

Short-Term Energy Outlook

STEO

March 2023



Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	\$101	\$83	\$78
Retail gasoline price (dollars per gallon)	\$3.97	\$3.36	\$3.11
U.S. crude oil production (million barrels per day)	11.88	12.44	12.63
Natural gas price at Henry Hub (dollars per million British thermal units)	\$6.42	\$3.02	\$3.89
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%	39%	37%
Coal	20%	17%	17%
Renewables	22%	24%	26%
Nuclear	19%	20%	19%
U.S. GDP (percentage change)	2.1%	0.9%	2.0%
U.S. CO₂ emissions (billion metric tons)	4.96	4.79	4.82

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

- **Electricity generation capacity.** Beginning with the March *Short-Term Energy Outlook* (STEO), we will publish electricity generation capacity for all fuels. These data will appear in the newly created Table 7e. More information about this change is available in [Between the Lines](#).
- **Weather.** Preliminary data from the [National Oceanic and Atmospheric Administration](#) for January and February indicate the first two months of 2023 may be close to the warmest on record for that period in data going back to 1895. The mild weather was concentrated in the eastern part of the United States.
- **Natural gas consumption.** We expect U.S. natural gas consumption to average 99.1 billion cubic feet per day (Bcf/d) in the first quarter of 2023 (1Q23), down 5% from 1Q22. The decline in consumption is the result of very mild temperatures that have reduced demand for space heating. The largest decline is in residential and commercial consumption, which we expect will be 11% less in 1Q23 than in 1Q22.
- **Natural gas inventories and price.** As a result of less natural gas consumption than we had expected, we forecast that the United States will close the withdrawal season at the end of March with more than 1.9 trillion cubic feet of natural gas in storage, 23% more than the five-year average and 27% more than we forecast in the January STEO. The Henry Hub natural gas spot price in our forecast averages about \$3 per million British thermal units (MMBtu) in 2023, down by more than 50% from last year. We had expected almost \$5/MMBtu in the January STEO forecast.

- **Electric power prices.** Our forecast indicates that wholesale electricity prices fall in 2023. The decline in price reflects the forecast drop in natural gas prices from 2022 to 2023. Natural gas is the most-used fuel for power generation in the United States. In addition, increasing electricity generation from renewable sources contributes to lower power prices.
- **Global Liquid fuels consumption.** We expect global liquid fuels consumption to increase by 1.5 million barrels per day (b/d) in 2023 from 2022 and by an additional 1.8 million b/d in 2024. China is the main driver of growth in 2023 as the country shifts away from its zero-COVID policy, a shift that will increase travel. Growth in 2024 is more evenly distributed among countries as global GDP growth accelerates from 2.0% in 2023 to 3.2% in 2024.
- **Global liquid fuels production.** Our previous forecast of oil production in Russia included a steep decline in the coming months resulting from the [EU's ban on seaborne petroleum products from Russia](#) that began February 5. Russia recently announced a crude oil production cut of 0.5 million b/d for March, and we expect declines to be more than that, with Russia's production falling by 0.7 million b/d in March. Despite the declines in March, recent petroleum exports from Russia have outpaced expectations, and we have revised our oil production forecast for Russia upwards by 0.4 million b/d in 2023. Overall, we expect global oil and liquid fuels production will average 101.5 million b/d in 2023, up 1.6 million b/d from 2022.
- **U.S. gasoline consumption.** We raised our forecast for U.S. gasoline consumption in 2023 and 2024 by about 2% compared with last month's outlook. Data revisions from the [Federal Highway Administration](#) resulted in a lower estimate of 2022 vehicle miles traveled (VMT). We now estimate VMT fell in 2022 compared with 2021. For the same period, we also reduced our estimate of vehicle fuel efficiency. The reduction in our vehicle efficiency estimate more than offset the lower VMT. These changes to historical data carried through to the forecast and resulted in us raising our forecast for gasoline consumption.

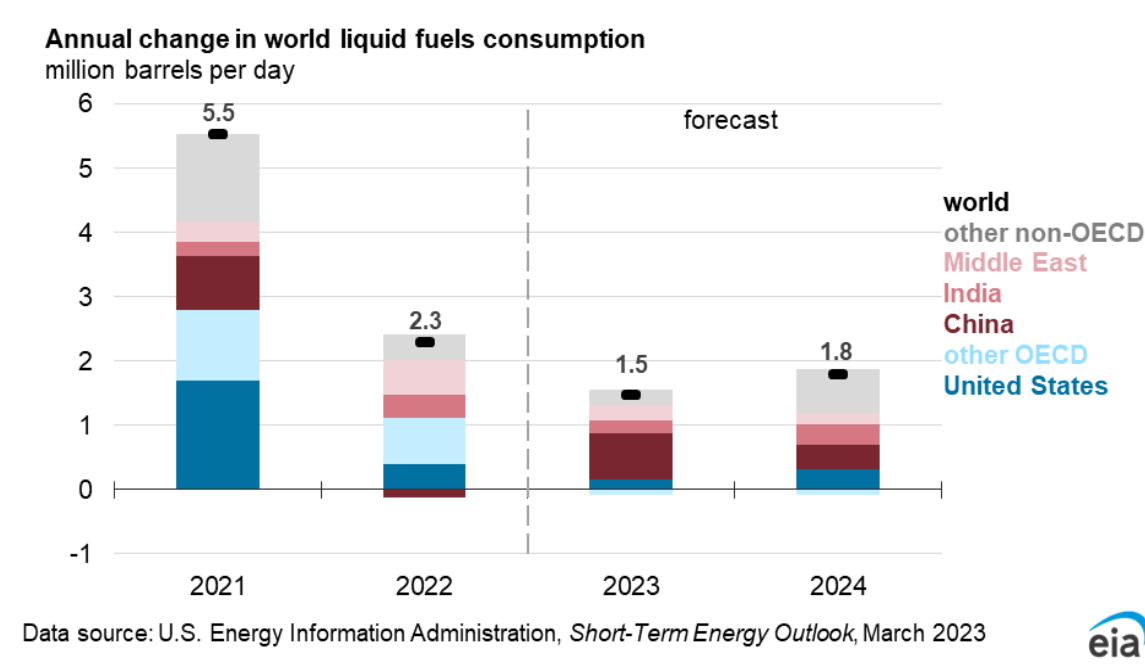
Notable forecast changes

current forecast: March 7, 2023; previous forecast: February 7, 2023

	2023	2024
Natural gas price at Henry Hub (current forecast) (dollars per million British thermal units)	\$3.02	\$3.89
Previous forecast	\$3.40	\$4.04
Percentage change	-11.2%	-3.8%
U.S. vehicle miles traveled (current forecast) (million miles per day)	8,935	9,098
Previous forecast	9,059	9,183
Percentage change	-1.4%	-0.9%
U.S. gasoline consumption (current forecast) (million barrels per day)	8.9	8.9
Previous forecast	8.8	8.7
Percentage change	1.6%	2.3%
Russia petroleum and liquid fuels production (current forecast) (million barrels per day)	10.3	10.1
Previous forecast	9.9	9.8
Percentage change	4.2%	3.4%
U.S. coal production (current forecast) (million short tons)	552.3	502.6
Previous forecast	518.0	493.9
Percentage change	6.6%	1.8%
U.S. secondary coal inventories (current forecast) (million short tons)	123.6	98.4
Previous forecast	105.6	81.7
Percentage change	17.0%	20.4%
U.S. heating degree days (current forecast)	3,960	4,156
Previous forecast	4,083	4,201
Percentage change	-3.0%	-1.1%

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

Global oil markets



Global liquid fuels consumption

Globally, liquid fuels consumption in our forecast increases from an average of 99.4 million barrels per day (b/d) in 2022 to 100.9 million b/d in 2023, which is 0.4 million b/d higher than in last month's outlook. The higher consumption forecast is primarily driven by upward revisions to global economic growth. We expect China will account for about half of the growth in global liquid fuels consumption in 2023. Forecast consumption in China increases by 0.7 million b/d in 2023. We forecast consumption in India to increase by 0.2 million b/d and other non-OECD consumption to grow by 0.5 million b/d on average. This growth in non-OECD countries counteracts almost no consumption growth among OECD countries in 2023. OECD consumption remains largely unchanged as the effects of inflation continue to limit GDP and oil demand growth.

We forecast global liquids fuel consumption will grow by an additional 1.8 million b/d in 2024, and non-OECD countries will account for 1.6 million b/d of the growth. However, significant uncertainty around our demand forecast remains because a wide range of possible outcomes exist for both global economic conditions this year and travel and oil demand in China following its pivot away from a zero-COVID strategy.

Global liquid fuels production

World liquid fuels production averaged about 100 million b/d in 2022, and we forecast it will rise by an average of 1.6 million b/d in both 2023 and 2024. Despite upward revisions to increasing our forecast of global liquid fuels consumption, we still expect consistent global oil inventory builds over the forecast period as global oil production continues to outpace consumption.

In February, Russia announced it will cut oil production by 0.5 million b/d in March. We already accounted for oil production declines in Russia during this period in our past outlooks. However, Russia's liquids fuel production and exports continue to outpace our expectations as Russia finds buyers in alternative markets. As a result, we have raised our forecast for oil production in Russia through the end of 2024. We expect production of petroleum and other liquids in Russia will decline to 10.3 million b/d in 2023 from 10.9 million b/d in 2022 and then average 10.1 million b/d in 2024, about 0.4 million b/d and 0.3 million b/d more respectively, than we forecast in last month's STEO. More output in Russia contributes to our higher global liquid fuels production forecast. Given this revision to production, we expect that global oil inventories, which rose by 0.4 million b/d in 2022, will grow by an additional 0.6 million b/d in 2023 and 0.3 million b/d in 2024, putting downward pressure on oil prices later in 2023.

Crude oil prices

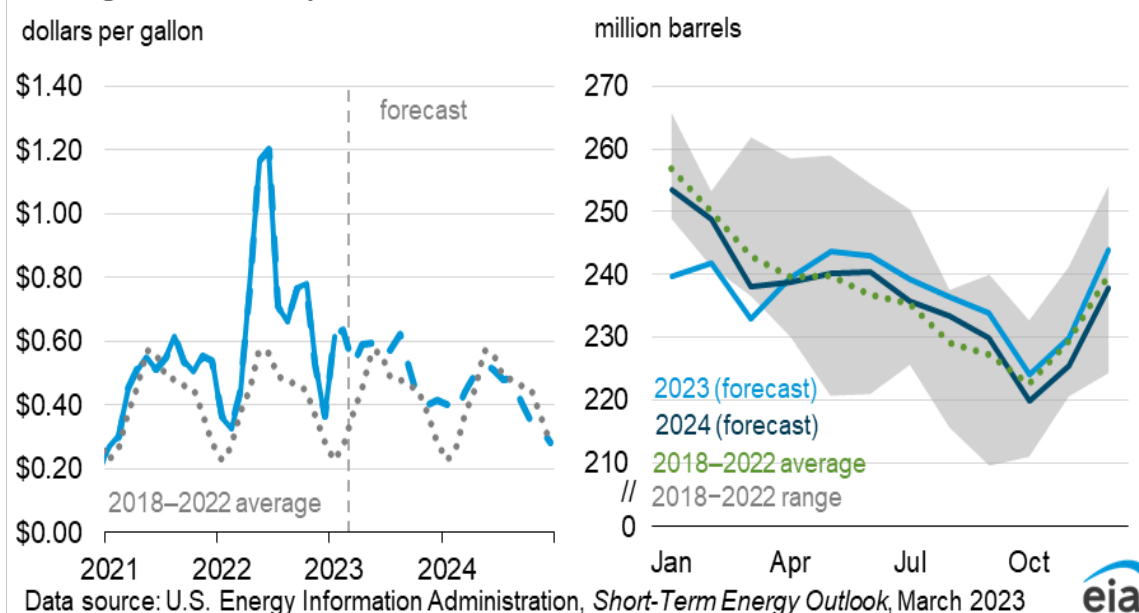
We expect that the Brent crude oil spot price will fall from an average of \$84/b in the second quarter of 2023 (2Q23) to \$81/b in 4Q23 and then average \$78/b in 2024. Although we expect global oil inventories will build throughout the forecast period, we expect that high demand for crude oil from refineries because of elevated refining margins will limit downward pressure on crude oil prices through 2Q23 as refiners maintain high levels of crude oil inputs to maximize distillate fuel production. Russia was a key supplier of distillate fuel to Europe, and changes in distillate trade flows as Europe reduced imports of distillate from Russia in recent months have kept distillate fuel margins well-above five-year averages. However, we forecast that increasing global oil inventories will contribute to falling crude oil prices beginning in 3Q23.

Petroleum products

Gasoline prices and inventories

Typically, from February to May or June the U.S. gasoline crack spread (the difference between the wholesale price of gasoline and the price of Brent crude oil) increases because of the [shift to the more expensive, summer-grade gasoline](#) and rising gasoline demand leading up to the summer. Over the past five years, the increase in the gasoline crack spread from February to June averaged almost 30 cents per gallon (gal). Also because of the seasonal increase in gasoline demand from February to June, gasoline inventories have fallen by 13 million barrels on average over the past five years. From February to June this year, however, we expect increasing refining to offset seasonal increases in demand, generating slight gasoline inventory builds and a small decline in gasoline crack spreads. We forecast that U.S. gasoline inventories will decrease by 9 million barrels in March because of [postponed refinery maintenance](#). However, as refineries complete turnarounds, we expect inventories will end June with 10 million barrels more gasoline than at the end of March.

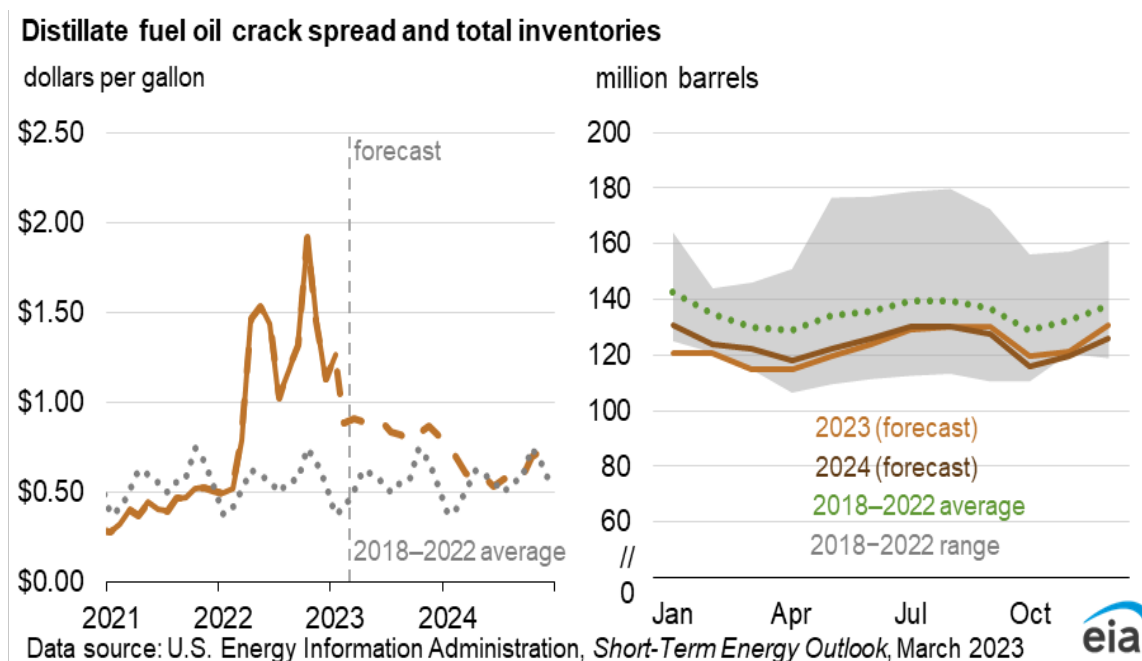
Motor gasoline crack spread and total inventories



Our U.S. gasoline inventory forecast for February through June 2023 reflects increasing refining activity and gasoline production, as well as gasoline consumption that remains below pre-pandemic levels. Although we expect distillate refining margins to remain higher than gasoline refining margins, the limited ability of refiners to shift their [product yields](#) will keep gasoline inventories within the 2018–2022 range from April through the end of the forecast. ExxonMobil’s planned startup of a 250,000 b/d [capacity expansion](#) at its Beaumont, Texas, refinery in the first half of this year will also contribute to increased production. We expect that rising gasoline inventories, along with falling crude oil prices, will gradually decrease gasoline prices throughout the forecast period. We forecast retail gasoline prices to average near \$3.20/gal in the fourth quarter of 2023 (4Q23), down more than 30 cents/gal from 4Q22, and to decrease further to an average of about \$3.10/gal in 2024.

Distillate prices and inventories

We forecast U.S. distillate crack spreads to decrease through our forecast period, averaging almost 90 cents/gal in 2023, down 30 cents/gal from 2022. Crack spreads fall further to almost 60 cents/gal in 2024. Partly as a result of a warm start to 2023 and inventory builds at the Amsterdam, Rotterdam, and Antwerp (ARA) hub in Northwest Europe, the U.S. distillate crack spread decreased by almost 40 cents/gal from January to February.



Demand for U.S. diesel exports amid shifting trade flows and increased freight costs following responses to Russia's full-scale invasion of Ukraine have reduced diesel inventories in the United States and driven up diesel prices globally. We expect U.S. distillate inventories to remain below the five-year average in 2023 but to increase slightly compared with 2022 as refinery runs increase and U.S. distillate fuel demand falls.

U.S. distillate inventories in our forecast remain similar to this year in 2024, but we expect U.S. distillate crack spreads to continue falling because more distillate fuel supplies will be available in markets outside of the United States, particularly at the ARA and Singapore hubs, limiting growth in demand for U.S. exports. Supply has increased because of more diesel [exports from the Middle East](#) as a result of expanded refinery capacity. Since lifting its zero-COVID policy, [China has also increased diesel exports](#) compared with this time last year. Despite recent increases in diesel supplies, the impact of changing economic conditions and the longer-term impact of Europe's ban on petroleum product imports from Russia continue to present significant uncertainty in our distillate outlook.

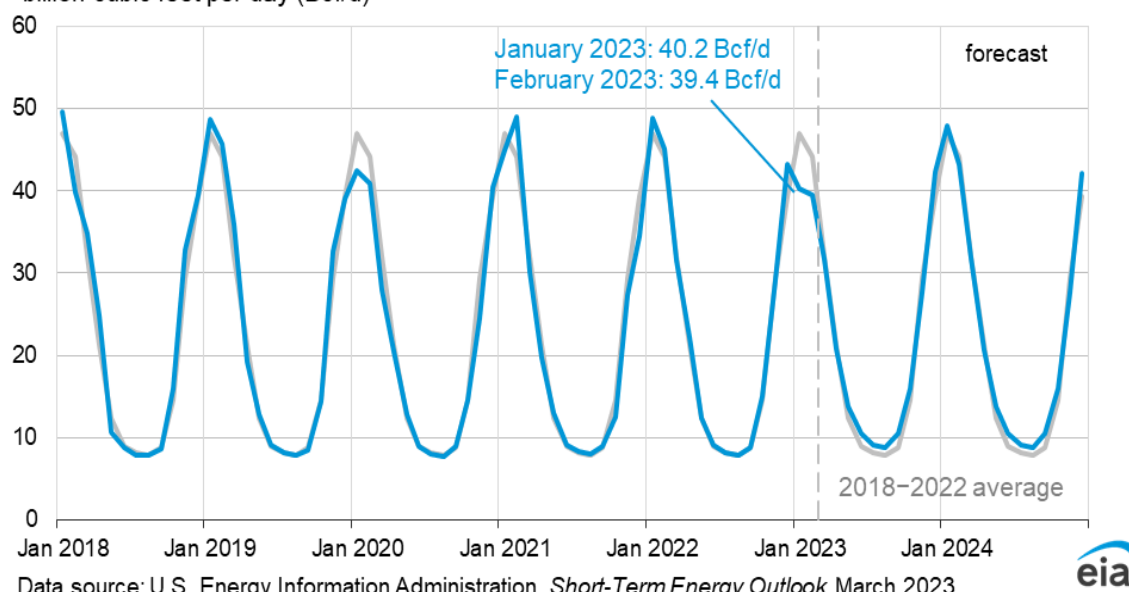
Natural gas

Natural gas consumption

In January and February, below-average U.S. natural gas consumption in the residential and commercial sectors was driven by mild winter weather across large parts of the country, particularly in the Northeast and the Midwest. Based on preliminary data from the National Oceanic and Atmospheric Administration for January and February, the first two months of 2023 combined were among the three warmest on record for that period going back to 1895. In March, we expect natural gas consumption in the residential and commercial sectors to average almost 32 billion cubic feet per day (Bcf/d), which is close to the five-year average, because we expect more normal temperatures in March with a close to average number of [heating degree days](#).

Monthly U.S. natural gas residential and commercial sector consumption

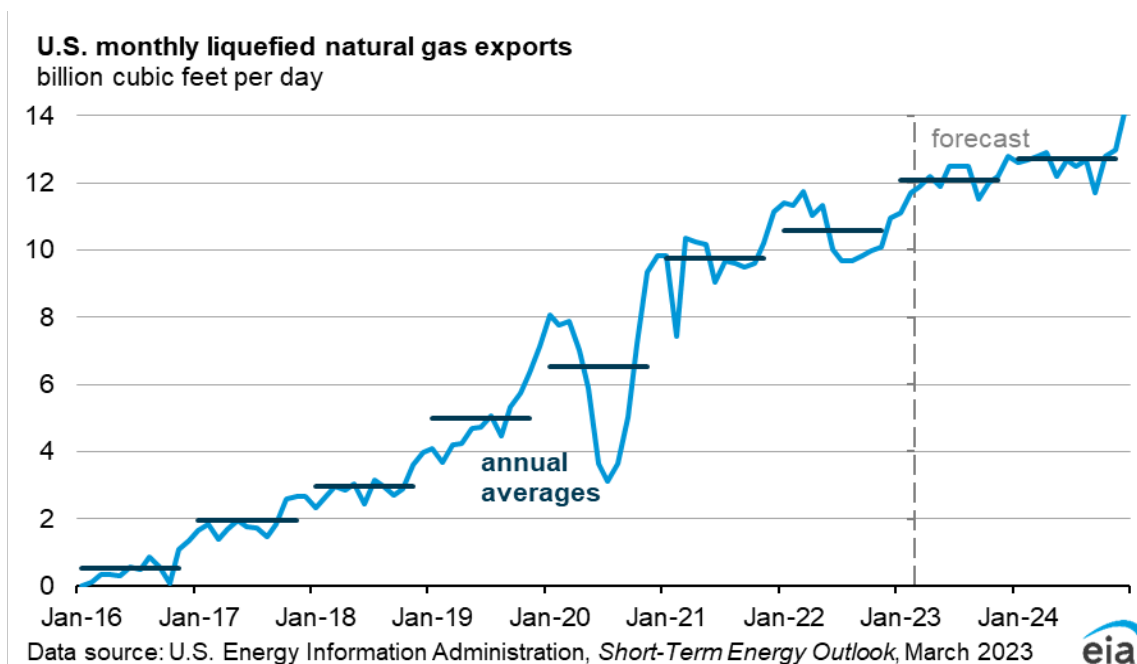
billion cubic feet per day (Bcf/d)



As a result of the mild winter and low natural gas consumption in the residential and commercial sectors, we expect 2.4% (2 Bcf/d) less U.S. natural gas consumption in 2023 than in 2022. Reduced natural gas consumption in January and February slowed withdrawals from natural gas inventories to less than the five-year average and reduced natural gas prices. The spot price of natural gas at the U.S. benchmark Henry Hub averaged \$2.38 per million British thermal units (MMBtu) in February, the lowest monthly average since September 2020. Although we reduced our Henry Hub price forecast from last month's STEO, we still expect natural gas prices to increase in the coming months. Price increases in the forecast result from rising demand from [Freeport LNG reopening](#), which [shut down last June due to a fire](#), and seasonal increases in natural gas demand in the electric power sector. In addition, we expect natural gas production will be relatively flat for the rest of 2023 as producers reduce drilling in response to lower prices.

Liquefied natural gas exports

U.S. liquefied natural gas (LNG) exports in our forecast average about 12 Bcf/d in 2023, up 14% from last year. We expect LNG exports to increase by an additional 5% in 2024. The [Freeport LNG](#) export terminal's return to service and [LNG export projects under construction](#) that will come online by the end of 2024 contribute to rising exports.



The Freeport LNG terminal can produce more than 2.1 Bcf/d of LNG for export on a peak day, and exports from Freeport averaged 1.9 Bcf/d from January 2021 through May 2022, prior to the [full shutdown of the facility in June 2022](#), according to our [Natural Gas Monthly](#). Because of the Freeport shutdown, U.S. LNG exports averaged 10.0 Bcf/d from June 2022 through December 2022, after peaking at 11.7 Bcf/d in March. [The new Calcasieu Pass LNG](#) export facility partially offset the decline in exports from Freeport LNG, with exports from Calcasieu Pass averaging 1.2 Bcf/d since June 2022.

This year, once all three trains at Freeport LNG return to service, we forecast U.S. LNG exports to exceed 12 Bcf/d in most months for the rest of the forecast period. We forecast that U.S. LNG exports will increase to 14 Bcf/d by December 2024 because new LNG export capacity from [three major projects under construction](#) are scheduled to come online.

Electricity, coal, and renewables

Electricity markets

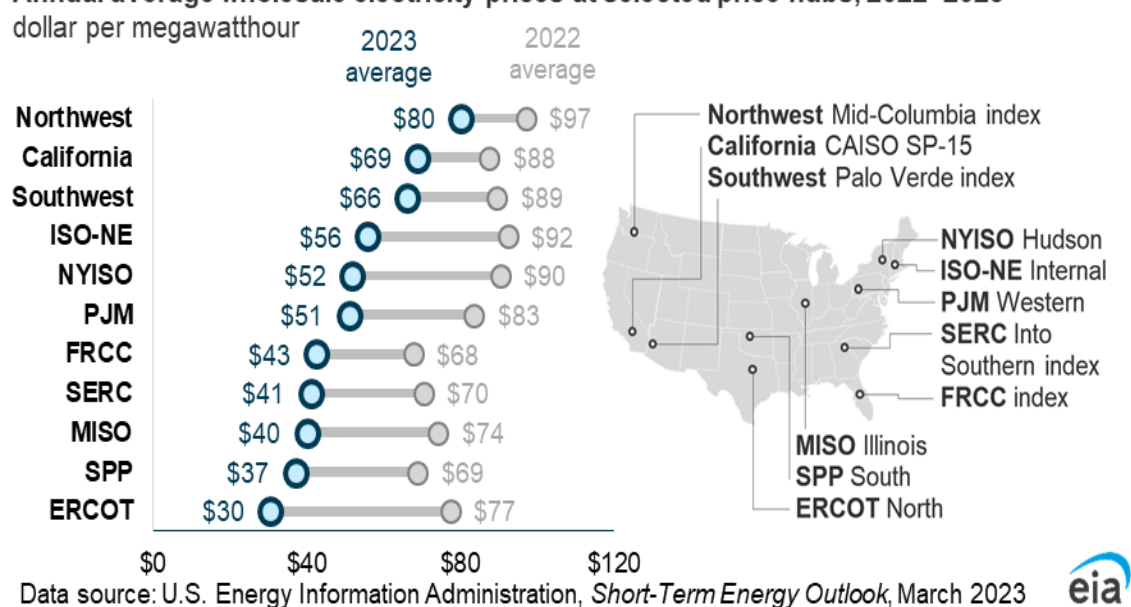
We expect that natural gas will continue to be the predominant source of U.S. electricity generation through 2024, as it has been over the past five years, accounting for an average of around 38% of total generation in 2023 and 2024. However, renewable energy sources will grow the most during the next two years, with about 7 gigawatts (GW) of new wind capacity and 29 GW of new solar PV capacity being installed in 2023. These additions will result in renewable energy resources other than hydropower accounting for 19% of generation in 2024 compared with 15% in 2022. To better show how the U.S. generation mix is changing, beginning with this month's STEO, [we have begun publishing forecasts of the operational generating capacity](#) for all types of energy sources.

Natural gas's current place as the largest source of U.S. electricity generation means that its fuel costs are a significant driver of wholesale electricity prices. For 2023, we forecast that the cost of natural gas

delivered to U.S. electric generators will average around \$3.50/MMBtu, which would be about half the average in 2022. Although wholesale power prices can be extremely volatile in the short-term, we expect that average wholesale prices this year will be lower than in 2022 as a result of lower natural gas costs.

The western United States experienced [increases in natural gas prices](#) late in 2022, which pushed monthly average power prices above \$250 per megawatthour (MWh) in December 2022 at the main western price hubs. Although prices have come down in recent weeks, and we forecast prices to remain lower, on average, than in 2022, we expect that growth in overall electricity demand will keep wholesale power prices in that region relatively high compared with other parts of the country. We forecast wholesale prices will decrease by an average of around 20% between 2022 and 2023 at California's SP-15 hub and by slightly less at the Mid-Columbia hub in the Pacific Northwest.

Annual average wholesale electricity prices at selected price hubs, 2022–2023



We expect wholesale electricity prices will average between \$50/MWh and \$60/MWh in New England, New York, and the PJM power markets in 2023. The Northeast power markets also had some of the highest wholesale prices last year as a result of regional [constraints on receiving natural gas](#). Electricity prices during 2022 averaged close to \$90/MWh in the ISO-New England and New York ISO markets.

We expect the lowest U.S. wholesale prices to occur in Texas's ERCOT market, averaging \$30/MWh in 2023 compared with \$77/MWh last year. Because of the nearby abundance of natural gas production, Texas tends to have lower fuel costs than other regions. In addition, it will also have some of the fastest growth in renewable generating capacity, which we expect will put downward pressure on wholesale power prices.

Coal markets

Coal stocks held by the power sector rise in our forecast by more than 30% from the end of December 2022 through May 2023, after which they decline as electric power generation ramps up to meet

summer air-conditioning needs. Coal stocks increased over the past two months because warmer-than-average temperatures and falling natural gas prices reduced the need for coal generation. Monthly coal production had been rising in response to relatively strong coal demand in the fourth quarter of 2022, due in, part, to a colder-than-average December in 2022.

Coal production declined by 14% in February 2023 compared with January 2023, from 52 million short tons (MMst) to 45 MMst, because the mild weather reduced coal-fired generations. After increasing in both 2021 and 2022, we expect U.S. coal production to decline by 7% from more than 590 MMst in 2022 to about 550 MMst in 2023, with a further 9% decline to around 500 MMst in 2024. Among the drivers of the steady decline is the [on-going retirement of coal-fired generating plants](#). We expect 11 GW of coal-fired capacity will close from the end of 2022 to the end of 2024.

The average price of coal to electric generators reached \$2.67 per million British thermal units (MMBtu) in January 2023, rising 41% from \$1.89/MMBtu in May 2021. The rise in coal price over that period was a result of upward pressures on coal demand due to high natural gas prices and several extreme weather-related events, which occurred amid constraints on coal production and transportation capacity. Prices fell slightly in February to \$2.65/MMBtu, and we expect them to fall slightly throughout the forecast to \$2.54/MMBtu by December 2024.

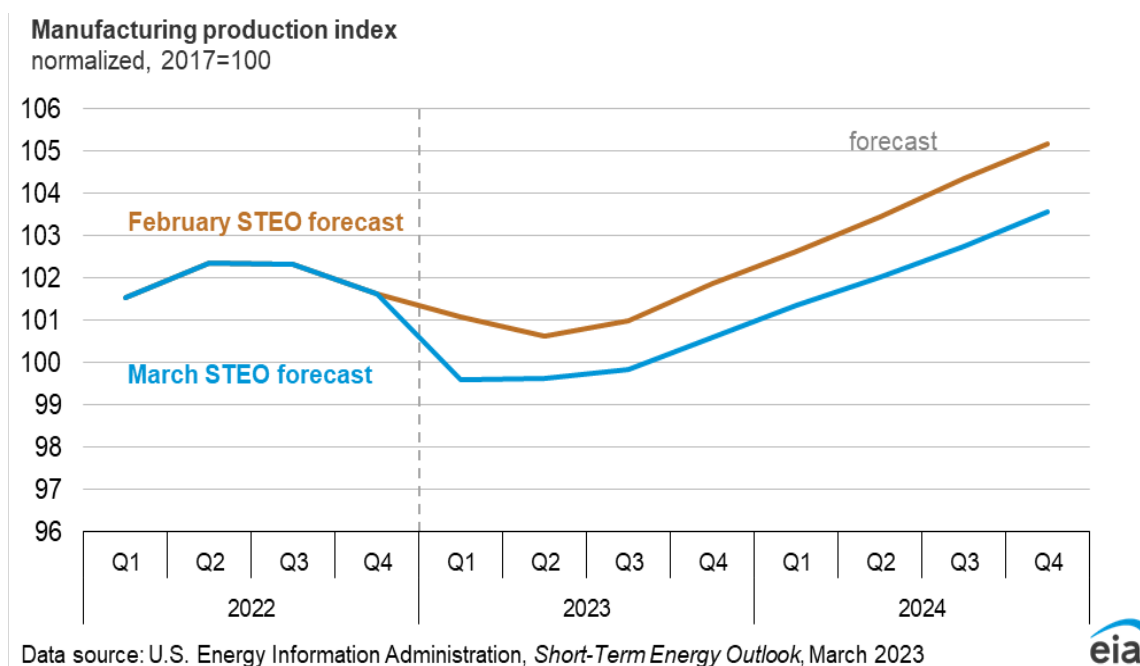
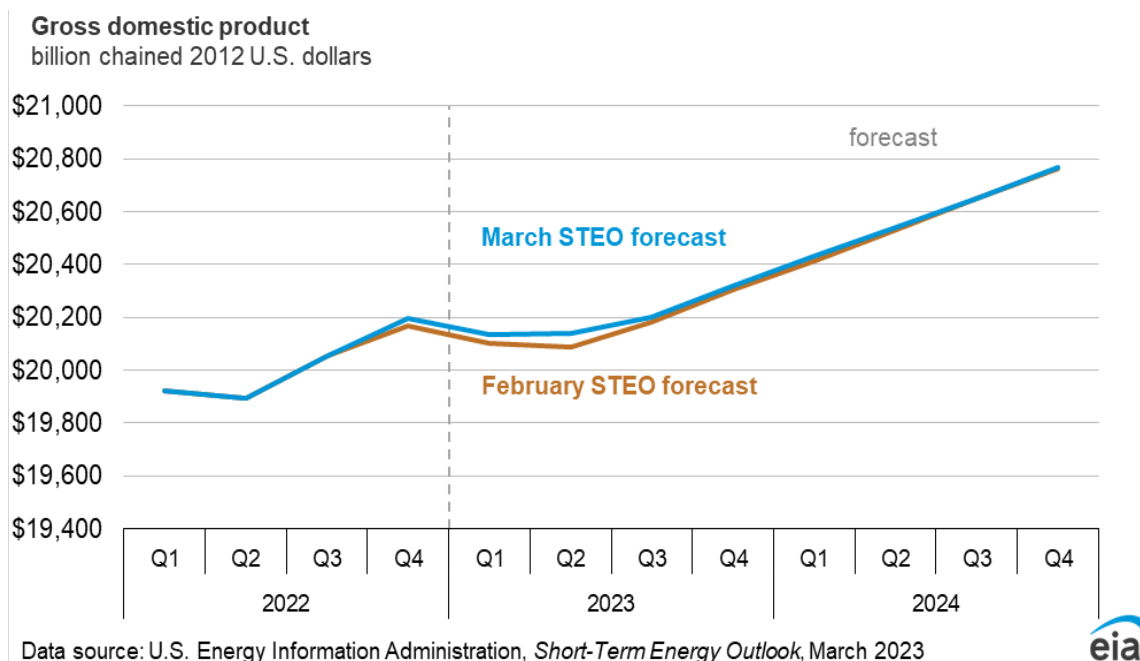
Economy, weather, and CO₂

U.S. macroeconomics

We base our U.S. macroeconomic forecasts on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions.

The forecast continues to show U.S. GDP contracting in the first quarter of 2023 (1Q23), with a return to positive growth in 2Q23. Residential fixed investment, private business inventories of goods, and industrial production continue to limit growth. Real GDP for 2Q23 was revised upward from our previous STEO by 0.3%, with forecast growth of almost 1% in 2023.

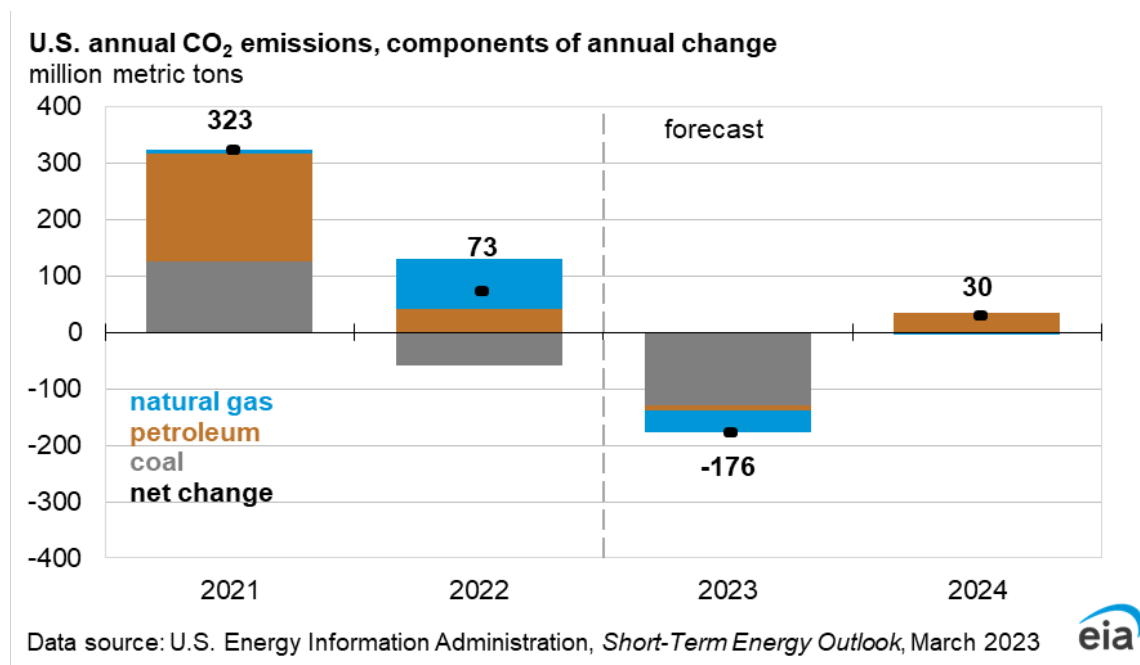
The U.S. economy is experiencing a sectoral shift as the economy emerges from the COVID-19 pandemic. U.S. Consumer spending is moving away from goods and toward services. Although the forecast for GDP is high than in last month STEO, we revised the forecast for manufacturing activity downward, reflecting this reallocation of economic activity. Our forecast includes a contraction in U.S. manufacturing production in 1Q23, resulting in an overall decline of 2.0% for the year.



Emissions

We expect U.S. energy-related carbon dioxide (CO₂) emissions to decrease by about 4% in 2023. This reduction in emissions is driven by weak economic growth and less electricity generation from fossil fuels. Coal-fired electricity generation falls by almost 16% and coal-related CO₂ emissions by about 14%. Natural gas-fired generation and natural gas CO₂ emissions both decrease by about 2%. Generation from both fuels is replaced by renewable sources. We expect petroleum emissions to remain about the same.

We expect CO₂ emissions in 2024 to rise slightly from 2023. Petroleum CO₂ emissions increase by about 1% as a result of increases in air and road travel. Rising petroleum emissions in 2024 are partly offset by small decreases in coal and natural gas emissions, which fall as a growing share renewable sources are used for electricity generation.



Weather

Preliminary data indicate January and February were among the mildest first two months of any year on record. Mild weather was most prevalent across the Northeast and Midwest. Based on forecasts from the National Oceanic and Atmospheric Administration, we expect 7% fewer HDDs in the United States in 2023 compared with 2022 and 5% fewer than the 10-year average. We have updated our expectations for [winter heating fuel expenditures](#) based on the most recent temperature and price forecasts.

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 Chart Gallery



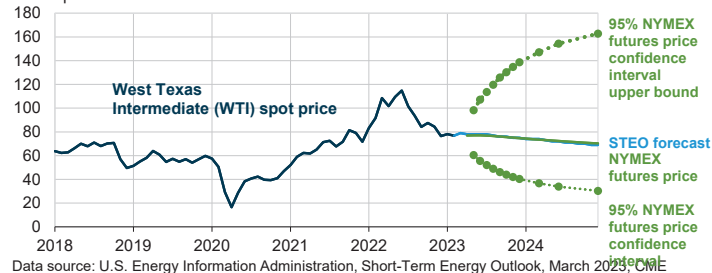
March 7, 2023



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

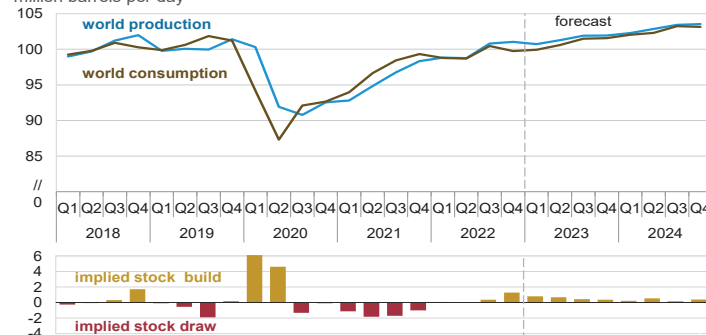


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023; CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending March 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.



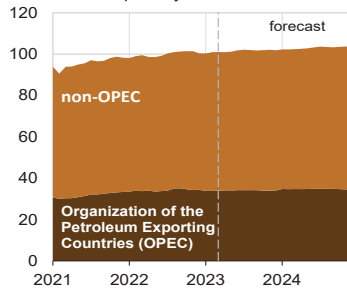
World liquid fuels production and consumption balance
million barrels per day



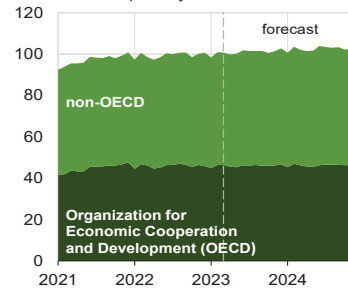
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



World liquid fuels production
million barrels per day



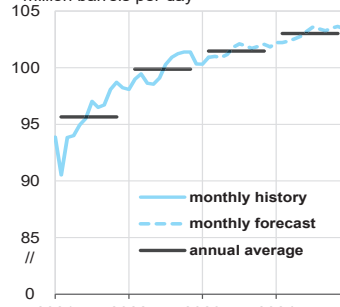
World liquid fuels consumption
million barrels per day



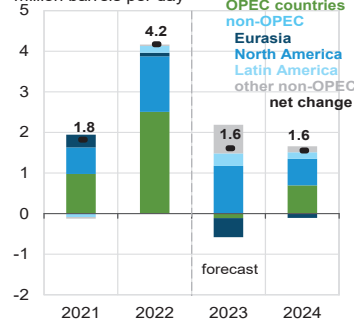
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



World crude oil and liquid fuels production
million barrels per day



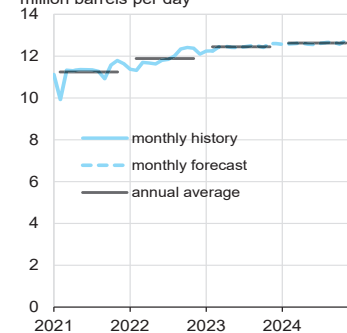
Components of annual change
million barrels per day



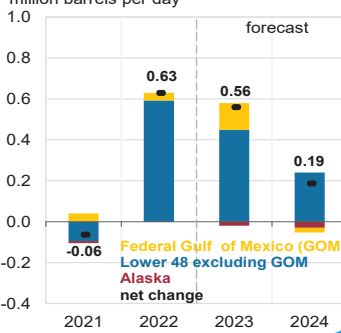
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



U.S. crude oil production
million barrels per day



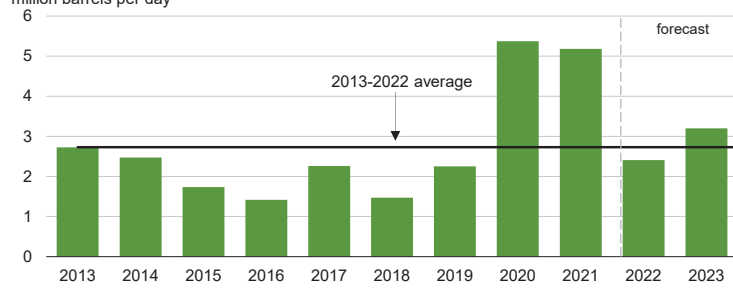
Components of annual change
million barrels per day



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



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

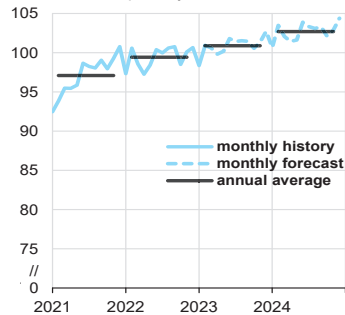


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

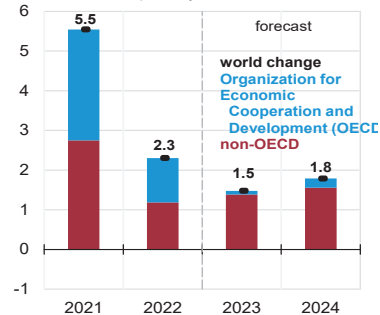
Note: Black line represents 2013-2022 average (2.7 million barrels per day).



World liquid fuels consumption
million barrels per day



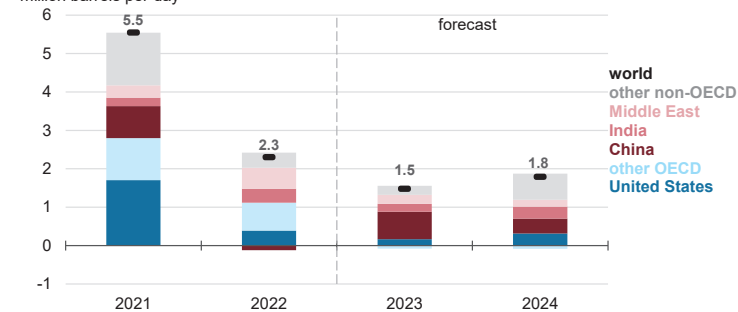
Components of annual change
million barrels per day



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



Annual change in world liquid fuels consumption
million barrels per day

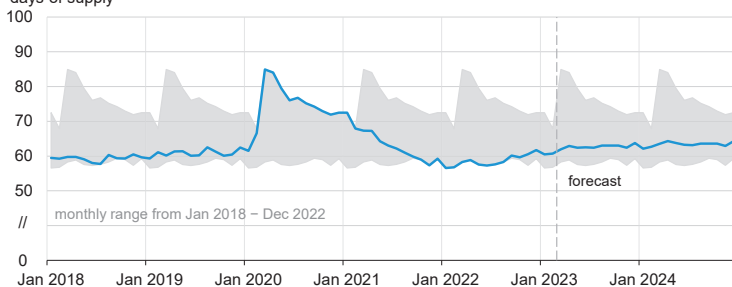


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



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

days of supply

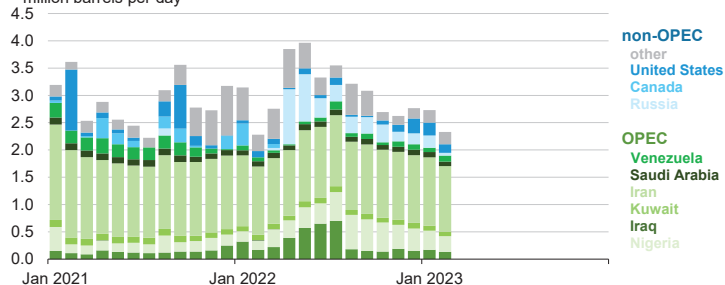


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



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

million barrels per day

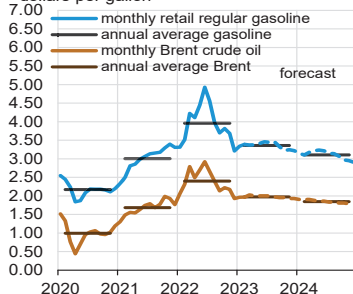


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



U.S. gasoline and crude oil prices

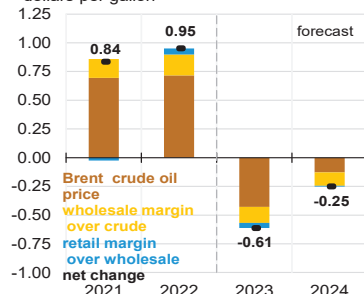
dollars per gallon



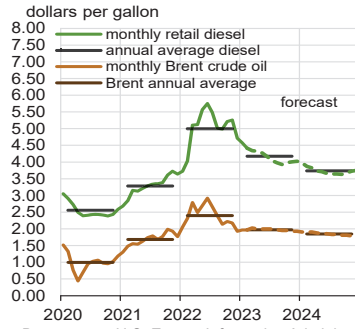
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023, and Refinitiv an LSEG Business

Components of annual gasoline price changes

dollars per gallon

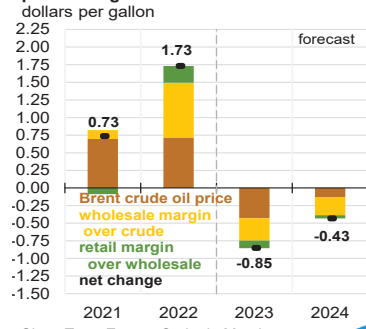


U.S. diesel and crude oil prices

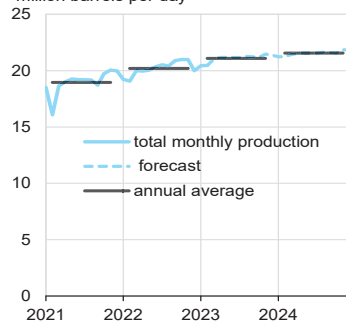


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023, and Refinitiv an LSEG Business

Components of annual diesel price changes

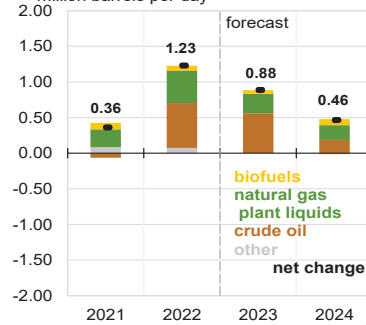


U.S. crude oil and liquid fuels production

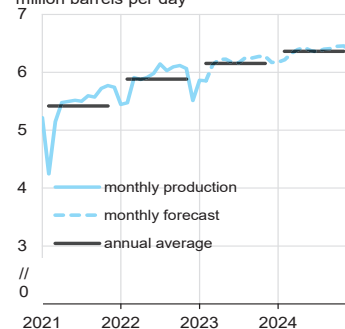


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

Components of annual change

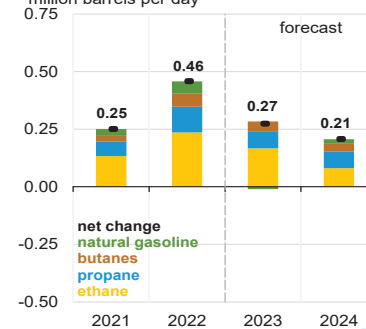


U.S. natural gas plant liquids production



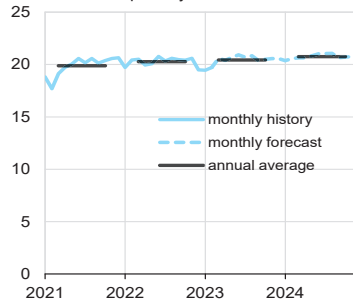
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

Components of annual change



U.S. liquid fuels product supplied (consumption)

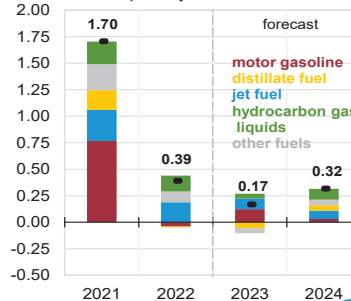
million barrels per day



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

Components of annual change

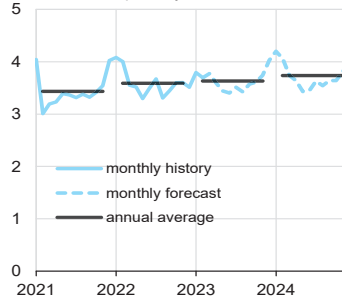
million barrels per day



eia

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

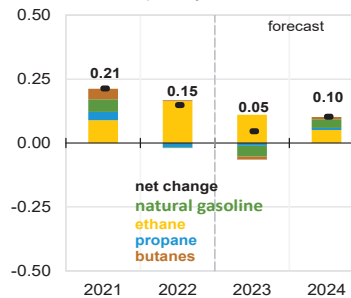
million barrels per day



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

Components of annual change

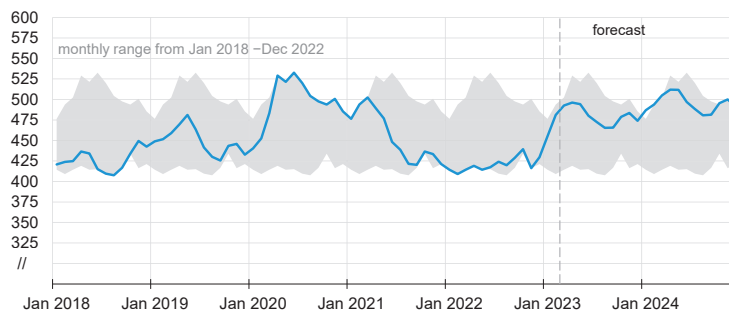
million barrels per day



eia

U.S. commercial crude oil inventories

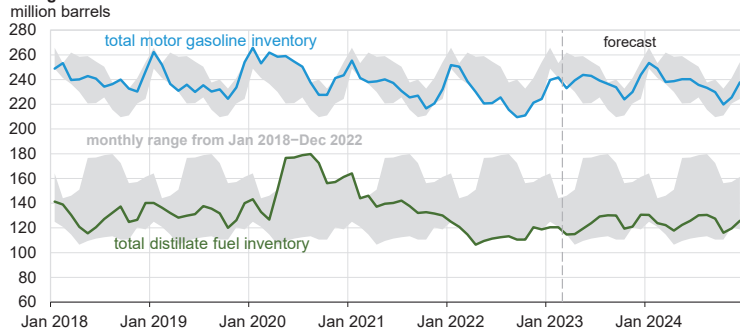
million barrels



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

eia

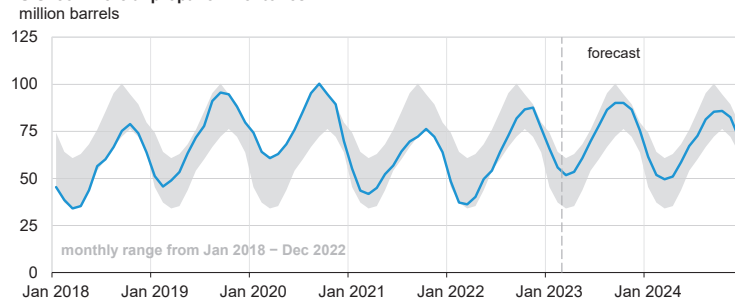
U.S. gasoline and distillate inventories



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



U.S. commercial propane inventories

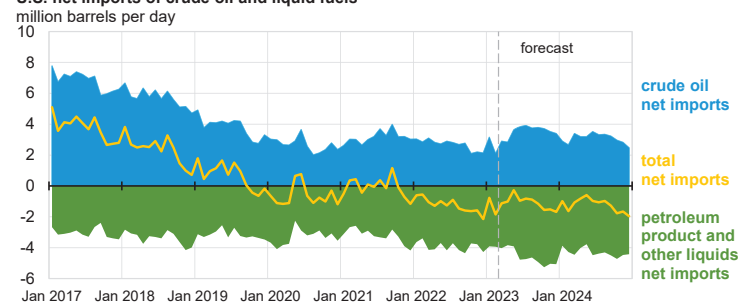


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

Note: Excludes propylene.



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

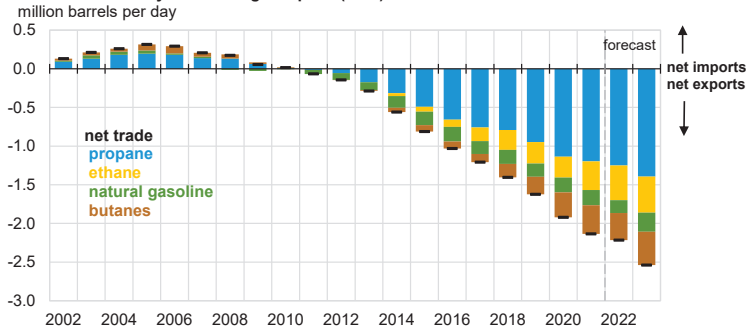


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

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.



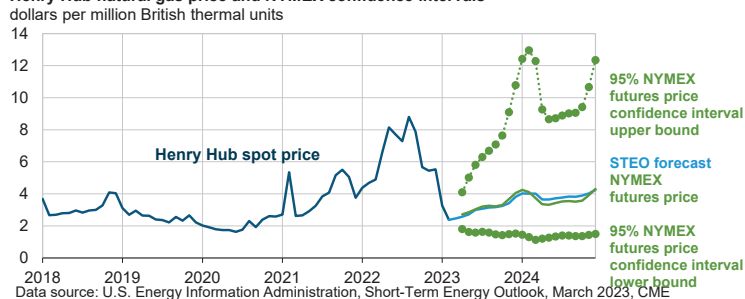
U.S. net trade of hydrocarbon gas liquids (HGL)



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



Henry Hub natural gas price and NYMEX confidence intervals

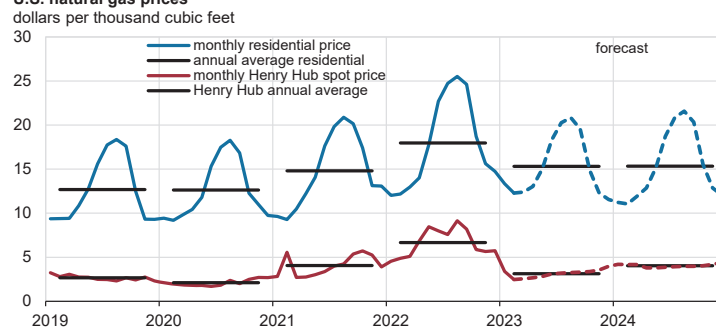


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023, CME Group, and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending March 2, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.



U.S. natural gas prices

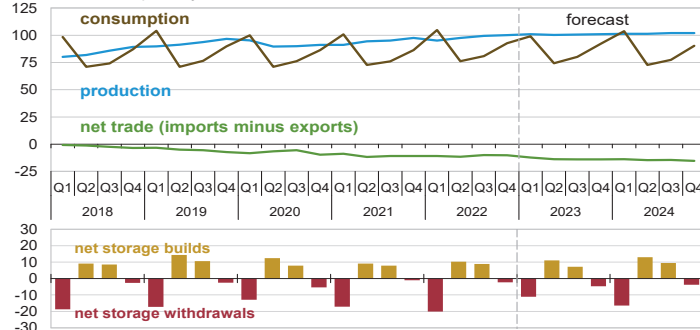


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023, and Refinitiv an LSEG Business



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

billion cubic feet per day

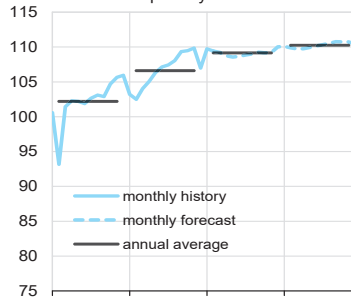


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



U.S. marketed natural gas production

billion cubic feet per day

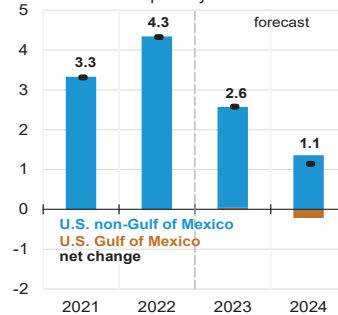


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



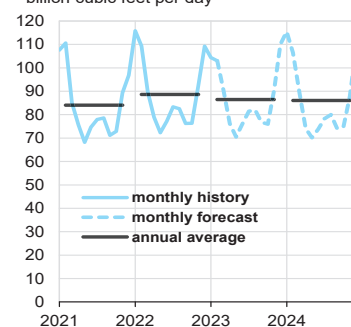
Components of annual change

billion cubic feet per day



U.S. natural gas consumption

billion cubic feet per day

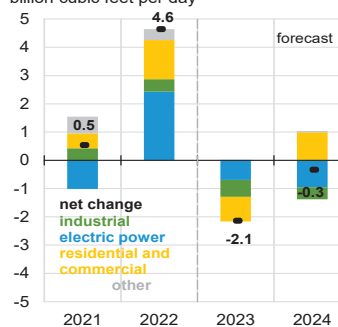


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



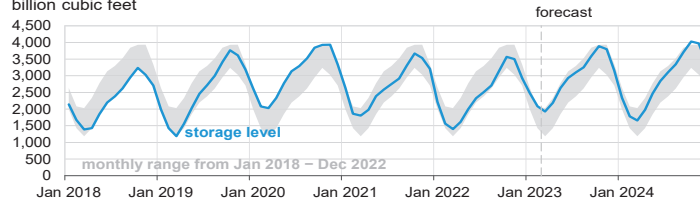
Components of annual change

billion cubic feet per day



U.S. working natural gas in storage

billion cubic feet



Percentage deviation from 2018 – 2022 average

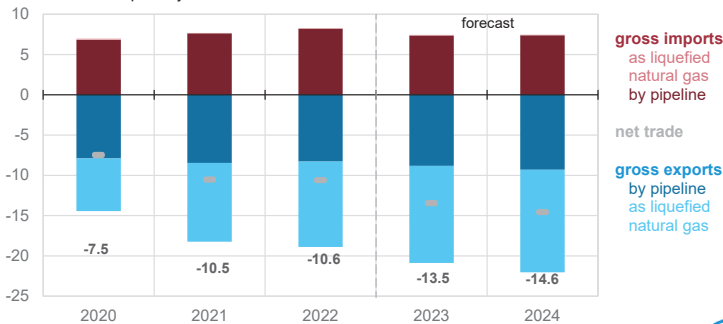


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



U.S. annual natural gas trade

billion cubic feet per day

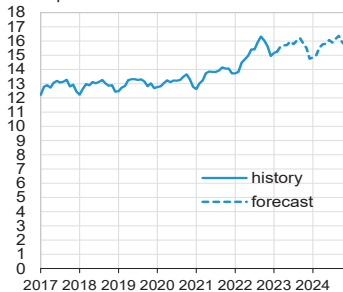


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023



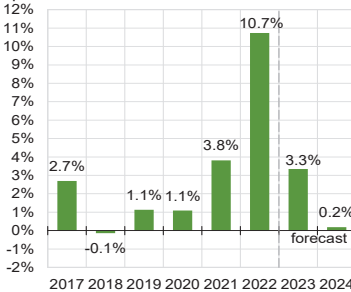
U.S. monthly nominal residential electricity price

cents per kilowatthour



Annual growth in nominal residential electricity prices

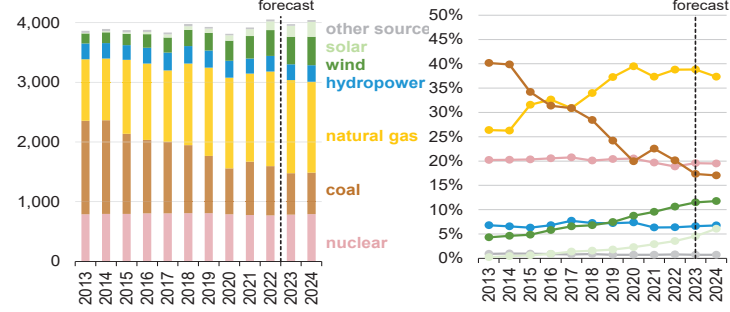
percent



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



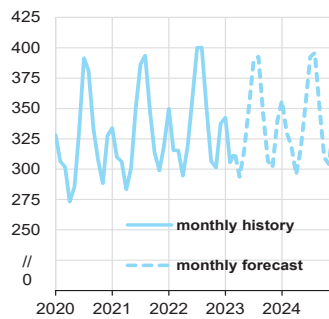
U.S. electricity generation by source, all sectors
billion kilowatthours



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

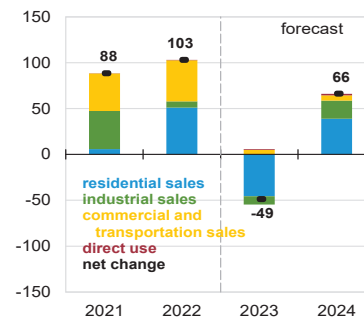


U.S. electricity consumption
billion kilowatthours

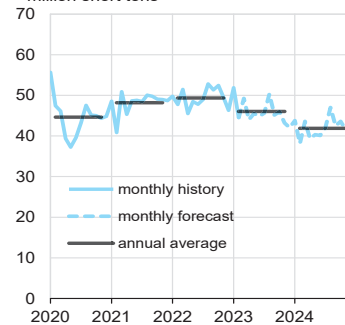


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

Components of annual change
billion kilowatthours

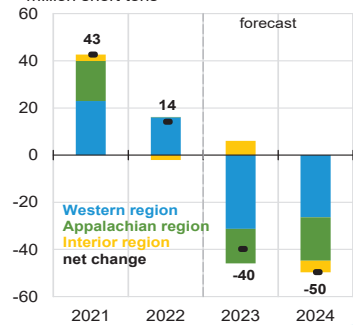


U.S. coal production
million short tons

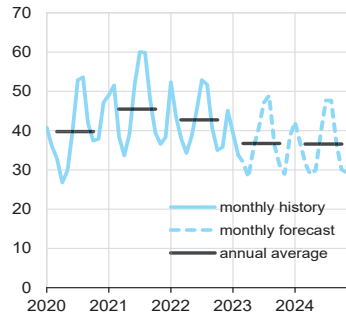


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

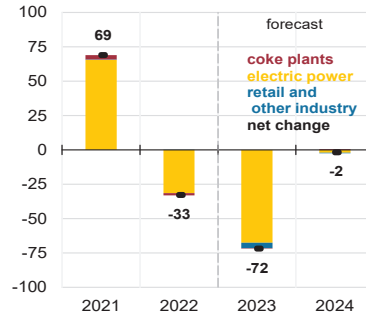
Components of annual change
million short tons



U.S. coal consumption
million short tons



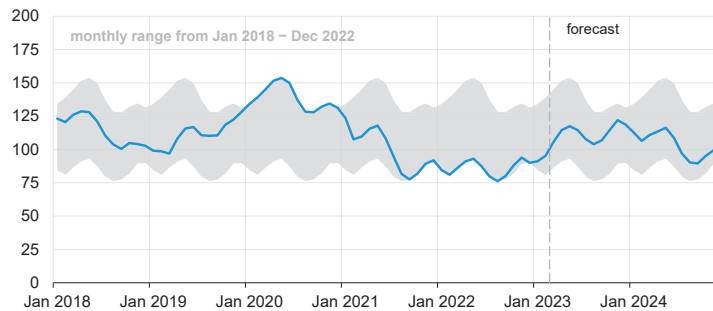
Components of annual change
million short tons



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



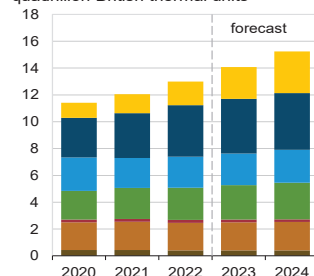
U.S. electric power coal inventories
million short tons



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



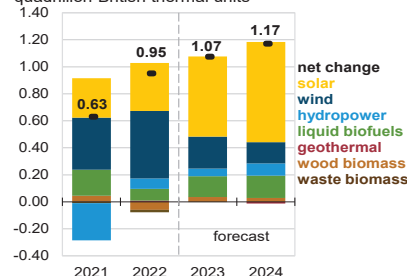
U.S. renewable energy supply
quadrillion British thermal units



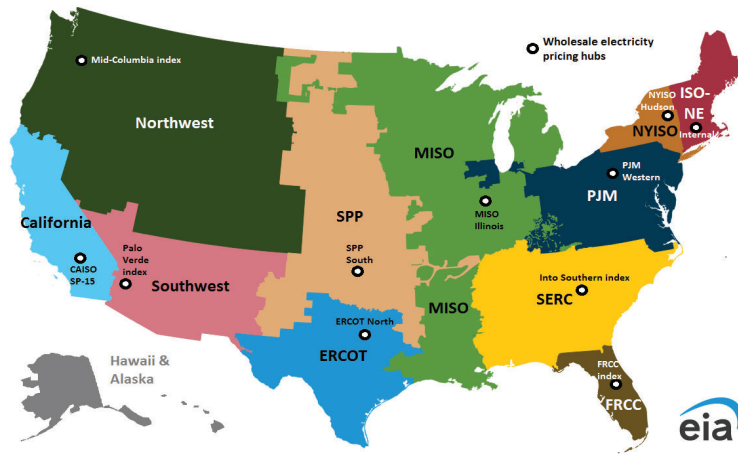
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023

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.

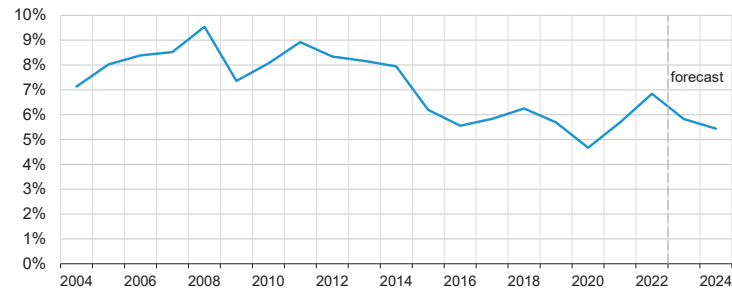
Components of annual change
quadrillion British thermal units



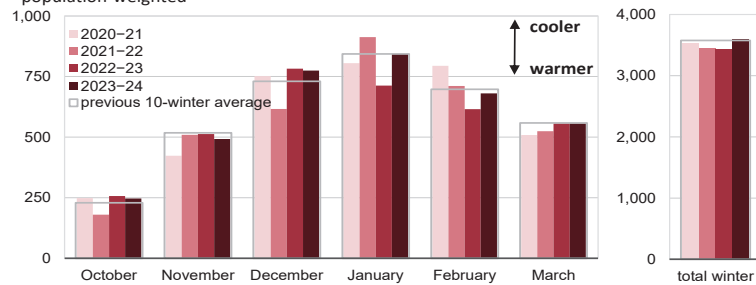
Short-Term Energy Outlook electricity supply regions



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

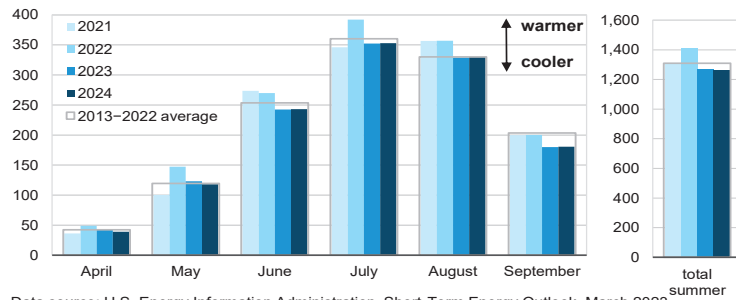


U.S. winter heating degree days
population-weighted



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

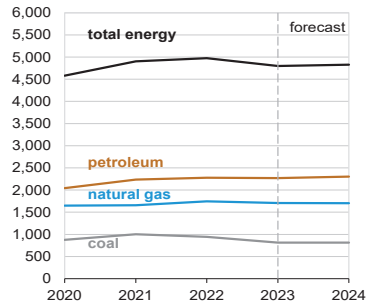
U.S. summer cooling degree days population-weighted



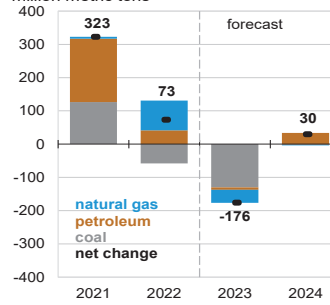
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2023
 Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
 Projections reflect NOAA's 14-16 month outlook.



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, March 2023



Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - March 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	12.30	<i>12.31</i>	<i>12.43</i>	<i>12.48</i>	<i>12.54</i>	<i>12.58</i>	<i>12.58</i>	<i>12.64</i>	<i>12.71</i>	11.88	<i>12.44</i>	<i>12.63</i>
Dry Natural Gas Production (billion cubic feet per day)	95.09	97.59	99.46	100.15	<i>100.97</i>	<i>100.21</i>	<i>100.56</i>	<i>100.96</i>	<i>101.37</i>	<i>101.40</i>	<i>101.95</i>	<i>102.04</i>	98.09	<i>100.67</i>	<i>101.69</i>
Coal Production (million short tons)	149	142	153	148	<i>146</i>	<i>134</i>	<i>141</i>	<i>131</i>	<i>126</i>	<i>120</i>	<i>131</i>	<i>126</i>	592	<i>552</i>	<i>503</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	20.22	20.27	20.47	20.16	<i>19.93</i>	<i>20.67</i>	<i>20.63</i>	<i>20.55</i>	<i>20.53</i>	<i>20.84</i>	<i>20.92</i>	<i>20.76</i>	20.28	<i>20.45</i>	<i>20.76</i>
Natural Gas (billion cubic feet per day)	104.83	76.13	80.77	92.67	<i>99.14</i>	<i>74.25</i>	<i>80.15</i>	<i>92.21</i>	<i>103.78</i>	<i>72.68</i>	<i>77.46</i>	<i>90.39</i>	88.54	<i>86.40</i>	<i>86.06</i>
Coal (b) (million short tons)	134	118	145	116	<i>105</i>	<i>104</i>	<i>133</i>	<i>99</i>	<i>111</i>	<i>98</i>	<i>132</i>	<i>98</i>	513	<i>441</i>	<i>439</i>
Electricity (billion kilowatt hours per day)	10.90	10.68	12.50	10.28	<i>10.69</i>	<i>10.56</i>	<i>12.27</i>	<i>10.30</i>	<i>11.05</i>	<i>10.62</i>	<i>12.36</i>	<i>10.39</i>	11.09	<i>10.96</i>	<i>11.11</i>
Renewables (c) (quadrillion Btu)	3.30	3.50	3.07	3.12	<i>3.45</i>	<i>3.84</i>	<i>3.37</i>	<i>3.41</i>	<i>3.75</i>	<i>4.14</i>	<i>3.69</i>	<i>3.67</i>	13.00	<i>14.07</i>	<i>15.25</i>
Total Energy Consumption (d) (quadrillion Btu)	26.53	23.85	24.91	25.21	<i>25.38</i>	<i>23.95</i>	<i>24.96</i>	<i>25.27</i>	<i>26.78</i>	<i>24.07</i>	<i>25.10</i>	<i>25.30</i>	100.50	<i>99.57</i>	<i>101.25</i>
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	95.18	108.93	93.07	82.69	<i>78.05</i>	<i>78.00</i>	<i>77.00</i>	<i>75.35</i>	<i>74.00</i>	<i>72.34</i>	<i>70.69</i>	<i>69.36</i>	94.91	<i>77.10</i>	<i>71.57</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	4.66	7.48	7.99	5.55	<i>2.70</i>	<i>2.76</i>	<i>3.13</i>	<i>3.49</i>	<i>4.02</i>	<i>3.67</i>	<i>3.81</i>	<i>4.06</i>	6.42	<i>3.02</i>	<i>3.89</i>
Coal (dollars per million Btu)	2.18	2.26	2.50	2.55	<i>2.65</i>	<i>2.63</i>	<i>2.62</i>	<i>2.57</i>	<i>2.58</i>	<i>2.58</i>	<i>2.57</i>	<i>2.54</i>	2.37	<i>2.62</i>	<i>2.57</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	19,924	19,895	20,055	20,198	<i>20,135</i>	<i>20,142</i>	<i>20,200</i>	<i>20,319</i>	<i>20,431</i>	<i>20,541</i>	<i>20,650</i>	<i>20,767</i>	20,018	<i>20,199</i>	<i>20,597</i>
Percent change from prior year	3.7	1.8	1.9	1.0	<i>1.1</i>	<i>1.2</i>	<i>0.7</i>	<i>0.6</i>	<i>1.5</i>	<i>2.0</i>	<i>2.2</i>	<i>2.2</i>	2.1	<i>0.9</i>	<i>2.0</i>
GDP Implicit Price Deflator (Index, 2012=100)	124.2	126.9	128.3	129.4	<i>130.0</i>	<i>130.6</i>	<i>131.3</i>	<i>132.0</i>	<i>132.8</i>	<i>133.4</i>	<i>133.9</i>	<i>134.6</i>	127.2	<i>131.0</i>	<i>133.7</i>
Percent change from prior year	6.9	7.6	7.1	6.3	<i>4.6</i>	<i>2.9</i>	<i>2.3</i>	<i>2.0</i>	<i>2.1</i>	<i>2.1</i>	<i>2.0</i>	<i>1.9</i>	7.0	<i>3.0</i>	<i>2.1</i>
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,109	15,022	15,059	15,181	<i>15,372</i>	<i>15,443</i>	<i>15,567</i>	<i>15,714</i>	<i>15,860</i>	<i>16,005</i>	<i>16,131</i>	<i>16,252</i>	15,093	<i>15,524</i>	<i>16,062</i>
Percent change from prior year	-12.8	-5.7	-4.3	-2.3	<i>1.7</i>	<i>2.8</i>	<i>3.4</i>	<i>3.5</i>	<i>3.2</i>	<i>3.6</i>	<i>3.6</i>	<i>3.4</i>	-6.4	<i>2.9</i>	<i>3.5</i>
Manufacturing Production Index (Index, 2017=100)	101.5	102.4	102.3	101.6	<i>99.6</i>	<i>99.6</i>	<i>99.8</i>	<i>100.6</i>	<i>101.4</i>	<i>102.0</i>	<i>102.8</i>	<i>103.6</i>	102.0	<i>99.9</i>	<i>102.4</i>
Percent change from prior year	4.8	4.1	3.1	1.0	<i>-1.9</i>	<i>-2.7</i>	<i>-2.4</i>	<i>-1.0</i>	<i>1.8</i>	<i>2.4</i>	<i>2.9</i>	<i>2.9</i>	3.2	<i>-2.0</i>	<i>2.5</i>
Weather															
U.S. Heating Degree-Days	2,149	492	54	1,552	<i>1,885</i>	<i>489</i>	<i>73</i>	<i>1,514</i>	<i>2,081</i>	<i>491</i>	<i>73</i>	<i>1,511</i>	4,247	<i>3,960</i>	<i>4,156</i>
U.S. Cooling Degree-Days	47	466	949	89	<i>60</i>	<i>408</i>	<i>861</i>	<i>96</i>	<i>44</i>	<i>400</i>	<i>863</i>	<i>97</i>	1,552	<i>1,426</i>	<i>1,404</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 March 2, 2022.

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.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - March 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	<i>78.05</i>	<i>78.00</i>	<i>77.00</i>	<i>75.35</i>	<i>74.00</i>	<i>72.34</i>	<i>70.69</i>	<i>69.36</i>	94.91	<i>77.10</i>	<i>71.57</i>
Brent Spot Average	101.17	113.84	100.53	88.44	<i>83.45</i>	<i>84.00</i>	<i>83.00</i>	<i>81.35</i>	<i>80.00</i>	<i>78.34</i>	<i>76.69</i>	<i>75.36</i>	100.94	<i>82.95</i>	<i>77.57</i>
U.S. Imported Average	89.85	107.23	91.86	78.46	<i>75.38</i>	<i>75.25</i>	<i>74.27</i>	<i>72.60</i>	<i>71.25</i>	<i>69.57</i>	<i>67.93</i>	<i>66.61</i>	92.63	<i>74.30</i>	<i>68.87</i>
U.S. Refiner Average Acquisition Cost	92.62	109.86	95.20	83.54	<i>77.53</i>	<i>77.50</i>	<i>76.52</i>	<i>74.83</i>	<i>73.50</i>	<i>71.82</i>	<i>70.18</i>	<i>68.83</i>	95.36	<i>76.58</i>	<i>71.07</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	278	376	311	267	<i>258</i>	<i>260</i>	<i>255</i>	<i>235</i>	<i>231</i>	<i>238</i>	<i>228</i>	<i>211</i>	309	<i>252</i>	<i>227</i>
Diesel Fuel	301	418	357	364	<i>300</i>	<i>289</i>	<i>279</i>	<i>278</i>	<i>259</i>	<i>242</i>	<i>240</i>	<i>250</i>	361	<i>286</i>	<i>248</i>
Fuel Oil	284	419	344	359	<i>281</i>	<i>268</i>	<i>265</i>	<i>269</i>	<i>249</i>	<i>229</i>	<i>222</i>	<i>241</i>	352	<i>275</i>	<i>241</i>
Refiner Prices to End Users															
Jet Fuel	283	400	340	332	<i>319</i>	<i>295</i>	<i>275</i>	<i>268</i>	<i>250</i>	<i>238</i>	<i>232</i>	<i>242</i>	340	<i>288</i>	<i>240</i>
No. 6 Residual Fuel Oil (a)	252	258	228	201	<i>199</i>	<i>198</i>	<i>198</i>	<i>194</i>	<i>193</i>	<i>186</i>	<i>183</i>	<i>180</i>	236	<i>197</i>	<i>185</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	371	450	408	357	<i>337</i>	<i>342</i>	<i>341</i>	<i>323</i>	<i>314</i>	<i>322</i>	<i>312</i>	<i>294</i>	397	<i>336</i>	<i>311</i>
Gasoline All Grades (b)	380	460	419	369	<i>348</i>	<i>354</i>	<i>355</i>	<i>337</i>	<i>328</i>	<i>336</i>	<i>326</i>	<i>309</i>	408	<i>349</i>	<i>325</i>
On-highway Diesel Fuel	432	549	516	508	<i>444</i>	<i>425</i>	<i>398</i>	<i>400</i>	<i>389</i>	<i>370</i>	<i>364</i>	<i>372</i>	502	<i>417</i>	<i>373</i>
Heating Oil	415	555	497	488	<i>409</i>	<i>381</i>	<i>364</i>	<i>383</i>	<i>371</i>	<i>343</i>	<i>329</i>	<i>364</i>	465	<i>392</i>	<i>361</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	4.84	7.77	8.30	5.76	<i>2.81</i>	<i>2.87</i>	<i>3.26</i>	<i>3.63</i>	<i>4.17</i>	<i>3.81</i>	<i>3.96</i>	<i>4.21</i>	6.67	<i>3.14</i>	<i>4.04</i>
Henry Hub Spot (dollars per million Btu)	4.66	7.48	7.99	5.55	<i>2.70</i>	<i>2.76</i>	<i>3.13</i>	<i>3.49</i>	<i>4.02</i>	<i>3.67</i>	<i>3.81</i>	<i>4.06</i>	6.42	<i>3.02</i>	<i>3.89</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	6.82	8.24	9.27	7.53	<i>5.65</i>	<i>4.10</i>	<i>4.18</i>	<i>4.83</i>	<i>5.58</i>	<i>4.86</i>	<i>4.87</i>	<i>5.46</i>	7.90	<i>4.71</i>	<i>5.22</i>
Commercial Sector	10.00	11.71	14.12	12.14	<i>10.86</i>	<i>10.16</i>	<i>10.44</i>	<i>8.95</i>	<i>8.90</i>	<i>9.76</i>	<i>10.63</i>	<i>9.38</i>	11.37	<i>10.09</i>	<i>9.38</i>
Residential Sector	12.32	16.57	24.94	15.63	<i>12.72</i>	<i>14.73</i>	<i>20.17</i>	<i>12.33</i>	<i>11.35</i>	<i>14.78</i>	<i>20.89</i>	<i>12.87</i>	14.82	<i>13.51</i>	<i>13.07</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.18	2.26	2.50	2.55	<i>2.65</i>	<i>2.63</i>	<i>2.62</i>	<i>2.57</i>	<i>2.58</i>	<i>2.58</i>	<i>2.57</i>	<i>2.54</i>	2.37	<i>2.62</i>	<i>2.57</i>
Natural Gas	5.96	7.39	8.23	6.90	<i>3.98</i>	<i>3.08</i>	<i>3.31</i>	<i>3.87</i>	<i>4.59</i>	<i>3.94</i>	<i>4.02</i>	<i>4.44</i>	7.24	<i>3.54</i>	<i>4.23</i>
Residual Fuel Oil (c)	16.81	26.17	26.53	21.27	<i>17.53</i>	<i>17.15</i>	<i>16.20</i>	<i>15.73</i>	<i>15.67</i>	<i>15.65</i>	<i>14.64</i>	<i>14.44</i>	21.80	<i>16.70</i>	<i>15.10</i>
Distillate Fuel Oil	21.23	30.71	26.79	24.48	<i>23.31</i>	<i>22.14</i>	<i>21.42</i>	<i>21.26</i>	<i>20.31</i>	<i>18.72</i>	<i>18.46</i>	<i>19.21</i>	24.89	<i>22.07</i>	<i>19.34</i>
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	7.42	8.41	9.38	8.52	<i>7.80</i>	<i>8.24</i>	<i>9.02</i>	<i>8.34</i>	<i>7.89</i>	<i>8.23</i>	<i>9.02</i>	<i>8.34</i>	8.45	<i>8.36</i>	<i>8.38</i>
Commercial Sector	11.63	12.35	13.38	12.66	<i>12.33</i>	<i>12.63</i>	<i>13.40</i>	<i>12.47</i>	<i>12.15</i>	<i>12.66</i>	<i>13.54</i>	<i>12.55</i>	12.55	<i>12.74</i>	<i>12.76</i>
Residential Sector	13.98	15.07	15.85	15.48	<i>15.33</i>	<i>15.80</i>	<i>15.98</i>	<i>15.31</i>	<i>15.08</i>	<i>15.90</i>	<i>16.12</i>	<i>15.47</i>	15.12	<i>15.63</i>	<i>15.66</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 March 2, 2022.

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 - March 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	32.96	33.32	33.79	34.00	34.50	34.59	34.46	34.60	35.16	32.25	33.91	34.70
U.S. (50 States)	19.44	20.12	20.60	20.65	20.64	21.17	21.21	21.34	21.30	21.56	21.61	21.75	20.21	21.09	21.56
Canada	5.66	5.51	5.72	5.91	6.00	5.72	5.93	6.14	6.21	5.92	6.13	6.34	5.70	5.95	6.15
Mexico	1.91	1.89	1.90	1.90	1.92	1.95	1.96	1.94	1.96	1.96	1.93	1.89	1.90	1.94	1.93
Other OECD	4.61	4.35	4.32	4.49	4.76	4.96	4.89	5.07	5.11	5.02	4.93	5.18	4.44	4.92	5.06
Non-OECD	67.21	66.87	68.26	68.07	67.41	67.49	67.92	67.42	67.68	68.39	68.83	68.36	67.61	67.56	68.32
OPEC	33.75	33.76	34.71	34.43	33.92	34.10	34.20	33.99	34.75	34.78	34.86	34.60	34.17	34.05	34.75
Crude Oil Portion	28.19	28.33	29.23	28.92	28.43	28.74	28.80	28.56	29.22	29.37	29.42	29.12	28.67	28.63	29.29
Other Liquids (b)	5.56	5.43	5.48	5.52	5.49	5.36	5.40	5.44	5.53	5.40	5.44	5.48	5.50	5.42	5.46
Eurasia	14.39	13.39	13.56	13.91	13.96	13.09	13.15	13.24	13.25	13.23	13.21	13.29	13.81	13.36	13.24
China	5.18	5.18	5.05	5.09	5.21	5.24	5.23	5.28	5.21	5.24	5.23	5.27	5.12	5.24	5.24
Other Non-OECD	13.90	14.54	14.95	14.64	14.32	15.06	15.33	14.91	14.47	15.15	15.53	15.20	14.51	14.91	15.09
Total World Production	98.83	98.75	100.80	101.03	100.73	101.28	101.92	101.93	102.27	102.85	103.43	103.53	99.86	101.47	103.02
Non-OPEC Production	65.09	64.99	66.10	66.59	66.81	67.19	67.72	67.93	67.51	68.07	68.56	68.93	65.70	67.42	68.27
Consumption (million barrels per day) (c)															
OECD	45.78	45.37	46.62	45.89	45.90	45.66	46.18	46.29	46.15	45.78	46.49	46.54	45.92	46.01	46.24
U.S. (50 States)	20.22	20.27	20.47	20.16	19.93	20.67	20.63	20.55	20.53	20.84	20.92	20.76	20.28	20.45	20.76
U.S. Territories	0.14	0.12	0.12	0.13	0.13	0.12	0.12	0.13	0.13	0.12	0.12	0.13	0.13	0.12	0.13
Canada	2.24	2.21	2.38	2.30	2.28	2.23	2.33	2.31	2.31	2.26	2.36	2.33	2.28	2.29	2.31
Europe	13.19	13.42	14.09	13.45	13.47	13.37	13.77	13.54	13.25	13.40	13.80	13.57	13.54	13.54	13.50
Japan	3.70	3.03	3.19	3.53	3.69	3.05	3.07	3.37	3.54	2.93	3.03	3.36	3.36	3.29	3.22
Other OECD	6.30	6.33	6.37	6.32	6.39	6.23	6.25	6.39	6.39	6.23	6.25	6.40	6.33	6.31	6.32
Non-OECD	52.99	53.32	53.83	53.86	54.04	54.93	55.29	55.27	55.90	56.53	56.75	56.59	53.50	54.89	56.44
Eurasia	4.46	4.35	4.71	4.58	4.25	4.40	4.71	4.62	4.41	4.56	4.89	4.79	4.53	4.50	4.66
Europe	0.75	0.75	0.76	0.77	0.74	0.76	0.76	0.77	0.75	0.77	0.77	0.77	0.76	0.76	0.76
China	15.12	15.10	15.09	15.28	15.50	15.85	15.93	16.16	16.01	16.32	16.28	16.37	15.15	15.86	16.25
Other Asia	13.74	13.76	13.46	13.93	14.25	14.29	13.71	14.01	14.88	14.86	14.26	14.57	13.72	14.06	14.64
Other Non-OECD	18.92	19.36	19.81	19.29	19.30	19.64	20.17	19.70	19.84	20.02	20.56	20.08	19.35	19.71	20.13
Total World Consumption	98.77	98.69	100.45	99.75	99.94	100.60	101.47	101.56	102.04	102.31	103.25	103.14	99.42	100.90	102.69
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	-0.37	-0.33	-0.13	0.35	-0.10	-0.53	-0.07	0.34	0.54	-0.12	-0.09
Other OECD	-0.09	-0.29	-0.48	-0.35	-0.14	-0.11	-0.10	-0.23	-0.04	0.00	-0.03	-0.23	-0.30	-0.14	-0.08
Other Stock Draws and Balance	-0.78	-0.29	-0.33	-1.34	-0.29	-0.24	-0.22	-0.49	-0.09	-0.01	-0.07	-0.51	-0.68	-0.31	-0.17
Total Stock Draw	-0.06	-0.06	-0.35	-1.28	-0.79	-0.69	-0.44	-0.37	-0.22	-0.54	-0.18	-0.39	-0.44	-0.57	-0.33
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,154	1,180	1,215	1,222	1,255	1,310	1,321	1,288	1,291	1,334	1,334	1,297	1,222	1,288	1,297
OECD Commercial Inventory	2,604	2,656	2,735	2,774	2,819	2,884	2,904	2,893	2,900	2,942	2,946	2,930	2,774	2,893	2,930

(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 March 2, 2022.

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 - March 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	28.47	<i>28.56</i>	<i>28.84</i>	<i>29.10</i>	<i>29.43</i>	<i>29.48</i>	<i>29.44</i>	<i>29.67</i>	<i>29.99</i>	27.81	<i>28.99</i>	<i>29.64</i>
Canada	5.66	5.51	5.72	5.91	<i>6.00</i>	<i>5.72</i>	<i>5.93</i>	<i>6.14</i>	<i>6.21</i>	<i>5.92</i>	<i>6.13</i>	<i>6.34</i>	5.70	<i>5.95</i>	<i>6.15</i>
Mexico	1.91	1.89	1.90	1.90	<i>1.92</i>	<i>1.95</i>	<i>1.96</i>	<i>1.94</i>	<i>1.96</i>	<i>1.96</i>	<i>1.93</i>	<i>1.89</i>	1.90	<i>1.94</i>	<i>1.93</i>
United States	19.44	20.12	20.60	20.65	<i>20.64</i>	<i>21.17</i>	<i>21.21</i>	<i>21.34</i>	<i>21.30</i>	<i>21.56</i>	<i>21.61</i>	<i>21.75</i>	20.21	<i>21.09</i>	<i>21.56</i>
Central and South America	5.83	6.41	6.86	6.58	<i>6.24</i>	<i>6.97</i>	<i>7.28</i>	<i>6.88</i>	<i>6.46</i>	<i>7.18</i>	<i>7.56</i>	<i>7.25</i>	6.42	<i>6.85</i>	<i>7.11</i>
Argentina	0.77	0.78	0.79	0.82	<i>0.85</i>	<i>0.87</i>	<i>0.88</i>	<i>0.92</i>	<i>0.89</i>	<i>0.92</i>	<i>0.93</i>	<i>0.97</i>	0.79	<i>0.88</i>	<i>0.93</i>
Brazil	3.33	3.79	4.15	3.78	<i>3.42</i>	<i>4.10</i>	<i>4.41</i>	<i>3.94</i>	<i>3.55</i>	<i>4.24</i>	<i>4.56</i>	<i>4.07</i>	3.76	<i>3.97</i>	<i>4.11</i>
Colombia	0.77	0.77	0.78	0.79	<i>0.78</i>	<i>0.78</i>	<i>0.78</i>	<i>0.81</i>	<i>0.77</i>	<i>0.77</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	<i>0.48</i>	<i>0.50</i>	<i>0.51</i>	<i>0.52</i>	<i>0.55</i>	<i>0.54</i>	<i>0.54</i>	<i>0.54</i>	0.48	<i>0.50</i>	<i>0.54</i>
Guyana	0.12	0.24	0.32	0.35	<i>0.35</i>	<i>0.36</i>	<i>0.36</i>	<i>0.36</i>	<i>0.36</i>	<i>0.36</i>	<i>0.43</i>	<i>0.54</i>	0.26	<i>0.36</i>	<i>0.42</i>
Europe	4.04	3.76	3.81	3.94	<i>4.20</i>	<i>4.39</i>	<i>4.33</i>	<i>4.52</i>	<i>4.54</i>	<i>4.46</i>	<i>4.37</i>	<i>4.63</i>	3.89	<i>4.36</i>	<i>4.50</i>
Norway	1.97	1.74	1.91	1.99	<i>2.16</i>	<i>2.35</i>	<i>2.36</i>	<i>2.44</i>	<i>2.47</i>	<i>2.41</i>	<i>2.41</i>	<i>2.58</i>	1.90	<i>2.32</i>	<i>2.47</i>
United Kingdom	0.97	0.91	0.80	0.84	<i>0.92</i>	<i>0.91</i>	<i>0.83</i>	<i>0.93</i>	<i>0.93</i>	<i>0.91</i>	<i>0.82</i>	<i>0.90</i>	0.88	<i>0.90</i>	<i>0.89</i>
Eurasia	14.39	13.39	13.56	13.91	<i>13.96</i>	<i>13.09</i>	<i>13.15</i>	<i>13.24</i>	<i>13.25</i>	<i>13.23</i>	<i>13.21</i>	<i>13.29</i>	13.81	<i>13.36</i>	<i>13.24</i>
Azerbaijan	0.70	0.67	0.65	0.67	<i>0.65</i>	<i>0.65</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>0.65</i>	<i>0.65</i>
Kazakhstan	2.01	1.77	1.62	1.92	<i>2.04</i>	<i>1.98</i>	<i>1.98</i>	<i>2.05</i>	<i>2.06</i>	<i>2.04</i>	<i>2.02</i>	<i>2.10</i>	1.83	<i>2.01</i>	<i>2.06</i>
Russia	11.30	10.59	10.92	10.95	<i>10.85</i>	<i>10.06</i>	<i>10.13</i>	<i>10.13</i>	<i>10.13</i>	<i>10.13</i>	<i>10.13</i>	<i>10.13</i>	10.94	<i>10.29</i>	<i>10.13</i>
Turkmenistan	0.26	0.26	0.26	0.26	<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>	<i>0.27</i>	0.26	<i>0.27</i>	<i>0.27</i>
Middle East	3.23	3.29	3.34	3.25	<i>3.20</i>	<i>3.23</i>	<i>3.22</i>	<i>3.22</i>	<i>3.23</i>	<i>3.23</i>	<i>3.22</i>	<i>3.22</i>	3.28	<i>3.22</i>	<i>3.23</i>
Oman	1.05	1.07	1.10	1.08	<i>1.06</i>	<i>1.05</i>	<i>1.05</i>	<i>1.05</i>	<i>1.04</i>	<i>1.04</i>	<i>1.04</i>	<i>1.04</i>	1.07	<i>1.05</i>	<i>1.04</i>
Qatar	1.85	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>	<i>1.86</i>	1.86	<i>1.86</i>	<i>1.86</i>
Asia and Oceania	9.16	9.17	8.87	9.01	<i>9.21</i>	<i>9.23</i>	<i>9.20</i>	<i>9.22</i>	<i>9.16</i>	<i>9.17</i>	<i>9.15</i>	<i>9.17</i>	9.05	<i>9.21</i>	<i>9.16</i>
Australia	0.44	0.47	0.39	0.43	<i>0.44</i>	<i>0.44</i>	<i>0.44</i>	<i>0.43</i>	<i>0.42</i>	<i>0.41</i>	<i>0.41</i>	<i>0.40</i>	0.43	<i>0.44</i>	<i>0.41</i>
China	5.18	5.18	5.05	5.09	<i>5.21</i>	<i>5.24</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>5.24</i>	<i>5.24</i>
India	0.88	0.89	0.87	0.86	<i>0.91</i>	<i>0.90</i>	<i>0.89</i>	<i>0.89</i>	<i>0.91</i>	<i>0.91</i>	<i>0.90</i>	<i>0.90</i>	0.88	<i>0.90</i>	<i>0.91</i>
Indonesia	0.84	0.83	0.81	0.83	<i>0.83</i>	<i>0.82</i>	<i>0.81</i>	<i>0.80</i>	<i>0.79</i>	<i>0.79</i>	<i>0.78</i>	<i>0.78</i>	0.83	<i>0.81</i>	<i>0.79</i>
Malaysia	0.61	0.60	0.58	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>	<i>0.56</i>	0.60	<i>0.59</i>	<i>0.57</i>
Africa	1.41	1.44	1.45	1.44	<i>1.44</i>	<i>1.44</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>1.43</i>	<i>1.38</i>
Egypt	0.66	0.68	0.67	0.67	<i>0.69</i>	<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>0.69</i>	<i>0.66</i>
South Sudan	0.15	0.15	0.16	0.15	<i>0.15</i>	<i>0.16</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>0.16</i>	<i>0.17</i>
Total non-OPEC liquids	65.09	64.99	66.10	66.59	<i>66.81</i>	<i>67.19</i>	<i>67.72</i>	<i>67.93</i>	<i>67.51</i>	<i>68.07</i>	<i>68.56</i>	<i>68.93</i>	65.70	<i>67.42</i>	<i>68.27</i>
OPEC non-crude liquids	5.56	5.43	5.48	5.52	<i>5.49</i>	<i>5.36</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	70.42	71.58	72.11	<i>72.30</i>	<i>72.55</i>	<i>73.12</i>	<i>73.37</i>	<i>73.04</i>	<i>73.47</i>	<i>74.00</i>	<i>74.40</i>	71.19	<i>72.84</i>	<i>73.73</i>
Unplanned non-OPEC Production Outages	0.76	1.31	0.78	0.56	-	-	-	-	-	-	-	-	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 March 2, 2022.

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 - March 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	-	-	-	-	-	-	-	-	1.00	-	-
Angola	1.15	1.19	1.16	1.10	-	-	-	-	-	-	-	-	1.15	-	-
Congo (Brazzaville)	0.27	0.29	0.28	0.26	-	-	-	-	-	-	-	-	0.27	-	-
Equatorial Guinea	0.09	0.09	0.09	0.07	-	-	-	-	-	-	-	-	0.09	-	-
Gabon	0.19	0.19	0.20	0.21	-	-	-	-	-	-	-	-	0.20	-	-
Iran	2.55	2.53	2.53	2.56	-	-	-	-	-	-	-	-	2.54	-	-
Iraq	4.30	4.42	4.55	4.51	-	-	-	-	-	-	-	-	4.45	-	-
Kuwait	2.61	2.69	2.80	2.72	-	-	-	-	-	-	-	-	2.71	-	-
Libya	1.06	0.76	0.95	1.14	-	-	-	-	-	-	-	-	0.98	-	-
Nigeria	1.27	1.11	0.97	1.07	-	-	-	-	-	-	-	-	1.10	-	-
Saudi Arabia	10.08	10.30	10.85	10.50	-	-	-	-	-	-	-	-	10.43	-	-
United Arab Emirates	2.94	3.04	3.17	3.09	-	-	-	-	-	-	-	-	3.06	-	-
Venezuela	0.70	0.72	0.66	0.69	-	-	-	-	-	-	-	-	0.69	-	-
OPEC Total	28.19	28.33	29.23	28.92	28.43	28.74	28.80	28.56	29.22	29.37	29.42	29.12	28.67	28.63	29.29
Other Liquids (a)	5.56	5.43	5.48	5.52	5.49	5.36	5.40	5.44	5.53	5.40	5.44	5.48	5.50	5.42	5.46
Total OPEC Production	33.75	33.76	34.71	34.43	33.92	34.10	34.20	33.99	34.75	34.78	34.86	34.60	34.17	34.05	34.75
Crude Oil Production Capacity															
Middle East	25.48	25.46	25.55	25.66	25.87	25.98	25.98	25.98	26.48	26.58	26.63	26.63	25.54	25.95	26.58
Other	5.83	5.45	5.35	5.55	5.79	5.93	5.91	5.88	5.83	5.86	5.82	5.79	5.54	5.88	5.83
OPEC Total	31.31	30.91	30.89	31.21	31.65	31.91	31.89	31.86	32.31	32.44	32.45	32.42	31.08	31.83	32.41
Surplus Crude Oil Production Capacity															
Middle East	3.00	2.47	1.65	2.28	3.20	3.14	3.06	3.28	3.06	3.04	3.01	3.28	2.35	3.17	3.10
Other	0.12	0.11	0.01	0.01	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.06	0.03	0.02
OPEC Total	3.12	2.58	1.67	2.29	3.22	3.17	3.09	3.31	3.09	3.06	3.03	3.30	2.41	3.20	3.12
Unplanned OPEC Production Outages	1.98	2.42	2.50	2.14	-	-	-	-	-	-	-	-	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 March 2, 2022.

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 - March 2023

	2022				2023				2024						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	24.22	24.47	24.82	24.36	<i>24.07</i>	<i>24.78</i>	<i>24.84</i>	<i>24.75</i>	<i>24.66</i>	<i>24.95</i>	<i>25.13</i>	<i>24.96</i>	24.47	<i>24.61</i>	<i>24.93</i>
Canada	2.24	2.21	2.38	2.30	<i>2.28</i>	<i>2.23</i>	<i>2.33</i>	<i>2.31</i>	<i>2.31</i>	<i>2.26</i>	<i>2.36</i>	<i>2.33</i>	2.28	<i>2.29</i>	<i>2.31</i>
Mexico	1.76	1.99	1.96	1.89	<i>1.85</i>	<i>1.87</i>	<i>1.87</i>	<i>1.88</i>	<i>1.82</i>	<i>1.84</i>	<i>1.84</i>	<i>1.86</i>	1.90	<i>1.87</i>	<i>1.84</i>
United States	20.22	20.27	20.47	20.16	<i>19.93</i>	<i>20.67</i>	<i>20.63</i>	<i>20.55</i>	<i>20.53</i>	<i>20.84</i>	<i>20.92</i>	<i>20.76</i>	20.28	<i>20.45</i>	<i>20.76</i>
Central and South America	6.29	6.42	6.54	6.55	<i>6.31</i>	<i>6.45</i>	<i>6.55</i>	<i>6.49</i>	<i>6.44</i>	<i>6.58</i>	<i>6.68</i>	<i>6.62</i>	6.45	<i>6.45</i>	<i>6.58</i>
Brazil	2.85	2.93	3.02	3.02	<i>2.90</i>	<i>2.96</i>	<i>3.03</i>	<i>3.02</i>	<i>2.97</i>	<i>3.03</i>	<i>3.11</i>	<i>3.09</i>	2.96	<i>2.98</i>	<i>3.05</i>
Europe	13.94	14.18	14.85	14.21	<i>14.22</i>	<i>14.13</i>	<i>14.54</i>	<i>14.31</i>	<i>13.99</i>	<i>14.16</i>	<i>14.57</i>	<i>14.34</i>	14.30	<i>14.30</i>	<i>14.27</i>
Eurasia	4.46	4.35	4.71	4.58	<i>4.25</i>	<i>4.40</i>	<i>4.71</i>	<i>4.62</i>	<i>4.41</i>	<i>4.56</i>	<i>4.89</i>	<i>4.79</i>	4.53	<i>4.50</i>	<i>4.66</i>
Russia	3.37	3.32	3.60	3.46	<i>3.22</i>	<i>3.31</i>	<i>3.60</i>	<i>3.45</i>	<i>3.35</i>	<i>3.44</i>	<i>3.73</i>	<i>3.59</i>	3.44	<i>3.40</i>	<i>3.53</i>
Middle East	8.90	9.20	9.64	8.96	<i>9.17</i>	<i>9.34</i>	<i>9.87</i>	<i>9.28</i>	<i>9.46</i>	<i>9.48</i>	<i>10.02</i>	<i>9.42</i>	9.18	<i>9.41</i>	<i>9.59</i>
Asia and Oceania	36.51	35.63	35.55	36.61	<i>37.40</i>	<i>36.96</i>	<i>36.50</i>	<i>37.49</i>	<i>38.43</i>	<i>37.92</i>	<i>37.39</i>	<i>38.27</i>	36.07	<i>37.09</i>	<i>38.00</i>
China	15.12	15.10	15.09	15.28	<i>15.50</i>	<i>15.85</i>	<i>15.93</i>	<i>16.16</i>	<i>16.01</i>	<i>16.32</i>	<i>16.28</i>	<i>16.37</i>	15.15	<i>15.86</i>	<i>16.25</i>
Japan	3.70	3.03	3.19	3.53	<i>3.69</i>	<i>3.05</i>	<i>3.07</i>	<i>3.37</i>	<i>3.54</i>	<i>2.93</i>	<i>3.03</i>	<i>3.36</i>	3.36	<i>3.29</i>	<i>3.22</i>
India	5.08	5.07	4.84	5.18	<i>5.24</i>	<i>5.38</i>	<i>5.02</i>	<i>5.34</i>	<i>5.61</i>	<i>5.68</i>	<i>5.30</i>	<i>5.64</i>	5.04	<i>5.24</i>	<i>5.55</i>
Africa	4.45	4.45	4.34	4.48	<i>4.53</i>	<i>4.54</i>	<i>4.46</i>	<i>4.62</i>	<i>4.64</i>	<i>4.65</i>	<i>4.57</i>	<i>4.73</i>	4.43	<i>4.54</i>	<i>4.65</i>
Total OECD Liquid Fuels Consumption	45.78	45.37	46.62	45.89	<i>45.90</i>	<i>45.66</i>	<i>46.18</i>	<i>46.29</i>	<i>46.15</i>	<i>45.78</i>	<i>46.49</i>	<i>46.54</i>	45.92	<i>46.01</i>	<i>46.24</i>
Total non-OECD Liquid Fuels Consumption	52.99	53.32	53.83	53.86	<i>54.04</i>	<i>54.93</i>	<i>55.29</i>	<i>55.27</i>	<i>55.90</i>	<i>56.53</i>	<i>56.75</i>	<i>56.59</i>	53.50	<i>54.89</i>	<i>56.44</i>
Total World Liquid Fuels Consumption	98.77	98.69	100.45	99.75	<i>99.94</i>	<i>100.60</i>	<i>101.47</i>	<i>101.56</i>	<i>102.04</i>	<i>102.31</i>	<i>103.25</i>	<i>103.14</i>	99.42	<i>100.90</i>	<i>102.69</i>
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	121.7	121.9	123.2	123.6	<i>124.1</i>	<i>124.6</i>	<i>125.3</i>	<i>126.3</i>	<i>127.3</i>	<i>128.3</i>	<i>129.6</i>	<i>130.9</i>	122.6	<i>125.1</i>	<i>129.0</i>
Percent change from prior year	4.4	3.5	3.2	2.1	<i>1.9</i>	<i>2.2</i>	<i>1.7</i>	<i>2.2</i>	<i>2.6</i>	<i>3.0</i>	<i>3.4</i>	<i>3.7</i>	3.3	<i>2.0</i>	<i>3.2</i>
OECD Index, 2015 = 100													113.3	<i>113.6</i>	<i>115.2</i>
Percent change from prior year													3.0	<i>0.2</i>	<i>1.4</i>
Non-OECD Index, 2015 = 100													128.4	<i>132.8</i>	<i>138.8</i>
Percent change from prior year													3.6	<i>3.4</i>	<i>4.6</i>
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	109.6	113.0	117.3	118.6	<i>115.3</i>	<i>114.9</i>	<i>115.3</i>	<i>115.5</i>	<i>115.4</i>	<i>115.0</i>	<i>114.4</i>	<i>113.8</i>	114.6	<i>115.3</i>	<i>114.7</i>
Percent change from prior year	2.9	6.5	9.1	8.7	<i>5.3</i>	<i>1.7</i>	<i>-1.7</i>	<i>-2.6</i>	<i>0.1</i>	<i>0.1</i>	<i>-0.8</i>	<i>-1.5</i>	6.8	<i>0.6</i>	<i>-0.5</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 March 2, 2022.

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 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 - March 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	2.42	2.61	2.56	2.61	2.61	2.67	2.59	2.67	2.39	2.55	2.63
Propane	1.77	1.85	1.92	1.88	1.91	1.92	1.94	1.94	1.95	2.00	2.02	2.02	1.86	1.93	2.00
Butanes	0.93	0.98	1.02	0.99	1.00	1.02	1.04	1.03	1.04	1.06	1.07	1.07	0.98	1.02	1.06
Natural Gasoline (Pentanes Plus)	0.59	0.67	0.74	0.66	0.62	0.66	0.68	0.65	0.63	0.68	0.70	0.67	0.66	0.65	0.67
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Propane	0.27	0.29	0.29	0.27	0.28	0.28	0.29	0.29	0.28	0.29	0.30	0.29	0.28	0.29	0.29
Propylene (refinery-grade)	0.28	0.28	0.26	0.23	0.28	0.29	0.28	0.29	0.28	0.29	0.28	0.28	0.26	0.28	0.28
Butanes/Butylenes	-0.07	0.25	0.19	-0.15	-0.08	0.26	0.19	-0.20	-0.08	0.26	0.20	-0.19	0.06	0.04	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	-0.46	-0.47	-0.47	-0.47	-0.49	-0.50	-0.49	-0.52	-0.45	-0.47	-0.50
Propane/Propylene	-1.18	-1.33	-1.21	-1.29	-1.41	-1.35	-1.36	-1.46	-1.38	-1.48	-1.45	-1.56	-1.25	-1.39	-1.47
Butanes/Butylenes	-0.28	-0.41	-0.34	-0.36	-0.40	-0.45	-0.46	-0.42	-0.41	-0.47	-0.47	-0.41	-0.35	-0.43	-0.44
Natural Gasoline (Pentanes Plus)	-0.17	-0.17	-0.19	-0.15	-0.26	-0.25	-0.25	-0.23	-0.25	-0.24	-0.22	-0.20	-0.17	-0.25	-0.23
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.44	0.31	0.35	0.56	0.44	0.30	0.32	0.52	0.43	0.30	0.33	0.55	0.42	0.40	0.40
Natural Gasoline (Pentanes Plus)	0.20	0.20	0.22	0.20	0.17	0.18	0.19	0.18	0.17	0.18	0.19	0.18	0.20	0.18	0.18
HGL Consumption															
Ethane/Ethylene	1.98	2.03	1.97	1.91	2.00	2.09	2.10	2.13	2.12	2.13	2.11	2.16	1.97	2.08	2.13
Propane	1.16	0.60	0.69	0.91	1.04	0.64	0.63	0.91	1.12	0.60	0.66	0.88	0.84	0.81	0.82
Propylene (refinery-grade)	0.30	0.29	0.28	0.24	0.30	0.30	0.30	0.30	0.30	0.30	0.29	0.29	0.28	0.30	0.30
Butanes/Butylenes	0.23	0.26	0.29	0.20	0.21	0.25	0.25	0.22	0.22	0.25	0.27	0.22	0.24	0.23	0.24
Natural Gasoline (Pentanes Plus)	0.21	0.24	0.26	0.31	0.20	0.20	0.22	0.23	0.23	0.22	0.26	0.27	0.26	0.21	0.25
HGL Inventories (million barrels)															
Ethane	51.1	51.7	49.9	54.3	50.9	54.5	54.9	57.7	56.4	60.7	60.6	61.7	51.8	54.5	59.9
Propane	36.3	54.1	81.9	76.6	51.8	69.7	90.1	75.4	49.5	67.3	85.4	71.8	76.6	75.4	71.8
Propylene (at refineries only)	1.0	1.2	1.1	1.3	1.3	1.6	1.8	1.7	1.5	1.8	1.9	1.8	1.3	1.7	1.8
Butanes/Butylenes	35.7	58.8	81.2	54.5	43.4	69.1	86.9	57.5	48.4	75.8	93.8	64.6	54.5	57.5	64.6
Natural Gasoline (Pentanes Plus)	19.4	22.7	27.2	25.2	21.4	22.4	23.0	22.0	19.3	20.3	21.0	20.1	25.2	22.0	20.1
Refinery and Blender Net Inputs															
Crude Oil	15.56	16.09	16.26	15.80	15.23	16.85	16.94	16.43	15.70	16.51	16.53	15.75	15.93	16.37	16.12
Hydrocarbon Gas Liquids	0.64	0.50	0.57	0.76	0.61	0.48	0.51	0.70	0.60	0.48	0.52	0.74	0.62	0.57	0.58
Other Hydrocarbons/Oxygenates	1.12	1.20	1.19	1.17	1.14	1.22	1.21	1.20	1.17	1.24	1.23	1.21	1.17	1.19	1.21
Unfinished Oils	-0.12	0.21	0.24	0.15	0.06	0.28	0.38	0.28	0.08	0.28	0.31	0.27	0.12	0.25	0.23
Motor Gasoline Blend Components	0.33	0.84	0.66	0.29	0.36	0.71	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	17.39	19.54	19.62	19.14	18.09	19.23	19.17	18.49	18.37	18.93	18.75
Refinery Processing Gain	0.95	1.07	1.05	1.01	0.94	1.05	1.06	1.06	0.99	1.02	1.02	1.01	1.02	1.03	1.01
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.49	0.84	0.75	0.36	0.48	0.84	0.77	0.38	0.48	0.85	0.78	0.38	0.61	0.62	0.62
Finished Motor Gasoline	9.22	9.74	9.73	9.58	9.20	10.01	10.03	10.17	9.50	9.86	9.82	9.91	9.57	9.86	9.77
Jet Fuel	1.48	1.71	1.67	1.60	1.62	1.75	1.72	1.61	1.54	1.62	1.65	1.55	1.62	1.68	1.59
Distillate Fuel	4.77	5.00	5.15	5.09	4.68	5.23	5.34	5.35	4.97	5.23	5.22	5.13	5.01	5.15	5.14
Residual Fuel	0.26	0.22	0.26	0.25	0.27	0.26	0.28	0.25	0.27	0.26	0.28	0.23	0.25	0.27	0.26
Other Oils (a)	2.26	2.39	2.40	2.30	2.07	2.51	2.53	2.44	2.32	2.44	2.45	2.31	2.34	2.39	2.38
Total Refinery and Blender Net Production	18.49	19.90	19.97	19.18	18.33	20.59	20.68	20.20	19.08	20.25	20.20	19.50	19.39	19.96	19.76
Refinery Distillation Inputs	16.07	16.61	16.82	16.34	15.61	17.01	17.17	16.67	15.98	16.71	16.81	16.07	16.46	16.62	16.39
Refinery Operable Distillation Capacity	17.94	17.94	17.98	18.01	18.05	18.26	18.26	18.26	18.04	17.99	17.99	17.99	17.97	18.21	18.00
Refinery Distillation Utilization Factor	0.90	0.93	0.94	0.91	0.86	0.93	0.94	0.91	0.89	0.93	0.93	0.89	0.92	0.91	0.91

(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 March 2, 2022.

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 - March 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	258	260	255	235	231	238	228	211	309	252	227
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	364	438	393	341	329	333	334	314	308	314	304	289	385	328	304
PADD 2	352	436	397	345	321	328	327	312	302	309	300	281	383	322	298
PADD 3	340	414	357	300	297	301	302	285	277	284	274	256	353	296	273
PADD 4	360	446	434	358	361	361	358	330	311	327	323	303	401	353	316
PADD 5	452	543	511	478	414	417	415	395	384	394	381	362	497	410	380
U.S. Average	371	450	408	357	337	342	341	323	314	322	312	294	397	336	311
Gasoline All Grades Including Taxes	380	460	419	369	348	354	355	337	328	336	326	309	408	349	325
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	56.9	53.6	54.4	56.4	59.7	67.2	63.0	65.8	61.0	65.4	61.2	64.3	56.4	65.8	64.3
PADD 2	56.5	46.7	44.1	46.6	50.9	49.0	46.8	51.3	53.2	50.4	47.6	51.5	46.6	51.3	51.5
PADD 3	87.1	83.9	80.2	81.4	85.9	89.7	85.9	87.1	86.0	87.9	83.9	83.1	81.4	87.1	83.1
PADD 4	8.1	6.4	6.4	7.4	7.3	7.4	7.8	8.5	8.1	6.9	7.1	7.9	7.4	8.5	7.9
PADD 5	29.9	30.3	24.5	32.6	29.1	29.7	30.2	31.1	29.7	29.7	30.1	31.2	32.6	31.1	31.2
U.S. Total	238.5	221.0	209.6	224.3	233.0	243.0	233.8	243.8	238.0	240.3	229.9	237.8	224.3	243.8	237.8
Finished Gasoline Inventories															
U.S. Total	17.3	17.1	17.6	17.4	14.5	16.2	18.2	20.8	17.8	18.8	20.2	22.3	17.4	20.8	22.3
Gasoline Blending Components Inventories															
U.S. Total	221.2	203.8	192.0	206.9	218.5	226.8	215.5	223.0	220.2	221.5	209.7	215.5	206.9	223.0	215.5

- = no data available

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 - March 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	108.76	<i>109.46</i>	<i>108.65</i>	<i>109.03</i>	<i>109.47</i>	<i>109.92</i>	<i>109.94</i>	<i>110.54</i>	<i>110.63</i>	106.64	<i>109.15</i>	<i>110.26</i>
Alaska	1.06	1.00	0.96	1.07	<i>1.08</i>	<i>0.95</i>	<i>0.85</i>	<i>0.98</i>	<i>1.00</i>	<i>0.92</i>	<i>0.84</i>	<i>0.97</i>	1.02	<i>0.96</i>	<i>0.93</i>
Federal GOM (a)	2.05	2.11	2.19	2.13	<i>2.23</i>	<i>2.25</i>	<i>2.10</i>	<i>2.04</i>	<i>2.06</i>	<i>1.99</i>	<i>1.87</i>	<i>1.84</i>	2.12	<i>2.16</i>	<i>1.94</i>
Lower 48 States (excl GOM)	100.16	103.07	105.12	105.57	<i>106.15</i>	<i>105.45</i>	<i>106.08</i>	<i>106.45</i>	<i>106.86</i>	<i>107.03</i>	<i>107.83</i>	<i>107.82</i>	103.50	<i>106.03</i>	<i>107.39</i>
Total Dry Gas Production	95.09	97.59	99.46	100.15	<i>100.97</i>	<i>100.21</i>	<i>100.56</i>	<i>100.96</i>	<i>101.37</i>	<i>101.40</i>	<i>101.95</i>	<i>102.04</i>	98.09	<i>100.67</i>	<i>101.69</i>
LNG Gross Imports	0.15	0.01	0.06	0.04	<i>0.10</i>	<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>	0.06	<i>0.06</i>	<i>0.06</i>
LNG Gross Exports	11.50	10.80	9.74	10.35	<i>11.56</i>	<i>12.20</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	<i>8.16</i>	<i>6.81</i>	<i>7.04</i>	<i>7.48</i>	<i>8.24</i>	<i>6.84</i>	<i>7.05</i>	<i>7.48</i>	8.22	<i>7.37</i>	<i>7.40</i>
Pipeline Gross Exports	8.45	8.46	8.08	8.19	<i>8.84</i>	<i>8.43</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>	8.29	<i>8.81</i>	<i>9.31</i>
Supplemental Gaseous Fuels	0.21	0.17	0.18	0.16	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	0.18	<i>0.18</i>	<i>0.19</i>
Net Inventory Withdrawals	20.14	-10.25	-8.94	2.35	<i>11.12</i>	<i>-11.04</i>	<i>-7.12</i>	<i>4.67</i>	<i>16.47</i>	<i>-13.00</i>	<i>-9.42</i>	<i>3.80</i>	0.75	<i>-0.63</i>	<i>-0.55</i>
Total Supply	104.54	75.99	80.78	92.59	<i>100.13</i>	<i>75.57</i>	<i>79.75</i>	<i>91.83</i>	<i>104.17</i>	<i>73.98</i>	<i>78.29</i>	<i>90.62</i>	88.42	<i>86.78</i>	<i>86.76</i>
Balancing Item (b)	0.29	0.14	-0.01	0.08	<i>-0.99</i>	<i>-1.32</i>	<i>0.40</i>	<i>0.38</i>	<i>-0.39</i>	<i>-1.30</i>	<i>-0.83</i>	<i>-0.24</i>	0.12	<i>-0.37</i>	<i>-0.69</i>
Total Primary Supply	104.83	76.13	80.77	92.67	<i>99.14</i>	<i>74.25</i>	<i>80.15</i>	<i>92.21</i>	<i>103.78</i>	<i>72.68</i>	<i>77.46</i>	<i>90.39</i>	88.54	<i>86.40</i>	<i>86.06</i>
Consumption (billion cubic feet per day)															
Residential	26.09	7.86	3.57	17.43	<i>22.93</i>	<i>8.01</i>	<i>4.25</i>	<i>17.19</i>	<i>25.65</i>	<i>8.09</i>	<i>4.30</i>	<i>17.24</i>	13.69	<i>13.06</i>	<i>13.80</i>
Commercial	15.61	6.67	4.74	11.69	<i>14.07</i>	<i>6.98</i>	<i>5.26</i>	<i>11.43</i>	<i>15.28</i>	<i>6.88</i>	<i>5.19</i>	<i>11.32</i>	9.66	<i>9.41</i>	<i>9.66</i>
Industrial	25.46	22.25	21.47	23.51	<i>23.29</i>	<i>21.33</i>	<i>21.60</i>	<i>24.03</i>	<i>24.41</i>	<i>20.94</i>	<i>20.50</i>	<i>22.72</i>	23.16	<i>22.56</i>	<i>22.14</i>
Electric Power (c)	28.39	30.99	42.36	30.94	<i>29.50</i>	<i>29.56</i>	<i>40.43</i>	<i>30.45</i>	<i>28.88</i>	<i>28.39</i>	<i>38.88</i>	<i>30.01</i>	33.20	<i>32.51</i>	<i>31.56</i>
Lease and Plant Fuel	5.26	5.41	5.51	5.54	<i>5.57</i>	<i>5.53</i>	<i>5.55</i>	<i>5.58</i>	<i>5.60</i>	<i>5.60</i>	<i>5.63</i>	<i>5.63</i>	5.43	<i>5.56</i>	<i>5.62</i>
Pipeline and Distribution Use	3.86	2.80	2.98	3.41	<i>3.64</i>	<i>2.70</i>	<i>2.92</i>	<i>3.38</i>	<i>3.82</i>	<i>2.64</i>	<i>2.81</i>	<i>3.31</i>	3.26	<i>3.16</i>	<i>3.15</i>
Vehicle Use	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>	<i>0.15</i>	0.15	<i>0.15</i>	<i>0.15</i>
Total Consumption	104.83	76.13	80.77	92.67	<i>99.14</i>	<i>74.25</i>	<i>80.15</i>	<i>92.21</i>	<i>103.78</i>	<i>72.68</i>	<i>77.46</i>	<i>90.39</i>	88.54	<i>86.40</i>	<i>86.06</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,401	2,325	3,146	2,927	<i>1,926</i>	<i>2,931</i>	<i>3,586</i>	<i>3,157</i>	<i>1,658</i>	<i>2,841</i>	<i>3,708</i>	<i>3,359</i>	2,927	<i>3,157</i>	<i>3,359</i>
East Region (d)	242	482	759	698	<i>350</i>	<i>641</i>	<i>872</i>	<i>714</i>	<i>272</i>	<i>603</i>	<i>887</i>	<i>759</i>	698	<i>714</i>	<i>759</i>
Midwest Region (d)	296	557	917	831	<i>446</i>	<i>707</i>	<i>1,008</i>	<i>844</i>	<i>339</i>	<i>675</i>	<i>1,039</i>	<i>902</i>	831	<i>844</i>	<i>902</i>
South Central Region (d)	587	885	1,006	1,042	<i>929</i>	<i>1,214</i>	<i>1,213</i>	<i>1,149</i>	<i>744</i>	<i>1,101</i>	<i>1,207</i>	<i>1,174</i>	1,042	<i>1,149</i>	<i>1,174</i>
Mountain Region (d)	90	137	184	158	<i>82</i>	<i>125</i>	<i>194</i>	<i>178</i>	<i>113</i>	<i>157</i>	<i>220</i>	<i>199</i>	158	<i>178</i>	<i>199</i>
Pacific Region (d)	165	240	247	169	<i>94</i>	<i>218</i>	<i>273</i>	<i>247</i>	<i>165</i>	<i>281</i>	<i>329</i>	<i>299</i>	169	<i>247</i>	<i>299</i>
Alaska	21	25	32	30	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	30	<i>25</i>	<i>25</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/ngs/notes.html>) .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 - March 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	<i>2.81</i>	<i>2.87</i>	<i>3.26</i>	<i>3.63</i>	<i>4.17</i>	<i>3.81</i>	<i>3.96</i>	<i>4.21</i>	6.67	<i>3.14</i>	<i>4.04</i>
Residential Retail															
New England	17.69	20.93	26.83	21.72	<i>19.65</i>	<i>19.55</i>	<i>22.94</i>	<i>17.88</i>	<i>17.78</i>	<i>19.38</i>	<i>23.80</i>	<i>18.87</i>	19.87	<i>19.30</i>	<i>18.76</i>
Middle Atlantic	12.79	15.55	23.86	16.89	<i>13.35</i>	<i>14.42</i>	<i>20.89</i>	<i>14.12</i>	<i>12.98</i>	<i>15.38</i>	<i>22.17</i>	<i>14.90</i>	15.17	<i>14.31</i>	<i>14.53</i>
E. N. Central	9.81	14.81	25.79	13.17	<i>10.91</i>	<i>13.68</i>	<i>21.93</i>	<i>9.75</i>	<i>8.70</i>	<i>12.74</i>	<i>22.02</i>	<i>10.06</i>	12.45	<i>11.61</i>	<i>10.49</i>
W. N. Central	11.40	15.25	25.07	13.42	<i>11.03</i>	<i>13.13</i>	<i>20.39</i>	<i>10.11</i>	<i>8.93</i>	<i>12.30</i>	<i>20.52</i>	<i>10.50</i>	13.23	<i>11.54</i>	<i>10.53</i>
S. Atlantic	13.91	22.11	32.95	17.73	<i>14.76</i>	<i>17.85</i>	<i>25.53</i>	<i>14.64</i>	<i>13.14</i>	<i>18.66</i>	<i>26.97</i>	<i>15.31</i>	17.50	<i>16.07</i>	<i>15.56</i>
E. S. Central	11.80	17.16	26.38	15.45	<i>11.03</i>	<i>14.76</i>	<i>22.24</i>	<i>12.15</i>	<i>10.56</i>	<i>15.17</i>	<i>22.97</i>	<i>12.47</i>	14.32	<i>12.73</i>	<i>12.42</i>
W. S. Central	12.61	20.91	30.98	17.58	<i>10.99</i>	<i>14.99</i>	<i>21.57</i>	<i>12.58</i>	<i>9.78</i>	<i>15.80</i>	<i>23.07</i>	<i>13.32</i>	16.36	<i>12.89</i>	<i>12.57</i>
Mountain	10.31	12.85	19.38	13.44	<i>7.88</i>	<i>9.93</i>	<i>13.97</i>	<i>9.17</i>	<i>8.77</i>	<i>10.60</i>	<i>14.67</i>	<i>9.52</i>	12.39	<i>9.01</i>	<i>9.72</i>
Pacific	17.07	17.80	20.54	18.95	<i>18.08</i>	<i>16.48</i>	<i>16.43</i>	<i>15.06</i>	<i>15.87</i>	<i>16.20</i>	<i>16.83</i>	<i>15.64</i>	18.20	<i>16.67</i>	<i>15.96</i>
U.S. Average	12.32	16.57	24.94	15.63	<i>12.72</i>	<i>14.73</i>	<i>20.17</i>	<i>12.33</i>	<i>11.35</i>	<i>14.78</i>	<i>20.89</i>	<i>12.87</i>	14.82	<i>13.51</i>	<i>13.07</i>
Commercial Retail															
New England	12.62	14.46	16.23	15.81	<i>13.91</i>	<i>12.66</i>	<i>12.19</i>	<i>11.03</i>	<i>11.39</i>	<i>12.09</i>	<i>12.43</i>	<i>11.54</i>	14.21	<i>12.59</i>	<i>11.65</i>
Middle Atlantic	10.36	10.78	12.01	11.99	<i>10.30</i>	<i>8.26</i>	<i>7.66</i>	<i>8.14</i>	<i>8.95</i>	<i>8.56</i>	<i>8.25</i>	<i>8.75</i>	11.11	<i>8.95</i>	<i>8.75</i>
E. N. Central	8.12	10.46	14.23	10.32	<i>8.72</i>	<i>8.80</i>	<i>9.90</i>	<i>7.06</i>	<i>7.07</i>	<i>8.44</i>	<i>10.19</i>	<i>7.49</i>	9.59	<i>8.27</i>	<i>7.63</i>
W. N. Central	10.22	11.73	15.07	11.32	<i>10.48</i>	<i>9.67</i>	<i>10.47</i>	<i>8.26</i>	<i>8.36</i>	<i>9.26</i>	<i>10.89</i>	<i>9.03</i>	11.12	<i>9.66</i>	<i>8.89</i>
S. Atlantic	10.52	12.22	14.21	13.08	<i>11.92</i>	<i>10.94</i>	<i>10.77</i>	<i>9.71</i>	<i>9.56</i>	<i>10.60</i>	<i>10.99</i>	<i>10.15</i>	12.06	<i>10.90</i>	<i>10.09</i>
E. S. Central	10.41	12.80	15.56	13.49	<i>11.47</i>	<i>10.67</i>	<i>11.11</i>	<i>9.53</i>	<i>9.04</i>	<i>10.44</i>	<i>11.60</i>	<i>10.13</i>	12.26	<i>10.65</i>	<i>9.86</i>
W. S. Central	10.09	12.86	15.00	12.73	<i>11.26</i>	<i>10.84</i>	<i>10.86</i>	<i>9.45</i>	<i>8.50</i>	<i>9.52</i>	<i>10.47</i>	<i>9.61</i>	12.01	<i>10.62</i>	<i>9.26</i>
Mountain	8.78	9.98	12.60	11.31	<i>9.73</i>	<i>9.24</i>	<i>9.45</i>	<i>7.91</i>	<i>7.78</i>	<i>8.34</i>	<i>9.14</i>	<i>7.94</i>	10.19	<i>9.07</i>	<i>8.06</i>
Pacific	13.08	13.67	15.58	14.47	<i>14.97</i>	<i>13.92</i>	<i>13.85</i>	<i>13.18</i>	<i>13.51</i>	<i>13.22</i>	<i>13.70</i>	<i>13.37</i>	14.00	<i>14.05</i>	<i>13.44</i>
U.S. Average	10.00	11.71	14.12	12.14	<i>10.86</i>	<i>10.16</i>	<i>10.44</i>	<i>8.95</i>	<i>8.90</i>	<i>9.76</i>	<i>10.63</i>	<i>9.38</i>	11.37	<i>10.09</i>	<i>9.38</i>
Industrial Retail															
New England	11.11	12.09	12.17	13.47	<i>11.92</i>	<i>9.31</i>	<i>7.62</i>	<i>8.52</i>	<i>9.53</i>	<i>8.99</i>	<i>8.01</i>	<i>9.11</i>	12.11	<i>9.71</i>	<i>9.04</i>
Middle Atlantic	10.80	10.15	11.91	12.72	<i>10.99</i>	<i>8.63</i>	<i>7.77</i>	<i>8.04</i>	<i>8.61</i>	<i>8.19</i>	<i>8.01</i>	<i>8.50</i>	11.26	<i>9.47</i>	<i>8.44</i>
E. N. Central	7.66	8.72	10.75	10.31	<i>8.44</i>	<i>6.81</i>	<i>6.18</i>	<i>6.13</i>	<i>6.70</i>	<i>6.87</i>	<i>6.71</i>	<i>6.74</i>	8.88	<i>7.22</i>	<i>6.74</i>
W. N. Central	7.96	8.58	9.59	8.62	<i>7.05</i>	<i>4.71</i>	<i>4.52</i>	<i>5.23</i>	<i>6.07</i>	<i>5.38</i>	<i>5.31</i>	<i>5.97</i>	8.64	<i>5.47</i>	<i>5.72</i>
S. Atlantic	7.46	8.84	11.14	9.09	<i>6.88</i>	<i>4.89</i>	<i>4.94</i>	<i>5.43</i>	<i>6.19</i>	<i>5.69</i>	<i>5.74</i>	<i>6.15</i>	9.05	<i>5.60</i>	<i>5.96</i>
E. S. Central	6.53	8.70	10.63	8.03	<i>6.10</i>	<i>4.43</i>	<i>4.47</i>	<i>5.05</i>	<i>5.78</i>	<i>5.35</i>	<i>5.30</i>	<i>5.77</i>	8.34	<i>5.06</i>	<i>5.57</i>
W. S. Central	5.58	7.69	8.45	5.87	<i>3.43</i>	<i>2.96</i>	<i>3.41</i>	<i>3.84</i>	<i>4.37</i>	<i>3.95</i>	<i>4.14</i>	<i>4.45</i>	6.92	<i>3.41</i>	<i>4.23</i>
Mountain	7.11	8.39	10.45	9.79	<i>7.77</i>	<i>6.44</i>	<i>6.20</i>	<i>5.98</i>	<i>6.22</i>	<i>6.18</i>	<i>6.43</i>	<i>6.41</i>	8.83	<i>6.67</i>	<i>6.31</i>
Pacific	8.82	9.02	9.60	9.42	<i>8.79</i>	<i>7.20</i>	<i>6.93</i>	<i>7.10</i>	<i>7.62</i>	<i>7.10</i>	<i>7.17</i>	<i>7.44</i>	9.19	<i>7.56</i>	<i>7.36</i>
U.S. Average	6.82	8.24	9.27	7.53	<i>5.65</i>	<i>4.10</i>	<i>4.18</i>	<i>4.83</i>	<i>5.58</i>	<i>4.86</i>	<i>4.87</i>	<i>5.46</i>	7.90	<i>4.71</i>	<i>5.22</i>

- = no data available

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 - March 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	141.7	153.2	148.3	145.6	134.3	141.1	131.2	125.5	119.8	131.3	125.9	592.2	552.3	502.6
Appalachia	40.2	38.7	38.7	38.4	39.6	37.5	32.8	31.5	32.4	32.2	29.1	29.4	156.0	141.3	123.0
Interior	23.8	21.9	22.7	22.9	24.6	24.1	25.2	23.5	24.1	22.6	23.5	22.3	91.4	97.4	92.5
Western	85.0	81.1	91.7	86.9	81.5	72.7	83.1	76.2	69.1	65.1	78.7	74.3	344.8	313.6	287.2
Primary Inventory Withdrawals	-1.9	0.0	3.4	-0.3	-1.8	0.1	3.5	0.0	-1.7	0.2	3.5	0.0	1.2	1.8	2.0
Imports	1.3	1.6	2.0	1.4	0.7	1.1	1.4	1.0	0.7	0.9	1.2	0.9	6.3	4.3	3.7
Exports	20.2	23.0	20.7	20.8	21.2	24.0	22.6	23.6	24.3	25.9	24.9	26.6	84.8	91.5	101.7
Metallurgical Coal	10.5	13.1	11.6	11.3	11.2	13.0	12.0	12.3	12.8	14.0	13.2	13.8	46.4	48.4	53.8
Steam Coal	9.7	9.9	9.2	9.6	10.0	11.1	10.6	11.4	11.4	12.0	11.7	12.8	38.4	43.0	47.9
Total Primary Supply	128.2	120.4	137.8	128.5	123.3	111.5	123.4	108.6	100.3	94.9	111.2	100.3	514.9	466.9	406.6
Secondary Inventory Withdrawals	5.9	-1.0	7.0	-11.0	-14.9	-8.9	7.4	-11.6	8.5	1.7	19.2	-4.2	0.9	-28.1	25.2
Waste Coal (a)	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	7.5	7.2	7.2
Total Supply	136.0	121.3	146.7	119.4	110.2	104.4	132.6	98.8	110.6	98.4	132.2	97.9	523.4	445.9	439.1
Consumption (million short tons)															
Coke Plants	4.2	3.9	3.9	3.9	3.8	3.9	3.9	4.0	4.0	4.0	4.1	4.2	15.9	15.7	16.3
Electric Power Sector (b)	122.7	107.3	134.8	105.3	95.1	95.2	123.4	88.7	100.5	89.2	123.0	87.8	469.9	402.4	400.4
Retail and Other Industry	6.9	6.7	6.5	6.7	6.2	5.3	5.3	6.0	6.1	5.1	5.2	5.9	26.9	22.8	22.4
Residential and Commercial	0.2	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.8	0.8	0.9
Other Industrial	6.7	6.6	6.3	6.5	5.9	5.1	5.1	5.8	5.8	5.0	5.0	5.7	26.0	22.0	21.5
Total Consumption	133.7	117.9	145.2	115.9	105.2	104.4	132.6	98.8	110.6	98.4	132.2	97.9	512.7	440.9	439.1
Discrepancy (c)	2.2	3.4	1.5	3.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	5.0	0.0
End-of-period Inventories (million short tons)															
Primary Inventories (d)	21.0	20.9	17.5	17.8	19.5	19.5	16.0	16.0	17.7	17.5	14.0	14.0	17.8	16.0	14.0
Secondary Inventories	90.5	91.5	84.5	95.5	110.4	119.3	112.0	123.6	115.1	113.4	94.2	98.4	95.5	123.6	98.4
Electric Power Sector	86.3	87.3	80.1	90.0	105.7	114.5	106.9	118.6	110.8	109.0	89.5	93.7	90.0	118.6	93.7
Retail and General Industry	2.4	2.4	2.5	3.5	3.0	3.0	3.2	3.2	2.7	2.8	3.0	3.0	3.5	3.2	3.0
Coke Plants	1.6	1.6	1.6	1.8	1.6	1.7	1.7	1.6	1.4	1.5	1.5	1.5	1.8	1.6	1.5
Commercial & Institutional	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.05	6.05	6.05	6.05	5.98	5.98	5.98	5.98	5.80	5.80	5.80	5.80	6.05	5.98	5.80
Total Raw Steel Production															
(Million short tons per day)	0.253	0.253	0.247	0.235	0.236	0.234	0.237	0.240	0.247	0.241	0.244	0.247	0.247	0.237	0.245
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.18	2.26	2.50	2.55	2.65	2.63	2.62	2.57	2.58	2.58	2.57	2.54	2.37	2.62	2.57

(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 March 2, 2022.

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 - March 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	996	1,014	1,167	988	1,037	1,020	1,177	996	4,243	4,165	4,230
Electric Power Sector (a)	990	989	1,148	963	959	976	1,127	949	999	982	1,136	958	4,090	4,011	4,075
Industrial Sector (b)	36	34	36	35	34	34	37	35	35	34	37	35	140	140	142
Commercial Sector (b)	3	3	3	3	3	3	4	3	3	3	4	3	13	13	14
Net Imports	9	12	16	12	13	13	15	11	12	12	14	11	48	52	50
Total Supply	1,038	1,038	1,203	1,012	1,009	1,027	1,182	999	1,049	1,032	1,191	1,007	4,291	4,216	4,280
Losses and Unaccounted for (c)	57	67	53	67	47	65	53	51	44	66	54	52	244	217	215
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	945	938	1,114	911	928	927	1,092	913	971	932	1,101	921	3,909	3,859	3,924
Residential Sector	380	347	458	337	358	337	442	339	388	339	446	342	1,521	1,476	1,515
Commercial Sector	322	335	389	327	327	338	386	327	333	336	387	328	1,373	1,378	1,384
Industrial Sector	242	255	266	245	241	251	262	245	247	255	267	249	1,008	998	1,018
Transportation Sector	2	2	2	2	2	2	2	2	2	2	2	2	7	6	6
Direct Use (d)	35	34	36	35	34	34	37	35	35	34	37	35	139	140	142
Total Consumption	981	972	1,150	945	962	961	1,129	948	1,006	966	1,138	956	4,048	3,999	4,065
Average residential electricity usage per customer (kWh)	2,711	2,475	3,268	2,407	2,532	2,387	3,126	2,400	2,722	2,380	3,125	2,396	10,861	10,445	10,622
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	86.3	87.3	80.1	90.0	105.7	114.5	106.9	118.6	110.8	109.0	89.5	93.7	90.0	118.6	93.7
Residual Fuel (mmb)	5.6	5.9	5.7	5.4	4.4	4.3	2.5	3.0	1.7	2.1	0.5	1.2	5.4	3.0	1.2
Distillate Fuel (mmb)	17.6	17.7	16.7	15.9	15.8	15.6	15.6	15.9	15.8	15.7	15.7	15.9	15.9	15.9	15.9
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.18	2.26	2.50	2.55	2.65	2.63	2.62	2.57	2.58	2.58	2.57	2.54	2.37	2.62	2.57
Natural Gas	5.96	7.39	8.23	6.90	3.98	3.08	3.31	3.87	4.59	3.94	4.02	4.44	7.24	3.54	4.23
Residual Fuel Oil	16.81	26.17	26.53	21.27	17.53	17.15	16.20	15.73	15.67	15.65	14.64	14.44	21.80	16.70	15.10
Distillate Fuel Oil	21.23	30.71	26.79	24.48	23.31	22.14	21.42	21.26	20.31	18.72	18.46	19.21	24.89	22.07	19.34
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	13.98	15.07	15.85	15.48	15.33	15.80	15.98	15.31	15.08	15.90	16.12	15.47	15.12	15.63	15.66
Commercial Sector	11.63	12.35	13.38	12.66	12.33	12.63	13.40	12.47	12.15	12.66	13.54	12.55	12.55	12.74	12.76
Industrial Sector	7.42	8.41	9.38	8.52	7.80	8.24	9.02	8.34	7.89	8.23	9.02	8.34	8.45	8.36	8.38
Wholesale Electricity Prices (dollars per megawatt-hour)															
ERCOT North hub	42.73	83.19	130.71	53.01	27.02	28.43	36.14	30.16	30.64	27.73	35.71	29.58	77.41	30.44	30.92
CAISO SP15 zone	45.20	60.34	110.03	135.13	92.08	48.03	75.42	60.44	58.30	46.39	68.04	58.17	87.67	68.99	57.73
ISO-NE Internal hub	116.48	73.28	99.14	80.77	59.66	49.85	51.23	63.24	96.46	42.95	49.83	67.10	92.42	55.99	64.08
NYISO Hudson Valley zone	100.10	79.72	104.71	77.17	52.57	50.81	48.01	56.10	84.94	42.79	45.34	58.16	90.42	51.87	57.81
PJM Western hub	58.33	93.00	110.99	71.60	44.65	53.41	52.32	53.79	67.35	52.02	54.66	55.77	83.48	51.04	57.45
Midcontinent ISO Illinois hub	47.88	89.21	101.80	57.87	36.51	39.78	42.92	41.08	48.12	43.51	47.42	45.37	74.19	40.07	46.10
SPP ISO South hub	37.25	72.85	109.97	56.06	32.09	35.10	43.06	37.97	39.99	39.32	45.95	41.08	69.03	37.05	41.59
SERC index, Into Southern	42.45	84.96	94.82	59.33	34.90	41.97	45.84	41.57	47.15	43.30	46.96	44.65	70.39	41.07	45.52
FRCC index, Florida Reliability	41.11	78.70	92.71	58.54	35.54	44.87	47.83	42.45	44.56	42.75	44.56	42.10	67.77	42.67	43.49
Northwest index, Mid-Columbia	39.85	59.39	137.82	151.39	100.97	56.10	89.74	73.70	67.32	53.05	76.69	69.40	97.11	80.13	66.61
Southwest index, Palo Verde	39.02	60.50	128.25	130.12	83.48	47.94	75.17	58.03	52.48	47.34	68.21	55.00	89.47	66.16	55.76

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 - March 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	10.8	12.0	10.5	12.6	11.0	13.0	10.6	12.8	11.1	48.4	46.1	47.4
Middle Atlantic	36.1	30.0	42.6	30.3	33.2	30.1	39.5	30.3	35.9	30.1	39.6	30.4	138.9	133.1	136.0
E. N. Central	50.8	43.8	54.8	43.1	46.6	42.3	54.5	44.0	50.9	43.0	55.1	44.1	192.4	187.4	193.1
W. N. Central	30.6	24.7	31.3	25.7	29.6	24.4	31.1	26.1	31.3	24.7	31.6	26.6	112.3	111.2	114.3
S. Atlantic	96.0	91.5	116.3	87.6	87.8	89.5	115.5	88.4	99.2	90.5	116.7	89.2	391.4	381.2	395.7
E. S. Central	32.6	27.7	37.0	26.4	29.9	27.2	37.0	26.9	34.7	27.4	37.3	27.1	123.8	121.0	126.4
W. S. Central	56.9	58.8	81.3	51.3	53.1	55.1	76.7	52.6	58.7	54.7	77.2	52.9	248.2	237.6	243.5
Mountain	24.1	26.2	36.1	24.2	24.8	25.4	34.4	23.8	24.5	25.6	34.8	24.1	110.7	108.4	109.0
Pacific contiguous	38.4	32.4	43.2	36.7	39.4	31.7	39.4	34.8	38.7	31.6	39.3	34.8	150.6	145.3	144.5
AK and HI	1.3	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.2	1.1	1.2	1.3	4.8	4.7	4.7
Total	379.8	346.7	457.7	337.3	357.8	337.3	441.8	339.1	388.2	339.4	445.6	341.6	1,521.5	1,475.9	1,514.8
Commercial Sector															
New England	12.1	11.8	13.9	11.7	12.0	11.9	13.3	11.6	12.2	11.7	13.1	11.5	49.4	48.8	48.5
Middle Atlantic	36.0	34.3	40.5	34.6	36.1	34.3	38.9	34.1	36.4	34.0	38.7	33.8	145.3	143.4	142.9
E. N. Central	43.3	42.9	48.8	42.2	43.2	42.5	48.3	41.8	43.7	42.1	48.1	41.6	177.1	175.7	175.5
W. N. Central	25.1	24.5	28.0	24.7	25.3	24.8	28.0	24.7	25.6	24.5	27.8	24.7	102.4	102.8	102.5
S. Atlantic	75.1	82.5	93.5	78.9	76.7	84.5	95.5	80.8	80.5	86.2	97.8	82.8	330.0	337.5	347.4
E. S. Central	21.0	22.4	26.8	21.0	21.3	22.2	26.6	21.1	21.9	21.9	26.3	20.9	91.3	91.3	91.0
W. S. Central	47.0	52.1	61.2	48.6	49.3	52.4	60.7	48.7	50.0	51.7	60.5	48.7	208.9	211.1	210.9
Mountain	23.2	25.4	29.6	24.3	23.5	25.3	29.1	24.2	23.5	25.2	29.0	24.1	102.6	102.2	101.8
Pacific contiguous	37.7	37.9	45.4	39.7	38.4	38.2	44.6	38.9	38.1	37.5	43.9	38.4	160.7	160.1	158.0
AK and HI	1.3	1.3	1.4	1.4	1.4	1.3	1.4	1.4	1.4	1.3	1.4	1.4	5.4	5.5	5.5
Total	321.8	335.2	389.0	327.0	327.1	337.5	386.4	327.3	333.3	336.1	386.6	328.2	1,373.0	1,378.4	1,384.1
Industrial Sector															
New England	3.9	3.9	4.1	3.8	3.8	3.8	4.0	3.8	3.8	3.7	4.0	3.7	15.7	15.4	15.3
Middle Atlantic	17.5	18.2	19.4	18.2	17.6	18.1	19.1	18.0	17.9	18.2	19.4	18.3	73.3	72.8	73.8
E. N. Central	45.9	47.0	48.8	45.3	45.3	45.7	47.7	45.0	46.2	46.0	48.1	45.5	187.1	183.8	185.8
W. N. Central	24.0	24.8	26.9	25.0	23.9	24.2	26.2	24.9	24.7	24.9	27.0	25.7	100.7	99.1	102.2
S. Atlantic	36.3	37.5	38.7	36.4	36.2	36.4	37.4	36.0	36.9	37.1	38.3	36.8	148.9	146.0	149.1
E. S. Central	24.7	25.8	25.6	23.4	24.2	25.2	25.0	23.1	24.4	25.2	25.0	23.2	99.5	97.5	97.9
W. S. Central	49.8	53.3	53.8	50.6	50.7	53.8	54.5	51.9	53.6	56.3	56.9	54.2	207.6	211.0	220.9
Mountain	19.9	21.7	24.0	20.9	20.1	22.0	24.4	21.3	20.6	22.2	24.6	21.5	86.5	87.8	89.0
Pacific contiguous	19.0	21.0	23.4	20.0	18.4	20.2	22.5	19.3	18.2	19.9	22.2	19.1	83.4	80.4	79.5
AK and HI	1.1	1.2	1.3	1.2	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	4.8	4.8	4.8
Total	242.2	254.5	265.9	244.9	241.2	250.5	262.1	244.6	247.4	254.9	266.8	249.3	1,007.5	998.5	1,018.3
Total All Sectors (a)															
New England	29.2	26.3	32.0	26.4	28.0	26.3	30.0	26.5	29.1	26.1	30.0	26.5	114.0	110.8	111.7
Middle Atlantic	90.4	83.3	103.3	83.9	87.7	83.2	98.4	83.2	91.0	83.0	98.5	83.3	360.9	352.4	355.9
E. N. Central	140.2	133.8	152.5	130.7	135.3	130.7	150.6	130.9	140.9	131.3	151.4	131.4	557.1	547.5	554.9
W. N. Central	79.7	74.1	86.3	75.4	78.8	73.3	85.2	75.8	81.6	74.1	86.4	77.0	315.4	313.1	319.1
S. Atlantic	207.7	211.8	248.7	203.2	201.0	210.7	248.7	205.4	217.0	214.2	253.1	209.0	871.3	865.7	893.3
E. S. Central	78.4	76.0	89.4	70.8	75.4	74.6	88.6	71.1	81.0	74.5	88.6	71.1	314.6	309.8	315.3
W. S. Central	153.7	164.2	196.4	150.5	153.2	161.4	192.0	153.3	162.3	162.8	194.6	155.9	664.9	659.9	675.6
Mountain	67.2	73.4	89.8	69.5	68.4	72.8	87.9	69.3	68.7	73.1	88.5	69.8	299.9	298.4	300.0
Pacific contiguous	95.3	91.6	112.2	96.5	96.4	90.4	106.6	93.2	95.3	89.3	105.7	92.6	395.6	386.6	382.8
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	15.0
Total	945.5	938.0	1,114.3	910.8	927.8	926.9	1,091.8	912.6	970.6	931.9	1,100.6	920.6	3,908.7	3,859.1	3,923.6

(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 March 2, 2022.

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

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

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Residential Sector															
New England	23.96	24.31	24.76	26.40	28.36	27.60	27.28	27.81	28.99	27.78	27.35	28.15	24.81	27.76	28.08
Middle Atlantic	17.20	18.29	18.95	19.50	18.82	18.50	18.51	18.88	18.83	18.82	18.81	19.06	18.47	18.67	18.87
E. N. Central	14.21	15.50	16.18	16.13	15.63	16.31	16.47	15.87	15.18	16.13	16.55	16.18	15.49	16.08	16.01
W. N. Central	11.28	13.26	14.36	12.38	11.56	13.22	14.03	12.09	11.43	13.31	14.03	12.08	12.83	12.74	12.71
S. Atlantic	12.68	13.61	14.27	13.85	14.02	14.26	14.43	13.60	13.52	14.08	14.33	13.53	13.63	14.10	13.89
E. S. Central	11.97	13.08	13.78	13.39	13.12	13.15	13.30	13.04	13.09	13.53	13.58	13.32	13.06	13.16	13.38
W. S. Central	11.86	12.97	13.84	13.97	13.25	13.69	14.09	13.75	13.03	13.98	14.45	14.08	13.21	13.73	13.92
Mountain	12.14	12.85	13.23	12.99	12.68	13.53	13.86	13.44	12.84	13.39	13.55	13.30	12.85	13.42	13.30
Pacific	18.12	20.61	22.04	18.83	19.36	22.09	22.74	19.04	19.54	22.77	23.53	19.55	19.95	20.79	21.33
U.S. Average	13.98	15.07	15.85	15.48	15.33	15.80	15.98	15.31	15.08	15.90	16.12	15.47	15.12	15.63	15.66
Commercial Sector															
New England	18.47	17.46	18.32	18.55	20.54	18.70	19.06	18.67	20.40	18.65	19.19	18.98	18.20	19.24	19.32
Middle Atlantic	14.05	14.96	16.60	15.27	14.88	14.71	15.89	14.43	14.28	14.61	15.94	14.24	15.26	15.01	14.80
E. N. Central	11.06	11.84	12.12	11.87	11.61	11.88	11.75	11.28	11.14	11.78	11.94	11.50	11.73	11.64	11.60
W. N. Central	9.65	10.71	11.70	10.15	9.24	9.76	11.16	10.06	9.68	10.91	12.16	10.22	10.59	10.08	10.78
S. Atlantic	10.30	10.87	11.51	11.23	10.85	10.95	11.25	10.61	10.28	10.70	11.21	10.66	11.01	10.93	10.74
E. S. Central	11.69	12.20	13.02	12.59	12.88	12.69	13.07	12.41	12.72	12.87	13.40	12.69	12.41	12.78	12.94
W. S. Central	8.68	9.63	10.47	9.91	8.78	9.54	10.52	10.12	9.18	10.04	10.93	10.34	9.73	9.78	10.16
Mountain	9.57	10.32	10.97	10.42	10.18	10.80	11.36	10.61	10.17	10.61	11.18	10.53	10.36	10.77	10.65
Pacific	16.13	17.81	20.34	18.00	18.07	20.08	22.26	19.05	18.42	19.85	22.18	19.20	18.18	19.96	19.99
U.S. Average	11.63	12.35	13.38	12.66	12.33	12.63	13.40	12.47	12.15	12.66	13.54	12.55	12.55	12.74	12.76
Industrial Sector															
New England	15.12	15.16	15.93	15.36	17.03	15.99	16.25	15.39	17.00	16.03	16.37	15.58	15.40	16.17	16.25
Middle Atlantic	7.88	8.29	9.30	8.46	7.73	7.75	8.50	8.05	7.87	7.53	8.31	7.89	8.50	8.02	7.91
E. N. Central	7.73	8.55	8.99	8.50	7.88	8.28	8.60	8.39	8.12	8.37	8.71	8.48	8.45	8.29	8.42
W. N. Central	7.16	7.99	8.70	7.46	7.24	7.93	8.58	7.49	7.44	8.08	8.74	7.63	7.85	7.83	7.98
S. Atlantic	6.85	8.09	9.11	8.05	6.79	7.67	8.57	7.81	6.94	7.65	8.54	7.82	8.04	7.72	7.74
E. S. Central	6.35	7.36	8.41	7.53	6.92	7.21	8.07	7.36	7.03	7.21	8.07	7.37	7.42	7.39	7.42
W. S. Central	6.19	7.28	8.08	7.37	6.52	6.90	7.36	6.95	6.40	6.69	7.13	6.73	7.25	6.94	6.74
Mountain	6.57	7.27	8.41	7.88	7.77	7.70	8.56	7.88	7.77	7.74	8.59	7.91	7.57	8.00	8.02
Pacific	10.37	11.97	14.16	12.65	11.57	12.41	14.44	12.83	11.80	12.80	14.86	13.22	12.38	12.88	13.24
U.S. Average	7.42	8.41	9.38	8.52	7.80	8.24	9.02	8.34	7.89	8.23	9.02	8.34	8.45	8.36	8.38
All Sectors (a)															
New England	20.46	19.83	20.80	21.27	23.39	21.83	22.11	21.96	23.74	21.93	22.26	22.31	20.60	22.33	22.58
Middle Atlantic	14.10	14.68	16.17	15.29	14.92	14.56	15.49	14.66	14.81	14.57	15.58	14.59	15.10	14.93	14.92
E. N. Central	11.10	11.88	12.58	12.10	11.74	12.05	12.46	11.82	11.60	12.00	12.58	12.02	11.93	12.03	12.07
W. N. Central	9.53	10.66	11.73	10.02	9.51	10.31	11.41	9.91	9.68	10.76	11.77	9.99	10.51	10.31	10.57
S. Atlantic	10.79	11.56	12.43	11.79	11.50	11.79	12.32	11.40	11.19	11.60	12.24	11.38	11.68	11.78	11.63
E. S. Central	10.12	10.88	12.02	11.22	11.06	11.01	11.76	11.00	11.16	11.20	11.97	11.20	11.09	11.23	11.40
W. S. Central	9.05	10.06	11.21	10.44	9.58	10.08	11.05	10.29	9.65	10.20	11.22	10.35	10.25	10.29	10.40
Mountain	9.60	10.32	11.20	10.55	10.38	10.81	11.56	10.74	10.40	10.71	11.39	10.68	10.48	10.92	10.83
Pacific	15.77	17.44	19.69	17.20	17.35	19.05	20.77	17.73	17.59	19.28	21.12	18.07	17.62	18.78	19.08
U.S. Average	11.49	12.28	13.44	12.59	12.31	12.60	13.39	12.41	12.24	12.63	13.49	12.49	12.49	12.71	12.74

(a) Volume-weighted average of retail prices to residential, commercial, industrial, and transportation sectors.

- = no data available

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 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 - March 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	41.5	47.4	59.7	44.0	46.3	52.5	59.3	47.1	42.5	49.9	55.6	44.1	192.7	205.2	192.1
Coal	64.5	54.1	68.6	53.4	52.2	50.4	62.9	45.7	52.8	42.6	59.7	46.8	240.6	211.2	201.8
Nuclear	23.8	19.6	24.3	23.7	23.4	21.7	24.5	21.0	23.3	22.5	23.9	21.6	91.4	90.6	91.2
Conventional hydropower	2.9	2.7	2.5	2.3	2.7	3.0	2.4	2.2	2.5	2.9	2.4	2.2	10.3	10.3	10.0
Nonhydro renewables (d)	32.0	28.7	20.3	31.2	33.4	30.6	22.3	33.7	35.6	32.9	25.0	36.0	112.3	120.0	129.6
Other energy sources (e)	1.4	1.7	1.3	1.8	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.7	6.2	6.4	6.3
Total generation	166.1	154.2	176.8	156.4	159.7	159.8	173.0	151.3	158.4	152.3	168.0	152.4	653.5	643.8	631.1
Net energy for load (f)	165.1	159.0	179.5	155.8	158.9	160.5	179.9	156.8	166.0	160.5	180.8	157.9	659.5	656.1	665.3
Central (Southwest Power Pool)															
Natural Gas	10.4	13.4	22.3	14.3	13.3	15.3	22.5	15.1	13.3	16.1	21.9	15.0	60.4	66.2	66.4
Coal	22.1	20.5	30.1	18.8	16.2	16.4	21.8	13.2	16.7	14.2	22.2	12.8	91.5	67.6	66.0
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	3.9	4.3	3.7	3.1	3.6	4.2	3.7	3.1	14.5	15.0	14.5
Nonhydro renewables (d)	28.6	29.6	21.3	27.7	31.0	31.6	22.8	28.9	33.0	32.7	23.9	30.5	107.3	114.3	120.1
Other energy sources (e)	0.3	0.4	0.2	0.4	0.3	0.3	0.1	0.3	0.3	0.3	0.2	0.3	1.2	1.0	1.1
Total generation	70.0	72.0	81.1	66.4	68.9	72.2	75.3	64.8	71.3	70.5	76.2	65.1	289.5	281.3	283.1
Net energy for load (f)	67.5	65.6	81.0	65.5	67.4	65.8	77.5	63.4	67.5	66.0	78.4	64.5	279.7	274.2	276.3
Texas (ERCOT)															
Natural Gas	33.4	42.8	64.7	40.9	32.0	33.7	52.4	33.8	26.1	24.3	43.3	28.6	181.9	151.9	122.2
Coal	17.7	16.8	20.2	16.6	11.2	13.4	19.1	14.2	12.7	13.9	19.1	13.7	71.2	57.9	59.4
Nuclear	11.0	9.9	10.7	10.0	11.0	9.1	11.0	10.1	10.9	9.8	11.0	9.2	41.6	41.2	41.0
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	36.7	45.5	33.4	33.4	41.2	51.7	42.0	39.5	127.4	149.0	174.3
Other energy sources (e)	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.2	0.3	0.2	0.2	1.5	1.4	0.9
Total generation	93.5	109.3	124.1	97.2	91.3	102.2	116.5	92.0	91.4	100.2	115.7	91.2	424.1	402.0	398.4
Net energy for load (f)	93.5	109.3	124.1	97.2	91.3	102.2	116.5	92.0	91.4	100.2	115.7	91.2	424.1	402.0	398.4
Northwest															
Natural Gas	20.2	15.9	27.3	24.6	25.3	11.7	25.9	17.1	17.5	11.6	27.5	18.0	88.1	79.9	74.5
Coal	21.7	18.1	26.9	22.1	23.2	15.7	25.1	20.8	20.5	14.3	24.8	19.9	88.8	84.8	79.5
Nuclear	2.5	2.3	2.5	2.6	2.5	1.2	2.4	2.4	2.4	2.4	2.4	2.4	9.9	8.6	9.7
Conventional hydropower	38.7	35.7	34.0	26.9	28.4	37.4	29.9	27.8	35.2	41.2	30.7	28.2	135.2	123.5	135.3
Nonhydro renewables (d)	19.2	20.4	16.0	18.0	21.4	21.9	18.0	19.6	23.2	24.3	20.3	21.0	73.6	80.9	88.8
Other energy sources (e)	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.4	0.5
Total generation	102.5	92.6	106.9	94.4	100.9	88.0	101.4	87.8	98.9	93.8	105.9	89.7	396.3	378.1	388.3
Net energy for load (f)	97.0	89.1	104.9	97.4	98.0	90.7	101.7	92.7	95.7	90.8	101.8	92.9	388.4	383.1	381.1
Southwest															
Natural Gas	9.6	12.9	18.6	13.6	12.1	14.9	22.3	14.9	7.5	11.4	18.8	13.0	54.6	64.2	50.6
Coal	6.1	6.3	8.1	6.2	5.6	5.1	6.5	4.9	6.1	5.2	6.6	4.7	26.7	22.1	22.6
Nuclear	8.2	7.5	8.7	7.6	8.6	7.5	8.6	7.5	8.5	7.4	8.6	7.6	31.9	32.2	32.1
Conventional hydropower	1.9	2.1	1.8	1.4	1.4	2.2	2.1	1.4	1.7	2.0	1.8	1.4	7.1	7.1	6.9
Nonhydro renewables (d)	4.6	5.7	3.9	4.4	4.4	6.0	3.9	5.0	6.1	7.2	4.8	5.6	18.6	19.3	23.8
Other energy sources (e)	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1
Total generation	30.3	34.4	41.1	33.2	32.1	35.8	43.4	33.7	29.9	33.3	40.7	32.2	139.2	145.0	136.1
Net energy for load (f)	23.6	28.7	34.0	23.6	24.1	27.9	35.1	23.8	23.2	27.4	34.8	23.5	109.8	111.0	108.9
California															
Natural Gas	15.8	15.5	29.9	25.8	15.0	12.2	25.7	23.3	13.4	9.7	20.9	21.7	87.1	76.2	65.7
Coal	0.5	0.7	2.4	1.9	1.4	1.1	2.5	1.7	1.3	1.1	2.5	1.7	5.5	6.7	6.6
Nuclear	4.6	4.2	5.0	3.8	4.8	4.7	4.6	4.1	4.7	3.6	4.7	3.9	17.6	18.1	16.9
Conventional hydropower	3.6	5.3	5.3	2.9	5.2	10.1	7.3	3.5	4.7	8.4	7.7	4.2	17.1	26.1	25.0
Nonhydro renewables (d)	16.7	22.8	20.7	16.0	17.9	24.2	22.6	18.2	19.9	26.2	24.9	18.9	76.1	82.9	89.8
Other energy sources (e)	0.0	-0.2	0.1	-0.2	-0.1	-0.2	0.0	-0.3	-0.1	-0.5	-0.1	-0.4	-0.2	-0.6	-1.1
Total generation	41.2	48.2	63.4	50.2	44.1	52.2	62.7	50.5	44.0	48.4	60.6	50.0	203.1	209.4	203.0
Net energy for load (f)	53.5	57.5	72.6	56.9	55.0	57.4	70.7	55.4	53.9	57.3	70.7	55.5	240.4	238.5	237.4

(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 March 2, 2022.

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

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

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Electric power sector (power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	473.6	476.7	478.7	476.5	<i>481.6</i>	<i>482.8</i>	<i>482.8</i>	<i>479.9</i>	<i>480.8</i>	<i>478.7</i>	<i>478.7</i>	<i>477.8</i>	476.5	<i>479.9</i>	<i>477.8</i>
Coal	206.2	201.5	199.8	196.8	<i>195.4</i>	<i>189.8</i>	<i>189.8</i>	<i>187.9</i>	<i>187.6</i>	<i>186.5</i>	<i>186.5</i>	<i>185.7</i>	196.8	<i>187.9</i>	<i>185.7</i>
Petroleum	26.7	25.7	25.7	25.5	<i>25.5</i>	<i>25.3</i>	<i>25.3</i>	<i>25.1</i>	<i>25.1</i>	<i>25.1</i>	<i>25.1</i>	<i>25.1</i>	25.5	<i>25.1</i>	<i>25.1</i>
Other gases	0.4	0.4	0.4	0.4	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	0.4	<i>0.4</i>	<i>0.4</i>
Renewable energy sources															
Wind	134.8	137.3	138.0	140.8	<i>144.3</i>	<i>145.0</i>	<i>145.6</i>	<i>148.2</i>	<i>148.2</i>	<i>150.5</i>	<i>150.7</i>	<i>155.7</i>	140.8	<i>148.2</i>	<i>155.7</i>
Solar photovoltaic	61.7	63.8	65.7	70.3	<i>76.4</i>	<i>81.3</i>	<i>86.0</i>	<i>98.9</i>	<i>106.8</i>	<i>116.1</i>	<i>119.3</i>	<i>133.6</i>	70.3	<i>98.9</i>	<i>133.6</i>
Solar thermal	1.5	1.5	1.5	1.5	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	1.5	<i>1.5</i>	<i>1.5</i>
Geothermal	2.5	2.5	2.6	2.6	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	2.6	<i>2.6</i>	<i>2.6</i>
Waste biomass	3.6	3.6	3.6	3.5	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	3.5	<i>3.6</i>	<i>3.6</i>
Wood biomass	2.4	2.4	2.4	2.4	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	<i>2.4</i>	2.4	<i>2.4</i>	<i>2.4</i>
Conventional hydroelectric	79.6	79.6	79.6	79.7	<i>79.6</i>	<i>79.8</i>	<i>79.8</i>	<i>79.8</i>	<i>79.8</i>	<i>79.8</i>	<i>79.8</i>	<i>79.8</i>	79.7	<i>79.8</i>	<i>79.8</i>
Pumped storage hydroelectric	23.0	23.0	23.0	22.7	<i>23.0</i>	<i>23.2</i>	<i>22.9</i>	<i>23.3</i>	<i>23.3</i>	<i>23.3</i>	<i>23.3</i>	<i>23.2</i>	22.7	<i>23.3</i>	<i>23.2</i>
Nuclear	95.5	94.8	94.8	94.8	<i>94.8</i>	<i>94.8</i>	<i>95.9</i>	<i>93.3</i>	<i>97.1</i>	<i>97.1</i>	<i>97.1</i>	<i>95.9</i>	94.8	<i>93.3</i>	<i>95.9</i>
Battery storage	5.1	6.1	7.1	8.9	<i>10.9</i>	<i>14.2</i>	<i>15.6</i>	<i>18.3</i>	<i>20.7</i>	<i>24.6</i>	<i>24.8</i>	<i>28.2</i>	8.9	<i>18.3</i>	<i>28.2</i>
Other nonrenewable sources (a)	0.2	0.2	0.2	0.2	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	0.2	<i>0.2</i>	<i>0.2</i>
Industrial and commercial sectors (combined heat and power plants larger than one megawatt)															
Fossil fuel energy sources															
Natural gas	18.5	18.5	18.5	18.5	<i>18.7</i>	<i>18.8</i>	<i>18.8</i>	<i>18.8</i>	<i>18.7</i>	<i>18.7</i>	<i>18.7</i>	<i>18.7</i>	18.5	<i>18.8</i>	<i>18.7</i>
Coal	1.5	1.5	1.5	1.5	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	1.5	<i>1.5</i>	<i>1.5</i>
Petroleum	1.4	1.4	1.4	1.4	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	1.4	<i>1.4</i>	<i>1.4</i>
Other gases	1.5	1.5	1.5	1.5	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	<i>1.5</i>	1.5	<i>1.5</i>	<i>1.5</i>
Renewable energy sources															
Wood biomass	5.5	5.5	5.5	5.5	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	<i>5.6</i>	5.5	<i>5.6</i>	<i>5.6</i>
Waste biomass	0.8	0.8	0.8	0.8	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	<i>0.8</i>	0.8	<i>0.8</i>	<i>0.8</i>
Solar	0.6	0.6	0.6	0.6	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	0.6	<i>0.6</i>	<i>0.6</i>
Wind	0.1	0.1	0.1	0.1	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	0.1	<i>0.1</i>	<i>0.1</i>
Geothermal	0.1	0.1	0.1	0.1	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	0.1	<i>0.1</i>	<i>0.1</i>
Conventional hydroelectric	0.3	0.3	0.3	0.3	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	0.3	<i>0.3</i>	<i>0.3</i>
Battery storage	0.0	0.0	0.0	0.0	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	0.0	<i>0.1</i>	<i>0.1</i>
Other nonrenewable sources (a)	1.3	1.3	1.3	1.2	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	1.2	<i>1.3</i>	<i>1.3</i>
Small-scale solar photovoltaic capacity (systems smaller than one megawatt)															
Residential sector	22.3	23.6	25.0	26.8	<i>28.7</i>	<i>30.7</i>	<i>32.9</i>	<i>35.1</i>	<i>37.5</i>	<i>40.0</i>	<i>42.6</i>	<i>45.4</i>	26.8	<i>35.1</i>	<i>45.4</i>
Commercial sector	10.2	10.5	10.8	11.0	<i>11.5</i>	<i>12.0</i>	<i>12.6</i>	<i>13.1</i>	<i>13.7</i>	<i>14.4</i>	<i>15.0</i>	<i>15.7</i>	11.0	<i>13.1</i>	<i>15.7</i>
Industrial sector	2.2	2.3	2.3	2.4	<i>2.4</i>	<i>2.5</i>	<i>2.6</i>	<i>2.6</i>	<i>2.7</i>	<i>2.7</i>	<i>2.8</i>	<i>2.9</i>	2.4	<i>2.6</i>	<i>2.9</i>
All sectors total	34.7	36.3	38.1	40.2	<i>42.7</i>	<i>45.3</i>	<i>48.0</i>	<i>50.9</i>	<i>53.9</i>	<i>57.1</i>	<i>60.4</i>	<i>63.9</i>	40.2	<i>50.9</i>	<i>63.9</i>

Notes:

(a) Chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

EIA completed modeling and analysis for this data on March 2, 2023.

Data sources:

- Historical data: EIA Preliminary Monthly Electric Generator Inventory (Form EIA-860M/EIA-860A surveys), December 2022; and Form EIA-861M (small-scale solar)
- Forecasts: EIA Preliminary Monthly Electric Generator Inventory and Short-Term Integrated Forecasting System.

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

Minor discrepancies with historical data in other EIA publications may occur due to frequent updates to the Preliminary Electric Generator Inventory.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - March 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	0.038	0.034	0.038	0.037	0.034	0.025	0.038	0.036	0.146	0.146	0.134
Hydroelectric Power (a)	0.658	0.612	0.551	0.471	0.575	0.692	0.563	0.517	0.632	0.707	0.571	0.527	2.292	2.347	2.438
Solar (b)	0.258	0.393	0.384	0.244	0.309	0.489	0.489	0.330	0.426	0.659	0.675	0.433	1.279	1.617	2.193
Waste Biomass (c)	0.055	0.053	0.053	0.052	0.054	0.053	0.054	0.052	0.054	0.053	0.053	0.052	0.213	0.213	0.212
Wood Biomass	0.051	0.046	0.055	0.047	0.045	0.041	0.049	0.043	0.047	0.043	0.052	0.045	0.200	0.179	0.186
Wind	1.052	1.070	0.713	1.007	1.137	1.128	0.755	1.060	1.192	1.156	0.777	1.112	3.842	4.080	4.236
Subtotal	2.111	2.210	1.793	1.858	2.158	2.437	1.947	2.040	2.386	2.643	2.167	2.205	7.972	8.583	9.400
Industrial Sector															
Biofuel Losses and Co-products (d)	0.203	0.203	0.197	0.206	0.195	0.204	0.200	0.207	0.204	0.206	0.204	0.210	0.809	0.806	0.825
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)	0.003	0.005	0.005	0.003	0.008	0.012	0.012	0.009	0.009	0.013	0.013	0.009	0.016	0.041	0.045
Waste Biomass (c)	0.042	0.040	0.037	0.042	0.040	0.039	0.039	0.041	0.040	0.040	0.039	0.041	0.160	0.160	0.160
Wood Biomass	0.319	0.324	0.322	0.321	0.322	0.329	0.344	0.347	0.336	0.333	0.345	0.347	1.285	1.341	1.362
Subtotal (e)	0.575	0.579	0.569	0.580	0.574	0.592	0.602	0.611	0.598	0.600	0.610	0.616	2.303	2.379	2.423
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	0.024	0.024
Solar (b)	0.014	0.020	0.020	0.013	0.037	0.055	0.056	0.039	0.045	0.065	0.066	0.046	0.066	0.186	0.222
Waste Biomass (c)	0.009	0.009	0.009	0.010	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.037	0.037	0.037
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)	0.057	0.064	0.064	0.057	0.080	0.098	0.100	0.082	0.088	0.109	0.110	0.090	0.242	0.360	0.397
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)	0.080	0.119	0.120	0.090	0.101	0.153	0.156	0.109	0.124	0.191	0.195	0.137	0.409	0.519	0.646
Wood Biomass	0.119	0.121	0.122	0.120	0.119	0.121	0.122	0.120	0.119	0.121	0.122	0.120	0.482	0.482	0.482
Subtotal	0.209	0.250	0.252	0.220	0.230	0.284	0.288	0.240	0.253	0.321	0.327	0.267	0.931	1.041	1.168
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g) ...	0.094	0.117	0.116	0.125	0.138	0.145	0.147	0.153	0.152	0.175	0.188	0.201	0.451	0.583	0.716
Ethanol (g)	0.259	0.281	0.279	0.281	0.268	0.288	0.285	0.288	0.273	0.291	0.288	0.289	1.100	1.128	1.141
Subtotal	0.353	0.397	0.395	0.406	0.406	0.433	0.431	0.441	0.426	0.466	0.476	0.490	1.551	1.712	1.858
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g) ...	0.094	0.117	0.116	0.125	0.138	0.145	0.147	0.153	0.152	0.175	0.188	0.201	0.451	0.583	0.716
Biofuel Losses and Co-products (d)	0.203	0.203	0.197	0.206	0.195	0.204	0.200	0.207	0.204	0.206	0.204	0.210	0.809	0.806	0.825
Ethanol (f)	0.271	0.293	0.292	0.294	0.280	0.300	0.296	0.299	0.285	0.303	0.300	0.301	1.149	1.175	1.188
Geothermal	0.053	0.052	0.054	0.055	0.055	0.051	0.055	0.054	0.051	0.042	0.055	0.053	0.214	0.214	0.202
Hydroelectric Power (a)	0.661	0.615	0.553	0.473	0.578	0.695	0.565	0.520	0.635	0.710	0.574	0.529	2.302	2.358	2.449
Solar (b)(f)	0.355	0.537	0.529	0.350	0.456	0.709	0.712	0.487	0.604	0.928	0.950	0.625	1.771	2.364	3.107
Waste Biomass (c)	0.106	0.102	0.099	0.105	0.104	0.102	0.102	0.103	0.104	0.102	0.101	0.102	0.412	0.410	0.409
Wood Biomass	0.509	0.511	0.521	0.509	0.507	0.511	0.536	0.531	0.523	0.518	0.540	0.533	2.050	2.085	2.113
Wind	1.052	1.070	0.713	1.007	1.137	1.128	0.755	1.060	1.192	1.156	0.777	1.112	3.842	4.080	4.236
Total Consumption	3.304	3.498	3.073	3.120	3.447	3.845	3.368	3.414	3.750	4.139	3.690	3.667	12.995	14.074	15.246

(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 March 2, 2022.

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 - March 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 - March 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	20,198	20,135	20,142	20,200	20,319	20,431	20,541	20,650	20,767	20,018	20,199	20,597
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	14,028	14,099	14,179	14,252	14,252	14,274	14,318	14,378	14,429	14,489	14,555	14,632	14,140	14,305	14,526
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	3,629	3,582	3,550	3,490	3,447	3,403	3,396	3,421	3,459	3,498	3,536	3,570	3,563	3,417	3,516
Business Inventory Change (billion chained 2012 dollars - SAAR)	257	145	71	161	73	51	11	32	60	75	86	93	159	42	79
Real Government Expenditures (billion chained 2012 dollars - SAAR)	3,393	3,379	3,411	3,442	3,464	3,475	3,484	3,491	3,500	3,509	3,516	3,525	3,406	3,479	3,512
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	2,437	2,517	2,604	2,595	2,587	2,611	2,654	2,698	2,735	2,770	2,808	2,842	2,538	2,637	2,789
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	3,926	3,947	3,873	3,828	3,786	3,768	3,758	3,791	3,840	3,889	3,942	3,987	3,893	3,776	3,915
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,109	15,022	15,059	15,181	15,372	15,443	15,567	15,714	15,860	16,005	16,131	16,252	15,093	15,524	16,062
Non-Farm Employment (millions)	150.8	152.0	153.3	154.3	155.2	155.0	154.4	154.1	154.1	154.2	154.3	154.4	152.6	154.7	154.2
Civilian Unemployment Rate (percent)	3.8	3.6	3.6	3.6	3.4	3.7	4.1	4.3	4.4	4.4	4.4	4.3	3.6	3.9	4.4
Housing Starts (millions - SAAR)	1.72	1.65	1.45	1.40	1.23	1.18	1.17	1.18	1.23	1.29	1.32	1.38	1.56	1.19	1.30
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	102.9	104.1	104.6	104.1	102.6	103.0	102.6	102.7	103.0	103.3	103.8	104.3	103.9	102.7	103.6
Manufacturing	101.5	102.4	102.3	101.6	99.6	99.6	99.8	100.6	101.4	102.0	102.8	103.6	102.0	99.9	102.4
Food	105.5	105.1	104.6	105.2	105.5	106.1	106.2	106.4	106.6	106.9	107.3	107.8	105.1	106.0	107.1
Paper	96.4	97.3	92.8	89.0	86.8	87.0	87.3	87.7	87.8	87.6	87.6	87.9	93.9	87.2	87.7
Petroleum and Coal Products	94.2	94.2	95.7	95.5	94.8	94.6	94.5	94.5	94.6	94.6	94.7	94.8	94.9	94.6	94.6
Chemicals	102.4	103.0	103.0	102.3	101.3	101.9	102.3	102.7	102.9	103.3	104.0	104.8	102.7	102.1	103.8
Nonmetallic Mineral Products	102.9	103.2	104.7	105.9	106.0	105.1	104.7	104.7	105.2	105.9	106.6	107.3	104.2	105.1	106.2
Primary Metals	95.6	97.4	96.9	94.9	93.6	94.5	95.0	95.7	95.5	95.2	96.0	96.9	96.2	94.7	95.9
Coal-weighted Manufacturing (a)	96.2	96.7	96.4	95.5	94.6	94.9	95.0	95.3	95.2	95.2	95.7	96.3	96.2	94.9	95.6
Distillate-weighted Manufacturing (a)	99.8	100.3	100.1	99.3	98.3	98.1	98.1	98.4	98.8	99.2	99.8	100.4	99.9	98.2	99.6
Electricity-weighted Manufacturing (a)	98.0	98.6	97.9	96.6	95.5	95.9	96.3	96.7	96.9	97.0	97.6	98.3	97.8	96.1	97.4
Natural Gas-weighted Manufacturing (a)	95.2	95.4	94.3	92.6	91.5	92.0	92.4	92.6	92.5	92.5	92.9	93.5	94.4	92.1	92.9
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.85	2.92	2.95	2.99	3.02	3.02	3.04	3.05	3.07	3.08	3.09	3.10	2.93	3.03	3.08
Producer Price Index: All Commodities (index, 1982=1.00)	2.53	2.72	2.70	2.63	2.49	2.42	2.40	2.40	2.41	2.39	2.38	2.39	2.65	2.43	2.39
Producer Price Index: Petroleum (index, 1982=1.00)	3.16	4.21	3.74	3.43	2.71	2.68	2.63	2.53	2.46	2.42	2.37	2.31	3.63	2.64	2.39
GDP Implicit Price Deflator (index, 2012=100)	124.2	126.9	128.3	129.4	130.0	130.6	131.3	132.0	132.8	133.4	133.9	134.6	127.2	131.0	133.7
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,143	8,914	9,066	8,601	8,337	9,206	9,292	8,895	8,507	9,397	9,471	9,014	8,683	8,935	9,098
Air Travel Capacity (Available ton-miles/day, thousands)	656	686	692	698	657	701	716	685	659	705	727	705	683	690	699
Aircraft Utilization (Revenue ton-miles/day, thousands)	356	419	422	407	377	426	437	408	385	432	439	419	401	412	419
Airline Ticket Price Index (index, 1982-1984=100)	225.6	328.7	293.1	285.2	267.3	322.7	311.2	322.2	305.2	348.1	322.6	320.2	283.1	305.8	324.1
Raw Steel Production (million short tons per day)	0.253	0.253	0.247	0.235	0.236	0.234	0.237	0.240	0.247	0.241	0.244	0.247	0.247	0.237	0.245
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	562	564	576	574	546	573	575	574	569	576	579	578	2,275	2,268	2,301
Natural Gas	511	374	402	458	483	365	399	459	512	357	385	450	1,745	1,706	1,704
Coal	245	216	266	217	193	193	245	184	203	182	245	183	945	814	812
Total Energy (c)	1,321	1,156	1,246	1,252	1,225	1,133	1,221	1,220	1,286	1,118	1,212	1,213	4,976	4,799	4,829

(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 March 2, 2022.

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 - March 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	1,038	1,035	1,035	1,037	1,042	1,047	1,052	1,057	1,062	1,031	1,037	1,054
Middle Atlantic	2,858	2,858	2,879	2,895	2,884	2,884	2,889	2,905	2,920	2,934	2,948	2,963	2,872	2,890	2,941
E. N. Central	2,596	2,583	2,592	2,605	2,596	2,597	2,604	2,617	2,628	2,639	2,650	2,662	2,594	2,604	2,645
W. N. Central	1,220	1,215	1,220	1,230	1,226	1,227	1,231	1,239	1,246	1,252	1,259	1,265	1,221	1,231	1,255
S. Atlantic	3,578	3,578	3,601	3,628	3,615	3,615	3,628	3,654	3,675	3,695	3,715	3,738	3,596	3,628	3,706
E. S. Central	884	883	887	893	890	890	892	897	901	905	910	914	887	892	908
W. S. Central	2,377	2,383	2,424	2,452	2,448	2,451	2,459	2,474	2,492	2,511	2,528	2,546	2,409	2,458	2,519
Mountain	1,359	1,354	1,366	1,377	1,373	1,374	1,377	1,386	1,395	1,404	1,412	1,422	1,364	1,378	1,408
Pacific	3,805	3,802	3,838	3,862	3,850	3,852	3,864	3,885	3,907	3,928	3,948	3,971	3,827	3,863	3,938
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	99.1	99.8	99.5	98.4	96.3	96.2	96.4	97.2	98.1	98.7	99.4	100.2	99.2	96.5	99.1
Middle Atlantic	96.4	97.1	96.6	96.0	94.0	93.8	93.8	94.4	94.9	95.4	95.9	96.6	96.5	94.0	95.7
E. N. Central	98.7	99.1	98.7	98.0	96.2	96.4	96.7	97.3	97.8	98.3	98.9	99.6	98.6	96.7	98.7
W. N. Central	101.8	102.3	102.2	101.7	99.7	99.8	100.0	100.9	101.7	102.3	103.1	103.9	102.0	100.1	102.8
S. Atlantic	103.2	104.3	104.5	103.7	101.5	101.5	101.5	102.4	103.1	103.9	104.7	105.5	103.9	101.7	104.3
E. S. Central	100.6	101.0	100.7	100.0	97.8	97.8	98.0	98.6	99.2	99.8	100.5	101.2	100.6	98.1	100.2
W. S. Central	103.2	104.7	105.2	104.7	102.7	102.9	103.3	104.1	104.9	105.6	106.3	107.1	104.5	103.3	106.0
Mountain	112.4	113.5	114.0	113.5	111.4	111.4	111.5	112.3	113.1	113.9	114.7	115.6	113.4	111.6	114.3
Pacific	97.5	98.4	98.2	97.4	95.5	95.6	95.9	96.8	97.7	98.6	99.4	100.4	97.9	95.9	99.0
Real Personal Income (Billion \$2012)															
New England	949	939	942	948	951	950	952	956	961	967	973	979	945	952	970
Middle Atlantic	2,414	2,393	2,394	2,401	2,417	2,418	2,422	2,431	2,446	2,461	2,475	2,490	2,400	2,422	2,468
E. N. Central	2,448	2,430	2,426	2,434	2,446	2,448	2,454	2,465	2,483	2,500	2,516	2,533	2,434	2,453	2,508
W. N. Central	1,165	1,161	1,163	1,166	1,173	1,176	1,180	1,186	1,196	1,204	1,213	1,220	1,164	1,179	1,208
S. Atlantic	3,395	3,384	3,398	3,411	3,434	3,443	3,456	3,478	3,508	3,536	3,565	3,593	3,397	3,453	3,551
E. S. Central	943	937	935	936	941	940	942	945	951	957	964	970	938	942	960
W. S. Central	2,085	2,085	2,094	2,104	2,123	2,124	2,131	2,144	2,162	2,181	2,199	2,217	2,092	2,130	2,190
Mountain	1,307	1,306	1,320	1,320	1,325	1,325	1,327	1,333	1,343	1,353	1,363	1,373	1,313	1,327	1,358
Pacific	2,956	2,931	2,936	3,000	2,975	2,981	2,991	3,006	3,028	3,051	3,073	3,096	2,956	2,988	3,062
Households (Thousands)															
New England	6,101	6,099	6,100	6,105	6,113	6,121	6,129	6,135	6,142	6,151	6,159	6,168	6,105	6,135	6,168
Middle Atlantic	16,123	16,115	16,114	16,125	16,140	16,161	16,180	16,202	16,224	16,248	16,273	16,300	16,125	16,202	16,300
E. N. Central	19,057	19,059	19,069	19,090	19,103	19,125	19,151	19,176	19,202	19,229	19,260	19,289	19,090	19,176	19,289
W. N. Central	8,655	8,666	8,681	8,699	8,717	8,738	8,760	8,781	8,802	8,823	8,844	8,865	8,699	8,781	8,865
S. Atlantic	27,106	27,213	27,325	27,420	27,504	27,593	27,674	27,749	27,821	27,894	27,971	28,043	27,420	27,749	28,043
E. S. Central	7,826	7,845	7,867	7,893	7,917	7,944	7,969	7,995	8,019	8,043	8,067	8,091	7,893	7,995	8,091
W. S. Central	15,858	15,919	15,984	16,041	16,092	16,149	16,206	16,261	16,314	16,366	16,424	16,481	16,041	16,261	16,481
Mountain	9,792	9,824	9,861	9,892	9,927	9,963	9,999	10,034	10,070	10,107	10,146	10,186	9,892	10,034	10,186
Pacific	19,052	19,059	19,074	19,087	19,109	19,139	19,169	19,202	19,234	19,262	19,292	19,324	19,087	19,202	19,324
Total Non-farm Employment (Millions)															
New England	7.4	7.4	7.5	7.5	7.6	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.5	7.5
Middle Atlantic	19.4	19.6	19.7	19.8	20.0	19.9	19.8	19.8	19.8	19.8	19.8	19.8	19.6	19.9	19.8
E. N. Central	21.8	21.9	22.0	22.1	22.3	22.2	22.2	22.1	22.1	22.1	22.1	22.1	22.0	22.2	22.1
W. N. Central	10.6	10.7	10.8	10.8	10.9	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.9	10.8
S. Atlantic	29.5	29.7	30.1	30.3	30.4	30.4	30.3	30.2	30.2	30.3	30.3	30.4	29.9	30.3	30.3
E. S. Central	8.4	8.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.5	8.5
W. S. Central	18.1	18.3	18.5	18.6	18.8	18.7	18.7	18.6	18.6	18.7	18.7	18.7	18.4	18.7	18.7
Mountain	11.4	11.5	11.6	11.6	11.7	11.7	11.7	11.6	11.6	11.7	11.7	11.7	11.5	11.7	11.7
Pacific	23.6	23.9	24.1	24.2	24.4	24.3	24.2	24.2	24.2	24.2	24.2	24.2	24.0	24.3	24.2

- = no data available

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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 - March 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	3,140	789	116	1,988	2,725	864	133	2,123	3,072	846	133	2,123	6,033	5,845	6,175
Middle Atlantic	2,944	673	74	1,968	2,435	687	81	1,941	2,817	672	81	1,941	5,658	5,145	5,511
E. N. Central	3,269	753	100	2,223	2,713	735	123	2,221	3,073	730	123	2,221	6,344	5,792	6,148
W. N. Central	3,483	793	112	2,516	3,084	709	164	2,456	3,227	715	164	2,456	6,904	6,412	6,561
South Atlantic	1,339	188	13	977	1,053	189	12	932	1,356	188	12	930	2,516	2,186	2,486
E. S. Central	1,822	248	22	1,336	1,399	248	19	1,283	1,794	256	19	1,284	3,427	2,949	3,353
W. S. Central	1,338	56	2	805	973	75	4	804	1,193	93	4	803	2,202	1,856	2,093
Mountain	2,303	738	85	2,015	2,469	700	148	1,877	2,268	727	148	1,876	5,141	5,194	5,020
Pacific	1,408	607	49	1,296	1,674	616	86	1,218	1,538	625	86	1,219	3,359	3,594	3,468
U.S. Average	2,149	492	54	1,552	1,885	489	73	1,514	2,081	491	73	1,511	4,247	3,960	4,156
Heating Degree Days, Prior 10-year Average															
New England	3,100	853	107	2,104	3,151	859	106	2,095	3,112	861	103	2,077	6,164	6,211	6,153
Middle Atlantic	2,887	684	71	1,908	2,945	692	70	1,912	2,893	692	65	1,899	5,551	5,619	5,550
E. N. Central	3,133	727	97	2,162	3,215	741	93	2,168	3,157	739	94	2,145	6,119	6,218	6,135
W. N. Central	3,219	726	125	2,357	3,317	754	121	2,373	3,285	735	127	2,346	6,427	6,565	6,493
South Atlantic	1,380	187	11	905	1,401	190	10	904	1,354	188	10	898	2,483	2,504	2,450
E. S. Central	1,763	243	15	1,228	1,809	251	14	1,230	1,756	247	15	1,217	3,249	3,304	3,234
W. S. Central	1,145	93	3	754	1,189	95	3	763	1,168	89	3	742	1,995	2,050	2,003
Mountain	2,181	685	132	1,818	2,201	701	129	1,841	2,206	697	131	1,829	4,816	4,872	4,863
Pacific	1,455	523	79	1,136	1,441	523	75	1,148	1,452	535	76	1,148	3,193	3,188	3,211
U.S. Average	2,096	479	62	1,473	2,133	486	60	1,478	2,099	484	60	1,463	4,110	4,157	4,106
Cooling Degree Days															
New England	0	80	558	0	0	85	417	2	0	86	417	2	637	505	506
Middle Atlantic	0	151	679	1	0	153	547	5	0	155	547	5	831	706	707
E. N. Central	1	256	555	2	0	213	535	7	0	212	535	7	814	755	754
W. N. Central	3	305	734	8	3	262	661	10	3	259	661	10	1,050	935	933
South Atlantic	157	713	1,199	233	174	660	1,175	241	128	656	1,176	242	2,302	2,250	2,201
E. S. Central	29	599	1,065	37	51	514	1,058	68	28	505	1,058	68	1,730	1,691	1,659
W. S. Central	57	1,095	1,667	171	132	912	1,515	201	84	857	1,515	201	2,990	2,760	2,657
Mountain	17	469	1,016	66	11	421	918	73	16	414	920	73	1,567	1,423	1,422
Pacific	31	217	754	80	24	164	581	62	25	163	581	62	1,081	831	830
U.S. Average	47	466	949	89	60	408	861	96	44	400	863	97	1,552	1,426	1,404
Cooling Degree Days, Prior 10-year Average															
New England	0	87	471	2	0	87	479	2	0	86	476	2	560	568	564
Middle Atlantic	0	162	608	8	0	159	613	8	0	159	616	8	779	781	783
E. N. Central	3	238	571	9	1	234	561	10	1	234	567	10	821	805	812
W. N. Central	7	299	681	11	4	292	674	12	4	295	675	12	999	982	986
South Atlantic	147	668	1,189	269	144	675	1,193	273	151	682	1,206	272	2,272	2,286	2,310
E. S. Central	44	518	1,057	83	36	521	1,059	83	39	527	1,073	84	1,702	1,699	1,724
W. S. Central	113	853	1,536	224	101	861	1,548	223	107	874	1,548	226	2,726	2,733	2,756
Mountain	23	458	945	84	23	456	950	82	22	450	951	84	1,511	1,511	1,508
Pacific	31	208	665	86	32	213	675	86	31	208	673	87	989	1,005	999
U.S. Average	53	412	889	109	50	415	894	110	53	418	900	111	1,463	1,469	1,481

- = no data available

Notes: EIA completed modeling and analysis for this report on March 2, 2022.

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:** Based on forecasts by the NOAA Climate Prediction Center (<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/NHOME3.shtml>).