697	1,721	1,751
W. S. Central	101	861	1,549	223	109	873	1,585	228	118	891	1,605	227	2,734	2,794	2,841
Mountain	24	460	960	83	22	447	971	88	20	445	984	87	1,527	1,527	1,536
Pacific	32	213	676	86	32	201	677	89	30	196	677	85	1,006	998	988
U.S. Average	50	415	895	109	53	414	909	111	55	418	927	112	1,470	1,487	1,513

- = no data available

Notes: EIA completed modeling and analysis for this report on May 2, 2024.

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

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

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.**Historical data:** Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).**Forecasts:** Current month based on forecasts by the NOAA Climate Prediction Center (<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml>). Remaining months based on the 30-year trend.