

Short-Term Energy Outlook

STEO

June 2023



The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report do not represent those of DOE or any other federal agencies.

Short-Term Energy Outlook

Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	\$101	\$80	\$84
Retail gasoline price (dollars per gallon)	\$3.97	\$3.39	\$3.30
U.S. crude oil production (million barrels per day)	11.89	12.61	12.77
Natural gas price at Henry Hub (dollars per million British thermal units)	\$6.42	\$2.66	\$3.42
U.S. liquefied natural gas gross exports (billion cubic feet per day)	10.6	12.1	12.7
Shares of U.S. electricity generation			
Natural gas	39%	41%	39%
Coal	20%	16%	16%
Renewables	22%	23%	25%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	2.1%	1.3%	1.0%
U.S. CO₂ emissions (billion metric tons)	4.96	4.79	4.78

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023

- Global oil markets.** Following the OPEC+ announcement on June 4 to extend crude oil production cuts through 2024, we forecast global oil inventories to fall slightly in each of the next five quarters. We expect these draws will put some upward pressure on crude oil prices, notably in late-2023 and early-2024. We forecast the Brent crude oil spot price will average \$79 per barrel (b) in the second half of 2023 (2H23) and \$84/b in 2024.
- Global oil consumption.** We forecast global liquids fuels consumption will rise by 1.6 million barrels per day (b/d) in 2023 from an average of 99.4 million b/d last year. Consumption in our forecast grows by an additional 1.7 million b/d in 2024. Most of this growth comes from non-OECD countries.
- U.S. economy.** Our forecast assumes U.S. GDP growth of 1.3% in 2023 and 1.0% in 2024, which is down from last month's forecast of 1.6% in 2023 and 1.8% in 2024, based on the S&P Global macroeconomic model for the U.S. economy and our energy price forecasts. Lower GDP growth reduces total U.S. energy consumption in both years compared with last month's forecast.
- U.S. distillate fuel consumption.** The reduction in forecast GDP growth lowers our forecast for distillate fuel (mostly diesel) consumption. We now expect U.S. distillate consumption to fall in 2024, which is a change from our forecast last month forecasting distillate consumption growing next year. This month's [Between the Lines](#) article discusses the relationship between economic growth and U.S. diesel consumption.

- **U.S. liquid fuels consumption.** Overall, we expect U.S. liquid fuels consumption to increase in both 2023 and 2024, driven by factors mostly unrelated to forecasts for economic growth. Consumption growth in 2023 is led by gasoline and jet fuel, which continues to increase from a pandemic-related decline in demand. Propane and ethane consumption are the main drivers of growth in 2024.
- **Natural gas production.** U.S. dry natural gas production in our forecast averages almost 103 billion cubic feet per day (Bcf/d) in 2H23, down slightly from our estimate of about 104 Bcf/d on average during April and May. The drop in forecast production reflects less natural gas-directed drilling because of a more than 75% decline in the Henry Hub natural gas spot price compared with its recent peak in August 2022. However, we expect growth of associated natural gas production in the Permian Basin to mostly offset declines in dry gas output.
- **Natural gas prices.** We expect natural gas prices to increase throughout the summer as production declines slightly and demand for air conditioning increases the use of natural gas in the electric power sector. The Henry Hub spot price in our forecast averages almost \$2.90 per million British thermal units (MMBtu) in 2H23, up from the realized May average of \$2.15/MMBtu. The natural gas price at the Henry Hub in our forecast rises by almost 30% in 2024 compared with 2023 to an average of about \$3.40/MMBtu.
- **Electricity generation.** Solar has been the [leading source of new generating capacity](#) in the United States so far this year, and the new capacity contributes to our forecast that U.S. solar generation this summer (June, July, and August) will be 24% higher than in summer 2022. The increase in solar capacity, along with lower natural gas prices, contributes to our forecast drop in coal-fired electricity generation this year.
- **Electricity prices.** We expect wholesale electricity prices in the eastern half of the country to average about 50% lower in 2023 as a result of lower natural gas prices. The Northwest, Southwest, and California regions could experience temporary spikes in wholesale power prices this summer, due to a likelihood of limited power supply during peak demand hours. These high hourly power prices bring average monthly prices above \$100 per megawatthour in July and August.

Notable forecast changes		
current forecast: June 6, 2023; previous forecast: May 9, 2023	2023	2024
Natural gas price at Henry hub (current forecast) (dollars per million British thermal units)	\$2.66	\$3.42
Previous forecast	\$2.91	\$3.72
Percentage change	-8.8%	-8.0%
Dry natural gas production (current forecast) (billion cubic feet per day)	102.7	103.0
Previous forecast	101.1	101.2
Percentage change	1.6%	1.8%
Brent spot average (current forecast) (dollars per barrel)	\$79.54	\$83.51
Previous forecast	\$78.65	\$74.47
Percentage change	1.1%	12.1%
OPEC crude oil production (current forecast) (million barrels per day)	33.5	33.8
Previous forecast	33.8	34.3
Percentage change	-0.7%	-1.8%
U.S. crude oil production (current forecast) (million barrels per day)	12.6	12.8
Previous forecast	12.5	12.7
Percentage change	0.6%	0.7%
U.S. real gross domestic product growth (current forecast) (percentage)	1.3%	1.0%
Previous forecast	1.6%	1.8%
Percentage point change	-0.3	-0.7
U.S. manufacturing production index growth (current forecast) (percentage)	-1.2%	0.0%
Previous forecast	-0.6%	-1.6%
Percentage point change	-0.6	-1.6

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023

Global Oil Markets

Global oil supply

We forecast lower global oil production through 2024 compared with our assessment last month following recent announcements from OPEC+ and Saudi Arabia. On June 4, [OPEC+ members](#) agreed to [extend crude oil production cuts](#) through the end of 2024. The cuts had been set to expire at the end of 2023. Following the June 4 meeting, Saudi Arabia also announced a new voluntary oil production cut of 1 million b/d for July 2023.

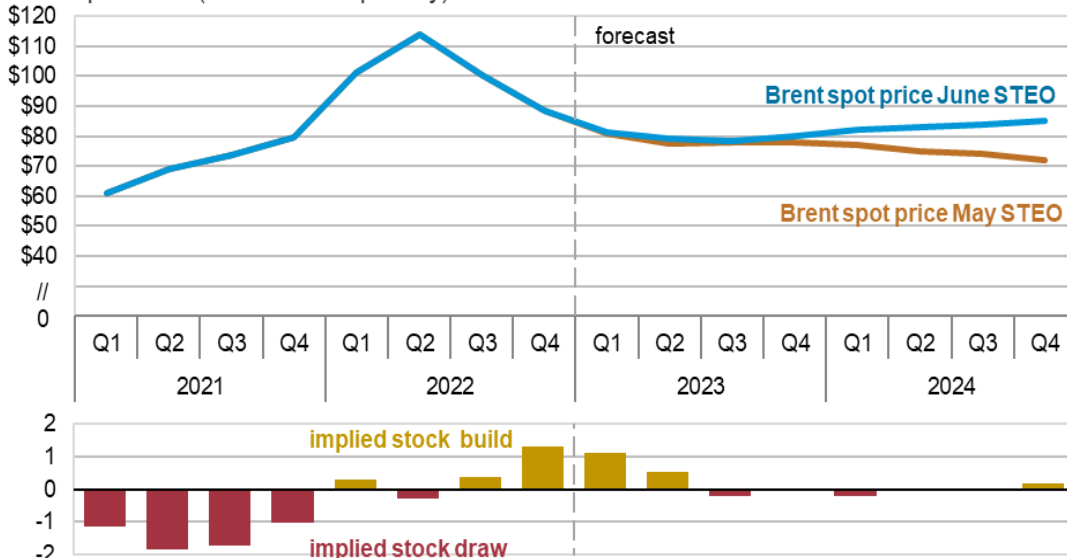
Despite the extension of OPEC+ production cuts, we forecast global liquid fuels production will increase by 1.5 million b/d in 2023 and by 1.3 million b/d in 2024, primarily because of [growth from non-OPEC producers](#). Among the leading sources of non-OPEC growth are the United States, Norway, Canada, Brazil, and Guyana. We forecast that OPEC crude oil production will fall by 0.6 million b/d in 2023 and then increase by 0.3 million b/d in 2024, which is lower than our previous forecast of 0.6 million b/d growth for next year.

Oil prices

The OPEC+ cuts result in inventory draws in our forecast, which in turn trigger higher crude oil prices, mainly in 2024, compared with our May STEO.

Brent crude oil spot price and global inventory changes

dollars per barrel (million barrels per day)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023



The Brent crude oil spot price averaged \$76 per barrel (b) in May, down \$9/b from April. Crude oil prices fell in May as ongoing uncertainty about economic conditions continued to limit expectations for global oil demand growth. Despite the recent weakness in oil prices during May, we expect that global oil inventories will decline in each quarter from the third quarter of 2023 (3Q23) through 3Q24, which we expect will put gradual upward pressure on oil prices. We forecast that global oil inventories will

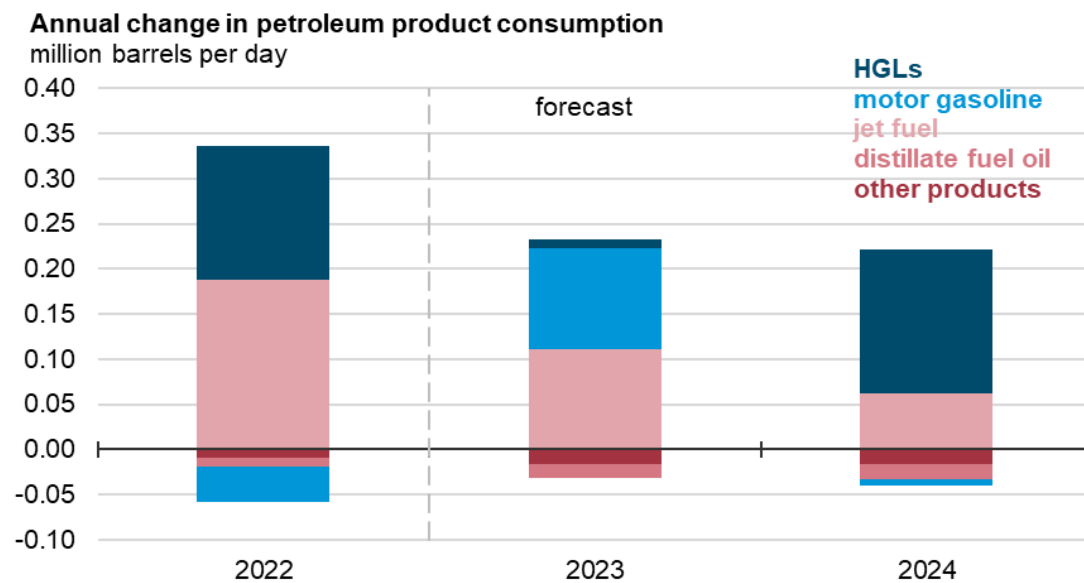
decrease slightly in 2024, compared with last month’s STEO that forecast inventory growth of 0.3 million b/d.

As a result of these changes, we now forecast that the Brent crude oil price will increase from an average of \$79/b in the second half of 2023 (\$1/b higher than in our May STEO) to an average of \$84/b for 2024 (\$9/b higher than in our May STEO). Significant uncertainty remains around global economic growth and the potential impact on oil demand over the forecast period. Global liquid fuels consumption in our forecast increases by 1.6 million b/d in 2023 and 1.7 million b/d in 2024, led by growth in non-OECD Asia.

Petroleum Products

U.S. petroleum consumption

In 2023, we forecast total U.S. petroleum products consumption will increase by less than 1%, compared with 2% year-on-year growth in 2022. The forecast growth in 2023 is driven by gasoline and jet fuel consumption.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023
Note: HGLs=hydrocarbon gas liquids.



Economic growth this year is being driven by services and travel, which also tend to drive increases in gasoline and jet fuel consumption. In 2023, we forecast that these two products make up the largest portion of consumption growth, with gasoline consumption growing by 110,000 b/d (1%) on an annual average basis and jet fuel consumption also growing by 110,000 b/d (7%). Growth in gasoline and jet fuel consumption is partly offset by declining distillate fuel consumption in 2023 and 2024, which is related more to trends in the manufacturing sector.

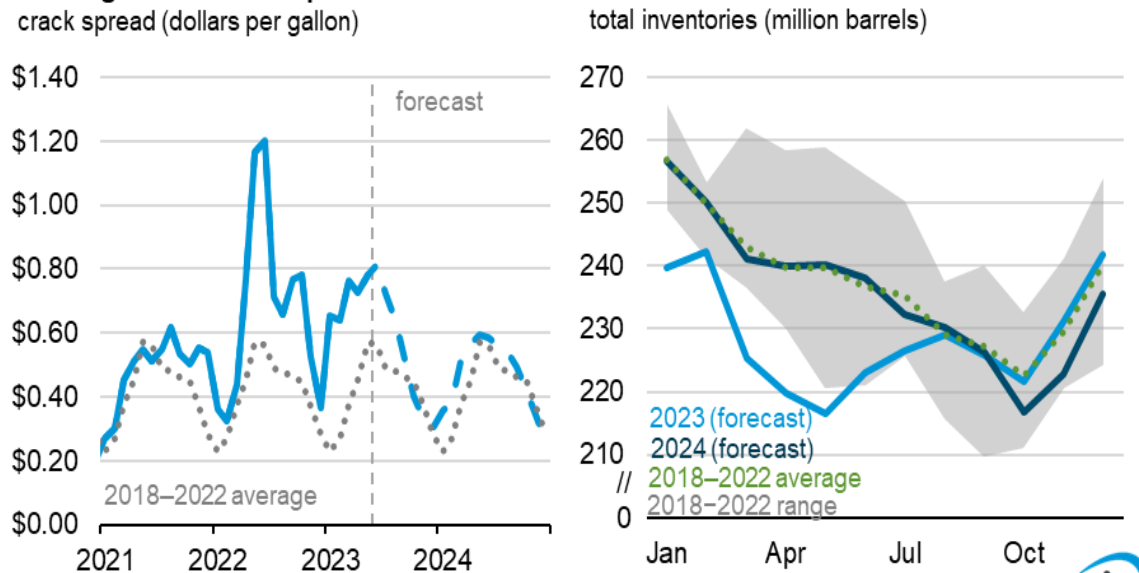
We expect that growth in consumption for gasoline and jet fuel will be more muted in 2024, with gasoline consumption almost unchanged in 2024 and jet fuel consumption growth at 60,000 b/d (4%). Meanwhile, we estimate consumption of hydrocarbon gas liquids (HGLs) in 2023 will be unchanged from

last year. [Low propane consumption in 1Q23](#) due to mild winter weather is the primary driver for unchanged consumption in 2023. Declining propane consumption is offset by our forecast of [rising ethane consumption in 2023](#), as ethane crackers brought online in the United States in 2022 continue to ramp-up the consumption of ethane. However, in 2024 we forecast HGLs will be the leading source of U.S. petroleum consumption growth, largely because of growth in propane use in 1Q24 due to colder forecast weather in 1Q24 than in 1Q23.

Gasoline crack spreads

So far, gasoline crack spreads (the difference between the wholesale price of gasoline and crude oil) have been at or above the 2018–2022 average during 2Q23 in response to low gasoline inventories. U.S. gasoline consumption has been above 2022 levels, while significant refinery maintenance during the spring turnaround season reduced gasoline production. U.S. refiners are required to change over to producing [summer-grade gasoline](#) by the start of May, which also contributes to higher gasoline prices and crack spreads.

Motor gasoline crack spread and total inventories



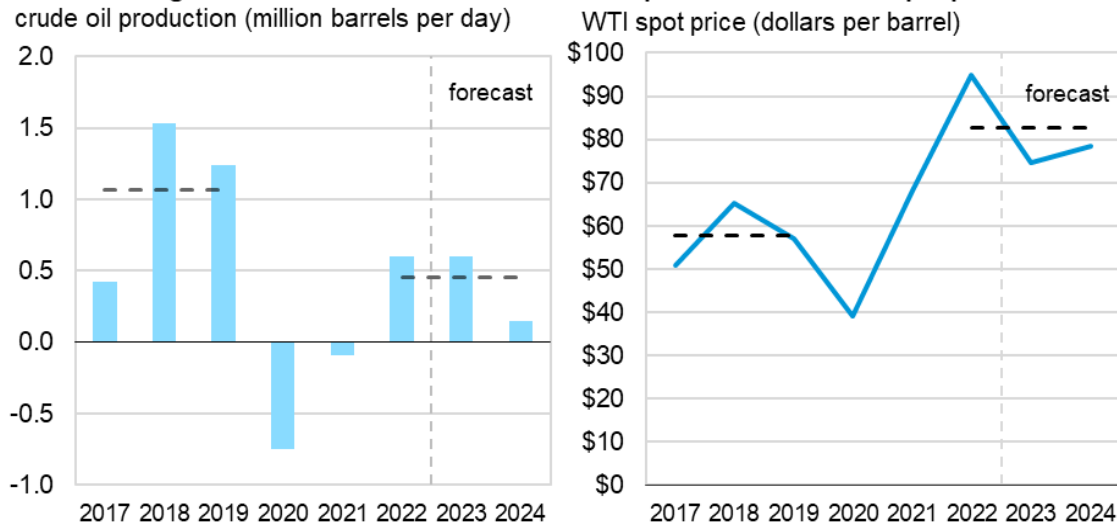
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023



We expect [new refinery capacity along the Gulf Coast](#) and an end to refinery maintenance in early June will increase gasoline production. Rising gasoline production contributes to rising gasoline inventories, which we forecast will put downward pressure on gasoline crack spreads and retail prices beginning in July. Key sources of uncertainty in our gasoline forecast include the availability of gasoline imports to supplement domestic gasoline production on the coasts, U.S. gasoline consumption, and the overall gasoline production yield following changes to the U.S. refining fleet.

Crude oil production

Annual change in lower 48 states onshore crude oil production and WTI spot price



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023

Note: WTI=West Texas Intermediate.



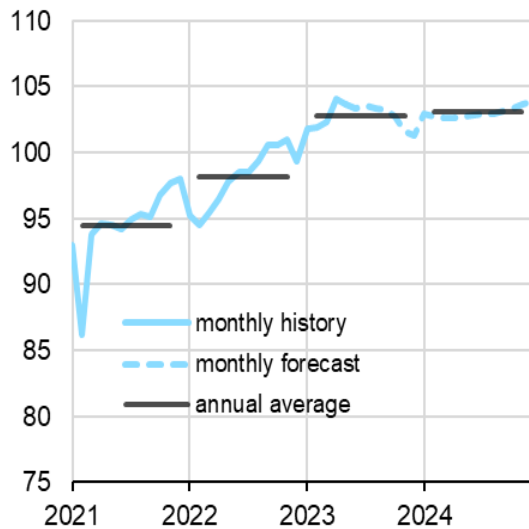
Although we expect U.S. crude oil production to set annual records in 2023 and 2024, growth in crude oil production is slowing. We estimate West Texas Intermediate (WTI) crude oil prices will average \$83/b over the three years from 2022 to 2024, while annual growth in U.S. crude oil production over the same period will average 0.4 million b/d. That compares to average crude oil production growth of 1.1 million b/d during the three-year period from 2017 to 2019, when the WTI price averaged only \$58/b. The [changing response to crude oil prices by U.S. producers](#) may reflect a combination of the use of capital to increase dividends and repurchase shares instead of investing in new production, the effects of tighter labor markets and higher costs, and increased pressure on oilfield supply chains. Despite this shift from the historical price response, we still expect U.S. crude oil production to continue growing to record levels, driven primarily by production [growth in the Permian Basin](#).

Natural Gas

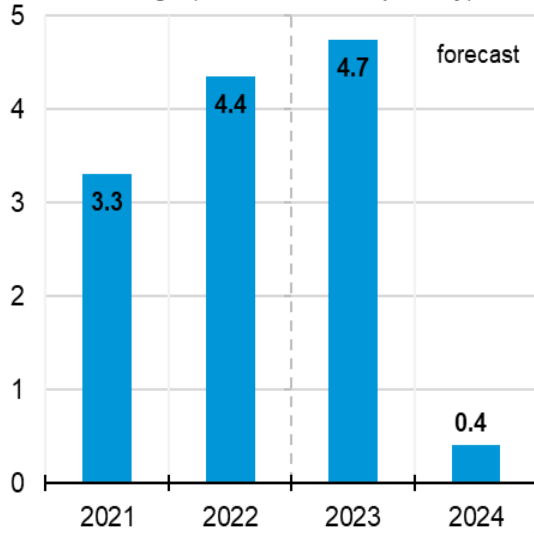
Natural gas production

We estimate U.S. dry natural gas production [set a monthly record](#) in April of 104 billion cubic feet per day (Bcf/d), up from 102 Bcf/d in March. The production record occurred despite natural gas prices that averaged below \$2.50 per million British thermal units (MMBtu) at the U.S. benchmark Henry Hub in March and April, about \$4.00/MMBtu less than the 2022 annual average. Production growth has been concentrated in two regions: the [Haynesville region](#) in northeastern Texas and northwestern Louisiana, and the Permian Basin in western Texas and southeastern New Mexico. Growth in the Haynesville region reflects the lagged effects of high natural gas prices in 2022 that increased drilling activity in the region. Growth in natural gas production in the Permian, because of which is mostly [associated natural gas](#), has been driven by relatively high oil prices and increased oil production.

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



annual change (billion cubic feet per day)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023



We forecast dry natural gas production will remain close to record levels through much of the rest of the forecast period, averaging around 103 Bcf/d during the second half of 2023 and 2024. The flat production reflects reduced natural gas-directed drilling in response to the drop in natural gas prices this year being offset by increasing associated natural gas production in the Permian Basin. Higher expected crude oil prices in this month's STEO compared with last month result in our upward revision of natural gas production in this month's outlook, despite lower natural gas prices in the forecast.

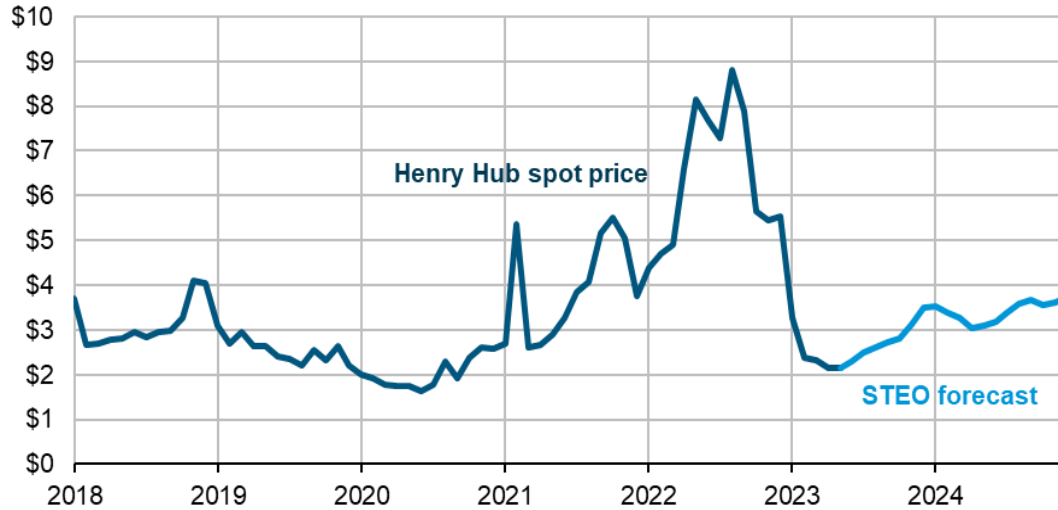
Natural gas prices

We expect the U.S. benchmark Henry Hub natural gas spot price to rise in the summer months, averaging just over \$2.60/MMBtu in 3Q23, up from an average of \$2.15/MMBtu in May. Rising natural gas use in the electric power sector and flattening production growth – which together contribute to storage injections that are less than the five-year average (2018–2022) in the coming months – are the primary drivers. The Henry Hub spot price averages around \$3.40/MMBtu in 2024 in our forecast, nearly 30% higher than in 2023.

Although we forecast an increase in natural gas prices for the summer months due to inventories narrowing the surplus to the five-year average, we expect high inventory levels will keep prices well below last year's prices, which averaged almost \$8.00/MMBtu in 3Q22. Natural gas storage inventories were 15% above the five-year average at the end of May compared with a deficit of 14% below the 2017–2021 average at the end of May 2022.

Henry Hub natural gas spot price

dollars per million British thermal units



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023 and Refinitiv, an LSEG business



Electricity, coal, and renewables

Electricity demand

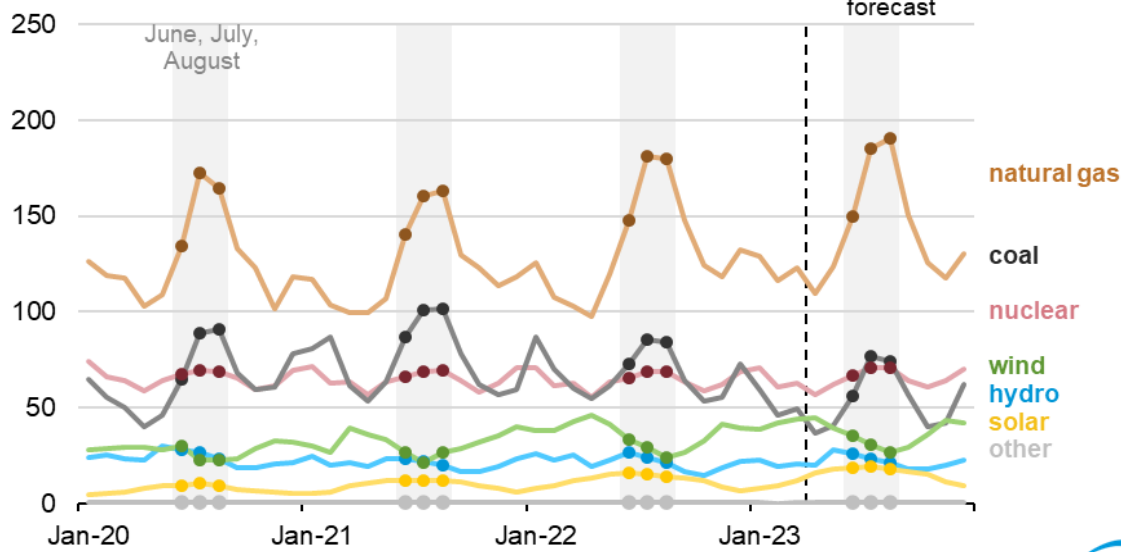
We expect U.S. sales of electricity to ultimate customers will remain fairly steady through the forecast period. Forecast electricity sales during the summer this year (June, July, and August) are slightly lower than summer 2022 mostly because a reduction in manufacturing activity reduces industrial electricity consumption by 2%.

Electricity generation

New solar, wind, and nuclear generating capacity will increase electricity generation from these sources this summer. The U.S. electric power sector added an estimated 14 gigawatts of solar generating capacity and about 8 gigawatts of wind capacity during the 12 months ending May 2023.

Solar has been the [leading source of new generating capacity](#) in the United States so far this year, and the new capacity contributes to our forecast that U.S. solar generation this summer will grow 24% from summer 2022. Although wind capacity continues to grow, the rate of additions has slowed slightly. We expect 7% more wind generation in summer 2023 than in summer 2022.

U.S. monthly electric power sector generation by energy source terawatt-hours



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023



Although several [nuclear reactors have retired](#) in recent years, a new reactor at the Vogtle nuclear plant in Georgia is scheduled to begin commercial operation this month. As a result of this new unit, we forecast that U.S. nuclear generation will grow by 2% this summer compared with summer 2022. Georgia Power expects to open another reactor at Vogtle around the beginning of 2024.

The expected increase in summer generation from solar, wind, and nuclear power reduces our forecast of generation from coal-fired power plants. Utilities have retired about 6% of coal capacity over the past 12 months, and the remaining coal plants are likely to run at lower utilization rates. As a result of both factors, we expect 15% less U.S. coal-fired generation this summer than summer 2022.

Natural gas remains the largest source of U.S. electricity generation, and we forecast that natural gas-fired power plants will generate 3% more this summer compared with last year. Additional natural gas-fired generating capacity and favorable fuel costs contribute to our forecast of increased summer generation from that fuel.

Coal Markets

After increasing in both 2021 and 2022, we expect U.S. coal production will decline by 6% to about 560 million short tons (MMst) in 2023, and by a further 14% to 480 MMst in 2024. The primary reason for the decrease is our forecast of a 19% reduction in coal consumption by the electric power sector in 2023. Demand from overseas markets helps support U.S. coal production by providing an outlet for exports.

The cost of coal delivered to electric generators averaged \$2.51 per million British thermal units (MMBtu) in March 2023, the most recent historical data month. This price is down from a record \$2.65/MMBtu reached in December 2022. We forecast the U.S. delivered coal cost will average \$2.48/MMBtu in 2023 before falling 3% in 2024 to average \$2.40/MMBtu. The cost reductions are mostly the result of weakening demand for coal.

Economy, Weather, and CO₂

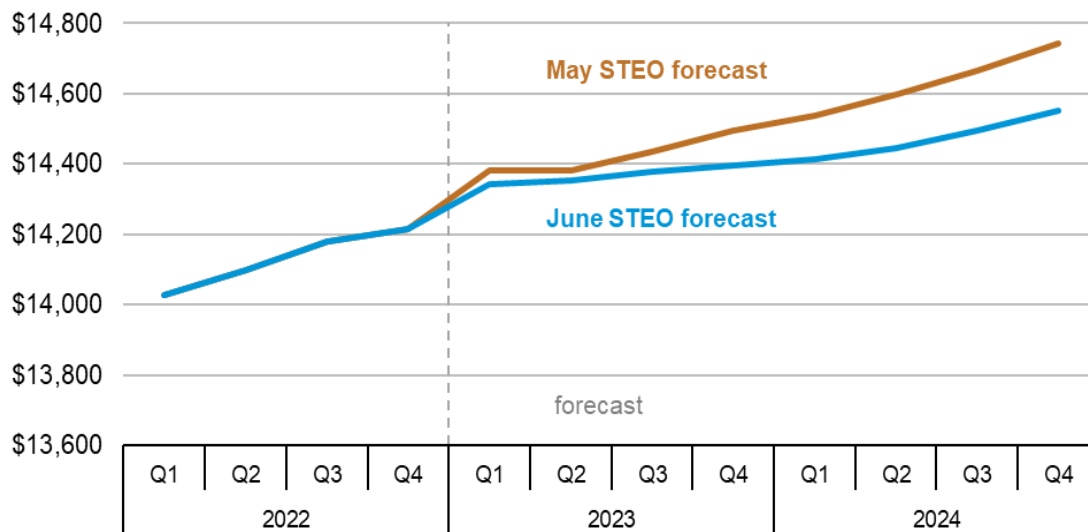
U.S. macroeconomics

Our U.S. macroeconomic forecasts are based on S&P Global’s macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions we use in the STEO.

The real U.S. GDP growth assumption in our forecast is 1.3% for 2023, down from 1.6% in our May STEO. We assume U.S. GDP growth in 2024 will be 1%, down from 1.8% in our May outlook. GDP growth in 1Q23 was slower than in our last forecast because of weakness in retail sales and personal consumption expenditures (PCE). The downward revision also marks a notable break in the recent series of upward revisions.

Although PCE is lower in this forecast than in last month’s forecast, PCE remains flat through the rest of 2023 in the forecast. However, aggregate investment continues to decline and offset increases in government spending and net exports in the second half of the year. Higher borrowing costs reduce private fixed investment for the remainder of 2Q23, and private fixed investment in the forecast does not resume growing until 2024.

Personal consumption expenditures
billion chained 2012 U.S. dollars



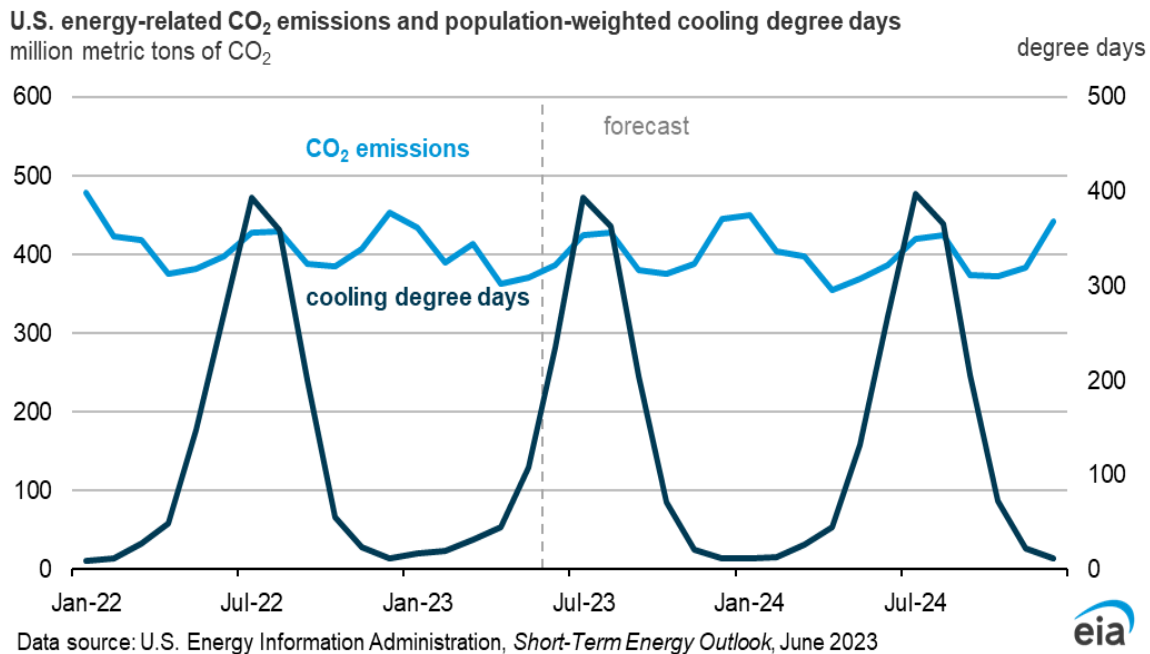
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2023



Emissions

U.S. energy-related carbon dioxide (CO₂) emissions in our forecast decrease by 3% in 2023. The largest reduction in CO₂ emissions is from coal, which declines by 18% relative to 2022. Natural gas and petroleum emissions remain unchanged in 2023. Total CO₂ emissions in 2024 remain flat as declining emissions from natural gas are mitigated by increases in petroleum and coal emissions.

The summer months tend to have some of the highest contributions to annual emissions. We expect emissions to increase over the next several months due to increased electricity generation during the summer. For both 2023 and 2024, we expect 8% and 10% more summer CO₂ emissions than the spring, with emissions peaking in August in both years. Summer increases in emissions are due to increased electricity demand, most notably for space cooling. Relative to the spring, we expect electricity more generation in the summer, with notable increases in fossil fuel-fired generation such as coal and natural gas. As consumption of these fossil fuels increases, so do their associated CO₂ emissions.



Weather

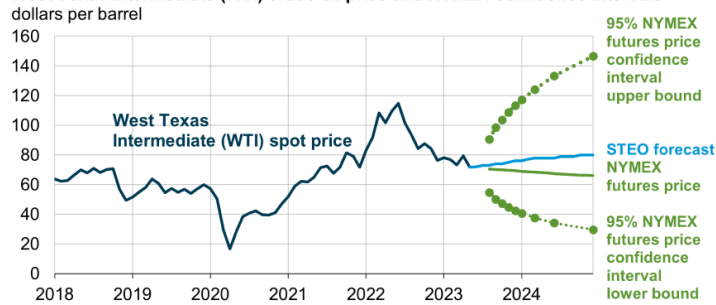
A milder start to the summer cooling season (May–September) led to 27% fewer cooling degree days (CDDs) in May compared with the same period last year. We expect the trend to continue with 235 CDDs in June, a 13% decrease from June 2022. CDDs for the remainder of the summer season will remain similar to the previous year, resulting in around 2% fewer CDDs overall in 2023 compared with 2022.

Short-Term Energy Outlook Chart Gallery



June 6, 2023

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

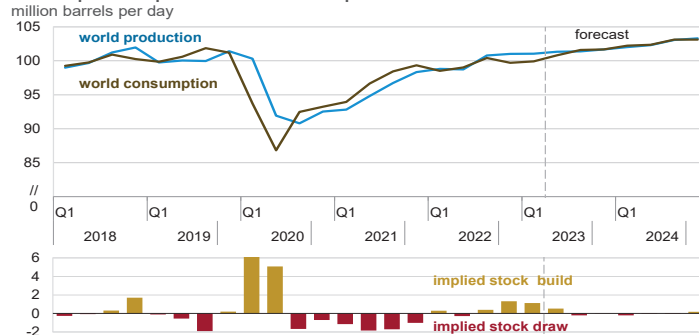


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending June 5, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.



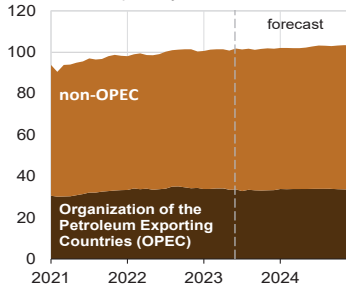
World liquid fuels production and consumption balance



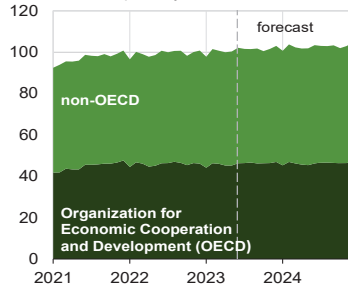
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



World liquid fuels production
million barrels per day



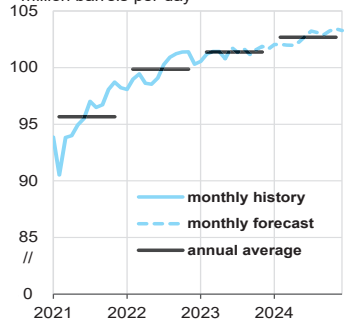
World liquid fuels consumption
million barrels per day



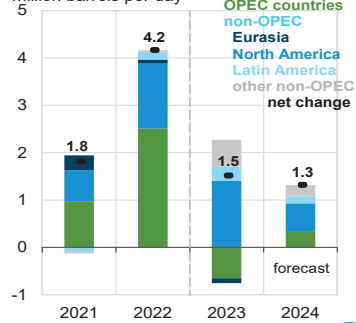
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



World crude oil and liquid fuels production
million barrels per day



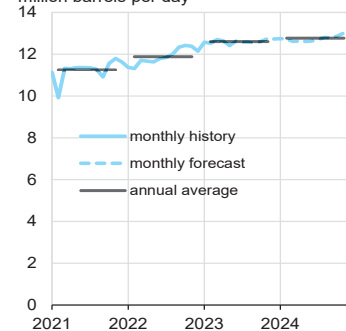
Components of annual change
million barrels per day



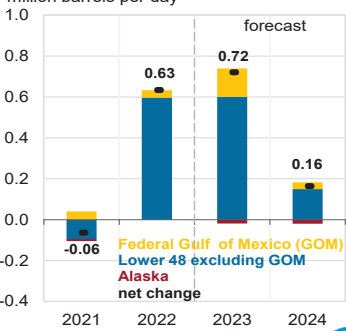
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. crude oil production
million barrels per day



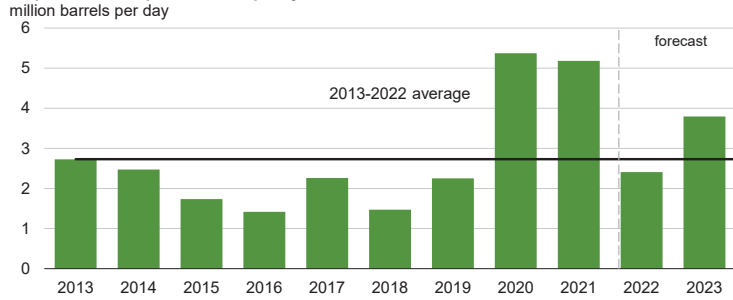
Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



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

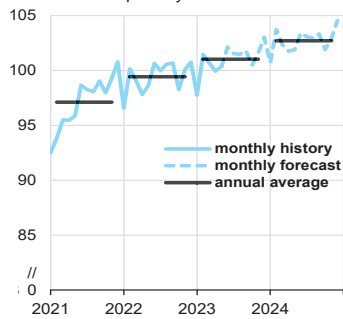


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

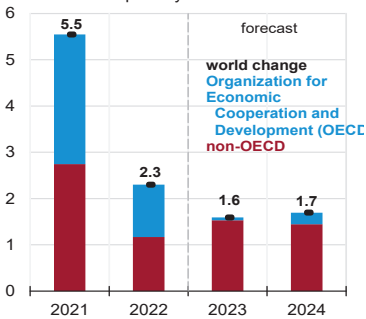
Note: Black line represents 2013-2022 average (2.7 million barrels per day).



World liquid fuels consumption
million barrels per day



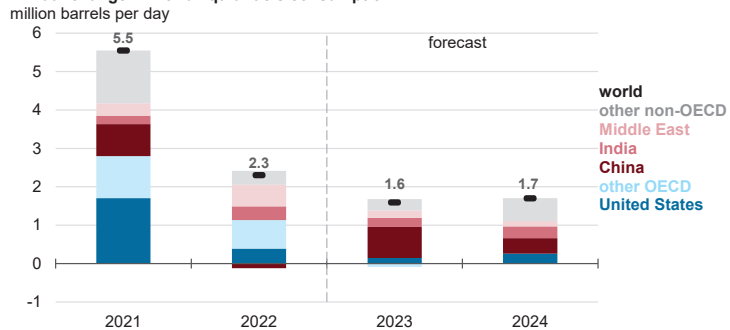
Components of annual change
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



Annual change in world liquid fuels consumption

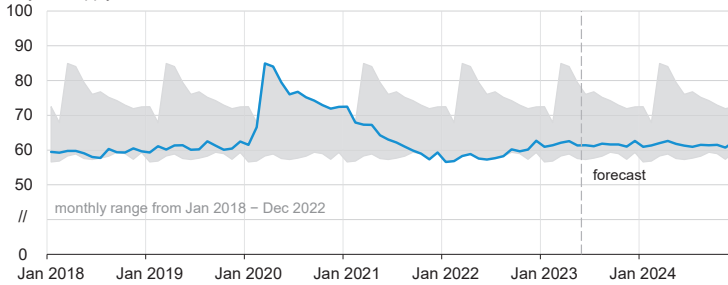


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



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

days of supply

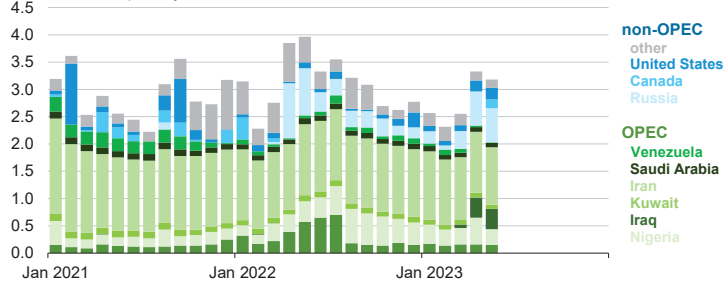


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



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

million barrels per day

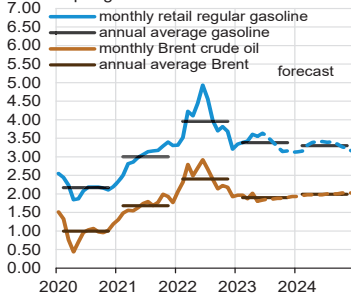


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. gasoline and crude oil prices

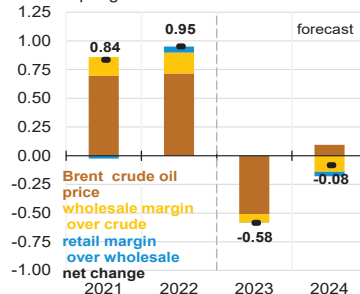
dollars per gallon



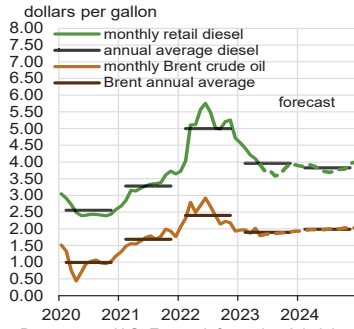
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023, and Refinitiv an LSEG Business

Components of annual gasoline price changes

dollars per gallon



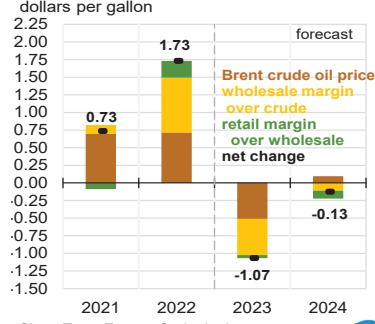
U.S. diesel and crude oil prices



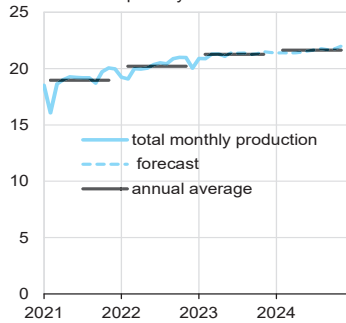
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023, and Refinitiv an LSEG Business



Components of annual diesel price changes



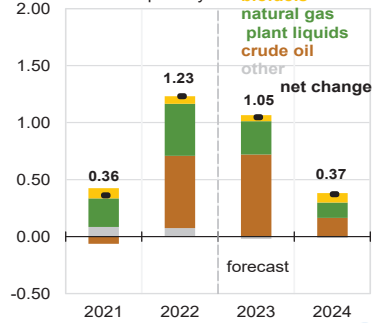
U.S. crude oil and liquid fuels production



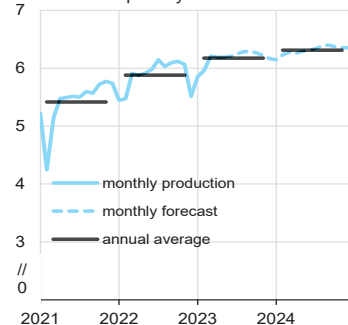
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



Components of annual change



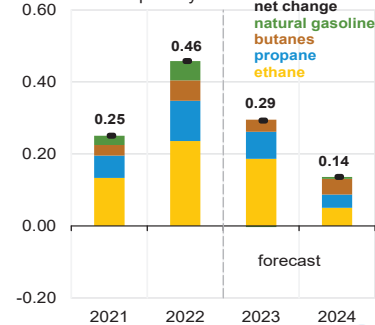
U.S. natural gas plant liquids production



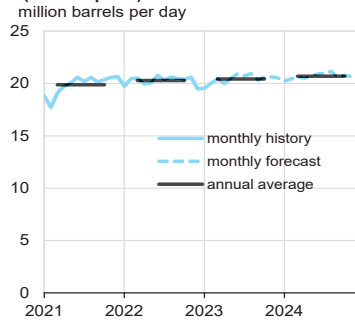
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



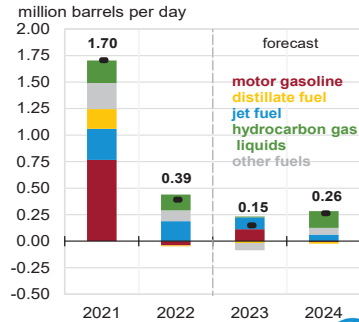
Components of annual change



U.S. liquid fuels product supplied (consumption)



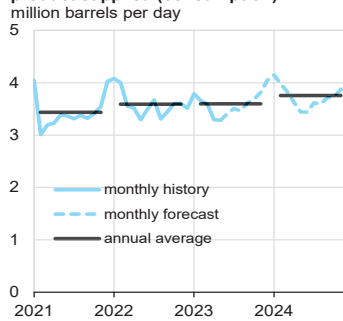
Components of annual change



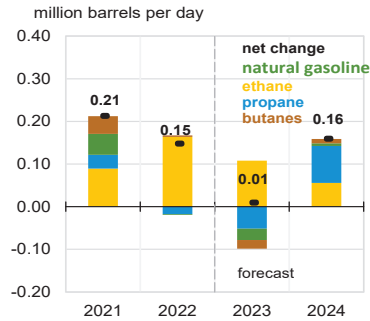
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



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



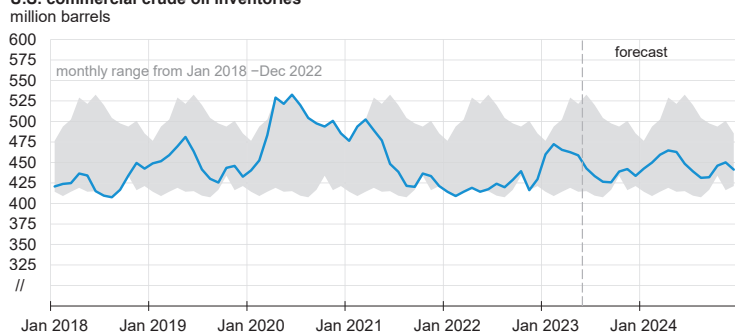
Components of annual change



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. commercial crude oil inventories

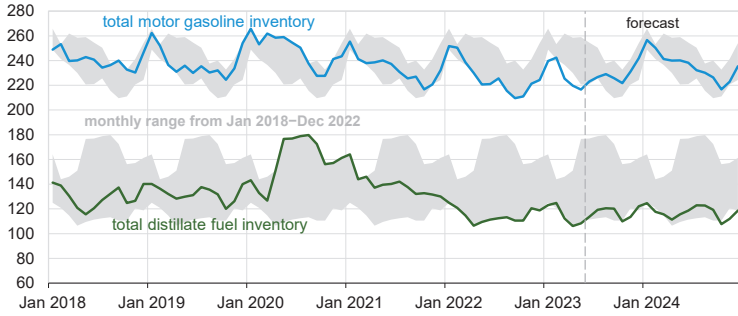


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. gasoline and distillate inventories

million barrels

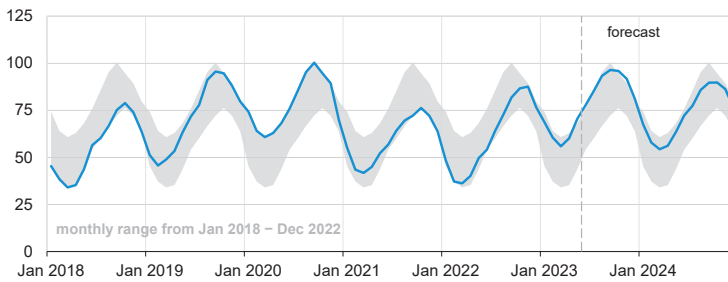


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. commercial propane inventories

million barrels



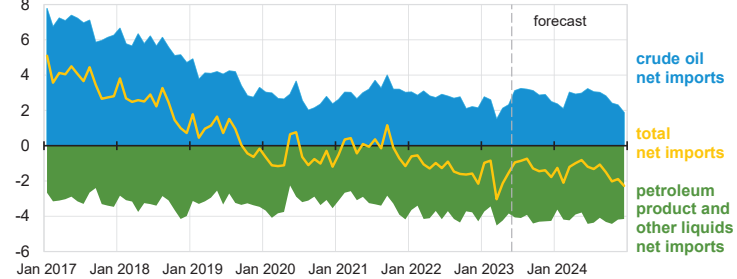
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

Note: Excludes propylene.



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

million barrels per day

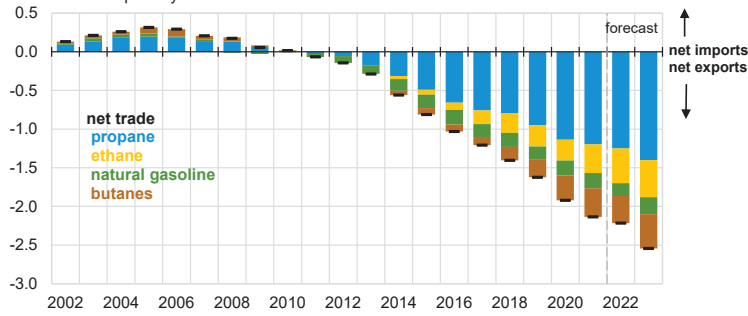


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

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



U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day

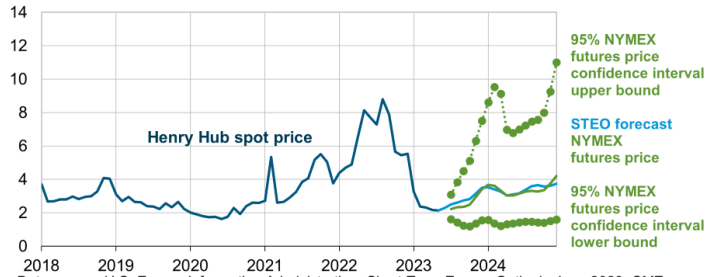


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



Henry Hub natural gas price and NYMEX confidence intervals

dollars per million British thermal units



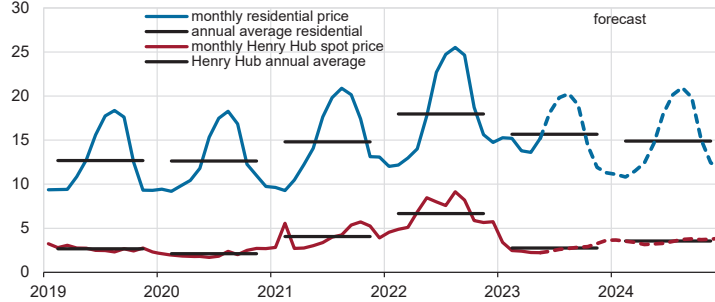
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023, CME Group, and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending June 5, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.



U.S. natural gas prices

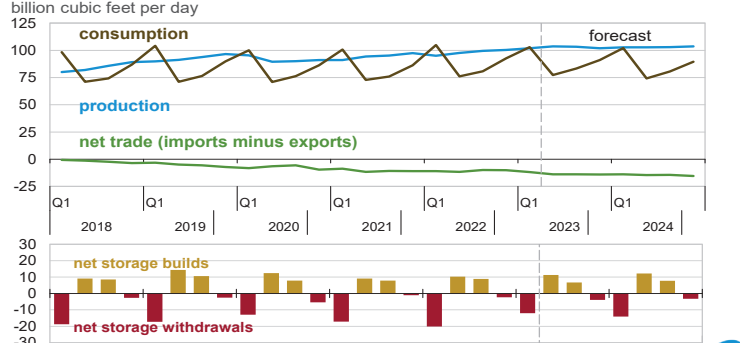
dollars per thousand cubic feet



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023, and Refinitiv an LSEG Business



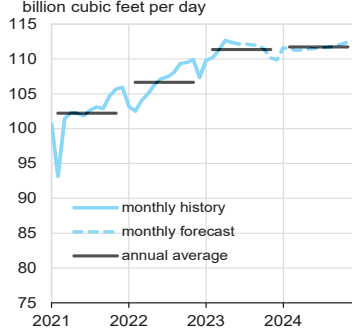
U.S. natural gas production, consumption, and net imports



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

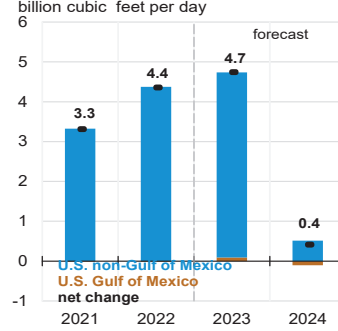


U.S. marketed natural gas production

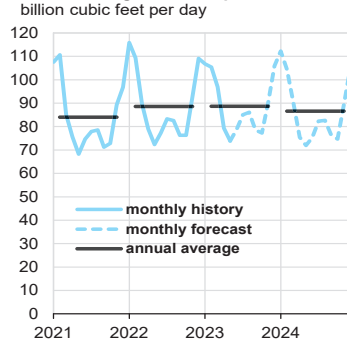


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

Components of annual change

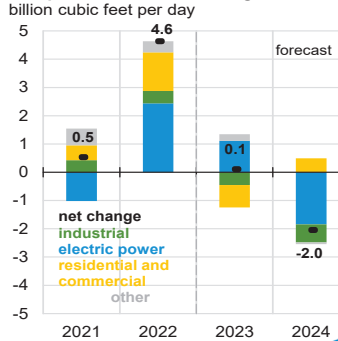


U.S. natural gas consumption

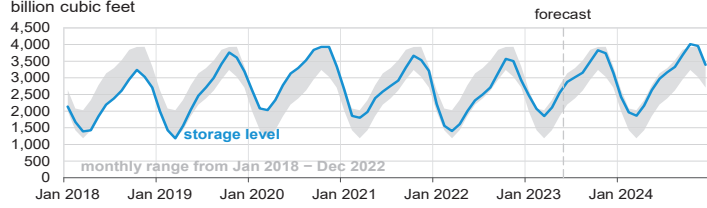


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

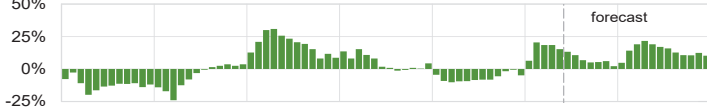
Components of annual change



U.S. working natural gas in storage



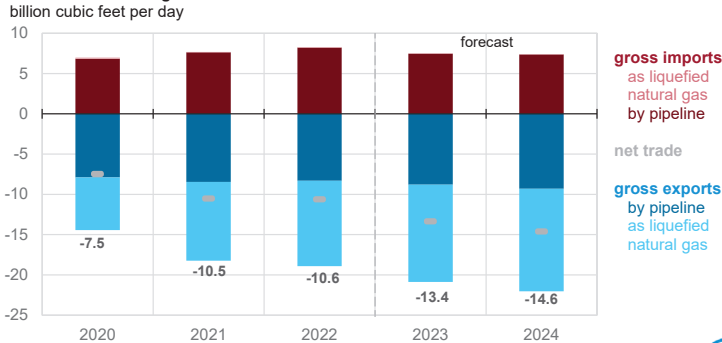
Percentage deviation from 2018 – 2022 average



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



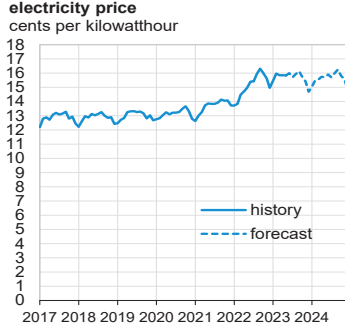
U.S. annual natural gas trade



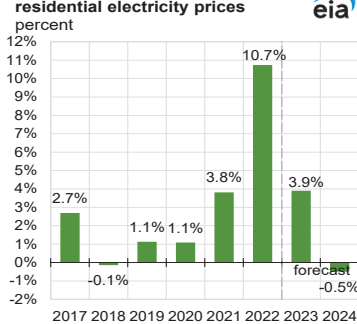
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. monthly nominal residential electricity price

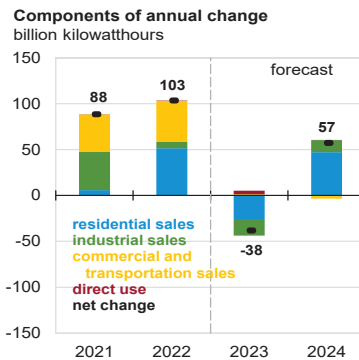
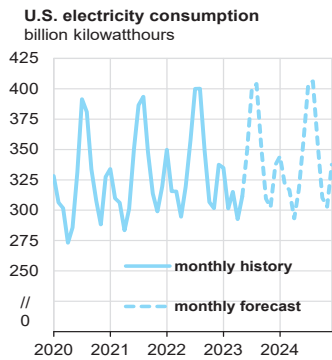
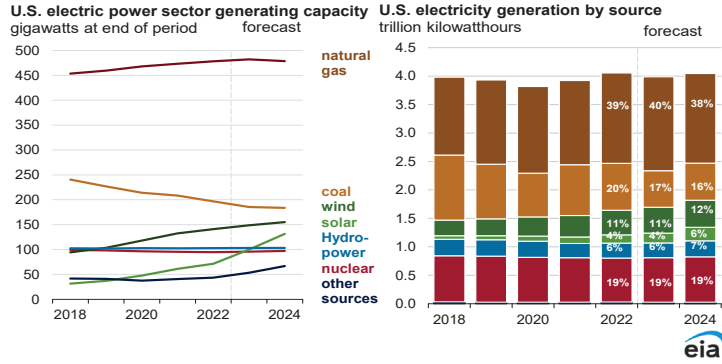


Annual growth in nominal residential electricity prices

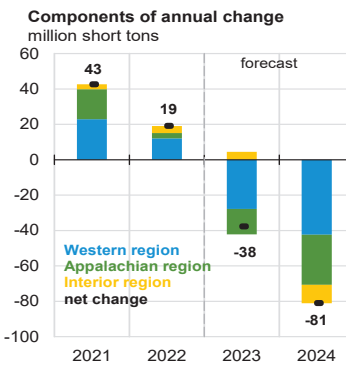
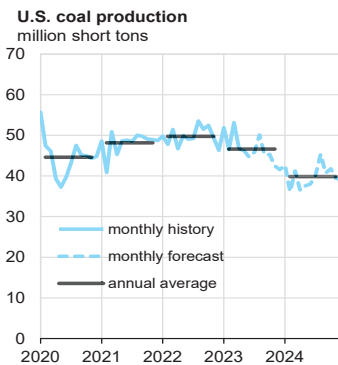


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



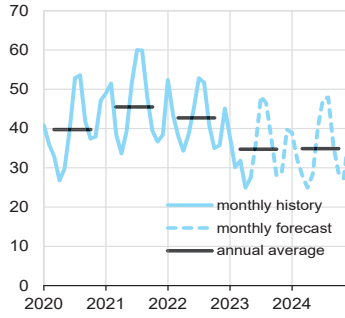


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

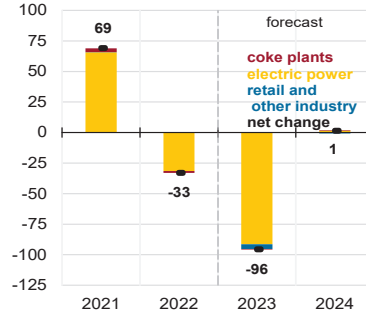


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

U.S. coal consumption
million short tons



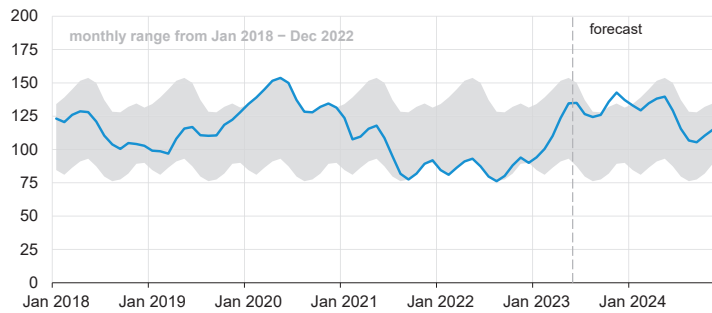
Components of annual change
million short tons



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



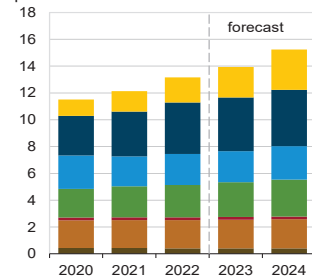
U.S. electric power coal inventories
million short tons



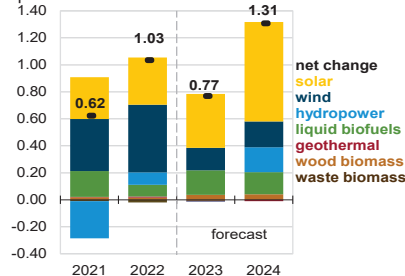
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. renewable energy supply
quadrillion British thermal units



Components of annual change
quadrillion British thermal units

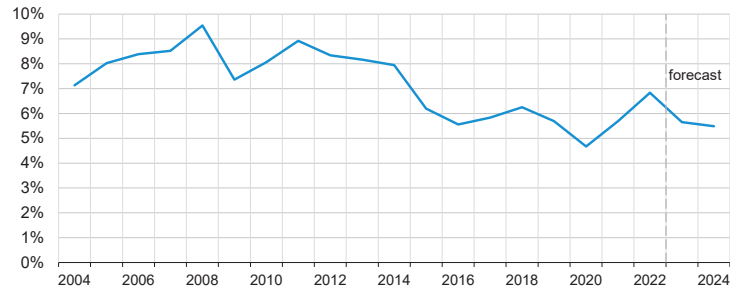


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

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.



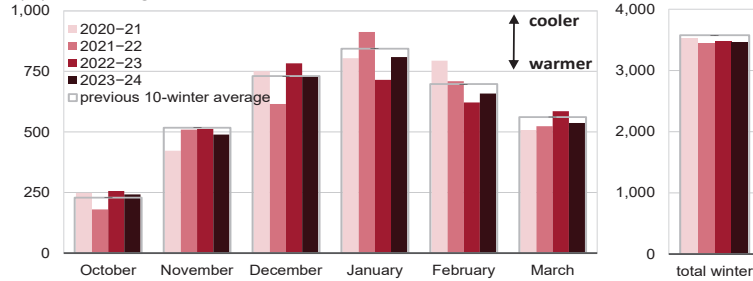
U.S. annual energy expenditures
share of gross domestic product



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



U.S. winter heating degree days
population-weighted

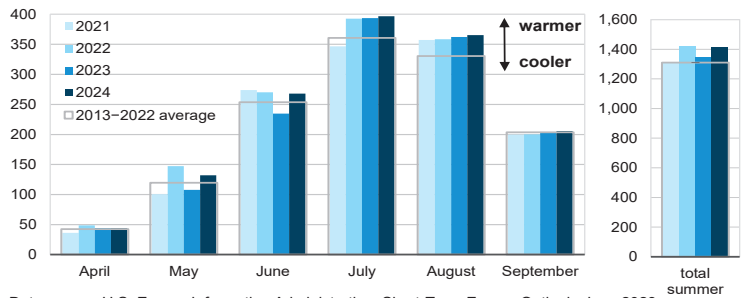


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



U.S. summer cooling degree days
population-weighted

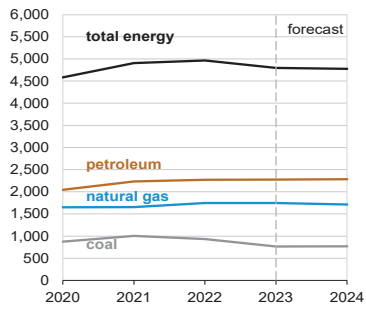


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023

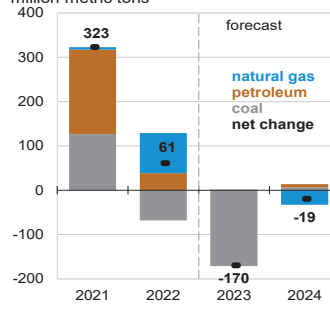
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.



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



Components of annual change
million metric tons



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2023



Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Energy Production															
Crude Oil Production (a) (million barrels per day)	11.47	11.70	12.06	12.31	12.60	<i>12.56</i>	<i>12.57</i>	<i>12.70</i>	<i>12.69</i>	<i>12.63</i>	<i>12.76</i>	<i>13.00</i>	11.89	<i>12.61</i>	<i>12.77</i>
Dry Natural Gas Production (billion cubic feet per day)	95.09	97.59	99.46	100.29	102.00	<i>103.69</i>	<i>103.36</i>	<i>101.91</i>	<i>102.76</i>	<i>102.76</i>	<i>103.02</i>	<i>103.63</i>	98.13	<i>102.74</i>	<i>103.04</i>
Coal Production (million short tons)	149	146	154	148	151	<i>138</i>	<i>141</i>	<i>129</i>	<i>120</i>	<i>112</i>	<i>126</i>	<i>120</i>	597	<i>559</i>	<i>478</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	20.22	20.27	20.47	20.16	20.00	<i>20.45</i>	<i>20.67</i>	<i>20.59</i>	<i>20.42</i>	<i>20.71</i>	<i>20.90</i>	<i>20.72</i>	20.28	<i>20.43</i>	<i>20.69</i>
Natural Gas (billion cubic feet per day)	104.83	76.13	80.77	92.62	102.97	<i>77.31</i>	<i>83.30</i>	<i>91.15</i>	<i>102.14</i>	<i>74.22</i>	<i>80.50</i>	<i>89.52</i>	88.53	<i>88.64</i>	<i>86.59</i>
Coal (b) (million short tons)	134	118	145	116	100	<i>89</i>	<i>132</i>	<i>96</i>	<i>99</i>	<i>94</i>	<i>131</i>	<i>95</i>	513	<i>417</i>	<i>418</i>
Electricity (billion kilowatt hours per day)	10.90	10.68	12.50	10.28	10.57	<i>10.47</i>	<i>12.57</i>	<i>10.32</i>	<i>10.79</i>	<i>10.65</i>	<i>12.67</i>	<i>10.33</i>	11.09	<i>10.99</i>	<i>11.11</i>
Renewables (c) (quadrillion Btu)	3.34	3.54	3.12	3.16	3.36	<i>3.73</i>	<i>3.39</i>	<i>3.45</i>	<i>3.74</i>	<i>4.09</i>	<i>3.72</i>	<i>3.69</i>	13.16	<i>13.93</i>	<i>15.24</i>
Total Energy Consumption (d) (quadrillion Btu)	26.51	23.84	24.89	25.17	25.56	<i>23.72</i>	<i>25.19</i>	<i>25.09</i>	<i>26.23</i>	<i>23.93</i>	<i>25.29</i>	<i>25.11</i>	100.41	<i>99.56</i>	<i>100.56</i>
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	95.18	108.93	93.07	82.69	75.96	<i>74.16</i>	<i>73.32</i>	<i>74.97</i>	<i>76.98</i>	<i>78.00</i>	<i>79.00</i>	<i>80.00</i>	94.91	<i>74.60</i>	<i>78.51</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	4.66	7.48	7.99	5.55	2.65	<i>2.20</i>	<i>2.62</i>	<i>3.15</i>	<i>3.39</i>	<i>3.10</i>	<i>3.55</i>	<i>3.64</i>	6.42	<i>2.66</i>	<i>3.42</i>
Coal (dollars per million Btu)	2.18	2.26	2.50	2.55	2.57	<i>2.48</i>	<i>2.46</i>	<i>2.40</i>	<i>2.41</i>	<i>2.40</i>	<i>2.40</i>	<i>2.37</i>	2.37	<i>2.48</i>	<i>2.40</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	19,924	19,895	20,055	20,182	20,236	<i>20,237</i>	<i>20,276</i>	<i>20,314</i>	<i>20,374</i>	<i>20,436</i>	<i>20,508</i>	<i>20,582</i>	20,014	<i>20,266</i>	<i>20,475</i>
Percent change from prior year	3.7	1.8	1.9	0.9	1.6	<i>1.7</i>	<i>1.1</i>	<i>0.7</i>	<i>0.7</i>	<i>1.0</i>	<i>1.1</i>	<i>1.3</i>	2.1	<i>1.3</i>	<i>1.0</i>
GDP Implicit Price Deflator (Index, 2012=100)	124.2	126.9	128.3	129.5	130.8	<i>131.8</i>	<i>132.6</i>	<i>133.6</i>	<i>134.5</i>	<i>135.3</i>	<i>135.9</i>	<i>136.6</i>	127.2	<i>132.2</i>	<i>135.6</i>
Percent change from prior year	6.9	7.6	7.1	6.4	5.3	<i>3.8</i>	<i>3.4</i>	<i>3.1</i>	<i>2.8</i>	<i>2.6</i>	<i>2.5</i>	<i>2.3</i>	7.0	<i>3.9</i>	<i>2.6</i>
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,109	15,022	15,141	15,325	15,622	<i>15,746</i>	<i>15,850</i>	<i>15,890</i>	<i>15,965</i>	<i>16,060</i>	<i>16,133</i>	<i>16,201</i>	15,149	<i>15,777</i>	<i>16,090</i>
Percent change from prior year	-12.8	-5.7	-3.8	-1.4	3.4	<i>4.8</i>	<i>4.7</i>	<i>3.7</i>	<i>2.2</i>	<i>2.0</i>	<i>1.8</i>	<i>2.0</i>	-6.1	<i>4.1</i>	<i>2.0</i>
Manufacturing Production Index (Index, 2017=100)	100.1	100.8	100.9	100.0	99.8	<i>99.6</i>	<i>98.7</i>	<i>98.7</i>	<i>98.9</i>	<i>99.0</i>	<i>99.3</i>	<i>99.6</i>	100.5	<i>99.2</i>	<i>99.2</i>
Percent change from prior year	4.5	3.6	2.8	0.7	-0.3	<i>-1.2</i>	<i>-2.2</i>	<i>-1.3</i>	<i>-0.9</i>	<i>-0.6</i>	<i>0.6</i>	<i>0.9</i>	2.9	<i>-1.2</i>	<i>0.0</i>
Weather															
U.S. Heating Degree-Days	2,146	490	54	1,552	1,922	<i>460</i>	<i>75</i>	<i>1,461</i>	<i>2,005</i>	<i>472</i>	<i>75</i>	<i>1,454</i>	4,242	<i>3,918</i>	<i>4,006</i>
U.S. Cooling Degree-Days	47	466	951	89	69	<i>386</i>	<i>960</i>	<i>104</i>	<i>50</i>	<i>444</i>	<i>968</i>	<i>105</i>	1,554	<i>1,519</i>	<i>1,567</i>

(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 or the Annual Energy Review (AER).

(e) Refers to the refiner average acquisition cost (RAC) of crude oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	95.18	108.93	93.07	82.69	75.96	<i>74.16</i>	<i>73.32</i>	<i>74.97</i>	<i>76.98</i>	<i>78.00</i>	<i>79.00</i>	<i>80.00</i>	94.91	<i>74.60</i>	<i>78.51</i>
Brent Spot Average	101.17	113.84	100.53	88.44	81.04	<i>78.83</i>	<i>78.32</i>	<i>79.97</i>	<i>81.98</i>	<i>83.00</i>	<i>84.00</i>	<i>85.00</i>	100.94	<i>79.54</i>	<i>83.51</i>
U.S. Imported Average	89.85	107.23	91.86	78.11	69.27	<i>71.23</i>	<i>70.57</i>	<i>72.20</i>	<i>74.34</i>	<i>75.25</i>	<i>76.25</i>	<i>77.25</i>	92.56	<i>70.87</i>	<i>75.73</i>
U.S. Refiner Average Acquisition Cost	92.62	109.86	95.20	83.11	74.23	<i>73.79</i>	<i>72.82</i>	<i>74.51</i>	<i>76.51</i>	<i>77.50</i>	<i>78.50</i>	<i>79.50</i>	95.25	<i>73.82</i>	<i>78.01</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	278	376	311	267	262	<i>266</i>	<i>249</i>	<i>225</i>	<i>237</i>	<i>256</i>	<i>253</i>	<i>236</i>	309	<i>250</i>	<i>246</i>
Diesel Fuel	301	418	357	364	294	<i>244</i>	<i>241</i>	<i>257</i>	<i>257</i>	<i>251</i>	<i>251</i>	<i>268</i>	361	<i>258</i>	<i>257</i>
Fuel Oil	284	419	344	359	278	<i>232</i>	<i>221</i>	<i>255</i>	<i>247</i>	<i>237</i>	<i>235</i>	<i>261</i>	352	<i>258</i>	<i>261</i>
Refiner Prices to End Users															
Jet Fuel	283	400	340	332	305	<i>232</i>	<i>225</i>	<i>236</i>	<i>247</i>	<i>244</i>	<i>240</i>	<i>248</i>	340	<i>248</i>	<i>245</i>
No. 6 Residual Fuel Oil (a)	252	258	228	201	196	<i>190</i>	<i>188</i>	<i>192</i>	<i>198</i>	<i>198</i>	<i>201</i>	<i>204</i>	236	<i>191</i>	<i>201</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	371	450	408	357	338	<i>360</i>	<i>341</i>	<i>314</i>	<i>320</i>	<i>340</i>	<i>338</i>	<i>321</i>	397	<i>339</i>	<i>330</i>
Gasoline All Grades (b)	380	460	419	369	349	<i>371</i>	<i>353</i>	<i>326</i>	<i>331</i>	<i>351</i>	<i>349</i>	<i>333</i>	408	<i>350</i>	<i>341</i>
On-highway Diesel Fuel	432	549	516	508	439	<i>391</i>	<i>365</i>	<i>389</i>	<i>388</i>	<i>378</i>	<i>374</i>	<i>390</i>	502	<i>395</i>	<i>382</i>
Heating Oil	415	553	497	493	406	<i>355</i>	<i>330</i>	<i>368</i>	<i>364</i>	<i>347</i>	<i>335</i>	<i>379</i>	466	<i>378</i>	<i>363</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	4.84	7.77	8.30	5.76	2.76	<i>2.29</i>	<i>2.72</i>	<i>3.28</i>	<i>3.52</i>	<i>3.22</i>	<i>3.68</i>	<i>3.78</i>	6.67	<i>2.76</i>	<i>3.55</i>
Henry Hub Spot (dollars per million Btu)	4.66	7.48	7.99	5.55	2.65	<i>2.20</i>	<i>2.62</i>	<i>3.15</i>	<i>3.39</i>	<i>3.10</i>	<i>3.55</i>	<i>3.64</i>	6.42	<i>2.66</i>	<i>3.42</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	6.82	8.24	9.27	7.53	6.20	<i>3.75</i>	<i>3.68</i>	<i>4.46</i>	<i>5.10</i>	<i>4.25</i>	<i>4.52</i>	<i>5.04</i>	7.90	<i>4.61</i>	<i>4.75</i>
Commercial Sector	10.00	11.71	14.12	12.14	11.90	<i>10.38</i>	<i>10.18</i>	<i>8.64</i>	<i>8.50</i>	<i>9.20</i>	<i>10.10</i>	<i>8.93</i>	11.37	<i>10.43</i>	<i>8.94</i>
Residential Sector	12.32	16.57	24.95	15.63	14.81	<i>15.06</i>	<i>19.65</i>	<i>12.02</i>	<i>11.11</i>	<i>14.27</i>	<i>20.29</i>	<i>12.50</i>	14.82	<i>14.34</i>	<i>12.75</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.18	2.26	2.50	2.55	2.57	<i>2.48</i>	<i>2.46</i>	<i>2.40</i>	<i>2.41</i>	<i>2.40</i>	<i>2.40</i>	<i>2.37</i>	2.37	<i>2.48</i>	<i>2.40</i>
Natural Gas	5.95	7.39	8.23	6.90	4.99	<i>2.59</i>	<i>2.75</i>	<i>3.48</i>	<i>3.94</i>	<i>3.31</i>	<i>3.66</i>	<i>3.99</i>	7.24	<i>3.37</i>	<i>3.72</i>
Residual Fuel Oil (c)	16.81	26.17	26.53	21.27	19.24	<i>16.68</i>	<i>14.60</i>	<i>14.78</i>	<i>15.29</i>	<i>16.06</i>	<i>15.36</i>	<i>15.62</i>	21.80	<i>16.39</i>	<i>15.54</i>
Distillate Fuel Oil	21.23	30.71	26.79	24.48	22.84	<i>19.00</i>	<i>18.40</i>	<i>19.65</i>	<i>19.75</i>	<i>19.34</i>	<i>19.19</i>	<i>20.66</i>	24.89	<i>19.99</i>	<i>19.88</i>
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	7.42	8.41	9.38	8.52	8.12	<i>8.38</i>	<i>9.23</i>	<i>8.40</i>	<i>8.38</i>	<i>8.54</i>	<i>9.39</i>	<i>8.59</i>	8.45	<i>8.54</i>	<i>8.74</i>
Commercial Sector	11.63	12.35	13.38	12.66	12.69	<i>12.69</i>	<i>13.18</i>	<i>12.14</i>	<i>12.20</i>	<i>12.59</i>	<i>13.43</i>	<i>12.43</i>	12.55	<i>12.70</i>	<i>12.70</i>
Residential Sector	13.98	15.07	15.85	15.48	15.74	<i>15.90</i>	<i>15.91</i>	<i>15.23</i>	<i>15.34</i>	<i>15.79</i>	<i>15.96</i>	<i>15.37</i>	15.12	<i>15.71</i>	<i>15.64</i>

(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 June 5, 2023.

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.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (<http://www.reuters.com>).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Production (million barrels per day) (a)															
OECD	31.62	31.88	32.54	32.97	33.42	<i>33.74</i>	<i>34.14</i>	<i>34.61</i>	<i>34.70</i>	<i>34.39</i>	<i>34.69</i>	<i>35.34</i>	32.26	<i>33.98</i>	<i>34.78</i>
U.S. (50 States)	19.44	20.12	20.60	20.67	21.02	<i>21.26</i>	<i>21.34</i>	<i>21.41</i>	<i>21.39</i>	<i>21.48</i>	<i>21.70</i>	<i>21.94</i>	20.21	<i>21.26</i>	<i>21.63</i>
Canada	5.66	5.51	5.72	5.91	5.79	<i>5.63</i>	<i>5.90</i>	<i>6.13</i>	<i>6.21</i>	<i>5.92</i>	<i>6.13</i>	<i>6.34</i>	5.70	<i>5.87</i>	<i>6.15</i>
Mexico	1.91	1.89	1.90	1.90	2.07	<i>2.12</i>	<i>2.11</i>	<i>2.08</i>	<i>2.09</i>	<i>2.06</i>	<i>2.03</i>	<i>1.96</i>	1.90	<i>2.10</i>	<i>2.03</i>
Other OECD	4.61	4.35	4.32	4.49	4.54	<i>4.73</i>	<i>4.80</i>	<i>4.98</i>	<i>5.02</i>	<i>4.93</i>	<i>4.83</i>	<i>5.09</i>	4.44	<i>4.76</i>	<i>4.96</i>
Non-OECD	67.20	66.86	68.26	68.05	67.64	<i>67.59</i>	<i>67.26</i>	<i>67.07</i>	<i>67.32</i>	<i>67.93</i>	<i>68.39</i>	<i>67.97</i>	67.60	<i>67.39</i>	<i>67.91</i>
OPEC	33.75	33.76	34.71	34.43	33.95	<i>33.73</i>	<i>33.17</i>	<i>33.21</i>	<i>33.84</i>	<i>33.86</i>	<i>33.95</i>	<i>33.69</i>	34.17	<i>33.51</i>	<i>33.84</i>
Crude Oil Portion	28.19	28.33	29.23	28.92	28.46	<i>28.39</i>	<i>27.78</i>	<i>27.77</i>	<i>28.31</i>	<i>28.46</i>	<i>28.51</i>	<i>28.21</i>	28.67	<i>28.10</i>	<i>28.38</i>
Other Liquids (b)	5.56	5.43	5.48	5.52	5.49	<i>5.34</i>	<i>5.40</i>	<i>5.44</i>	<i>5.53</i>	<i>5.40</i>	<i>5.44</i>	<i>5.48</i>	5.50	<i>5.42</i>	<i>5.46</i>
Eurasia	14.39	13.39	13.56	13.90	14.04	<i>13.63</i>	<i>13.58</i>	<i>13.65</i>	<i>13.72</i>	<i>13.71</i>	<i>13.69</i>	<i>13.77</i>	13.81	<i>13.72</i>	<i>13.73</i>
China	5.18	5.18	5.05	5.09	5.32	<i>5.26</i>	<i>5.23</i>	<i>5.28</i>	<i>5.21</i>	<i>5.24</i>	<i>5.23</i>	<i>5.27</i>	5.12	<i>5.27</i>	<i>5.24</i>
Other Non-OECD	13.89	14.53	14.94	14.63	14.33	<i>14.96</i>	<i>15.27</i>	<i>14.94</i>	<i>14.55</i>	<i>15.12</i>	<i>15.51</i>	<i>15.24</i>	14.50	<i>14.88</i>	<i>15.11</i>
Total World Production	98.83	98.74	100.80	101.02	101.06	<i>101.33</i>	<i>101.40</i>	<i>101.69</i>	<i>102.02</i>	<i>102.32</i>	<i>103.07</i>	<i>103.31</i>	99.85	<i>101.37</i>	<i>102.69</i>
Non-OPEC Production	65.08	64.98	66.09	66.58	67.11	<i>67.60</i>	<i>68.23</i>	<i>68.48</i>	<i>68.18</i>	<i>68.46</i>	<i>69.12</i>	<i>69.62</i>	65.69	<i>67.86</i>	<i>68.85</i>
Consumption (million barrels per day) (c)															
OECD	45.76	45.37	46.63	45.98	45.45	<i>45.57</i>	<i>46.41</i>	<i>46.54</i>	<i>46.11</i>	<i>45.73</i>	<i>46.56</i>	<i>46.59</i>	45.94	<i>46.00</i>	<i>46.25</i>
U.S. (50 States)	20.22	20.27	20.47	20.16	20.00	<i>20.45</i>	<i>20.67</i>	<i>20.59</i>	<i>20.42</i>	<i>20.71</i>	<i>20.90</i>	<i>20.72</i>	20.28	<i>20.43</i>	<i>20.69</i>
U.S. Territories	0.11	0.12	0.13	0.12	0.12	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.11</i>	<i>0.11</i>	<i>0.11</i>	<i>0.11</i>	0.12	<i>0.12</i>	<i>0.11</i>
Canada	2.24	2.21	2.38	2.35	2.27	<i>2.24</i>	<i>2.34</i>	<i>2.32</i>	<i>2.30</i>	<i>2.25</i>	<i>2.35</i>	<i>2.33</i>	2.29	<i>2.29</i>	<i>2.31</i>
Europe	13.19	13.42	14.09	13.34	12.97	<i>13.47</i>	<i>13.88</i>	<i>13.64</i>	<i>13.28</i>	<i>13.43</i>	<i>13.84</i>	<i>13.60</i>	13.51	<i>13.49</i>	<i>13.54</i>
Japan	3.70	3.03	3.19	3.56	3.73	<i>3.00</i>	<i>3.11</i>	<i>3.44</i>	<i>3.56</i>	<i>2.94</i>	<i>3.05</i>	<i>3.37</i>	3.37	<i>3.32</i>	<i>3.23</i>
Other OECD	6.30	6.33	6.37	6.45	6.36	<i>6.29</i>	<i>6.31</i>	<i>6.45</i>	<i>6.43</i>	<i>6.29</i>	<i>6.31</i>	<i>6.45</i>	6.36	<i>6.35</i>	<i>6.37</i>
Non-OECD	52.78	53.65	53.78	53.72	54.48	<i>55.24</i>	<i>55.19</i>	<i>55.15</i>	<i>56.12</i>	<i>56.63</i>	<i>56.56</i>	<i>56.54</i>	53.49	<i>55.02</i>	<i>56.46</i>
Eurasia	4.28	4.43	4.73	4.65	4.29	<i>4.44</i>	<i>4.75</i>	<i>4.67</i>	<i>4.43</i>	<i>4.58</i>	<i>4.90</i>	<i>4.81</i>	4.53	<i>4.54</i>	<i>4.68</i>
Europe	0.74	0.76	0.76	0.77	0.74	<i>0.76</i>	<i>0.77</i>	<i>0.77</i>	<i>0.75</i>	<i>0.77</i>	<i>0.77</i>	<i>0.78</i>	0.76	<i>0.76</i>	<i>0.77</i>
China	15.11	15.30	14.99	15.19	15.91	<i>16.11</i>	<i>15.79</i>	<i>16.00</i>	<i>16.32</i>	<i>16.51</i>	<i>16.18</i>	<i>16.40</i>	15.15	<i>15.95</i>	<i>16.35</i>
Other Asia	13.75	13.76	13.42	13.84	14.23	<i>14.29</i>	<i>13.71</i>	<i>14.01</i>	<i>14.86</i>	<i>14.84</i>	<i>14.23</i>	<i>14.55</i>	13.69	<i>14.06</i>	<i>14.62</i>
Other Non-OECD	18.90	19.41	19.87	19.26	19.29	<i>19.63</i>	<i>20.17</i>	<i>19.71</i>	<i>19.76</i>	<i>19.93</i>	<i>20.47</i>	<i>20.00</i>	19.36	<i>19.70</i>	<i>20.04</i>
Total World Consumption	98.54	99.02	100.41	99.70	99.93	<i>100.81</i>	<i>101.60</i>	<i>101.69</i>	<i>102.23</i>	<i>102.36</i>	<i>103.11</i>	<i>103.12</i>	99.42	<i>101.01</i>	<i>102.71</i>
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	0.81	0.51	0.45	0.41	-0.09	<i>0.05</i>	<i>-0.23</i>	<i>0.28</i>	<i>0.02</i>	<i>-0.34</i>	<i>0.00</i>	<i>0.41</i>	0.54	<i>0.00</i>	<i>0.02</i>
Other OECD	-0.09	-0.29	-0.48	-0.26	-0.37	<i>-0.18</i>	<i>0.14</i>	<i>-0.09</i>	<i>0.06</i>	<i>0.12</i>	<i>0.01</i>	<i>-0.19</i>	-0.28	<i>-0.12</i>	<i>0.00</i>
Other Stock Draws and Balance	-1.00	0.06	-0.36	-1.47	-0.67	<i>-0.39</i>	<i>0.29</i>	<i>-0.18</i>	<i>0.13</i>	<i>0.26</i>	<i>0.03</i>	<i>-0.41</i>	-0.69	<i>-0.24</i>	<i>0.00</i>
Total Stock Draw	-0.29	0.28	-0.39	-1.32	-1.13	<i>-0.52</i>	<i>0.20</i>	<i>0.01</i>	<i>0.21</i>	<i>0.03</i>	<i>0.04</i>	<i>-0.18</i>	-0.43	<i>-0.36</i>	<i>0.02</i>
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,154	1,180	1,215	1,222	1,231	<i>1,252</i>	<i>1,272</i>	<i>1,247</i>	<i>1,245</i>	<i>1,277</i>	<i>1,276</i>	<i>1,239</i>	1,222	<i>1,247</i>	<i>1,239</i>
OECD Commercial Inventory	2,604	2,656	2,735	2,766	2,808	<i>2,845</i>	<i>2,854</i>	<i>2,836</i>	<i>2,829</i>	<i>2,850</i>	<i>2,848</i>	<i>2,828</i>	2,766	<i>2,836</i>	<i>2,828</i>

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

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

 (c) Consumption of petroleum by the OECD countries is synonymous with "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.

- = no data available

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

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

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 international energy statistics.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)
U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	27.01	27.52	28.22	28.48	28.88	<i>29.01</i>	<i>29.35</i>	<i>29.63</i>	<i>29.68</i>	<i>29.46</i>	<i>29.85</i>	<i>30.25</i>	27.82	<i>29.22</i>	<i>29.81</i>
Canada	5.66	5.51	5.72	5.91	5.79	<i>5.63</i>	<i>5.90</i>	<i>6.13</i>	<i>6.21</i>	<i>5.92</i>	<i>6.13</i>	<i>6.34</i>	5.70	<i>5.87</i>	<i>6.15</i>
Mexico	1.91	1.89	1.90	1.90	2.07	<i>2.12</i>	<i>2.11</i>	<i>2.08</i>	<i>2.09</i>	<i>2.06</i>	<i>2.03</i>	<i>1.96</i>	1.90	<i>2.10</i>	<i>2.03</i>
United States	19.44	20.12	20.60	20.67	21.02	<i>21.26</i>	<i>21.34</i>	<i>21.41</i>	<i>21.39</i>	<i>21.48</i>	<i>21.70</i>	<i>21.94</i>	20.21	<i>21.26</i>	<i>21.63</i>
Central and South America	5.83	6.41	6.86	6.58	6.31	<i>6.90</i>	<i>7.21</i>	<i>6.90</i>	<i>6.53</i>	<i>7.13</i>	<i>7.53</i>	<i>7.27</i>	6.42	<i>6.83</i>	<i>7.12</i>
Argentina	0.77	0.78	0.79	0.82	0.81	<i>0.85</i>	<i>0.85</i>	<i>0.89</i>	<i>0.85</i>	<i>0.90</i>	<i>0.90</i>	<i>0.94</i>	0.79	<i>0.85</i>	<i>0.90</i>
Brazil	3.33	3.79	4.15	3.78	3.55	<i>4.06</i>	<i>4.40</i>	<i>3.98</i>	<i>3.68</i>	<i>4.20</i>	<i>4.55</i>	<i>4.11</i>	3.76	<i>4.00</i>	<i>4.13</i>
Colombia	0.77	0.77	0.78	0.79	0.79	<i>0.79</i>	<i>0.78</i>	<i>0.81</i>	<i>0.78</i>	<i>0.79</i>	<i>0.78</i>	<i>0.80</i>	0.78	<i>0.79</i>	<i>0.78</i>
Ecuador	0.48	0.47	0.49	0.49	0.46	<i>0.48</i>	<i>0.48</i>	<i>0.49</i>	<i>0.49</i>	<i>0.49</i>	<i>0.49</i>	<i>0.49</i>	0.48	<i>0.48</i>	<i>0.49</i>
Guyana	0.12	0.24	0.32	0.35	0.35	<i>0.36</i>	<i>0.36</i>	<i>0.39</i>	<i>0.42</i>	<i>0.42</i>	<i>0.49</i>	<i>0.60</i>	0.26	<i>0.36</i>	<i>0.48</i>
Europe	4.04	3.76	3.81	3.93	4.00	<i>4.18</i>	<i>4.24</i>	<i>4.44</i>	<i>4.46</i>	<i>4.37</i>	<i>4.28</i>	<i>4.54</i>	3.89	<i>4.22</i>	<i>4.41</i>
Norway	1.97	1.74	1.91	1.99	2.02	<i>2.15</i>	<i>2.27</i>	<i>2.35</i>	<i>2.38</i>	<i>2.32</i>	<i>2.32</i>	<i>2.49</i>	1.90	<i>2.20</i>	<i>2.38</i>
United Kingdom	0.97	0.91	0.80	0.84	0.86	<i>0.92</i>	<i>0.84</i>	<i>0.94</i>	<i>0.94</i>	<i>0.93</i>	<i>0.83</i>	<i>0.91</i>	0.88	<i>0.89</i>	<i>0.90</i>
Eurasia	14.39	13.39	13.56	13.90	14.04	<i>13.63</i>	<i>13.58</i>	<i>13.65</i>	<i>13.72</i>	<i>13.71</i>	<i>13.69</i>	<i>13.77</i>	13.81	<i>13.72</i>	<i>13.73</i>
Azerbaijan	0.70	0.67	0.65	0.67	0.65	<i>0.64</i>	<i>0.64</i>	<i>0.65</i>	<i>0.65</i>	<i>0.65</i>	<i>0.65</i>	<i>0.66</i>	0.67	<i>0.64</i>	<i>0.65</i>
Kazakhstan	2.01	1.77	1.62	1.92	2.02	<i>1.95</i>	<i>1.92</i>	<i>1.99</i>	<i>2.06</i>	<i>2.05</i>	<i>2.03</i>	<i>2.11</i>	1.83	<i>1.97</i>	<i>2.06</i>
Russia	11.30	10.59	10.92	10.95	10.97	<i>10.63</i>	<i>10.61</i>	<i>10.61</i>	<i>10.61</i>	<i>10.61</i>	<i>10.61</i>	<i>10.61</i>	10.94	<i>10.70</i>	<i>10.61</i>
Turkmenistan	0.26	0.26	0.26	0.26	0.27	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	0.26	<i>0.27</i>	<i>0.27</i>
Middle East	3.23	3.29	3.34	3.28	3.19	<i>3.18</i>	<i>3.20</i>	<i>3.20</i>	<i>3.22</i>	<i>3.21</i>	<i>3.21</i>	<i>3.21</i>	3.28	<i>3.19</i>	<i>3.21</i>
Oman	1.05	1.07	1.10	1.08	1.07	<i>1.05</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	1.07	<i>1.05</i>	<i>1.03</i>
Qatar	1.85	1.86	1.86	1.86	1.86	<i>1.86</i>	<i>1.86</i>	<i>1.86</i>	<i>1.86</i>	<i>1.86</i>	<i>1.86</i>	<i>1.86</i>	1.86	<i>1.86</i>	<i>1.86</i>
Asia and Oceania	9.16	9.17	8.87	8.98	9.30	<i>9.28</i>	<i>9.22</i>	<i>9.24</i>	<i>9.18</i>	<i>9.18</i>	<i>9.17</i>	<i>9.20</i>	9.04	<i>9.26</i>	<i>9.18</i>
Australia	0.44	0.47	0.39	0.43	0.42	<i>0.43</i>	<i>0.43</i>	<i>0.42</i>	<i>0.41</i>	<i>0.40</i>	<i>0.40</i>	<i>0.39</i>	0.43	<i>0.42</i>	<i>0.40</i>
China	5.18	5.18	5.05	5.09	5.32	<i>5.26</i>	<i>5.23</i>	<i>5.28</i>	<i>5.21</i>	<i>5.24</i>	<i>5.23</i>	<i>5.27</i>	5.12	<i>5.27</i>	<i>5.24</i>
India	0.88	0.89	0.87	0.85	0.88	<i>0.91</i>	<i>0.90</i>	<i>0.89</i>	<i>0.91</i>	<i>0.91</i>	<i>0.91</i>	<i>0.90</i>	0.87	<i>0.90</i>	<i>0.91</i>
Indonesia	0.84	0.83	0.81	0.83	0.84	<i>0.84</i>	<i>0.83</i>	<i>0.82</i>	<i>0.81</i>	<i>0.81</i>	<i>0.80</i>	<i>0.80</i>	0.83	<i>0.83</i>	<i>0.80</i>
Malaysia	0.61	0.60	0.58	0.61	0.61	<i>0.60</i>	<i>0.59</i>	<i>0.59</i>	<i>0.58</i>	<i>0.58</i>	<i>0.57</i>	<i>0.57</i>	0.60	<i>0.60</i>	<i>0.57</i>
Africa	1.40	1.43	1.44	1.44	1.38	<i>1.41</i>	<i>1.43</i>	<i>1.42</i>	<i>1.39</i>	<i>1.38</i>	<i>1.38</i>	<i>1.37</i>	1.43	<i>1.41</i>	<i>1.38</i>
Egypt	0.66	0.68	0.67	0.67	0.66	<i>0.69</i>	<i>0.69</i>	<i>0.69</i>	<i>0.66</i>	<i>0.66</i>	<i>0.66</i>	<i>0.66</i>	0.67	<i>0.68</i>	<i>0.66</i>
South Sudan	0.15	0.15	0.16	0.15	0.13	<i>0.14</i>	<i>0.16</i>	<i>0.16</i>	<i>0.17</i>	<i>0.17</i>	<i>0.17</i>	<i>0.17</i>	0.16	<i>0.15</i>	<i>0.17</i>
Total non-OPEC liquids	65.08	64.98	66.09	66.58	67.11	<i>67.60</i>	<i>68.23</i>	<i>68.48</i>	<i>68.18</i>	<i>68.46</i>	<i>69.12</i>	<i>69.62</i>	65.69	<i>67.86</i>	<i>68.85</i>
OPEC non-crude liquids	5.56	5.43	5.48	5.52	5.49	<i>5.34</i>	<i>5.40</i>	<i>5.44</i>	<i>5.53</i>	<i>5.40</i>	<i>5.44</i>	<i>5.48</i>	5.50	<i>5.42</i>	<i>5.46</i>
Non-OPEC + OPEC non-crude	70.64	70.41	71.57	72.10	72.60	<i>72.94</i>	<i>73.62</i>	<i>73.92</i>	<i>73.71</i>	<i>73.86</i>	<i>74.56</i>	<i>75.09</i>	71.18	<i>73.27</i>	<i>74.31</i>
Unplanned non-OPEC Production Outages	0.76	1.31	0.78	0.56	0.54	-	-	-	-	-	-	-	0.85	-	-

- = no data available

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

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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

Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

Historical data: Latest data available from Energy Information Administration international energy statistics.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Crude Oil															
Algeria	0.97	1.00	1.02	1.02	1.01	-	-	-	-	-	-	-	1.00	-	-
Angola	1.15	1.19	1.16	1.10	1.08	-	-	-	-	-	-	-	1.15	-	-
Congo (Brazzaville)	0.27	0.29	0.28	0.26	0.27	-	-	-	-	-	-	-	0.27	-	-
Equatorial Guinea	0.09	0.09	0.09	0.07	0.06	-	-	-	-	-	-	-	0.09	-	-
Gabon	0.19	0.19	0.20	0.21	0.20	-	-	-	-	-	-	-	0.20	-	-
Iran	2.55	2.53	2.53	2.56	2.60	-	-	-	-	-	-	-	2.54	-	-
Iraq	4.30	4.42	4.55	4.51	4.41	-	-	-	-	-	-	-	4.45	-	-
Kuwait	2.61	2.69	2.80	2.72	2.68	-	-	-	-	-	-	-	2.71	-	-
Libya	1.06	0.76	0.95	1.14	1.14	-	-	-	-	-	-	-	0.98	-	-
Nigeria	1.27	1.11	0.97	1.07	1.24	-	-	-	-	-	-	-	1.10	-	-
Saudi Arabia	10.08	10.30	10.85	10.50	10.02	-	-	-	-	-	-	-	10.43	-	-
United Arab Emirates	2.94	3.04	3.17	3.09	3.06	-	-	-	-	-	-	-	3.06	-	-
Venezuela	0.70	0.72	0.66	0.69	0.70	-	-	-	-	-	-	-	0.69	-	-
OPEC Total	28.19	28.33	29.23	28.92	28.46	<i>28.39</i>	<i>27.78</i>	<i>27.77</i>	<i>28.31</i>	<i>28.46</i>	<i>28.51</i>	<i>28.21</i>	28.67	<i>28.10</i>	<i>28.38</i>
Other Liquids (a)	5.56	5.43	5.48	5.52	5.49	<i>5.34</i>	<i>5.40</i>	<i>5.44</i>	<i>5.53</i>	<i>5.40</i>	<i>5.44</i>	<i>5.48</i>	5.50	<i>5.42</i>	<i>5.46</i>
Total OPEC Production	33.75	33.76	34.71	34.43	33.95	<i>33.73</i>	<i>33.17</i>	<i>33.21</i>	<i>33.84</i>	<i>33.86</i>	<i>33.95</i>	<i>33.69</i>	34.17	<i>33.51</i>	<i>33.84</i>
Crude Oil Production Capacity															
Middle East	25.48	25.46	25.55	25.66	25.90	<i>26.14</i>	<i>26.13</i>	<i>26.13</i>	<i>26.63</i>	<i>26.73</i>	<i>26.78</i>	<i>26.78</i>	25.54	<i>26.08</i>	<i>26.73</i>
Other	5.83	5.45	5.35	5.55	5.71	<i>5.82</i>	<i>5.88</i>	<i>5.84</i>	<i>5.87</i>	<i>5.82</i>	<i>5.78</i>	<i>5.75</i>	5.54	<i>5.81</i>	<i>5.80</i>
OPEC Total	31.31	30.91	30.89	31.21	31.61	<i>31.96</i>	<i>32.01</i>	<i>31.97</i>	<i>32.50</i>	<i>32.55</i>	<i>32.56</i>	<i>32.53</i>	31.08	<i>31.89</i>	<i>32.53</i>
Surplus Crude Oil Production Capacity															
Middle East	3.00	2.47	1.65	2.28	3.13	<i>3.53</i>	<i>4.16</i>	<i>4.13</i>	<i>4.15</i>	<i>4.07</i>	<i>4.03</i>	<i>4.30</i>	2.35	<i>3.74</i>	<i>4.14</i>
Other	0.12	0.11	0.01	0.01	0.02	<i>0.05</i>	<i>0.07</i>	<i>0.07</i>	<i>0.04</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	0.06	<i>0.05</i>	<i>0.02</i>
OPEC Total	3.12	2.58	1.67	2.29	3.15	<i>3.57</i>	<i>4.23</i>	<i>4.20</i>	<i>4.18</i>	<i>4.09</i>	<i>4.05</i>	<i>4.32</i>	2.41	<i>3.79</i>	<i>4.16</i>
Unplanned OPEC Production Outages	1.98	2.42	2.50	2.14	1.94	-	-	-	-	-	-	-	2.26	-	-

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

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

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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

Forecasts are not published for individual OPEC countries.

Historical data: Latest data available from Energy Information Administration international energy statistics.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				2022	2023	2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	24.22	24.47	24.82	24.47	24.15	<i>24.61</i>	<i>24.92</i>	<i>24.84</i>	<i>24.60</i>	<i>24.86</i>	<i>25.15</i>	<i>24.97</i>	24.50	<i>24.63</i>	<i>24.90</i>
Canada	2.24	2.21	2.38	2.35	2.27	<i>2.24</i>	<i>2.34</i>	<i>2.32</i>	<i>2.30</i>	<i>2.25</i>	<i>2.35</i>	<i>2.33</i>	2.29	<i>2.29</i>	<i>2.31</i>
Mexico	1.76	1.99	1.96	1.95	1.88	<i>1.91</i>	<i>1.91</i>	<i>1.92</i>	<i>1.87</i>	<i>1.89</i>	<i>1.89</i>	<i>1.91</i>	1.92	<i>1.90</i>	<i>1.89</i>
United States	20.22	20.27	20.47	20.16	20.00	<i>20.45</i>	<i>20.67</i>	<i>20.59</i>	<i>20.42</i>	<i>20.71</i>	<i>20.90</i>	<i>20.72</i>	20.28	<i>20.43</i>	<i>20.69</i>
Central and South America	6.27	6.43	6.57	6.53	6.35	<i>6.48</i>	<i>6.58</i>	<i>6.51</i>	<i>6.44</i>	<i>6.58</i>	<i>6.69</i>	<i>6.62</i>	6.45	<i>6.48</i>	<i>6.58</i>
Brazil	2.85	2.93	3.02	3.02	2.91	<i>2.96</i>	<i>3.04</i>	<i>3.02</i>	<i>2.97</i>	<i>3.02</i>	<i>3.10</i>	<i>3.08</i>	2.96	<i>2.98</i>	<i>3.04</i>
Europe	13.93	14.18	14.85	14.11	13.72	<i>14.23</i>	<i>14.64</i>	<i>14.41</i>	<i>14.03</i>	<i>14.20</i>	<i>14.61</i>	<i>14.38</i>	14.27	<i>14.25</i>	<i>14.30</i>
Eurasia	4.28	4.43	4.73	4.65	4.29	<i>4.44</i>	<i>4.75</i>	<i>4.67</i>	<i>4.43</i>	<i>4.58</i>	<i>4.90</i>	<i>4.81</i>	4.53	<i>4.54</i>	<i>4.68</i>
Russia	3.27	3.36	3.64	3.50	3.27	<i>3.36</i>	<i>3.64</i>	<i>3.50</i>	<i>3.36</i>	<i>3.45</i>	<i>3.74</i>	<i>3.60</i>	3.44	<i>3.44</i>	<i>3.54</i>
Middle East	8.87	9.24	9.69	8.96	9.14	<i>9.32</i>	<i>9.84</i>	<i>9.26</i>	<i>9.41</i>	<i>9.41</i>	<i>9.94</i>	<i>9.35</i>	9.19	<i>9.39</i>	<i>9.53</i>
Asia and Oceania	36.50	35.82	35.40	36.50	37.76	<i>37.19</i>	<i>36.40</i>	<i>37.39</i>	<i>38.70</i>	<i>38.09</i>	<i>37.27</i>	<i>38.28</i>	36.05	<i>37.18</i>	<i>38.08</i>
China	15.11	15.30	14.99	15.19	15.91	<i>16.11</i>	<i>15.79</i>	<i>16.00</i>	<i>16.32</i>	<i>16.51</i>	<i>16.18</i>	<i>16.40</i>	15.15	<i>15.95</i>	<i>16.35</i>
Japan	3.70	3.03	3.19	3.56	3.73	<i>3.00</i>	<i>3.11</i>	<i>3.44</i>	<i>3.56</i>	<i>2.94</i>	<i>3.05</i>	<i>3.37</i>	3.37	<i>3.32</i>	<i>3.23</i>
India	5.08	5.07	4.84	5.18	5.26	<i>5.41</i>	<i>5.05</i>	<i>5.37</i>	<i>5.63</i>	<i>5.70</i>	<i>5.33</i>	<i>5.66</i>	5.04	<i>5.27</i>	<i>5.58</i>
Africa	4.45	4.45	4.34	4.48	4.53	<i>4.54</i>	<i>4.46</i>	<i>4.62</i>	<i>4.62</i>	<i>4.64</i>	<i>4.55</i>	<i>4.72</i>	4.43	<i>4.54</i>	<i>4.63</i>
Total OECD Liquid Fuels Consumption	45.76	45.37	46.63	45.98	45.45	<i>45.57</i>	<i>46.41</i>	<i>46.54</i>	<i>46.11</i>	<i>45.73</i>	<i>46.56</i>	<i>46.59</i>	45.94	<i>46.00</i>	<i>46.25</i>
Total non-OECD Liquid Fuels Consumption	52.78	53.65	53.78	53.72	54.48	<i>55.24</i>	<i>55.19</i>	<i>55.15</i>	<i>56.12</i>	<i>56.63</i>	<i>56.56</i>	<i>56.54</i>	53.49	<i>55.02</i>	<i>56.46</i>
Total World Liquid Fuels Consumption	98.54	99.02	100.41	99.70	99.93	<i>100.81</i>	<i>101.60</i>	<i>101.69</i>	<i>102.23</i>	<i>102.36</i>	<i>103.11</i>	<i>103.12</i>	99.42	<i>101.01</i>	<i>102.71</i>
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	122.0	122.3	123.4	123.9	125.0	<i>125.7</i>	<i>126.1</i>	<i>126.7</i>	<i>127.6</i>	<i>128.7</i>	<i>130.0</i>	<i>131.4</i>	122.9	<i>125.9</i>	<i>129.4</i>
Percent change from prior year	4.4	3.5	3.3	2.1	2.4	<i>2.8</i>	<i>2.1</i>	<i>2.3</i>	<i>2.2</i>	<i>2.4</i>	<i>3.1</i>	<i>3.7</i>	3.3	<i>2.4</i>	<i>2.8</i>
OECD Index, 2015 = 100	113.3	114.0	115.2	113.3	114.0	<i>115.2</i>	<i>113.3</i>	<i>114.0</i>	<i>115.2</i>	<i>113.3</i>	<i>114.0</i>	<i>115.2</i>	113.3	<i>114.0</i>	<i>115.2</i>
Percent change from prior year	2.9	0.7	1.0	2.9	0.7	<i>1.0</i>	<i>2.9</i>	<i>0.7</i>	<i>1.0</i>	<i>2.9</i>	<i>0.7</i>	<i>1.0</i>	2.9	<i>0.7</i>	<i>1.0</i>
Non-OECD Index, 2015 = 100	129.1	134.0	139.7	129.1	134.0	<i>139.7</i>	<i>129.1</i>	<i>134.0</i>	<i>139.7</i>	<i>129.1</i>	<i>134.0</i>	<i>139.7</i>	129.1	<i>134.0</i>	<i>139.7</i>
Percent change from prior year	3.6	3.8	4.3	3.6	3.8	<i>4.3</i>	<i>3.6</i>	<i>3.8</i>	<i>4.3</i>	<i>3.6</i>	<i>3.8</i>	<i>4.3</i>	3.6	<i>3.8</i>	<i>4.3</i>
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	109.5	112.8	117.1	118.4	114.1	<i>114.2</i>	<i>114.3</i>	<i>114.6</i>	<i>114.6</i>	<i>114.5</i>	<i>114.1</i>	<i>113.5</i>	114.5	<i>114.3</i>	<i>114.2</i>
Percent change from prior year	2.8	6.4	9.0	8.6	4.2	<i>1.2</i>	<i>-2.4</i>	<i>-3.2</i>	<i>0.5</i>	<i>0.3</i>	<i>-0.2</i>	<i>-1.0</i>	6.7	<i>-0.1</i>	<i>-0.1</i>

(a) 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.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. 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 and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

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

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 international energy statistics.

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

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	11.47	11.70	12.06	12.31	12.60	<i>12.56</i>	<i>12.57</i>	<i>12.70</i>	<i>12.69</i>	<i>12.63</i>	<i>12.76</i>	<i>13.00</i>	11.89	<i>12.61</i>	<i>12.77</i>
Alaska	0.45	0.44	0.42	0.44	0.44	<i>0.39</i>	<i>0.41</i>	<i>0.43</i>	<i>0.43</i>	<i>0.36</i>	<i>0.39</i>	<i>0.41</i>	0.44	<i>0.42</i>	<i>0.40</i>
Federal Gulf of Mexico (b)	1.67	1.70	1.80	1.80	1.87	<i>1.85</i>	<i>1.89</i>	<i>1.92</i>	<i>1.96</i>	<i>1.94</i>	<i>1.86</i>	<i>1.91</i>	1.74	<i>1.88</i>	<i>1.91</i>
Lower 48 States (excl GOM)	9.35	9.56	9.84	10.07	10.29	<i>10.32</i>	<i>10.27</i>	<i>10.35</i>	<i>10.31</i>	<i>10.33</i>	<i>10.51</i>	<i>10.68</i>	9.71	<i>10.31</i>	<i>10.46</i>
Crude Oil Net Imports (c)	3.00	2.81	2.75	2.14	2.27	<i>2.51</i>	<i>3.18</i>	<i>2.75</i>	<i>2.50</i>	<i>3.04</i>	<i>2.96</i>	<i>2.19</i>	2.67	<i>2.68</i>	<i>2.67</i>
SPR Net Withdrawals	0.31	0.80	0.84	0.48	0.01	<i>0.28</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.61	<i>0.07</i>	<i>0.00</i>
Commercial Inventory Net Withdrawals	0.08	-0.03	-0.12	-0.01	-0.40	<i>0.25</i>	<i>0.19</i>	<i>-0.09</i>	<i>-0.28</i>	<i>0.12</i>	<i>0.18</i>	<i>-0.10</i>	-0.02	<i>-0.01</i>	<i>-0.02</i>
Crude Oil Adjustment (d)	0.71	0.81	0.74	0.87	0.71	<i>0.68</i>	<i>0.52</i>	<i>0.43</i>	<i>0.53</i>	<i>0.57</i>	<i>0.49</i>	<i>0.44</i>	0.78	<i>0.58</i>	<i>0.51</i>
Total Crude Oil Input to Refineries	15.56	16.09	16.26	15.80	15.19	<i>16.28</i>	<i>16.45</i>	<i>15.79</i>	<i>15.44</i>	<i>16.36</i>	<i>16.39</i>	<i>15.53</i>	15.93	<i>15.93</i>	<i>15.93</i>
Other Supply															
Refinery Processing Gain	0.95	1.07	1.05	1.01	0.97	<i>1.03</i>	<i>1.02</i>	<i>1.02</i>	<i>0.97</i>	<i>1.01</i>	<i>1.01</i>	<i>0.99</i>	1.02	<i>1.01</i>	<i>1.00</i>
Natural Gas Plant Liquids Production	5.61	5.92	6.09	5.90	6.01	<i>6.20</i>	<i>6.28</i>	<i>6.22</i>	<i>6.22</i>	<i>6.29</i>	<i>6.37</i>	<i>6.36</i>	5.88	<i>6.18</i>	<i>6.31</i>
Renewables and Oxygenate Production (e)	1.20	1.20	1.18	1.23	1.24	<i>1.25</i>	<i>1.25</i>	<i>1.26</i>	<i>1.29</i>	<i>1.33</i>	<i>1.33</i>	<i>1.38</i>	1.20	<i>1.25</i>	<i>1.33</i>
Fuel Ethanol Production	1.02	1.01	0.97	1.01	1.00	<i>1.00</i>	<i>0.98</i>	<i>0.99</i>	<i>1.00</i>	<i>1.00</i>	<i>0.99</i>	<i>1.02</i>	1.00	<i>0.99</i>	<i>1.00</i>
Petroleum Products Adjustment (f)	0.21	0.23	0.22	0.22	0.20	<i>0.22</i>	<i>0.22</i>	<i>0.22</i>	<i>0.21</i>	<i>0.22</i>	<i>0.22</i>	<i>0.22</i>	0.22	<i>0.21</i>	<i>0.22</i>
Product Net Imports (c)	-3.74	-3.99	-4.07	-3.93	-3.91	<i>-4.05</i>	<i>-4.14</i>	<i>-4.29</i>	<i>-4.01</i>	<i>-4.03</i>	<i>-4.26</i>	<i>-4.26</i>	-3.93	<i>-4.10</i>	<i>-4.14</i>
Hydrocarbon Gas Liquids	-2.14	-2.31	-2.16	-2.26	-2.47	<i>-2.63</i>	<i>-2.57</i>	<i>-2.51</i>	<i>-2.56</i>	<i>-2.61</i>	<i>-2.55</i>	<i>-2.57</i>	-2.22	<i>-2.54</i>	<i>-2.57</i>
Unfinished Oils	0.09	0.25	0.28	0.30	0.28	<i>0.29</i>	<i>0.40</i>	<i>0.21</i>	<i>0.19</i>	<i>0.25</i>	<i>0.31</i>	<i>0.19</i>	0.23	<i>0.29</i>	<i>0.24</i>
Other HC/Oxygenates	-0.09	-0.10	-0.07	-0.02	-0.05	<i>-0.04</i>	<i>-0.03</i>	<i>-0.03</i>	<i>-0.05</i>	<i>-0.03</i>	<i>-0.03</i>	<i>-0.04</i>	-0.07	<i>-0.04</i>	<i>-0.04</i>
Motor Gasoline Blend Comp.	0.40	0.60	0.48	0.40	0.45	<i>0.63</i>	<i>0.49</i>	<i>0.45</i>	<i>0.45</i>	<i>0.58</i>	<i>0.35</i>	<i>0.38</i>	0.47	<i>0.51</i>	<i>0.44</i>
Finished Motor Gasoline	-0.76	-0.73	-0.81	-0.83	-0.75	<i>-0.68</i>	<i>-0.79</i>	<i>-0.76</i>	<i>-0.76</i>	<i>-0.61</i>	<i>-0.64</i>	<i>-0.80</i>	-0.78	<i>-0.74</i>	<i>-0.71</i>
Jet Fuel	-0.04	-0.06	-0.11	-0.03	-0.05	<i>0.02</i>	<i>0.07</i>	<i>0.08</i>	<i>0.16</i>	<i>0.18</i>	<i>0.18</i>	<i>0.19</i>	-0.06	<i>0.03</i>	<i>0.18</i>
Distillate Fuel Oil	-0.81	-1.15	-1.29	-1.05	-0.76	<i>-0.99</i>	<i>-1.17</i>	<i>-1.10</i>	<i>-0.88</i>	<i>-1.18</i>	<i>-1.27</i>	<i>-1.06</i>	-1.07	<i>-1.01</i>	<i>-1.10</i>
Residual Fuel Oil	0.14	0.10	0.10	0.09	0.01	<i>-0.03</i>	<i>0.01</i>	<i>0.04</i>	<i>0.02</i>	<i>0.06</i>	<i>0.04</i>	<i>0.12</i>	0.11	<i>0.01</i>	<i>0.06</i>
Other Oils (g)	-0.54	-0.59	-0.49	-0.53	-0.58	<i>-0.63</i>	<i>-0.56</i>	<i>-0.66</i>	<i>-0.58</i>	<i>-0.66</i>	<i>-0.64</i>	<i>-0.67</i>	-0.54	<i>-0.61</i>	<i>-0.63</i>
Product Inventory Net Withdrawals	0.42	-0.25	-0.26	-0.06	0.30	<i>-0.48</i>	<i>-0.41</i>	<i>0.37</i>	<i>0.30</i>	<i>-0.47</i>	<i>-0.17</i>	<i>0.51</i>	-0.04	<i>-0.06</i>	<i>0.04</i>
Total Supply	20.22	20.27	20.47	20.16	20.00	<i>20.46</i>	<i>20.67</i>	<i>20.59</i>	<i>20.42</i>	<i>20.71</i>	<i>20.90</i>	<i>20.72</i>	20.28	<i>20.43</i>	<i>20.69</i>
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.87	3.43	3.48	3.57	3.68	<i>3.33</i>	<i>3.53</i>	<i>3.85</i>	<i>3.99</i>	<i>3.50</i>	<i>3.64</i>	<i>3.90</i>	3.59	<i>3.60</i>	<i>3.76</i>
Other HC/Oxygenates	0.13	0.17	0.17	0.19	0.22	<i>0.21</i>	<i>0.21</i>	<i>0.24</i>	<i>0.25</i>	<i>0.27</i>	<i>0.28</i>	<i>0.31</i>	0.16	<i>0.22</i>	<i>0.28</i>
Unfinished Oils	0.13	0.04	0.11	0.10	0.05	<i>0.01</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.09	<i>0.02</i>	<i>0.00</i>
Motor Gasoline	8.47	9.00	8.88	8.75	8.67	<i>9.15</i>	<i>8.96</i>	<i>8.78</i>	<i>8.65</i>	<i>9.10</i>	<i>9.01</i>	<i>8.77</i>	8.78	<i>8.89</i>	<i>8.88</i>
Fuel Ethanol blended into Motor Gasoline	0.87	0.93	0.92	0.93	0.90	<i>0.96</i>	<i>0.94</i>	<i>0.92</i>	<i>0.90</i>	<i>0.95</i>	<i>0.94</i>	<i>0.94</i>	0.91	<i>0.93</i>	<i>0.94</i>
Jet Fuel	1.45	1.61	1.60	1.58	1.55	<i>1.69</i>	<i>1.76</i>	<i>1.68</i>	<i>1.64</i>	<i>1.76</i>	<i>1.80</i>	<i>1.74</i>	1.56	<i>1.67</i>	<i>1.73</i>
Distillate Fuel Oil	4.14	3.89	3.86	3.96	4.01	<i>3.96</i>	<i>3.87</i>	<i>3.96</i>	<i>4.00</i>	<i>3.92</i>	<i>3.84</i>	<i>3.95</i>	3.96	<i>3.95</i>	<i>3.93</i>
Residual Fuel Oil	0.38	0.31	0.39	0.30	0.29	<i>0.24</i>	<i>0.34</i>	<i>0.35</i>	<i>0.28</i>	<i>0.31</i>	<i>0.33</i>	<i>0.35</i>	0.34	<i>0.30</i>	<i>0.32</i>
Other Oils (g)	1.65	1.82	1.99	1.71	1.53	<i>1.87</i>	<i>2.01</i>	<i>1.73</i>	<i>1.63</i>	<i>1.85</i>	<i>1.99</i>	<i>1.72</i>	1.79	<i>1.79</i>	<i>1.80</i>
Total Consumption	20.22	20.27	20.47	20.16	20.00	<i>20.45</i>	<i>20.67</i>	<i>20.59</i>	<i>20.42</i>	<i>20.71</i>	<i>20.90</i>	<i>20.72</i>	20.28	<i>20.43</i>	<i>20.69</i>
Total Petroleum and Other Liquids Net Imports	-0.74	-1.18	-1.32	-1.79	-1.64	<i>-1.53</i>	<i>-0.96</i>	<i>-1.54</i>	<i>-1.51</i>	<i>-1.00</i>	<i>-1.30</i>	<i>-2.07</i>	-1.26	<i>-1.42</i>	<i>-1.47</i>
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	414.4	417.5	428.8	429.6	465.4	<i>442.8</i>	<i>425.8</i>	<i>433.7</i>	<i>459.5</i>	<i>448.3</i>	<i>432.1</i>	<i>441.3</i>	429.6	<i>433.7</i>	<i>441.3</i>
Hydrocarbon Gas Liquids	142.0	186.7	243.6	211.1	174.3	<i>225.9</i>	<i>264.5</i>	<i>220.7</i>	<i>177.9</i>	<i>225.8</i>	<i>264.2</i>	<i>219.2</i>	211.1	<i>220.7</i>	<i>219.2</i>
Unfinished Oils	87.9	88.8	82.3	86.1	88.6	<i>87.6</i>	<i>88.4</i>	<i>81.1</i>	<i>91.0</i>	<i>87.8</i>	<i>87.0</i>	<i>79.4</i>	86.1	<i>81.1</i>	<i>79.4</i>
Other HC/Oxygenates	34.1	29.4	27.3	31.7	34.3	<i>30.7</i>	<i>30.4</i>	<i>30.7</i>	<i>32.7</i>	<i>31.5</i>	<i>31.2</i>	<i>31.5</i>	31.7	<i>30.7</i>	<i>31.5</i>
Total Motor Gasoline	238.5	221.0	209.6	224.3	225.3	<i>223.0</i>	<i>225.7</i>	<i>241.9</i>	<i>241.2</i>	<i>238.2</i>	<i>226.3</i>	<i>235.5</i>	224.3	<i>241.9</i>	<i>235.5</i>
Finished Motor Gasoline	17.3	17.1	17.6	17.4	14.7	<i>17.7</i>	<i>19.9</i>	<i>22.8</i>	<i>19.7</i>	<i>20.1</i>	<i>21.1</i>	<i>23.2</i>	17.4	<i>22.8</i>	<i>23.2</i>
Motor Gasoline Blend Comp.	221.2	203.8	192.0	206.9	210.6	<i>205.3</i>	<i>205.8</i>	<i>219.1</i>	<i>221.5</i>	<i>218.1</i>	<i>205.2</i>	<i>212.3</i>	206.9	<i>219.1</i>	<i>212.3</i>
Jet Fuel	35.6	39.3	36.2	35.0	37.7	<i>41.1</i>	<i>41.7</i>	<i>40.0</i>	<i>40.0</i>	<i>41.8</i>	<i>42.7</i>	<i>39.2</i>	35.0	<i>40.0</i>	<i>39.2</i>
Distillate Fuel Oil	114.6	111.4	110.5	118.8	112.3	<i>113.6</i>	<i>120.2</i>	<i>122.1</i>	<i>115.7</i>	<i>118.7</i>	<i>119.3</i>	<i>118.6</i>	118.8	<i>122.1</i>	<i>118.6</i>
Residual Fuel Oil	27.9	29.2	27.3	30.7	29.6	<i>31.9</i>	<i>29.8</i>	<i>29.1</i>	<i>30.3</i>	<i>29.5</i>	<i>27.7</i>	<i>26.9</i>	30.7	<i>29.1</i>	<i>26.9</i>
Other Oils (g)	58.5	56.4	49.5	54.2	63.3	<i>54.8</i>	<i>45.9</i>	<i>47.6</i>	<i>57.0</i>	<i>55.2</i>	<i>46.1</i>	<i>47.6</i>	54.2	<i>47.6</i>	<i>47.6</i>
Total Commercial Inventory	1153.6	1179.7	1215.1	1221.6	1230.8	<i>1251.5</i>	<i>1272.5</i>	<i>1246.8</i>	<i>1245.4</i>	<i>1276.7</i>	<i>1276.5</i>	<i>1239.0</i>	1221.6	<i>1246.8</i>	<i>1239.0</i>
Crude Oil in SPR	566.1	493.3	416.4	372.0	371.2	<i>345.7</i>	<i>345.7</i>	<i>345.7</i>	<i>345.7</i>	<i>345.7</i>	<i>345.7</i>	<i>345.7</i>	372.0	<i>345.7</i>	<i>345.7</i>

(a) Includes lease condensate.

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

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

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(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.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
HGL Production															
Natural Gas Processing Plants															
Ethane	2.33	2.43	2.41	2.37	2.49	2.59	2.59	2.61	2.57	2.63	2.64	2.65	2.39	2.57	2.62
Propane	1.77	1.85	1.92	1.88	1.89	1.93	1.96	1.94	1.96	1.95	1.98	1.98	1.86	1.93	1.97
Butanes	0.93	0.98	1.02	0.99	0.99	1.01	1.03	1.02	1.05	1.05	1.07	1.07	0.98	1.01	1.06
Natural Gasoline (Pentanes Plus)	0.59	0.67	0.74	0.66	0.64	0.66	0.69	0.65	0.64	0.66	0.69	0.66	0.66	0.66	0.66
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Propane	0.27	0.29	0.29	0.27	0.27	0.28	0.28	0.28	0.28	0.28	0.29	0.28	0.28	0.28	0.28
Propylene (refinery-grade)	0.28	0.28	0.26	0.23	0.24	0.29	0.28	0.28	0.28	0.28	0.28	0.28	0.26	0.27	0.28
Butanes/Butylenes	-0.07	0.25	0.19	-0.15	-0.05	0.26	0.20	-0.19	-0.08	0.27	0.20	-0.19	0.06	0.06	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	-0.40	-0.43	-0.46	-0.50	-0.48	-0.47	-0.47	-0.49	-0.50	-0.49	-0.52	-0.45	-0.48	-0.50
Propane/Propylene	-1.18	-1.33	-1.21	-1.29	-1.40	-1.46	-1.37	-1.38	-1.39	-1.40	-1.36	-1.41	-1.25	-1.40	-1.39
Butanes/Butylenes	-0.28	-0.41	-0.34	-0.36	-0.42	-0.44	-0.47	-0.44	-0.42	-0.47	-0.48	-0.43	-0.35	-0.44	-0.45
Natural Gasoline (Pentanes Plus)	-0.17	-0.17	-0.19	-0.15	-0.15	-0.25	-0.26	-0.23	-0.26	-0.24	-0.22	-0.21	-0.17	-0.22	-0.23
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.44	0.31	0.35	0.56	0.50	0.30	0.31	0.50	0.43	0.29	0.32	0.54	0.42	0.40	0.40
Natural Gasoline (Pentanes Plus)	0.20	0.20	0.22	0.20	0.22	0.19	0.19	0.19	0.17	0.18	0.19	0.19	0.20	0.19	0.18
HGL Consumption															
Ethane/Ethylene	1.98	2.03	1.97	1.91	1.99	2.08	2.12	2.12	2.13	2.13	2.13	2.15	1.97	2.08	2.13
Propane	1.16	0.60	0.69	0.91	0.98	0.50	0.65	0.99	1.12	0.62	0.70	0.98	0.84	0.78	0.86
Propylene (refinery-grade)	0.30	0.29	0.28	0.24	0.25	0.30	0.29	0.29	0.30	0.30	0.29	0.29	0.28	0.28	0.30
Butanes/Butylenes	0.23	0.26	0.29	0.20	0.18	0.26	0.25	0.21	0.21	0.25	0.26	0.21	0.24	0.22	0.23
Natural Gasoline (Pentanes Plus)	0.21	0.24	0.26	0.31	0.28	0.19	0.21	0.23	0.22	0.21	0.25	0.26	0.26	0.23	0.24
HGL Inventories (million barrels)															
Ethane	51.1	51.7	49.9	54.3	53.0	56.7	57.9	59.7	56.4	56.9	58.9	59.0	51.8	56.8	57.8
Propane	36.3	54.1	81.9	76.6	55.8	77.7	96.4	81.0	54.4	72.4	89.6	76.0	76.6	81.0	76.0
Propylene (at refineries only)	1.0	1.2	1.1	1.3	1.1	1.5	1.8	1.7	1.5	1.7	1.9	1.8	1.3	1.7	1.8
Butanes/Butylenes	35.7	58.8	81.2	54.5	40.2	65.7	83.7	54.7	45.6	73.1	91.2	62.1	54.5	54.7	62.1
Natural Gasoline (Pentanes Plus)	19.4	22.7	27.2	25.2	22.9	23.8	24.3	23.2	20.4	21.4	21.9	21.0	25.2	23.2	21.0
Refinery and Blender Net Inputs															
Crude Oil	15.56	16.09	16.26	15.80	15.19	16.28	16.45	15.79	15.44	16.36	16.39	15.53	15.93	15.93	15.93
Hydrocarbon Gas Liquids	0.64	0.50	0.57	0.76	0.72	0.48	0.50	0.69	0.60	0.47	0.52	0.73	0.62	0.60	0.58
Other Hydrocarbons/Oxygenates	1.12	1.20	1.19	1.17	1.13	1.23	1.22	1.18	1.17	1.23	1.23	1.21	1.17	1.19	1.21
Unfinished Oils	-0.12	0.21	0.24	0.15	0.19	0.29	0.39	0.29	0.08	0.28	0.32	0.28	0.12	0.29	0.24
Motor Gasoline Blend Components	0.33	0.84	0.66	0.29	0.34	0.72	0.59	0.53	0.55	0.72	0.59	0.53	0.53	0.55	0.59
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	17.53	18.84	18.92	18.17	17.58	19.01	19.16	18.47	17.84	19.07	19.04	18.28	18.37	18.56	18.55
Refinery Processing Gain	0.95	1.07	1.05	1.01	0.97	1.03	1.02	1.02	0.97	1.01	1.01	0.99	1.02	1.01	1.00
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.49	0.84	0.75	0.36	0.47	0.83	0.77	0.37	0.48	0.84	0.77	0.37	0.61	0.61	0.61
Finished Motor Gasoline	9.22	9.74	9.73	9.58	9.28	9.83	9.84	9.74	9.46	9.78	9.73	9.76	9.57	9.67	9.68
Jet Fuel	1.48	1.71	1.67	1.60	1.62	1.71	1.70	1.59	1.48	1.59	1.63	1.51	1.62	1.65	1.55
Distillate Fuel	4.77	5.00	5.15	5.09	4.69	4.96	5.11	5.08	4.81	5.13	5.12	5.00	5.01	4.96	5.02
Residual Fuel	0.26	0.22	0.26	0.25	0.27	0.29	0.30	0.30	0.27	0.24	0.27	0.22	0.25	0.29	0.25
Other Oils (a)	2.26	2.39	2.40	2.30	2.21	2.41	2.47	2.41	2.31	2.49	2.53	2.40	2.34	2.38	2.43
Total Refinery and Blender Net Production	18.49	19.90	19.97	19.18	18.54	20.04	20.18	19.49	18.81	20.08	20.05	19.27	19.39	19.56	19.55
Refinery Distillation Inputs	16.07	16.61	16.82	16.34	15.78	16.73	16.75	16.11	15.76	16.58	16.69	15.88	16.46	16.34	16.23
Refinery Operable Distillation Capacity	17.94	17.94	17.98	18.01	18.12	18.27	18.31	18.31	18.31	18.31	18.32	18.33	17.97	18.25	18.32
Refinery Distillation Utilization Factor	0.90	0.93	0.94	0.91	0.87	0.92	0.91	0.88	0.86	0.91	0.91	0.87	0.92	0.90	0.89

(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 June 5, 2023.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Prices (cents per gallon)															
Refiner Wholesale Price	278	376	311	267	262	266	249	225	237	256	253	236	309	250	246
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	364	438	393	341	330	345	329	307	314	330	328	315	385	328	322
PADD 2	352	436	397	345	324	350	327	301	308	328	325	307	383	326	317
PADD 3	340	414	357	300	302	316	295	271	282	302	299	282	353	296	291
PADD 4	360	446	434	358	357	357	348	322	314	343	346	329	401	346	333
PADD 5	452	543	511	478	418	453	432	389	390	418	416	396	497	423	405
U.S. Average	371	450	408	357	338	360	341	314	320	340	338	321	397	339	330
Gasoline All Grades Including Taxes	380	460	419	369	349	371	353	326	331	351	349	333	408	350	341
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	56.9	53.6	54.4	56.4	52.7	56.6	60.1	63.1	62.4	64.5	59.4	62.3	56.4	63.1	62.3
PADD 2	56.5	46.7	44.1	46.6	49.5	45.8	47.1	53.2	54.3	50.6	47.4	51.4	46.6	53.2	51.4
PADD 3	87.1	83.9	80.2	81.4	84.1	85.4	81.3	86.5	85.6	85.6	81.6	82.0	81.4	86.5	82.0
PADD 4	8.1	6.4	6.4	7.4	7.8	6.3	7.2	8.0	8.3	6.9	6.9	7.7	7.4	8.0	7.7
PADD 5	29.9	30.3	24.5	32.6	31.2	28.9	30.1	31.1	30.6	30.5	30.9	32.0	32.6	31.1	32.0
U.S. Total	238.5	221.0	209.6	224.3	225.3	223.0	225.7	241.9	241.2	238.2	226.3	235.5	224.3	241.9	235.5
Finished Gasoline Inventories															
U.S. Total	17.3	17.1	17.6	17.4	14.7	17.7	19.9	22.8	19.7	20.1	21.1	23.2	17.4	22.8	23.2
Gasoline Blending Components Inventories															
U.S. Total	221.2	203.8	192.0	206.9	210.6	205.3	205.8	219.1	221.5	218.1	205.2	212.3	206.9	219.1	212.3

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 Petroleum Administration for Defense Districts (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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (billion cubic feet per day)															
Total Marketed Production	103.27	106.18	108.27	108.90	110.45	<i>112.39</i>	<i>112.07</i>	<i>110.50</i>	<i>111.42</i>	<i>111.42</i>	<i>111.71</i>	<i>112.37</i>	106.67	<i>111.36</i>	<i>111.73</i>
Alaska	1.06	1.00	0.96	1.07	1.08	<i>0.96</i>	<i>0.86</i>	<i>0.98</i>	<i>1.00</i>	<i>0.92</i>	<i>0.84</i>	<i>0.97</i>	1.02	<i>0.97</i>	<i>0.93</i>
Federal GOM (a)	2.05	2.11	2.19	2.12	2.15	<i>2.25</i>	<i>2.22</i>	<i>2.22</i>	<i>2.22</i>	<i>2.15</i>	<i>2.02</i>	<i>2.02</i>	2.12	<i>2.21</i>	<i>2.10</i>
Lower 48 States (excl GOM)	100.16	103.07	105.12	105.71	107.22	<i>109.19</i>	<i>109.00</i>	<i>107.31</i>	<i>108.21</i>	<i>108.35</i>	<i>108.85</i>	<i>109.37</i>	103.53	<i>108.18</i>	<i>108.70</i>
Total Dry Gas Production	95.09	97.59	99.46	100.29	102.00	<i>103.69</i>	<i>103.36</i>	<i>101.91</i>	<i>102.76</i>	<i>102.76</i>	<i>103.02</i>	<i>103.63</i>	98.13	<i>102.74</i>	<i>103.04</i>
LNG Gross Imports	0.15	0.01	0.07	0.05	0.09	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	<i>0.10</i>	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	0.07	<i>0.06</i>	<i>0.06</i>
LNG Gross Exports	11.50	10.80	9.74	10.35	11.44	<i>12.30</i>	<i>12.17</i>	<i>12.33</i>	<i>12.70</i>	<i>12.60</i>	<i>12.31</i>	<i>13.30</i>	10.59	<i>12.07</i>	<i>12.73</i>
Pipeline Gross Imports	8.89	7.73	7.84	8.41	8.45	<i>6.90</i>	<i>7.06</i>	<i>7.44</i>	<i>8.18</i>	<i>6.81</i>	<i>7.04</i>	<i>7.44</i>	8.22	<i>7.46</i>	<i>7.36</i>
Pipeline Gross Exports	8.46	8.50	8.10	8.19	8.83	<i>8.42</i>	<i>8.78</i>	<i>9.20</i>	<i>9.49</i>	<i>8.88</i>	<i>9.21</i>	<i>9.64</i>	8.31	<i>8.81</i>	<i>9.31</i>
Supplemental Gaseous Fuels	0.21	0.17	0.18	0.16	0.19	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	0.18	<i>0.18</i>	<i>0.18</i>
Net Inventory Withdrawals	20.14	-10.25	-8.94	2.35	11.95	<i>-11.31</i>	<i>-6.74</i>	<i>3.89</i>	<i>14.07</i>	<i>-12.25</i>	<i>-7.76</i>	<i>3.25</i>	0.75	<i>-0.59</i>	<i>-0.68</i>
Total Supply	104.52	75.96	80.76	92.73	102.41	<i>78.78</i>	<i>82.95</i>	<i>91.95</i>	<i>103.09</i>	<i>76.06</i>	<i>81.00</i>	<i>91.62</i>	88.44	<i>88.98</i>	<i>87.93</i>
Balancing Item (b)	0.30	0.17	0.01	-0.11	0.56	<i>-1.47</i>	<i>0.35</i>	<i>-0.80</i>	<i>-0.95</i>	<i>-1.83</i>	<i>-0.50</i>	<i>-2.10</i>	0.09	<i>-0.34</i>	<i>-1.35</i>
Total Primary Supply	104.83	76.13	80.77	92.62	102.97	<i>77.31</i>	<i>83.30</i>	<i>91.15</i>	<i>102.14</i>	<i>74.22</i>	<i>80.50</i>	<i>89.52</i>	88.53	<i>88.64</i>	<i>86.59</i>
Consumption (billion cubic feet per day)															
Residential	26.09	7.86	3.57	17.37	23.47	<i>7.65</i>	<i>4.27</i>	<i>16.64</i>	<i>24.82</i>	<i>7.86</i>	<i>4.32</i>	<i>16.64</i>	13.67	<i>12.96</i>	<i>13.39</i>
Commercial	15.61	6.67	4.74	11.69	14.52	<i>6.80</i>	<i>5.49</i>	<i>11.57</i>	<i>14.72</i>	<i>6.84</i>	<i>5.49</i>	<i>11.54</i>	9.66	<i>9.57</i>	<i>9.64</i>
Industrial	25.46	22.25	21.47	23.51	24.62	<i>21.80</i>	<i>21.22</i>	<i>23.24</i>	<i>23.91</i>	<i>20.86</i>	<i>20.67</i>	<i>22.84</i>	23.16	<i>22.71</i>	<i>22.07</i>
Electric Power (c)	28.39	30.99	42.36	30.94	30.78	<i>32.38</i>	<i>43.43</i>	<i>30.58</i>	<i>29.09</i>	<i>30.14</i>	<i>41.25</i>	<i>29.34</i>	33.20	<i>34.32</i>	<i>32.47</i>
Lease and Plant Fuel	5.26	5.41	5.51	5.55	5.64	<i>5.72</i>	<i>5.71</i>	<i>5.63</i>	<i>5.68</i>	<i>5.68</i>	<i>5.69</i>	<i>5.72</i>	5.43	<i>5.68</i>	<i>5.69</i>
Pipeline and Distribution Use	3.86	2.80	2.98	3.41	3.79	<i>2.82</i>	<i>3.05</i>	<i>3.35</i>	<i>3.78</i>	<i>2.71</i>	<i>2.94</i>	<i>3.29</i>	3.26	<i>3.25</i>	<i>3.18</i>
Vehicle Use	0.15	0.15	0.15	0.15	0.15	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	0.15	<i>0.15</i>	<i>0.15</i>
Total Consumption	104.83	76.13	80.77	92.62	102.97	<i>77.31</i>	<i>83.30</i>	<i>91.15</i>	<i>102.14</i>	<i>74.22</i>	<i>80.50</i>	<i>89.52</i>	88.53	<i>88.64</i>	<i>86.59</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,401	2,325	3,146	2,927	1,849	<i>2,878</i>	<i>3,498</i>	<i>3,141</i>	<i>1,860</i>	<i>2,975</i>	<i>3,689</i>	<i>3,390</i>	2,927	<i>3,141</i>	<i>3,390</i>
East Region (d)	242	482	759	698	334	<i>652</i>	<i>867</i>	<i>723</i>	<i>342</i>	<i>649</i>	<i>882</i>	<i>775</i>	698	<i>723</i>	<i>775</i>
Midwest Region (d)	296	557	917	831	417	<i>700</i>	<i>1,005</i>	<i>868</i>	<i>420</i>	<i>724</i>	<i>1,046</i>	<i>923</i>	831	<i>868</i>	<i>923</i>
South Central Region (d)	587	885	1,006	1,042	919	<i>1,131</i>	<i>1,118</i>	<i>1,093</i>	<i>787</i>	<i>1,135</i>	<i>1,195</i>	<i>1,183</i>	1,042	<i>1,093</i>	<i>1,183</i>
Mountain Region (d)	90	137	184	158	79	<i>164</i>	<i>229</i>	<i>196</i>	<i>128</i>	<i>167</i>	<i>227</i>	<i>196</i>	158	<i>196</i>	<i>196</i>
Pacific Region (d)	165	240	247	169	74	<i>202</i>	<i>246</i>	<i>230</i>	<i>159</i>	<i>272</i>	<i>306</i>	<i>284</i>	169	<i>230</i>	<i>284</i>
Alaska	21	25	32	30	26	<i>29</i>	<i>34</i>	<i>31</i>	<i>25</i>	<i>28</i>	<i>33</i>	<i>29</i>	30	<i>31</i>	<i>29</i>

(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/hgs/notes.html>).

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Wholesale/Spot															
Henry Hub Spot Price	4.84	7.77	8.30	5.76	2.76	2.29	2.72	3.28	3.52	3.22	3.68	3.78	6.67	2.76	3.55
Residential Retail															
New England	17.69	20.93	26.83	21.72	21.06	<i>20.33</i>	<i>22.90</i>	<i>17.56</i>	<i>17.27</i>	<i>18.73</i>	<i>23.07</i>	<i>18.30</i>	19.87	19.95	18.21
Middle Atlantic	12.79	15.55	23.86	16.89	15.61	<i>15.13</i>	<i>20.54</i>	<i>13.94</i>	<i>12.77</i>	<i>15.07</i>	<i>21.86</i>	<i>14.68</i>	15.17	15.36	14.32
E. N. Central	9.81	14.81	25.79	13.17	11.06	<i>13.59</i>	<i>20.81</i>	<i>9.42</i>	<i>8.39</i>	<i>12.19</i>	<i>21.07</i>	<i>9.82</i>	12.45	11.44	10.16
W. N. Central	11.40	15.25	25.08	13.42	13.34	<i>14.73</i>	<i>21.13</i>	<i>10.10</i>	<i>8.98</i>	<i>11.87</i>	<i>19.72</i>	<i>10.11</i>	13.23	12.92	10.33
S. Atlantic	13.91	22.11	32.99	17.69	17.35	<i>18.29</i>	<i>24.60</i>	<i>14.02</i>	<i>13.10</i>	<i>18.13</i>	<i>26.38</i>	<i>14.70</i>	17.48	16.88	15.30
E. S. Central	11.80	17.16	26.38	15.45	13.80	<i>14.45</i>	<i>22.01</i>	<i>12.08</i>	<i>10.67</i>	<i>15.12</i>	<i>22.93</i>	<i>12.29</i>	14.32	13.80	12.48
W. S. Central	12.61	20.91	30.98	17.56	14.59	<i>16.92</i>	<i>20.98</i>	<i>12.09</i>	<i>9.66</i>	<i>15.04</i>	<i>22.18</i>	<i>12.73</i>	16.35	14.68	12.25
Mountain	10.31	12.85	19.38	13.44	12.62	<i>9.50</i>	<i>13.45</i>	<i>9.04</i>	<i>8.49</i>	<i>10.18</i>	<i>14.35</i>	<i>9.29</i>	12.39	11.17	9.45
Pacific	17.07	17.80	20.54	18.95	20.22	<i>16.25</i>	<i>15.91</i>	<i>14.57</i>	<i>15.32</i>	<i>15.47</i>	<i>16.21</i>	<i>15.11</i>	18.20	17.41	15.39
U.S. Average	12.32	16.57	24.95	15.63	14.81	<i>15.06</i>	<i>19.65</i>	<i>12.02</i>	<i>11.11</i>	<i>14.27</i>	<i>20.29</i>	<i>12.50</i>	14.82	14.34	12.75
Commercial Retail															
New England	12.62	14.46	16.23	15.81	15.20	<i>13.13</i>	<i>12.01</i>	<i>10.69</i>	<i>10.93</i>	<i>11.49</i>	<i>11.92</i>	<i>11.07</i>	14.21	13.10	11.16
Middle Atlantic	10.36	10.78	12.01	11.99	11.75	<i>8.65</i>	<i>7.38</i>	<i>7.78</i>	<i>8.47</i>	<i>7.97</i>	<i>7.80</i>	<i>8.35</i>	11.11	9.44	8.28
E. N. Central	8.12	10.46	14.23	10.32	9.16	<i>8.89</i>	<i>9.63</i>	<i>6.81</i>	<i>6.70</i>	<i>7.98</i>	<i>9.80</i>	<i>7.18</i>	9.59	8.40	7.28
W. N. Central	10.22	11.73	15.07	11.32	11.70	<i>10.35</i>	<i>10.36</i>	<i>7.94</i>	<i>7.86</i>	<i>8.46</i>	<i>10.12</i>	<i>8.36</i>	11.12	10.25	8.27
S. Atlantic	10.52	12.22	14.21	13.08	13.02	<i>11.02</i>	<i>10.49</i>	<i>9.45</i>	<i>9.21</i>	<i>10.04</i>	<i>10.48</i>	<i>9.80</i>	12.06	11.16	9.69
E. S. Central	10.41	12.80	15.56	13.49	12.24	<i>10.47</i>	<i>10.60</i>	<i>9.17</i>	<i>8.85</i>	<i>10.05</i>	<i>11.21</i>	<i>9.83</i>	12.26	10.71	9.61
W. S. Central	10.09	12.86	15.00	12.73	11.08	<i>9.83</i>	<i>9.81</i>	<i>8.56</i>	<i>7.83</i>	<i>8.79</i>	<i>9.74</i>	<i>8.95</i>	12.01	9.90	8.58
Mountain	8.78	9.98	12.60	11.31	11.19	<i>10.05</i>	<i>9.79</i>	<i>8.02</i>	<i>7.83</i>	<i>8.25</i>	<i>8.93</i>	<i>7.71</i>	10.19	9.92	7.98
Pacific	13.08	13.67	15.58	14.47	16.91	<i>14.52</i>	<i>13.97</i>	<i>13.07</i>	<i>13.06</i>	<i>12.46</i>	<i>12.94</i>	<i>12.64</i>	14.00	14.86	12.80
U.S. Average	10.00	11.71	14.12	12.14	11.90	<i>10.38</i>	<i>10.18</i>	<i>8.64</i>	<i>8.50</i>	<i>9.20</i>	<i>10.10</i>	<i>8.93</i>	11.37	10.43	8.94
Industrial Retail															
New England	11.11	12.09	12.17	13.47	13.53	<i>10.17</i>	<i>7.57</i>	<i>8.22</i>	<i>9.04</i>	<i>8.35</i>	<i>7.48</i>	<i>8.64</i>	12.11	10.13	8.53
Middle Atlantic	10.80	10.15	11.91	12.72	5.65	<i>4.65</i>	<i>5.84</i>	<i>7.10</i>	<i>7.89</i>	<i>7.53</i>	<i>7.53</i>	<i>8.10</i>	11.26	5.80	7.84
E. N. Central	7.66	8.72	10.75	10.31	9.24	<i>6.91</i>	<i>5.81</i>	<i>5.73</i>	<i>6.20</i>	<i>6.27</i>	<i>6.24</i>	<i>6.32</i>	8.88	7.22	6.25
W. N. Central	7.96	8.58	9.59	8.62	8.79	<i>4.90</i>	<i>4.09</i>	<i>4.79</i>	<i>5.50</i>	<i>4.70</i>	<i>4.82</i>	<i>5.53</i>	8.64	5.73	5.17
S. Atlantic	7.46	8.84	11.14	9.09	7.00	<i>4.56</i>	<i>4.36</i>	<i>4.96</i>	<i>5.61</i>	<i>5.02</i>	<i>5.28</i>	<i>5.73</i>	9.05	5.31	5.43
E. S. Central	6.53	8.70	10.63	8.03	5.70	<i>3.91</i>	<i>3.85</i>	<i>4.58</i>	<i>5.19</i>	<i>4.67</i>	<i>4.85</i>	<i>5.35</i>	8.34	4.56	5.03
W. S. Central	5.58	7.69	8.45	5.87	3.59	<i>2.38</i>	<i>2.84</i>	<i>3.48</i>	<i>3.78</i>	<i>3.34</i>	<i>3.84</i>	<i>4.03</i>	6.92	3.04	3.75
Mountain	7.11	8.39	10.45	9.79	9.40	<i>6.62</i>	<i>6.00</i>	<i>5.68</i>	<i>5.82</i>	<i>5.67</i>	<i>5.98</i>	<i>6.01</i>	8.83	7.27	5.87
Pacific	8.82	9.02	9.60	9.42	10.75	<i>8.05</i>	<i>7.07</i>	<i>7.01</i>	<i>7.39</i>	<i>6.76</i>	<i>6.88</i>	<i>7.19</i>	9.19	8.25	7.11
U.S. Average	6.82	8.24	9.27	7.53	6.20	<i>3.75</i>	<i>3.68</i>	<i>4.46</i>	<i>5.10</i>	<i>4.25</i>	<i>4.52</i>	<i>5.04</i>	7.90	4.61	4.75

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 from Reuter's News Service (<http://www.reuters.com>).

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million short tons)															
Production	149.0	145.7	154.3	148.3	151.5	<i>137.6</i>	<i>141.1</i>	<i>129.3</i>	<i>120.0</i>	<i>112.0</i>	<i>126.1</i>	<i>120.3</i>	597.2	<i>559.5</i>	<i>478.4</i>
Appalachia	40.2	40.2	40.0	38.4	41.1	<i>38.8</i>	<i>33.2</i>	<i>31.2</i>	<i>31.1</i>	<i>30.0</i>	<i>27.3</i>	<i>27.6</i>	158.8	<i>144.3</i>	<i>116.0</i>
Interior	23.8	26.0	24.7	22.9	25.5	<i>25.5</i>	<i>26.6</i>	<i>24.4</i>	<i>24.2</i>	<i>22.3</i>	<i>23.4</i>	<i>21.7</i>	97.4	<i>102.0</i>	<i>91.6</i>
Western	85.0	79.5	89.5	86.9	84.9	<i>73.3</i>	<i>81.3</i>	<i>73.7</i>	<i>64.7</i>	<i>59.7</i>	<i>75.3</i>	<i>71.0</i>	340.9	<i>313.2</i>	<i>270.8</i>
Primary Inventory Withdrawals	-1.9	0.0	3.4	-0.3	-2.0	<i>0.1</i>	<i>3.5</i>	<i>0.0</i>	<i>-1.6</i>	<i>0.2</i>	<i>3.6</i>	<i>0.0</i>	1.2	<i>1.6</i>	<i>2.2</i>
Imports	1.3	1.6	2.0	1.4	1.0	<i>1.0</i>	<i>1.4</i>	<i>1.0</i>	<i>0.6</i>	<i>0.8</i>	<i>1.1</i>	<i>0.8</i>	6.3	<i>4.5</i>	<i>3.3</i>
Exports	20.2	23.0	20.7	20.8	24.6	<i>26.8</i>	<i>24.5</i>	<i>24.9</i>	<i>25.0</i>	<i>26.3</i>	<i>25.2</i>	<i>26.8</i>	84.8	<i>100.8</i>	<i>103.4</i>
Metallurgical Coal	10.5	13.1	11.6	11.3	12.4	<i>13.2</i>	<i>12.4</i>	<i>12.7</i>	<i>13.1</i>	<i>14.2</i>	<i>13.4</i>	<i>14.0</i>	46.4	<i>50.6</i>	<i>54.7</i>
Steam Coal	9.7	9.9	9.2	9.6	12.2	<i>13.6</i>	<i>12.1</i>	<i>12.2</i>	<i>11.8</i>	<i>12.1</i>	<i>11.8</i>	<i>12.9</i>	38.4	<i>50.1</i>	<i>48.7</i>
Total Primary Supply	128.2	124.3	138.9	128.5	125.9	<i>111.9</i>	<i>121.5</i>	<i>105.5</i>	<i>94.0</i>	<i>86.7</i>	<i>105.5</i>	<i>94.4</i>	520.0	<i>464.8</i>	<i>380.6</i>
Secondary Inventory Withdrawals	5.9	-1.0	7.0	-9.8	-20.5	<i>-25.0</i>	<i>8.7</i>	<i>-11.0</i>	<i>3.2</i>	<i>5.2</i>	<i>23.6</i>	<i>-1.6</i>	2.1	<i>-47.8</i>	<i>30.4</i>
Waste Coal (a)	1.9	1.9	1.9	1.9	1.8	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	7.5	<i>7.2</i>	<i>7.2</i>
Total Supply	136.0	125.2	147.8	120.6	107.2	<i>88.7</i>	<i>132.0</i>	<i>96.3</i>	<i>99.0</i>	<i>93.7</i>	<i>130.9</i>	<i>94.6</i>	529.6	<i>424.2</i>	<i>418.2</i>
Consumption (million short tons)															
Coke Plants	4.2	3.9	3.9	4.0	3.8	<i>3.9</i>	<i>3.9</i>	<i>4.0</i>	<i>3.9</i>	<i>4.0</i>	<i>4.0</i>	<i>4.1</i>	16.0	<i>15.6</i>	<i>16.0</i>
Electric Power Sector (b)	122.7	107.3	134.8	105.3	89.8	<i>79.6</i>	<i>122.8</i>	<i>86.3</i>	<i>89.0</i>	<i>84.6</i>	<i>121.8</i>	<i>84.6</i>	469.9	<i>378.5</i>	<i>380.0</i>
Retail and Other Industry	6.9	6.7	6.5	6.6	6.3	<i>5.3</i>	<i>5.3</i>	<i>6.0</i>	<i>6.1</i>	<i>5.1</i>	<i>5.1</i>	<i>5.9</i>	26.7	<i>22.9</i>	<i>22.2</i>
Residential and Commercial	0.2	0.1	0.2	0.2	0.3	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	0.8	<i>0.7</i>	<i>0.8</i>
Other Industrial	6.7	6.6	6.3	6.3	6.0	<i>5.1</i>	<i>5.1</i>	<i>5.8</i>	<i>5.8</i>	<i>4.9</i>	<i>5.0</i>	<i>5.6</i>	25.9	<i>22.1</i>	<i>21.4</i>
Total Consumption	133.7	117.9	145.2	115.8	99.9	<i>88.7</i>	<i>132.0</i>	<i>96.3</i>	<i>99.0</i>	<i>93.7</i>	<i>130.9</i>	<i>94.6</i>	512.6	<i>416.9</i>	<i>418.2</i>
Discrepancy (c)	2.2	7.3	2.6	4.8	7.3	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	17.0	<i>7.3</i>	<i>0.0</i>
End-of-period Inventories (million short tons)															
Primary Inventories (d)	21.0	20.9	17.5	17.8	19.8	<i>19.7</i>	<i>16.1</i>	<i>16.1</i>	<i>17.8</i>	<i>17.6</i>	<i>14.0</i>	<i>13.9</i>	17.8	<i>16.1</i>	<i>13.9</i>
Secondary Inventories	90.5	91.5	84.5	94.3	114.8	<i>139.7</i>	<i>131.1</i>	<i>142.1</i>	<i>138.8</i>	<i>133.7</i>	<i>110.1</i>	<i>111.7</i>	94.3	<i>142.1</i>	<i>111.7</i>
Electric Power Sector	86.3	87.3	80.1	90.0	110.1	<i>134.9</i>	<i>126.0</i>	<i>137.1</i>	<i>134.6</i>	<i>129.2</i>	<i>105.4</i>	<i>107.0</i>	90.0	<i>137.1</i>	<i>107.0</i>
Retail and General Industry	2.4	2.4	2.5	2.5	3.0	<i>3.0</i>	<i>3.2</i>	<i>3.2</i>	<i>2.7</i>	<i>2.8</i>	<i>3.0</i>	<i>3.0</i>	2.5	<i>3.2</i>	<i>3.0</i>
Coke Plants	1.6	1.6	1.6	1.6	1.6	<i>1.7</i>	<i>1.6</i>	<i>1.6</i>	<i>1.4</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	1.6	<i>1.6</i>	<i>1.5</i>
Commercial & Institutional	0.2	0.2	0.2	0.2	0.1	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	0.2	<i>0.2</i>	<i>0.1</i>
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.05	6.05	6.05	6.05	5.98	<i>5.98</i>	<i>5.98</i>	<i>5.98</i>	<i>5.80</i>	<i>5.80</i>	<i>5.80</i>	<i>5.80</i>	6.05	<i>5.98</i>	<i>5.80</i>
Total Raw Steel Production															
(Million short tons per day)	0.253	0.253	0.247	0.235	0.236	<i>0.242</i>	<i>0.246</i>	<i>0.242</i>	<i>0.236</i>	<i>0.237</i>	<i>0.244</i>	<i>0.240</i>	0.247	<i>0.241</i>	<i>0.239</i>
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.18	2.26	2.50	2.55	2.57	<i>2.48</i>	<i>2.46</i>	<i>2.40</i>	<i>2.41</i>	<i>2.40</i>	<i>2.40</i>	<i>2.37</i>	2.37	<i>2.48</i>	<i>2.40</i>

(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 June 5, 2023.

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*,

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electricity Supply (billion kilowatthours)															
Electricity Generation	1,029	1,026	1,187	1,001	987	<i>1,003</i>	<i>1,201</i>	<i>988</i>	<i>1,015</i>	<i>1,025</i>	<i>1,206</i>	<i>988</i>	4,243	<i>4,179</i>	<i>4,234</i>
Electric Power Sector (a)	990	989	1,148	963	950	<i>964</i>	<i>1,160</i>	<i>948</i>	<i>976</i>	<i>987</i>	<i>1,165</i>	<i>949</i>	4,090	<i>4,022</i>	<i>4,076</i>
Industrial Sector (b)	36	34	36	35	35	<i>36</i>	<i>38</i>	<i>36</i>	<i>35</i>	<i>35</i>	<i>37</i>	<i>36</i>	140	<i>144</i>	<i>143</i>
Commercial Sector (b)	3	3	3	3	3	<i>3</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>4</i>	<i>3</i>	13	<i>13</i>	<i>14</i>
Net Imports	7	10	15	10	9	<i>9</i>	<i>13</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>14</i>	<i>11</i>	41	<i>40</i>	<i>48</i>
Total Supply	1,036	1,036	1,203	1,010	996	<i>1,012</i>	<i>1,214</i>	<i>997</i>	<i>1,026</i>	<i>1,037</i>	<i>1,221</i>	<i>999</i>	4,284	<i>4,219</i>	<i>4,282</i>
Losses and Unaccounted for (c)	55	64	53	64	44	<i>59</i>	<i>58</i>	<i>48</i>	<i>44</i>	<i>68</i>	<i>55</i>	<i>48</i>	236	<i>210</i>	<i>215</i>
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	945	938	1,114	911	917	<i>917</i>	<i>1,119</i>	<i>913</i>	<i>947</i>	<i>934</i>	<i>1,128</i>	<i>915</i>	3,909	<i>3,867</i>	<i>3,923</i>
Residential Sector	380	347	458	338	357	<i>334</i>	<i>465</i>	<i>340</i>	<i>378</i>	<i>348</i>	<i>474</i>	<i>343</i>	1,522	<i>1,496</i>	<i>1,543</i>
Commercial Sector	322	335	389	327	321	<i>333</i>	<i>393</i>	<i>328</i>	<i>326</i>	<i>333</i>	<i>388</i>	<i>323</i>	1,373	<i>1,374</i>	<i>1,370</i>
Industrial Sector	242	255	266	245	238	<i>249</i>	<i>260</i>	<i>244</i>	<i>241</i>	<i>251</i>	<i>264</i>	<i>247</i>	1,008	<i>990</i>	<i>1,003</i>
Transportation Sector	2	2	2	2	2	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	7	<i>7</i>	<i>7</i>
Direct Use (d)	35	34	36	35	35	<i>35</i>	<i>38</i>	<i>36</i>	<i>35</i>	<i>35</i>	<i>37</i>	<i>36</i>	139	<i>143</i>	<i>143</i>
Total Consumption	981	972	1,150	946	952	<i>953</i>	<i>1,157</i>	<i>949</i>	<i>982</i>	<i>969</i>	<i>1,165</i>	<i>951</i>	4,048	<i>4,010</i>	<i>4,067</i>
Average residential electricity usage per customer (kWh)	2,711	2,476	3,268	2,411	2,522	<i>2,363</i>	<i>3,285</i>	<i>2,405</i>	<i>2,650</i>	<i>2,434</i>	<i>3,320</i>	<i>2,403</i>	10,866	<i>10,575</i>	<i>10,807</i>
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	86.3	87.3	80.1	90.0	110.1	<i>134.9</i>	<i>126.0</i>	<i>137.1</i>	<i>134.6</i>	<i>129.2</i>	<i>105.4</i>	<i>107.0</i>	90.0	<i>137.1</i>	<i>107.0</i>
Residual Fuel (mmb)	5.6	5.9	5.7	5.4	5.7	<i>5.3</i>	<i>3.2</i>	<i>3.9</i>	<i>2.7</i>	<i>2.9</i>	<i>1.2</i>	<i>2.0</i>	5.4	<i>3.9</i>	<i>2.0</i>
Distillate Fuel (mmb)	17.6	17.7	16.7	15.9	17.0	<i>16.7</i>	<i>16.7</i>	<i>16.9</i>	<i>16.7</i>	<i>16.5</i>	<i>16.5</i>	<i>16.7</i>	15.9	<i>16.9</i>	<i>16.7</i>
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.18	2.26	2.50	2.55	2.57	<i>2.48</i>	<i>2.46</i>	<i>2.40</i>	<i>2.41</i>	<i>2.40</i>	<i>2.40</i>	<i>2.37</i>	2.37	<i>2.48</i>	<i>2.40</i>
Natural Gas	5.95	7.39	8.23	6.90	4.99	<i>2.59</i>	<i>2.75</i>	<i>3.48</i>	<i>3.94</i>	<i>3.31</i>	<i>3.66</i>	<i>3.99</i>	7.24	<i>3.37</i>	<i>3.72</i>
Residual Fuel Oil	16.81	26.17	26.53	21.27	19.24	<i>16.68</i>	<i>14.60</i>	<i>14.78</i>	<i>15.29</i>	<i>16.06</i>	<i>15.36</i>	<i>15.62</i>	21.80	<i>16.39</i>	<i>15.54</i>
Distillate Fuel Oil	21.23	30.71	26.79	24.48	22.84	<i>19.00</i>	<i>18.40</i>	<i>19.65</i>	<i>19.75</i>	<i>19.34</i>	<i>19.19</i>	<i>20.66</i>	24.89	<i>19.99</i>	<i>19.88</i>
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	13.98	15.07	15.85	15.48	15.74	<i>15.90</i>	<i>15.91</i>	<i>15.23</i>	<i>15.34</i>	<i>15.79</i>	<i>15.96</i>	<i>15.37</i>	15.12	<i>15.71</i>	<i>15.64</i>
Commercial Sector	11.63	12.35	13.38	12.66	12.69	<i>12.69</i>	<i>13.18</i>	<i>12.14</i>	<i>12.20</i>	<i>12.59</i>	<i>13.43</i>	<i>12.43</i>	12.55	<i>12.70</i>	<i>12.70</i>
Industrial Sector	7.42	8.41	9.38	8.52	8.12	<i>8.38</i>	<i>9.23</i>	<i>8.40</i>	<i>8.38</i>	<i>8.54</i>	<i>9.39</i>	<i>8.59</i>	8.45	<i>8.54</i>	<i>8.74</i>
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	42.73	83.19	130.71	53.01	28.05	<i>31.07</i>	<i>72.98</i>	<i>32.29</i>	<i>33.21</i>	<i>29.73</i>	<i>43.04</i>	<i>32.26</i>	77.41	<i>41.10</i>	<i>34.56</i>
CAISO SP15 zone	45.20	60.34	110.03	135.13	92.54	<i>33.08</i>	<i>174.69</i>	<i>55.55</i>	<i>58.13</i>	<i>42.08</i>	<i>126.63</i>	<i>59.46</i>	87.67	<i>88.96</i>	<i>71.58</i>
ISO-NE Internal hub	116.48	73.28	99.14	80.77	52.63	<i>30.50</i>	<i>44.44</i>	<i>51.32</i>	<i>79.53</i>	<i>37.70</i>	<i>69.58</i>	<i>51.68</i>	92.42	<i>44.72</i>	<i>59.62</i>
NYISO Hudson Valley zone	100.10	79.72	104.71	77.17	44.65	<i>33.92</i>	<i>42.92</i>	<i>46.37</i>	<i>65.33</i>	<i>37.79</i>	<i>61.92</i>	<i>47.96</i>	90.42	<i>41.97</i>	<i>53.25</i>
PJM Western hub	58.33	93.00	110.99	71.60	36.49	<i>39.88</i>	<i>47.47</i>	<i>41.06</i>	<i>48.36</i>	<i>44.93</i>	<i>55.69</i>	<i>45.98</i>	83.48	<i>41.22</i>	<i>48.74</i>
Midcontinent ISO Illinois hub	47.88	89.21	101.80	57.87	31.39	<i>32.37</i>	<i>37.00</i>	<i>35.00</i>	<i>39.18</i>	<i>36.22</i>	<i>44.77</i>	<i>38.84</i>	74.19	<i>33.94</i>	<i>39.75</i>
SPP ISO South hub	37.25	72.85	109.97	55.87	28.96	<i>31.82</i>	<i>38.17</i>	<i>31.74</i>	<i>32.92</i>	<i>30.53</i>	<i>44.39</i>	<i>36.41</i>	68.98	<i>32.67</i>	<i>36.06</i>
SERC index, Into Southern	42.45	84.96	94.82	59.33	30.53	<i>33.55</i>	<i>37.18</i>	<i>33.39</i>	<i>35.51</i>	<i>33.68</i>	<i>40.81</i>	<i>35.10</i>	70.39	<i>33.66</i>	<i>36.28</i>
FRCC index, Florida Reliability	41.11	78.70	92.71	58.54	30.31	<i>34.25</i>	<i>34.53</i>	<i>33.61</i>	<i>34.68</i>	<i>34.85</i>	<i>38.66</i>	<i>35.57</i>	67.77	<i>33.18</i>	<i>35.94</i>
Northwest index, Mid-Columbia	39.85	59.39	137.82	151.39	105.99	<i>54.46</i>	<i>125.91</i>	<i>47.48</i>	<i>48.97</i>	<i>35.95</i>	<i>83.62</i>	<i>49.87</i>	97.11	<i>83.46</i>	<i>54.60</i>
Southwest index, Palo Verde	39.02	60.50	128.25	130.12	84.19	<i>37.00</i>	<i>145.04</i>	<i>42.84</i>	<i>43.43</i>	<i>36.79</i>	<i>102.71</i>	<i>44.30</i>	89.47	<i>77.27</i>	<i>56.81</i>

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

(b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.

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

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

Historical data sources:

(1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348

(2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data

(3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website

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

Forecasts: 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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	13.1	10.5	13.9	10.9	12.2	10.2	13.3	11.0	13.0	10.5	13.7	11.2	48.4	46.8	48.4
Middle Atlantic	36.1	30.0	42.6	30.3	33.2	29.4	42.0	30.3	35.3	30.3	42.5	30.3	138.9	134.9	138.4
E. N. Central	50.8	43.8	54.8	43.1	46.5	41.4	56.9	43.8	50.7	44.1	58.1	44.1	192.5	188.6	197.0
W. N. Central	30.6	24.7	31.3	25.7	29.4	24.6	32.6	25.9	30.7	25.3	33.4	26.4	112.3	112.5	115.8
S. Atlantic	96.0	91.5	116.3	87.7	88.4	89.2	122.4	89.1	96.6	93.6	125.5	90.0	391.4	389.1	405.7
E. S. Central	32.6	27.7	37.0	26.5	29.2	27.0	38.1	26.9	32.8	27.5	38.8	27.1	123.8	121.2	126.2
W. S. Central	56.9	58.8	81.3	51.3	52.0	54.3	79.6	52.8	56.4	56.6	81.2	53.3	248.3	238.7	247.6
Mountain	24.1	26.2	36.1	24.3	25.2	25.2	36.7	24.0	24.5	26.5	37.5	24.2	110.7	111.1	112.7
Pacific contiguous	38.4	32.4	43.2	36.8	39.4	31.7	42.1	35.3	37.1	32.0	42.5	35.2	150.7	148.5	146.9
AK and HI	1.3	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.3	1.1	1.2	1.3	4.8	4.8	4.8
Total	379.8	346.7	457.7	337.7	356.8	334.3	464.8	340.3	378.5	347.6	474.2	343.1	1,521.9	1,496.2	1,543.5
Commercial Sector															
New England	12.1	11.8	13.9	11.7	11.9	11.8	13.7	11.7	12.1	11.7	13.5	11.5	49.4	49.1	48.8
Middle Atlantic	36.0	34.3	40.5	34.6	35.0	34.1	40.0	34.2	35.4	34.1	39.9	34.1	145.3	143.2	143.5
E. N. Central	43.3	42.9	48.8	42.2	42.4	42.3	49.3	42.0	43.0	42.6	49.0	41.6	177.1	175.9	176.3
W. N. Central	25.1	24.5	28.0	24.7	25.0	24.6	28.6	24.9	25.5	24.7	28.5	24.8	102.4	103.1	103.5
S. Atlantic	75.1	82.5	93.5	78.9	75.5	82.2	96.3	80.0	77.7	83.4	96.1	79.5	330.0	333.9	336.7
E. S. Central	21.0	22.4	26.8	21.0	20.5	22.1	27.3	21.4	21.1	22.0	27.0	21.0	91.3	91.3	91.1
W. S. Central	47.0	52.1	61.2	48.6	46.7	51.0	60.8	48.5	46.8	49.6	58.1	46.4	208.9	207.0	200.9
Mountain	23.2	25.4	29.6	24.3	23.7	25.5	30.1	24.4	23.8	25.8	30.0	24.3	102.6	103.6	103.8
Pacific contiguous	37.7	37.9	45.4	39.7	38.8	37.9	45.3	39.4	38.8	37.8	44.8	38.8	160.7	161.5	160.2
AK and HI	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.3	1.4	1.4	5.4	5.4	5.6
Total	321.8	335.2	389.0	327.0	320.8	332.7	392.7	327.8	325.6	333.1	388.3	323.4	1,373.0	1,374.0	1,370.4
Industrial Sector															
New England	3.9	3.9	4.1	3.8	3.7	3.8	4.0	3.8	3.7	3.7	3.9	3.7	15.7	15.2	15.1
Middle Atlantic	17.5	18.2	19.4	18.2	17.3	17.8	19.0	18.0	17.8	18.2	19.4	18.3	73.3	72.1	73.7
E. N. Central	45.9	47.0	48.8	45.3	44.9	45.8	47.6	45.1	45.1	45.8	47.8	45.4	187.1	183.4	184.1
W. N. Central	24.0	24.8	26.9	25.0	24.4	24.1	26.0	24.9	24.7	24.5	26.7	25.5	100.7	99.4	101.4
S. Atlantic	36.3	37.5	38.7	36.4	34.6	36.2	37.4	36.0	34.9	36.7	38.1	36.7	148.9	144.2	146.4
E. S. Central	24.7	25.8	25.6	23.4	23.3	24.0	24.2	22.8	23.1	23.7	24.1	22.7	99.5	94.2	93.6
W. S. Central	49.8	53.3	53.8	50.6	50.3	53.5	53.4	51.3	52.1	55.7	55.6	52.9	207.6	208.4	216.3
Mountain	19.9	21.7	24.0	20.9	19.8	22.2	24.5	21.3	20.4	22.6	24.8	21.6	86.5	87.8	89.3
Pacific contiguous	19.0	21.0	23.4	20.0	18.4	20.1	22.3	19.2	17.8	19.5	21.8	18.8	83.4	80.0	78.0
AK and HI	1.1	1.2	1.3	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	4.8	4.8	4.8
Total	242.2	254.5	265.9	244.9	237.7	248.6	259.6	243.6	240.9	251.4	263.5	246.8	1,007.5	989.5	1,002.6
Total All Sectors (a)															
New England	29.2	26.3	32.0	26.5	27.9	25.9	31.1	26.6	29.0	26.0	31.2	26.5	114.0	111.6	112.7
Middle Atlantic	90.4	83.3	103.3	84.0	86.4	82.1	101.9	83.4	89.5	83.6	102.7	83.5	360.9	353.8	359.3
E. N. Central	140.2	133.8	152.5	130.7	133.9	129.6	153.9	131.1	139.0	132.5	155.0	131.3	557.2	548.4	557.8
W. N. Central	79.7	74.1	86.3	75.4	78.8	73.3	87.2	75.7	81.0	74.5	88.7	76.7	315.4	315.0	320.8
S. Atlantic	207.7	211.8	248.7	203.2	198.7	207.9	256.3	205.4	209.6	213.9	259.9	206.4	871.3	868.3	889.9
E. S. Central	78.4	76.0	89.4	70.9	73.0	73.0	89.6	71.0	77.1	73.2	89.8	70.8	314.6	306.7	310.8
W. S. Central	153.7	164.2	196.4	150.5	149.0	158.9	193.8	152.6	155.4	162.0	195.0	152.7	664.9	654.2	665.1
Mountain	67.2	73.4	89.8	69.5	68.8	72.9	91.3	69.7	68.6	75.0	92.2	70.1	299.9	302.7	305.9
Pacific contiguous	95.3	91.6	112.2	96.6	96.8	90.0	110.0	94.1	94.0	89.5	109.4	93.1	395.7	390.9	386.0
AK and HI	3.7	3.6	3.8	3.9	3.7	3.6	3.8	3.9	3.8	3.6	3.8	3.9	15.0	15.0	15.2
Total	945.5	938.0	1,114.3	911.2	917.1	917.2	1,118.8	913.4	946.8	933.8	1,127.8	915.0	3,909.1	3,866.6	3,923.5

(a) Total retail sales to all sectors includes residential, commercial, industrial, and transportation sector sales.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

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 following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric*

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	39.4	45.6	57.3	41.8	45.4	51.7	61.5	49.2	49.5	51.3	65.3	46.6	184.1	207.8	212.7
Coal	60.4	51.0	65.0	49.3	43.0	36.8	59.3	39.3	44.5	38.8	55.1	39.7	225.8	178.5	178.1
Nuclear	23.8	19.6	24.3	23.7	23.4	20.9	23.7	20.6	23.3	22.5	24.3	22.5	91.4	88.6	92.6
Conventional hydropower	2.8	2.7	2.5	2.3	2.5	2.7	2.3	2.2	2.5	2.9	2.4	2.2	10.3	9.7	10.0
Nonhydro renewables (d)	31.2	28.0	19.8	30.4	29.9	29.1	22.5	34.6	33.9	32.8	26.0	36.5	109.4	116.1	129.1
Other energy sources (e)	1.4	1.6	1.3	1.8	0.9	1.5	1.5	1.6	1.3	1.5	1.4	1.7	6.1	5.5	6.0
Total generation	159.0	148.5	170.2	149.3	145.0	142.7	171.0	147.4	155.0	149.8	174.5	149.2	627.0	606.1	628.5
Net energy for load (f)	167.1	163.4	182.5	158.8	158.6	156.8	184.9	157.8	163.7	161.2	186.1	157.9	671.8	658.1	669.0
Central (Southwest Power Pool)															
Natural Gas	12.5	15.3	24.8	16.4	15.4	17.4	24.3	11.9	13.3	14.9	23.4	13.1	69.0	68.9	64.7
Coal	26.2	23.5	33.8	22.8	20.4	17.9	29.4	21.2	19.3	19.3	28.0	17.9	106.3	88.9	84.5
Nuclear	4.3	4.3	3.9	2.1	4.3	4.3	4.3	4.3	4.3	3.0	4.3	3.5	14.6	17.2	15.1
Conventional hydropower	4.3	3.9	3.2	3.1	3.5	4.1	3.6	3.0	3.6	4.2	3.7	3.1	14.6	14.2	14.5
Nonhydro renewables (d)	29.5	30.4	21.8	28.5	31.1	29.4	23.9	28.8	31.7	29.7	24.9	30.7	110.2	113.1	117.0
Other energy sources (e)	0.3	0.4	0.2	0.4	0.2	0.4	0.2	0.2	0.3	0.4	0.2	0.3	1.3	1.0	1.1
Total generation	77.0	77.7	87.7	73.5	74.8	73.4	85.7	69.4	72.5	71.4	84.4	68.5	316.0	303.4	296.9
Net energy for load (f)	67.4	67.7	81.7	66.0	66.6	66.3	79.8	63.1	65.4	65.6	79.0	62.6	282.8	275.9	272.6
Texas (ERCOT)															
Natural Gas	33.4	42.8	64.7	40.9	36.2	43.5	63.1	40.7	31.4	39.0	56.6	36.4	181.9	183.4	163.4
Coal	17.7	16.8	20.2	16.6	10.5	12.0	16.5	12.6	10.7	12.4	16.9	12.5	71.2	51.7	52.6
Nuclear	11.0	9.9	10.7	10.0	10.5	9.3	11.0	10.1	10.9	9.8	10.6	9.4	41.6	41.0	40.7
Conventional hydropower	0.2	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.5	0.6	0.6
Nonhydro renewables (d)	30.8	39.2	28.1	29.3	36.5	39.8	33.6	33.2	42.6	47.2	42.0	39.7	127.4	143.0	171.4
Other energy sources (e)	0.4	0.5	0.4	0.3	0.2	0.4	0.3	0.3	0.2	0.3	0.1	0.2	1.5	1.2	0.8
Total generation	93.5	109.3	124.1	97.2	94.1	105.2	124.7	97.1	96.0	108.9	126.3	98.3	424.1	421.1	429.5
Net energy for load (f)	95.1	111.3	126.4	97.1	94.1	105.2	124.7	97.1	96.0	108.9	126.3	98.3	429.9	421.1	429.5
Northwest															
Natural Gas	20.2	15.9	27.3	24.6	25.6	16.5	35.7	19.1	20.3	11.9	31.1	18.1	88.1	97.0	81.4
Coal	21.7	18.1	26.9	22.1	20.0	13.1	22.3	20.8	15.6	11.6	21.8	19.9	88.8	76.3	68.8
Nuclear	2.5	2.3	2.5	2.6	2.4	1.2	2.4	2.4	2.4	2.4	2.4	2.4	9.9	8.5	9.7
Conventional hydropower	38.7	35.7	34.0	26.9	26.4	33.6	27.0	27.6	34.4	40.8	30.8	28.3	135.2	114.6	134.3
Nonhydro renewables (d)	19.2	20.4	16.0	18.0	19.1	23.4	18.4	20.8	21.7	25.6	21.3	21.9	73.6	81.8	90.4
Other energy sources (e)	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.8	0.5	0.5
Total generation	102.5	92.6	106.9	94.4	93.7	88.0	106.0	90.9	94.6	92.3	107.5	90.7	396.3	378.7	385.1
Net energy for load (f)	85.2	76.8	87.4	86.8	88.7	78.6	87.4	81.6	84.0	77.6	87.1	81.1	336.1	336.3	329.8
Southwest															
Natural Gas	9.7	13.2	19.0	13.9	11.5	16.2	22.6	14.2	11.1	15.1	22.7	13.8	55.8	64.6	62.7
Coal	6.1	6.3	8.1	6.2	5.5	3.4	5.5	5.0	3.5	3.9	5.2	5.3	26.7	19.5	17.9
Nuclear	8.2	7.5	8.7	7.6	8.6	6.9	8.6	7.5	8.5	7.4	8.6	7.5	31.9	31.6	32.0
Conventional hydropower	2.0	2.1	1.8	1.4	1.5	2.5	2.6	1.5	1.9	2.3	2.0	1.6	7.4	8.1	7.8
Nonhydro renewables (d)	5.8	7.0	5.2	5.6	6.4	7.4	5.3	6.4	8.1	7.9	5.8	7.0	23.6	25.5	28.7
Other energy sources (e)	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.3	0.2
Total generation	31.8	36.0	43.0	34.7	33.6	36.5	44.6	34.7	33.1	36.6	44.4	35.2	145.5	149.4	149.3
Net energy for load (f)	27.4	34.2	42.0	28.8	28.2	34.1	45.5	29.1	27.9	35.2	45.5	29.0	132.4	137.0	137.6
California															
Natural Gas	15.7	15.2	29.4	25.5	20.4	13.2	27.0	20.6	14.6	12.5	24.8	19.0	85.9	81.2	70.9
Coal	0.5	0.7	2.4	1.9	1.1	0.6	2.5	1.7	1.3	0.6	2.4	1.7	5.5	5.9	6.0
Nuclear	4.6	4.2	5.0	3.8	4.7	4.9	4.6	4.1	4.7	3.6	4.7	4.7	17.6	18.2	17.7
Conventional hydropower	3.6	5.2	5.2	2.8	6.4	10.8	9.4	5.8	7.5	9.9	8.6	4.8	16.9	32.4	30.8
Nonhydro renewables (d)	15.4	21.5	19.4	14.8	14.9	20.9	21.5	15.5	16.6	23.2	23.0	16.6	71.2	72.8	79.4
Other energy sources (e)	0.0	-0.2	0.1	-0.2	-0.6	-0.1	0.0	-0.2	-0.7	-0.3	-0.1	-0.4	-0.2	-0.9	-1.5
Total generation	39.8	46.6	61.6	48.7	46.9	50.3	65.0	47.4	44.1	49.5	63.5	46.3	196.7	209.6	203.4
Net energy for load (f)	59.2	64.4	81.3	63.6	60.5	62.4	82.6	62.4	59.8	65.6	82.8	62.1	268.4	267.9	270.3

(a) Large-scale solar generation from power plants with more than 1 megawatt of capacity. Excludes generation from small-scale solar photovoltaic systems.

(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) Regional generation from generating units operated by electric power sector, plus energy receipts from minus energy deliveries to U.S. balancing authorities outside region.

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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

Data reflect generation supplied by power plants with a combined capacity of at least 1 megawatt operated by electric utilities and independent power producers.

Historical data: Latest data available from U.S. Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric Power Sector															
Geothermal	0.036	0.035	0.037	0.037	0.035	0.033	0.037	0.035	0.034	0.025	0.036	0.035	0.146	0.140	0.130
Hydroelectric Power (a)	0.656	0.612	0.552	0.486	0.555	0.657	0.557	0.535	0.652	0.720	0.582	0.535	2.307	2.304	2.489
Solar (b)	0.258	0.393	0.384	0.244	0.262	0.467	0.485	0.322	0.377	0.647	0.667	0.428	1.279	1.536	2.119
Waste Biomass (c)	0.055	0.053	0.053	0.052	0.051	0.051	0.051	0.050	0.051	0.051	0.051	0.050	0.213	0.203	0.204
Wood Biomass	0.051	0.046	0.055	0.047	0.045	0.043	0.052	0.046	0.047	0.044	0.053	0.046	0.200	0.186	0.191
Wind	1.052	1.070	0.713	1.007	1.109	1.057	0.771	1.074	1.189	1.091	0.797	1.124	3.842	4.010	4.201
Subtotal	2.109	2.210	1.794	1.874	2.056	2.308	1.953	2.063	2.350	2.578	2.187	2.218	7.987	8.379	9.333
Industrial Sector															
Biofuel Losses and Co-products (d)	0.203	0.203	0.197	0.206	0.202	0.204	0.200	0.201	0.202	0.202	0.202	0.208	0.808	0.807	0.814
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Hydroelectric Power (a)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.008	0.008	0.008
Solar (b)	0.008	0.011	0.011	0.008	0.008	0.012	0.012	0.009	0.009	0.013	0.013	0.009	0.038	0.041	0.045
Waste Biomass (c)	0.042	0.040	0.037	0.042	0.042	0.040	0.039	0.041	0.041	0.040	0.039	0.041	0.161	0.162	0.162
Wood Biomass	0.319	0.324	0.322	0.314	0.313	0.322	0.343	0.347	0.336	0.333	0.345	0.347	1.278	1.325	1.361
Subtotal (e)	0.580	0.586	0.576	0.578	0.574	0.586	0.602	0.605	0.596	0.597	0.607	0.614	2.318	2.367	2.414
Commercial Sector															
Geothermal	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.024	0.025	0.025
Solar (b)	0.032	0.047	0.047	0.031	0.036	0.055	0.056	0.039	0.045	0.066	0.067	0.047	0.157	0.186	0.225
Waste Biomass (c)	0.009	0.009	0.009	0.009	0.010	0.009	0.009	0.009	0.010	0.009	0.009	0.009	0.037	0.037	0.038
Wood Biomass	0.020	0.021	0.021	0.021	0.020	0.021	0.021	0.021	0.020	0.021	0.021	0.021	0.083	0.083	0.083
Subtotal (e)	0.076	0.091	0.091	0.075	0.080	0.099	0.100	0.083	0.089	0.110	0.111	0.090	0.333	0.362	0.400
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.040	0.040
Solar (f)	0.078	0.116	0.117	0.084	0.099	0.149	0.151	0.106	0.119	0.182	0.186	0.130	0.395	0.505	0.617
Wood Biomass	0.133	0.134	0.136	0.136	0.139	0.134	0.136	0.136	0.139	0.134	0.136	0.136	0.539	0.545	0.545
Subtotal	0.221	0.260	0.263	0.230	0.247	0.293	0.297	0.252	0.267	0.326	0.332	0.276	0.974	1.089	1.201
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g) ...	0.094	0.117	0.116	0.125	0.140	0.151	0.154	0.163	0.168	0.185	0.194	0.205	0.451	0.608	0.753
Ethanol (g)	0.259	0.281	0.279	0.281	0.267	0.291	0.288	0.281	0.273	0.288	0.288	0.289	1.100	1.127	1.139
Subtotal	0.353	0.397	0.395	0.406	0.407	0.442	0.441	0.443	0.441	0.474	0.483	0.494	1.551	1.734	1.892
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g) ...	0.094	0.117	0.116	0.125	0.140	0.151	0.154	0.163	0.168	0.185	0.194	0.205	0.451	0.608	0.753
Biofuel Losses and Co-products (d)	0.203	0.203	0.197	0.206	0.202	0.204	0.200	0.201	0.202	0.202	0.202	0.208	0.808	0.807	0.814
Ethanol (f)	0.271	0.293	0.292	0.294	0.279	0.303	0.299	0.293	0.284	0.300	0.300	0.301	1.149	1.175	1.186
Geothermal	0.053	0.052	0.054	0.055	0.052	0.050	0.054	0.053	0.051	0.042	0.053	0.052	0.214	0.209	0.199
Hydroelectric Power (a)	0.659	0.615	0.555	0.489	0.557	0.660	0.559	0.538	0.655	0.722	0.584	0.537	2.317	2.314	2.499
Solar (b)(f)	0.377	0.568	0.559	0.366	0.405	0.683	0.704	0.476	0.550	0.909	0.933	0.614	1.870	2.269	3.006
Waste Biomass (c)	0.106	0.102	0.099	0.103	0.103	0.100	0.100	0.101	0.103	0.100	0.100	0.101	0.411	0.404	0.403
Wood Biomass	0.523	0.525	0.534	0.518	0.517	0.520	0.552	0.549	0.542	0.533	0.556	0.550	2.100	2.138	2.180
Wind	1.052	1.070	0.713	1.007	1.109	1.057	0.771	1.074	1.189	1.091	0.797	1.124	3.842	4.010	4.201
Total Consumption	3.337	3.543	3.118	3.161	3.363	3.728	3.393	3.446	3.744	4.085	3.719	3.692	13.159	13.930	15.239

- (a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.
- (b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib
- (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 (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.
- (g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 EIA databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226 and *Renewable Energy Annual*, DOE/EIA-0603; *Petroleum Supply*

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity
 U.S. Energy Information Administration | Short-Term Energy Outlook - April 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024

Table 8b has been discontinued. Renewable electricity information can be found on the following tables:
 U.S. electric power sector generation [Table 7d](#)
 U.S. electric generating capacity [Table 7e](#)

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

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	19,924	19,895	20,055	20,182	20,236	20,237	20,276	20,314	20,374	20,436	20,508	20,582	20,014	20,266	20,475
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	14,028	14,099	14,179	14,215	14,344	14,352	14,378	14,395	14,414	14,444	14,496	14,550	14,130	14,368	14,476
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	3,629	3,582	3,550	3,516	3,512	3,505	3,493	3,491	3,497	3,509	3,520	3,539	3,569	3,500	3,516
Business Inventory Change (billion chained 2012 dollars - SAAR)	257	145	71	162	7	-3	-8	-8	19	39	49	52	159	-3	40
Real Government Expenditures (billion chained 2012 dollars - SAAR)	3,393	3,379	3,411	3,442	3,482	3,486	3,501	3,508	3,516	3,525	3,531	3,539	3,406	3,494	3,528
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	2,437	2,517	2,604	2,580	2,610	2,627	2,665	2,700	2,728	2,753	2,780	2,807	2,534	2,651	2,767
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	3,926	3,947	3,873	3,818	3,846	3,869	3,893	3,912	3,937	3,967	4,002	4,044	3,891	3,880	3,987
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,109	15,022	15,141	15,325	15,622	15,746	15,850	15,890	15,965	16,060	16,133	16,201	15,149	15,777	16,090
Non-Farm Employment (millions)	150.8	152.0	153.3	154.3	155.2	155.8	156.1	156.0	155.9	155.8	155.7	155.6	152.6	155.8	155.8
Civilian Unemployment Rate (percent)	3.8	3.6	3.6	3.6	3.5	3.4	3.6	3.8	4.0	4.1	4.3	4.5	3.6	3.6	4.2
Housing Starts (millions - SAAR)	1.72	1.64	1.45	1.41	1.38	1.36	1.30	1.30	1.29	1.32	1.36	1.40	1.55	1.34	1.34
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	101.7	102.8	103.3	102.7	102.5	102.7	102.0	101.6	101.4	101.3	101.4	101.4	102.6	102.2	101.4
Manufacturing	100.1	100.8	100.9	100.0	99.8	99.6	98.7	98.7	98.9	99.0	99.3	99.6	100.5	99.2	99.2
Food	105.1	105.1	104.8	104.5	104.9	105.1	105.6	106.0	106.2	106.6	107.0	107.4	104.9	105.4	106.8
Paper	95.9	96.2	92.7	89.1	89.0	88.4	87.9	87.8	87.7	87.7	87.7	87.6	93.5	88.3	87.7
Petroleum and Coal Products	89.8	89.6	90.1	89.9	88.4	89.8	89.9	90.1	90.1	89.9	89.7	89.6	89.8	89.5	89.8
Chemicals	102.1	102.3	102.4	100.9	103.2	103.9	104.3	104.7	105.0	105.4	106.0	106.3	101.9	104.0	105.7
Nonmetallic Mineral Products	107.1	108.0	109.7	110.6	111.7	110.3	110.9	111.4	112.2	113.0	113.8	114.7	108.9	111.1	113.4
Primary Metals	94.9	96.4	95.7	92.5	92.4	92.4	91.9	91.7	91.1	91.4	91.8	91.6	94.9	92.1	91.5
Coal-weighted Manufacturing (a)	97.4	97.7	97.2	95.2	95.7	95.6	95.5	95.6	95.4	95.7	96.0	96.0	96.9	95.6	95.8
Distillate-weighted Manufacturing (a)	100.0	100.5	100.4	99.2	99.2	98.8	98.6	98.9	99.2	99.5	100.1	100.5	100.0	98.9	99.8
Electricity-weighted Manufacturing (a)	98.5	98.8	98.2	96.0	96.2	96.3	96.1	96.3	96.3	96.5	97.0	97.1	97.9	96.2	96.7
Natural Gas-weighted Manufacturing (a)	97.0	96.7	95.6	92.7	93.8	94.0	93.9	93.9	93.8	93.9	94.2	94.2	95.5	93.9	94.0
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.85	2.92	2.95	2.99	3.01	3.03	3.04	3.06	3.08	3.10	3.11	3.13	2.93	3.04	3.10
Producer Price Index: All Commodities (index, 1982=1.00)	2.53	2.72	2.70	2.63	2.59	2.47	2.45	2.45	2.44	2.43	2.43	2.43	2.64	2.49	2.43
Producer Price Index: Petroleum (index, 1982=1.00)	3.16	4.21	3.74	3.44	3.09	2.74	2.48	2.42	2.48	2.56	2.56	2.53	3.64	2.68	2.53
GDP Implicit Price Deflator (index, 2012=100)	124.2	126.9	128.3	129.5	130.8	131.8	132.6	133.6	134.5	135.3	135.9	136.6	127.2	132.2	135.6
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,142	8,912	9,068	8,602	8,355	9,134	9,261	8,879	8,480	9,287	9,409	8,975	8,683	8,910	9,039
Air Travel Capacity (Available ton-miles/day, thousands)	656	686	692	700	691	714	701	689	663	708	731	711	684	699	703
Aircraft Utilization (Revenue ton-miles/day, thousands)	356	419	422	407	387	431	429	407	386	433	439	419	401	413	419
Airline Ticket Price Index (index, 1982-1984=100)	225.6	328.7	293.1	285.2	277.6	330.9	310.0	316.4	308.6	347.6	317.5	312.5	283.1	308.7	321.5
Raw Steel Production (million short tons per day)	0.253	0.253	0.247	0.235	0.236	0.242	0.246	0.242	0.236	0.237	0.244	0.240	0.247	0.241	0.239
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	562	564	576	571	554	572	574	574	562	570	576	574	2,273	2,274	2,282
Natural Gas	510	374	401	461	499	379	414	453	503	364	400	445	1,746	1,746	1,713
Coal	244	215	264	212	181	164	242	177	183	173	240	174	935	763	769
Total Energy (c)	1,319	1,155	1,244	1,246	1,237	1,118	1,232	1,208	1,251	1,109	1,219	1,196	4,964	4,794	4,775

(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 June 5, 2023.

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

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Real Gross State Product (Billion \$2012)															
New England	1,032	1,024	1,031	1,037	1,040	<i>1,040</i>	<i>1,041</i>	<i>1,042</i>	<i>1,044</i>	<i>1,047</i>	<i>1,049</i>	<i>1,053</i>	1,031	<i>1,041</i>	<i>1,048</i>
Middle Atlantic	2,858	2,858	2,879	2,886	2,892	<i>2,892</i>	<i>2,894</i>	<i>2,898</i>	<i>2,907</i>	<i>2,916</i>	<i>2,926</i>	<i>2,936</i>	2,870	<i>2,894</i>	<i>2,921</i>
E. N. Central	2,596	2,583	2,592	2,596	2,599	<i>2,599</i>	<i>2,603</i>	<i>2,606</i>	<i>2,611</i>	<i>2,617</i>	<i>2,623</i>	<i>2,629</i>	2,592	<i>2,602</i>	<i>2,620</i>
W. N. Central	1,220	1,215	1,220	1,221	1,225	<i>1,224</i>	<i>1,226</i>	<i>1,228</i>	<i>1,232</i>	<i>1,236</i>	<i>1,240</i>	<i>1,244</i>	1,219	<i>1,226</i>	<i>1,238</i>
S. Atlantic	3,578	3,578	3,601	3,627	3,635	<i>3,638</i>	<i>3,649</i>	<i>3,659</i>	<i>3,671</i>	<i>3,683</i>	<i>3,696</i>	<i>3,711</i>	3,596	<i>3,645</i>	<i>3,690</i>
E. S. Central	884	883	887	895	896	<i>895</i>	<i>897</i>	<i>898</i>	<i>899</i>	<i>901</i>	<i>903</i>	<i>905</i>	887	<i>896</i>	<i>902</i>
W. S. Central	2,377	2,383	2,424	2,460	2,476	<i>2,478</i>	<i>2,484</i>	<i>2,489</i>	<i>2,499</i>	<i>2,510</i>	<i>2,522</i>	<i>2,534</i>	2,411	<i>2,482</i>	<i>2,516</i>
Mountain	1,359	1,354	1,366	1,378	1,381	<i>1,381</i>	<i>1,385</i>	<i>1,388</i>	<i>1,392</i>	<i>1,397</i>	<i>1,403</i>	<i>1,409</i>	1,364	<i>1,384</i>	<i>1,400</i>
Pacific	3,805	3,802	3,838	3,865	3,872	<i>3,872</i>	<i>3,879</i>	<i>3,886</i>	<i>3,898</i>	<i>3,910</i>	<i>3,923</i>	<i>3,938</i>	3,828	<i>3,877</i>	<i>3,918</i>
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	97.6	97.9	97.5	96.2	96.0	<i>95.7</i>	<i>94.7</i>	<i>94.7</i>	<i>94.9</i>	<i>95.1</i>	<i>95.4</i>	<i>95.7</i>	97.3	<i>95.3</i>	<i>95.3</i>
Middle Atlantic	95.9	96.6	96.4	95.4	94.9	<i>94.6</i>	<i>93.6</i>	<i>93.5</i>	<i>93.5</i>	<i>93.6</i>	<i>93.8</i>	<i>94.0</i>	96.1	<i>94.2</i>	<i>93.7</i>
E. N. Central	97.4	97.8	97.8	96.6	96.1	<i>96.0</i>	<i>95.2</i>	<i>95.2</i>	<i>95.2</i>	<i>95.3</i>	<i>95.5</i>	<i>95.6</i>	97.4	<i>95.6</i>	<i>95.4</i>
W. N. Central	100.9	101.7	101.8	101.3	101.3	<i>101.2</i>	<i>100.3</i>	<i>100.4</i>	<i>100.6</i>	<i>100.7</i>	<i>101.1</i>	<i>101.4</i>	101.4	<i>100.8</i>	<i>100.9</i>
S. Atlantic	102.5	103.2	103.2	102.3	101.9	<i>101.8</i>	<i>100.9</i>	<i>101.0</i>	<i>101.2</i>	<i>101.4</i>	<i>101.8</i>	<i>102.1</i>	102.8	<i>101.4</i>	<i>101.6</i>
E. S. Central	100.2	101.2	101.5	100.5	100.2	<i>100.1</i>	<i>99.3</i>	<i>99.1</i>	<i>99.1</i>	<i>99.1</i>	<i>99.4</i>	<i>99.5</i>	100.9	<i>99.7</i>	<i>99.3</i>
W. S. Central	102.4	103.6	104.3	104.1	104.0	<i>104.0</i>	<i>103.1</i>	<i>103.2</i>	<i>103.4</i>	<i>103.6</i>	<i>104.0</i>	<i>104.3</i>	103.6	<i>103.6</i>	<i>103.9</i>
Mountain	111.6	112.5	112.7	111.3	111.4	<i>111.4</i>	<i>110.4</i>	<i>110.3</i>	<i>110.5</i>	<i>110.6</i>	<i>111.0</i>	<i>111.3</i>	112.0	<i>110.9</i>	<i>110.9</i>
Pacific	97.7	98.3	98.4	97.5	97.1	<i>96.9</i>	<i>96.0</i>	<i>96.0</i>	<i>96.2</i>	<i>96.4</i>	<i>96.8</i>	<i>97.1</i>	98.0	<i>96.5</i>	<i>96.6</i>
Real Personal Income (Billion \$2012)															
New England	950	940	940	953	949	<i>953</i>	<i>958</i>	<i>958</i>	<i>961</i>	<i>964</i>	<i>967</i>	<i>970</i>	945	<i>955</i>	<i>966</i>
Middle Atlantic	2,414	2,392	2,398	2,416	2,424	<i>2,435</i>	<i>2,447</i>	<i>2,448</i>	<i>2,456</i>	<i>2,465</i>	<i>2,472</i>	<i>2,480</i>	2,405	<i>2,439</i>	<i>2,468</i>
E. N. Central	2,449	2,430	2,438	2,454	2,456	<i>2,465</i>	<i>2,476</i>	<i>2,479</i>	<i>2,489</i>	<i>2,499</i>	<i>2,507</i>	<i>2,515</i>	2,443	<i>2,469</i>	<i>2,502</i>
W. N. Central	1,165	1,161	1,175	1,180	1,183	<i>1,187</i>	<i>1,193</i>	<i>1,194</i>	<i>1,199</i>	<i>1,204</i>	<i>1,208</i>	<i>1,213</i>	1,170	<i>1,189</i>	<i>1,206</i>
S. Atlantic	3,396	3,385	3,423	3,454	3,471	<i>3,492</i>	<i>3,514</i>	<i>3,523</i>	<i>3,543</i>	<i>3,559</i>	<i>3,577</i>	<i>3,592</i>	3,415	<i>3,500</i>	<i>3,568</i>
E. S. Central	943	937	943	950	953	<i>955</i>	<i>959</i>	<i>959</i>	<i>962</i>	<i>964</i>	<i>967</i>	<i>969</i>	943	<i>957</i>	<i>965</i>
W. S. Central	2,084	2,085	2,111	2,129	2,143	<i>2,154</i>	<i>2,166</i>	<i>2,171</i>	<i>2,182</i>	<i>2,193</i>	<i>2,203</i>	<i>2,213</i>	2,102	<i>2,159</i>	<i>2,198</i>
Mountain	1,307	1,307	1,324	1,327	1,331	<i>1,337</i>	<i>1,344</i>	<i>1,346</i>	<i>1,351</i>	<i>1,356</i>	<i>1,361</i>	<i>1,366</i>	1,317	<i>1,340</i>	<i>1,359</i>
Pacific	2,956	2,929	2,943	2,991	2,981	<i>2,998</i>	<i>3,017</i>	<i>3,024</i>	<i>3,037</i>	<i>3,050</i>	<i>3,063</i>	<i>3,076</i>	2,955	<i>3,005</i>	<i>3,056</i>
Households (Thousands)															
New England	6,101	6,100	6,098	6,100	6,118	<i>6,128</i>	<i>6,141</i>	<i>6,150</i>	<i>6,156</i>	<i>6,163</i>	<i>6,169</i>	<i>6,175</i>	6,100	<i>6,150</i>	<i>6,175</i>
Middle Atlantic	16,124	16,119	16,108	16,110	16,151	<i>16,176</i>	<i>16,203</i>	<i>16,227</i>	<i>16,246</i>	<i>16,265</i>	<i>16,284</i>	<i>16,304</i>	16,110	<i>16,227</i>	<i>16,304</i>
E. N. Central	19,058	19,063	19,061	19,069	19,112	<i>19,141</i>	<i>19,177</i>	<i>19,208</i>	<i>19,231</i>	<i>19,253</i>	<i>19,275</i>	<i>19,297</i>	19,069	<i>19,208</i>	<i>19,297</i>
W. N. Central	8,655	8,668	8,678	8,690	8,722	<i>8,746</i>	<i>8,773</i>	<i>8,797</i>	<i>8,818</i>	<i>8,837</i>	<i>8,855</i>	<i>8,872</i>	8,690	<i>8,797</i>	<i>8,872</i>
S. Atlantic	27,104	27,219	27,316	27,397	27,530	<i>27,635</i>	<i>27,739</i>	<i>27,829</i>	<i>27,903</i>	<i>27,970</i>	<i>28,036</i>	<i>28,097</i>	27,397	<i>27,829</i>	<i>28,097</i>
E. S. Central	7,825	7,847	7,864	7,886	7,924	<i>7,955</i>	<i>7,986</i>	<i>8,015</i>	<i>8,039</i>	<i>8,062</i>	<i>8,083</i>	<i>8,103</i>	7,886	<i>8,015</i>	<i>8,103</i>
W. S. Central	15,856	15,922	15,980	16,030	16,109	<i>16,173</i>	<i>16,240</i>	<i>16,299</i>	<i>16,349</i>	<i>16,397</i>	<i>16,450</i>	<i>16,500</i>	16,030	<i>16,299</i>	<i>16,500</i>
Mountain	9,792	9,826	9,858	9,882	9,934	<i>9,976</i>	<i>10,019</i>	<i>10,059</i>	<i>10,095</i>	<i>10,130</i>	<i>10,165</i>	<i>10,201</i>	9,882	<i>10,059</i>	<i>10,201</i>
Pacific	19,052	19,064	19,068	19,074	19,128	<i>19,159</i>	<i>19,193</i>	<i>19,220</i>	<i>19,242</i>	<i>19,263</i>	<i>19,287</i>	<i>19,313</i>	19,074	<i>19,220</i>	<i>19,313</i>
Total Non-farm Employment (Millions)															
New England	7.4	7.5	7.5	7.5	7.6	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	<i>7.6</i>	7.5	<i>7.6</i>	<i>7.6</i>
Middle Atlantic	19.6	19.7	19.9	20.0	20.1	<i>20.2</i>	<i>20.2</i>	<i>20.2</i>	<i>20.2</i>	<i>20.2</i>	<i>20.2</i>	<i>20.1</i>	19.8	<i>20.2</i>	<i>20.2</i>
E. N. Central	21.9	22.0	22.2	22.3	22.4	<i>22.4</i>	<i>22.5</i>	<i>22.5</i>	<i>22.4</i>	<i>22.4</i>	<i>22.4</i>	<i>22.3</i>	22.1	<i>22.4</i>	<i>22.4</i>
W. N. Central	10.7	10.7	10.8	10.9	10.9	<i>11.0</i>	<i>11.0</i>	<i>11.0</i>	<i>11.0</i>	<i>11.0</i>	<i>10.9</i>	<i>10.9</i>	10.8	<i>11.0</i>	<i>11.0</i>
S. Atlantic	29.6	29.9	30.2	30.4	30.6	<i>30.7</i>	<i>30.8</i>	<i>30.8</i>	<i>30.8</i>	<i>30.8</i>	<i>30.8</i>	<i>30.8</i>	30.0	<i>30.7</i>	<i>30.8</i>
E. S. Central	8.4	8.5	8.5	8.6	8.6	<i>8.7</i>	<i>8.7</i>	<i>8.7</i>	<i>8.7</i>	<i>8.6</i>	<i>8.6</i>	<i>8.6</i>	8.5	<i>8.7</i>	<i>8.6</i>
W. S. Central	18.1	18.3	18.6	18.7	18.9	<i>18.9</i>	<i>19.0</i>	<i>19.0</i>	<i>19.0</i>	<i>19.0</i>	<i>19.0</i>	<i>19.0</i>	18.4	<i>18.9</i>	<i>19.0</i>
Mountain	11.5	11.6	11.7	11.7	11.8	<i>11.8</i>	<i>11.9</i>	<i>11.9</i>	<i>11.9</i>	<i>11.9</i>	<i>11.9</i>	<i>11.9</i>	11.6	<i>11.9</i>	<i>11.9</i>
Pacific	23.8	24.1	24.2	24.4	24.5	<i>24.6</i>	<i>24.6</i>	<i>24.6</i>	<i>24.6</i>	<i>24.6</i>	<i>24.6</i>	<i>24.5</i>	24.1	<i>24.6</i>	<i>24.6</i>

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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 - June 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Heating Degree Days															
New England	3,136	786	115	1,982	2,716	779	132	2,061	2,980	828	132	2,054	6,019	5,688	5,994
Middle Atlantic	2,936	668	72	1,961	2,454	596	87	1,887	2,756	662	87	1,881	5,637	5,024	5,385
E. N. Central	3,269	754	100	2,226	2,728	690	122	2,160	3,038	710	122	2,155	6,348	5,700	6,026
W. N. Central	3,485	792	113	2,516	3,168	673	154	2,363	3,183	708	154	2,360	6,906	6,358	6,406
South Atlantic	1,341	189	13	979	1,057	181	13	898	1,295	181	13	891	2,521	2,149	2,380
E. S. Central	1,827	250	22	1,339	1,395	257	20	1,247	1,712	236	19	1,242	3,437	2,918	3,210
W. S. Central	1,334	57	2	801	929	99	5	775	1,105	86	5	772	2,193	1,807	1,968
Mountain	2,296	733	84	2,015	2,560	680	152	1,820	2,138	701	152	1,815	5,127	5,211	4,806
Pacific	1,398	604	49	1,298	1,835	584	94	1,147	1,423	576	94	1,144	3,350	3,660	3,237
U.S. Average	2,146	490	54	1,552	1,922	460	75	1,461	2,005	472	75	1,454	4,242	3,918	4,006
Heating Degree Days, Prior 10-year Average															
New England	3,100	853	107	2,103	3,150	859	106	2,093	3,110	852	102	2,070	6,163	6,209	6,135
Middle Atlantic	2,881	681	70	1,904	2,939	689	69	1,907	2,890	679	65	1,889	5,536	5,604	5,523
E. N. Central	3,133	727	97	2,162	3,215	741	93	2,169	3,159	734	94	2,139	6,119	6,218	6,126
W. N. Central	3,221	726	125	2,358	3,319	754	121	2,374	3,295	731	126	2,338	6,430	6,568	6,490
South Atlantic	1,381	187	11	907	1,403	190	10	905	1,357	187	10	896	2,486	2,508	2,449
E. S. Central	1,764	244	15	1,229	1,811	251	14	1,231	1,757	248	15	1,214	3,251	3,307	3,234
W. S. Central	1,144	93	3	753	1,188	95	3	762	1,163	91	3	738	1,993	2,047	1,996
Mountain	2,173	681	131	1,810	2,193	696	128	1,834	2,207	691	130	1,817	4,794	4,851	4,846
Pacific	1,457	523	79	1,138	1,441	523	75	1,150	1,469	532	77	1,142	3,196	3,190	3,219
U.S. Average	2,095	478	62	1,472	2,132	485	60	1,477	2,102	480	60	1,457	4,107	4,155	4,099
Cooling Degree Days															
New England	0	80	564	0	0	98	504	1	0	99	509	1	644	603	609
Middle Atlantic	0	153	686	1	0	143	657	5	0	185	663	5	840	805	853
E. N. Central	1	256	555	2	0	187	604	7	1	249	608	7	814	798	865
W. N. Central	3	306	734	8	1	282	731	11	5	298	735	11	1,050	1,025	1,049
South Atlantic	155	712	1,196	231	203	654	1,277	254	138	711	1,286	257	2,294	2,388	2,391
E. S. Central	28	597	1,064	37	63	495	1,124	67	34	545	1,129	68	1,726	1,750	1,776
W. S. Central	57	1,095	1,668	172	152	828	1,619	209	104	923	1,626	210	2,992	2,808	2,863
Mountain	17	474	1,022	66	4	391	1,024	83	21	456	1,031	84	1,578	1,502	1,592
Pacific	31	220	759	80	26	143	713	78	28	205	719	79	1,091	960	1,031
U.S. Average	47	466	951	89	69	386	960	104	50	444	968	105	1,554	1,519	1,567
Cooling Degree Days, Prior 10-year Average															
New England	0	87	472	2	0	87	480	2	0	87	486	2	561	569	575
Middle Atlantic	0	163	612	8	0	160	617	8	0	159	631	8	783	785	797
E. N. Central	3	238	571	9	1	234	561	10	1	231	574	10	821	805	816
W. N. Central	7	299	682	11	4	292	674	12	4	297	682	12	999	982	995
South Atlantic	146	667	1,188	268	143	674	1,192	272	153	680	1,216	272	2,269	2,282	2,321
E. S. Central	44	517	1,056	83	36	520	1,058	83	41	524	1,079	84	1,701	1,697	1,728
W. S. Central	113	852	1,537	224	101	860	1,549	223	109	865	1,560	227	2,726	2,734	2,761
Mountain	24	463	954	85	24	460	959	83	22	451	969	86	1,526	1,526	1,529
Pacific	31	208	664	85	32	214	675	86	32	206	687	89	988	1,006	1,013
U.S. Average	53	413	890	109	50	416	895	109	53	416	911	111	1,464	1,470	1,492

- = no data available

Notes: EIA completed modeling and analysis for this report on June 5, 2023.

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.

Appendix to the June 2023 Short-Term Energy Outlook

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

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

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

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Apr 2023	2023	Apr 2023 – May 2023 Average	Apr 2022 – May 2022 Average	2020 – 2022 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	100.7	101.1	100.9	98.6	96.5
Global Petroleum and Other Liquids Consumption (b)	100.4	99.9	100.2	98.2	96.0
Biofuels Production (c)	2.5	2.9	2.7	2.6	2.6
Biofuels Consumption (c)	2.7	2.7	2.7	2.7	2.6
Iran Liquid Fuels Production	3.7	3.8	3.8	3.6	3.4
Iran Liquid Fuels Consumption	1.9	2.0	1.9	2.1	2.0
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	94.5	94.5	94.5	92.3	90.5
Consumption (d)	95.8	95.3	95.6	93.5	91.4
Production minus Consumption	-1.3	-0.9	-1.1	-1.2	-0.9
World Inventory Net Withdrawals Including Iran	-0.4	-1.2	-0.8	-0.4	-0.4
Estimated OECD Inventory Level (e) (million barrels)	2,838	2,824	2,831	2,661	2,878
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.9	3.0	3.5	2.6	4.3

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

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

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

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

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

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

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

Data source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	Apr 2023	May 2023	Apr 2023 – May	Apr 2022 – May	2020 – 2022
			2023 Average	2022 Average	Average
Brent Front Month Futures Price (\$ per barrel)	83.37	75.69	79.25	109.01	71.07
WTI Front Month Futures Price (\$ per barrel)	79.50	71.62	75.27	105.54	67.25
Dubai Front Month Futures Price (\$ per barrel)	83.26	74.80	78.72	105.25	69.66
Brent 1st - 13th Month Futures Spread (\$ per barrel)	5.58	3.32	4.37	15.79	5.09
WTI 1st - 13th Month Futures Spread (\$ per barrel)	5.89	3.50	4.61	16.93	5.09
RBOB Front Month Futures Price (\$ per gallon)	2.72	2.53	2.62	3.53	2.08
Heating Oil Front Month Futures Price (\$ per gallon)	2.58	2.35	2.45	3.90	2.29
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.73	0.72	0.73	0.93	0.39
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.59	0.54	0.57	1.30	0.60

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

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

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

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