Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO

January 2023

Short-Term Energy Outlook

January 2023

Overview

U.S. energy market indicators	2022	2023	2024
Brent crude oil spot price (dollars per barrel)	**$100.94**	**$83.10**	**$77.57**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.32**	**$3.09**
U.S. crude oil production (million barrels per day)	**11.86**	**12.41**	**12.81**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$4.90**	**$4.80**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**10.7**	**12.1**	**12.6**
Shares of U.S. electricity generation			
Natural gas	39%	38%	37%
Coal	20%	18%	17%
Renewables	21%	24%	26%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	**1.9%**	**0.5%**	**1.9%**
U.S. CO_2 emissions (billion metric tons)	**4.99**	**4.83**	**4.81**

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

- This edition of STEO is the first to include forecasts for 2024.
- **U.S. GDP growth.** Based on the S&P Global macroeconomic model, we expect U.S. real GDP to grow by 0.5% in 2023, with economic growth returning after contraction in the first quarter of 2023 (1Q23) and 2Q23. In 2024, real GDP grows by 1.9%, driven primarily by an increase in household consumption. Relatively flat economic growth in 2023 results in total U.S. energy consumption falling by 0.9% in our forecast. Total energy consumption then rises by 1.0% in 2024.
- **Global liquid fuels markets.** Global production of liquid fuels in our forecast reaches an average of 102.8 million barrels per day (b/d) in 2024, up from 100.0 million b/d in 2022, driven by large growth in non-OPEC production. However, uncertainty over Russia's oil supply will persist, particularly in early 2023. We expect that global consumption of liquid fuels will increase from an average of 99.4 million b/d in 2022 to 102.2 million b/d in 2024. Ongoing concerns about global economic conditions as well as the easing COVID-19 restrictions in China, however, increase the uncertainty of the outcomes of our demand forecasts. With more global oil production than consumption in our forecast, we expect global oil inventories will increase over the next two years.
- **Crude oil prices.** We forecast that the Brent crude oil price will average $83 per barrel (b) in 2023, down 18% from 2022, and continue to fall to $78/b in 2024 as global oil inventories build, putting downward pressure on crude oil prices.

- **Gasoline prices.** Gasoline prices decline in our forecast as both wholesale refining margins and crude oil prices fall. We forecast U.S. gasoline refining margins will fall by 29% in 2023 and fall by 14% in 2024, leading to retail gasoline prices averaging around $3.30 per gallon (gal) in 2023 and $3.10/gal in 2024.

- **Diesel prices.** We forecast that U.S. refining margins for diesel will fall by 20% in 2023 and by 38% in 2024. We expect retail diesel prices to average about $4.20/gal in 2023, down 16% from 2022. In 2024, we expect prices to continue to fall, and average near $3.70/gal.

- **Natural gas prices.** The Henry Hub natural gas spot price averages slightly less than $5.00 per million British thermal units (MMBtu) in 2023 in our forecast—down close to 25% from last year—as domestic consumption declines and liquefied natural gas (LNG) exports remain relatively flat. In 2024, we expect natural gas prices to again average slightly below $5.00/MMBtu, as dry natural gas production outpaces an increase in LNG exports that results from rising LNG export capacity.

- **Natural gas production.** We expect natural gas production in both the Permian and Haynesville regions to grow with the completion of pipeline infrastructure expansions in 2023 and 2024.

- **Electricity generation.** We expect that the share of electricity generation from coal will fall from 20% in 2022 to 18% in 2023 and 17% in 2024. This decline will be partially offset by an increase in the forecast share of combined utility-scale solar and wind generation from 16% in 2023 to 18% in 2024.

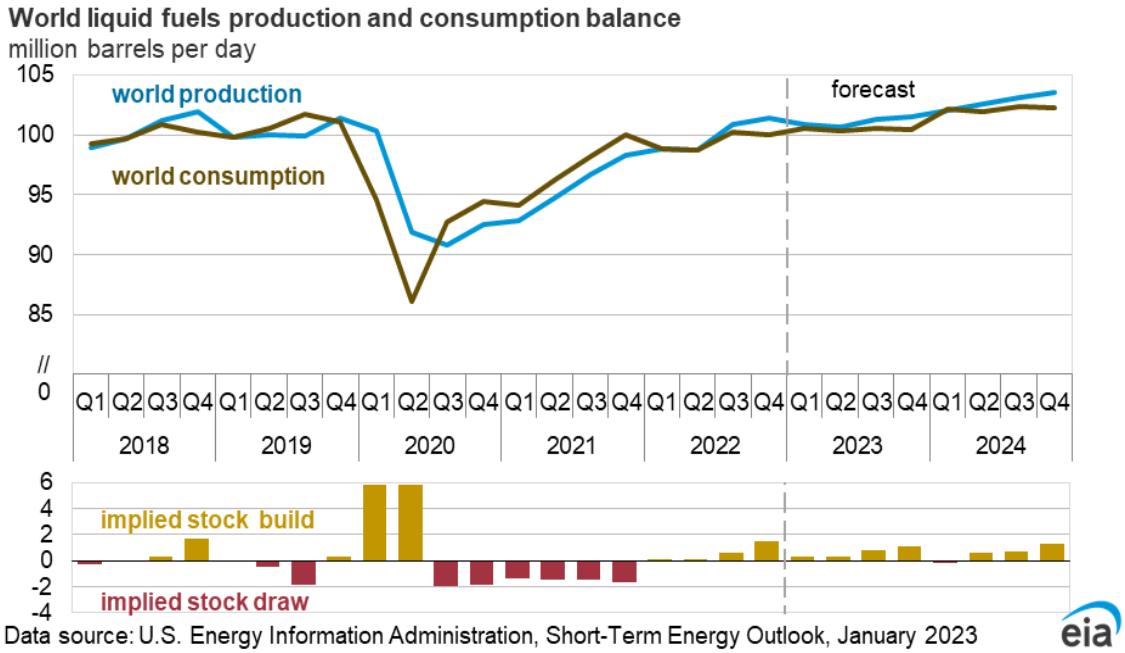
Notable forecast changes

Current forecast: January 10, 2023; previous forecast: December 6, 2022	**2023**	**2024**
Brent spot average (current) (dollars per barrel)	**$83**	**$78**
Previous forecast	$92	---
Percentage change	-10.0%	---
Natural gas price at Henry Hub (current) (dollars per MMBtu)	**$4.90**	**$4.80**
Previous forecast	$5.43	---
Percentage change	-9.8%	---
Gasoline retail prices (current) (dollars per gallon)	**$3.32**	**$3.09**
Previous forecast	$3.51	---
Percentage change	-5.5%	---
U.S. distillate fuel inventories (current) (million barrels)	**127.0**	**125.2**
Previous forecast	123.9	---
Percentage change	2.5%	---
Diesel fuel prices (current) (dollars per gallon)	**$4.22**	**$3.69**
Previous forecast	$4.48	---
Percentage change	-5.7%	---

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

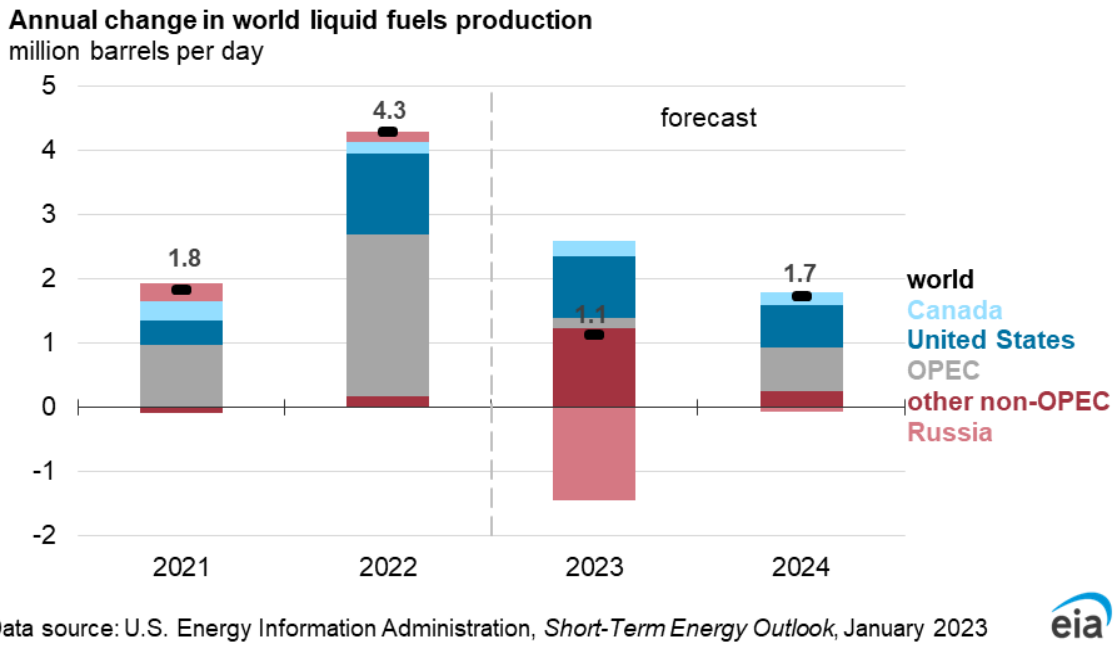
Global oil markets

Crude oil prices: We forecast that Brent crude oil prices will average $83 per barrel (b) in 2023 and $78/b in 2024. Our inaugural edition of *STEO Between the Lines* provides an in-depth summary of our Brent crude oil price assumptions and major risks to our forecast. *Between the Lines* is a new product that will periodically accompany STEO to provide in-depth analysis of issues in our forecast.



Global liquid fuels production: We forecast that world production of petroleum and other liquid fuels will increase by 1.1 million barrels per day (b/d) in 2023 and 1.7 million b/d in 2024. This increase reflects large growth in several non-OPEC countries and in OPEC output that more than offset 1.5 million b/d of declines in Russia's production over the forecast period.

We forecast that the United States and other non-OPEC producers outside of Russia will add 2.4 million b/d of oil production in 2023 and an additional 1.1 million b/d in 2024. The largest source of non-OPEC production growth over the forecast period is the United States, which contributes 40% of growth in 2023 and 60% of growth in 2024. U.S. growth is driven by increases in crude oil production in the Lower 48 states—mostly in the Permian region—as well as a combination of increases to production of hydrocarbon gas liquids and biofuels, which together account for about 40% of U.S. liquid fuels production growth in 2023 and 2024.



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

Outside of the United States, other major sources of growth in non-OPEC liquid fuels production come from Canada, Brazil, Guyana, and Norway. We expect that increases in Canada's production will be driven by projects to improve distribution bottlenecks, including the start-up of the TransMountain pipeline expansion project. Brazil's increases are driven by new floating production, storage, and offloading (FPSO) deepwater rigs.

A noteworthy new source of world oil supply is Guyana, which first began producing oil in 2019 after the discovery of the new offshore deepwater Liza oil field. Critical investment and new production vessels helped Guyana's oil production increase to an average of 260,000 b/d in 2022. We expect further ramp-ups in output and the development of new oil resources over the next two years, helping oil production in Guyana increase to an average of 540,000 b/d by 4Q24.

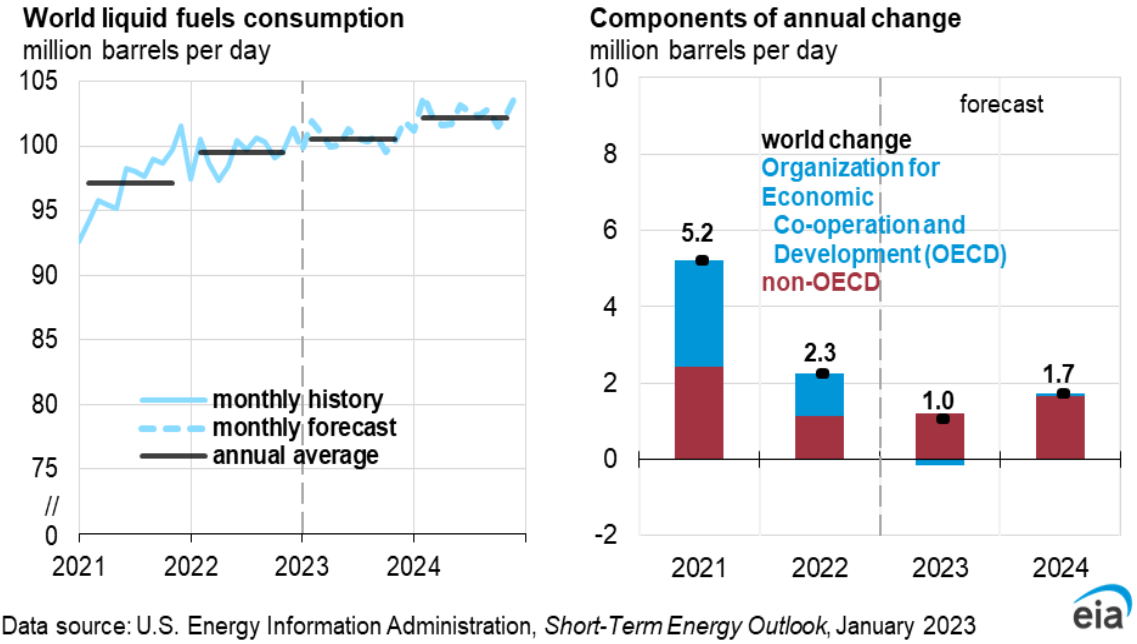
Growth in Norway's oil output in 2023 stems from the recent start-up of the offshore Johan Sverdrup Phase 2 expansion project, which will result in Norway's liquid fuels production rising by more than 500,000 b/d over the forecast to reach almost 2.5 million b/d in 2024.

We expect that these sources of growth in non-OPEC liquid fuels supply will offset declines in Russia's oil production. We forecast that Russia's petroleum and other liquid fuels production will decline to 9.5 million b/d in 2023, from 10.9 million b/d in 2022, and then average 9.4 million b/d in 2024. The extent to which European Union sanctions, other sanctions, and the G7 price cap will affect Russia's crude oil and petroleum product exports and production remains uncertain.

We expect that most crude oil exports from Russia will continue to find buyers. But we expect the sanctions on petroleum products will cause greater disruptions to Russia's oil production and exports because finding alternative buyers as well as transportation and other services to reach those buyers is likely to be more challenging than for crude oil.

OPEC crude oil production in our forecast averages 29.5 million b/d in 2024, up 0.8 million b/d from 2022. Part of this growth is driven by Venezuela. Following the U.S. Department of the Treasury issuing General License (GL) 41 at the end of November, Chevron is resuming oil production in Venezuela for export to the United States. Our OPEC production forecast is subject to considerable uncertainty, driven by a combination of possible outcomes for country compliance to existing OPEC+ production targets and changes to existing OPEC+ targets, as well as ongoing developments in Iran, Libya, and Venezuela.

Global liquid fuels consumption: Forecast global consumption of liquid fuels reaches 102.2 million b/d in 2024, driven primarily by growth in non-OECD countries, such as India and China. Trends in oil consumption largely reflect trends in economic activity. We forecast growth in global demand for oil will slow in 2023 before picking up in 2024, as global GDP growth (based on forecasts from Oxford Economics) rises from 1.8% in 2023 to 3.3% in 2024. Although we forecast global oil consumption to increase, our demand forecast remains uncertain as a result of ongoing concerns around global economic conditions and the impact of the easing COVID-19 restrictions and rising case counts in China.



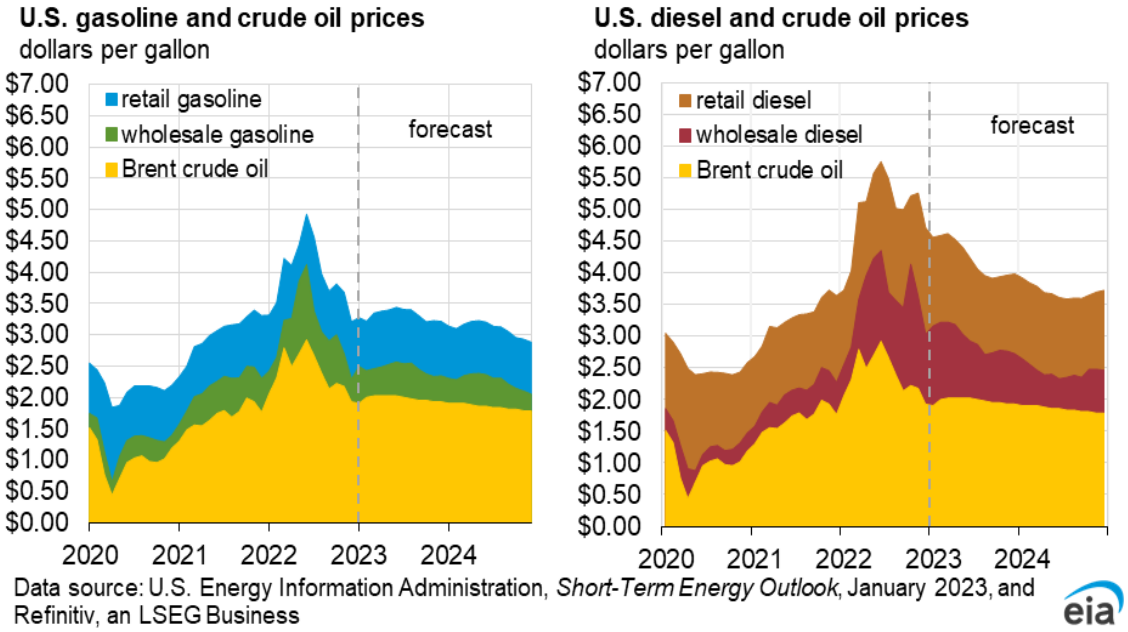
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, January 2023

Petroleum products

Gasoline and diesel prices: Gasoline and diesel prices in our forecast generally decline as wholesale refining margins and crude oil prices fall. In December 2022, the U.S. retail price for regular-grade gasoline averaged $3.21 per gallon (gal), and the retail diesel price averaged $4.71/gal. Both December prices were the lowest since the beginning of Russia's full-scale invasion of Ukraine in February. In our forecast for 2023 and 2024, U.S. refinery runs and gasoline and diesel production are higher than in 2022, which along with increasing global refinery capacity, will contribute to narrowing U.S. refining margins in 2023 and 2024.

We forecast retail gasoline prices will remain close to current levels and average about $3.30/gal in 2023. In 2024, we forecast retail gasoline prices will average about $3.10/gal and fall below $3.00/gal by

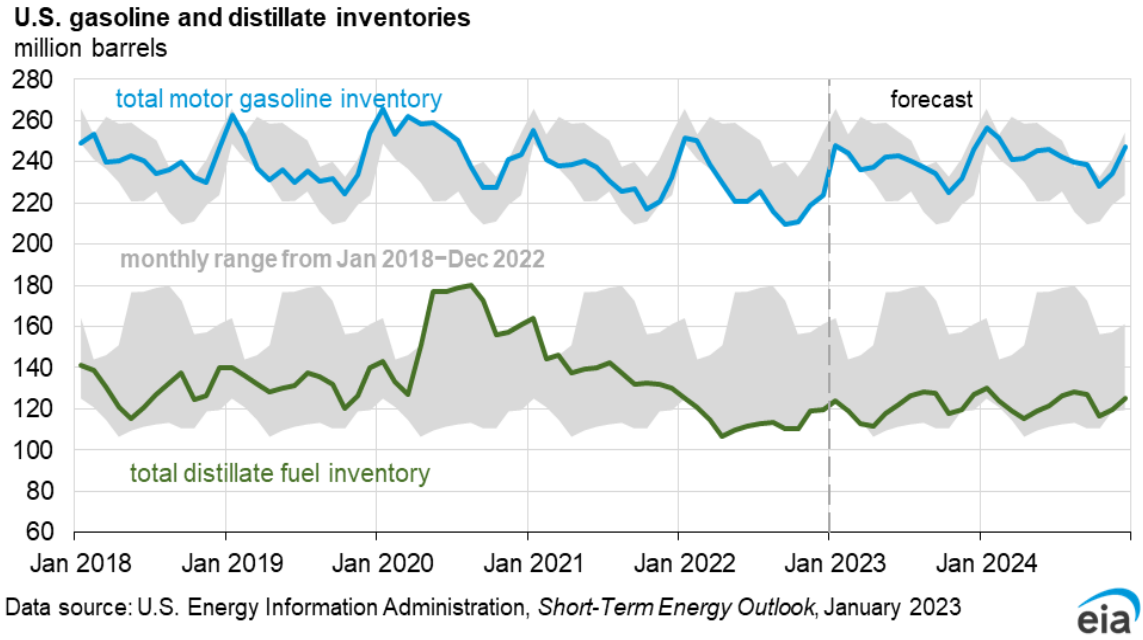
the end of the year. We forecast retail diesel prices to average about $4.20/gal in 2023 and near $3.70/gal in 2024. Diesel prices will remain higher than gasoline prices as the market continues to adjust to disruptions largely related to responses to Russia's full-scale invasion of Ukraine. Russia had been a major supplier of diesel fuel to Europe, which is now importing more diesel from the Middle East and India.



Gasoline and distillate inventories: In 2022, both gasoline and distillate inventories in the United States were below their previous five-year (2017–2021) averages for the entire year because of reduced refinery capacity, less-than-average imports, and expanding exports. Higher refinery runs and less consumption contributed to distillate fuel inventories increasing during 4Q22 by more than the previous five-year average. We estimate that 5.1 million barrels per day (b/d) of distillate was produced in the United States during 4Q22, up 5% from a year earlier, as refiners increased production in response to high crack spreads—the difference between the price at which refiners sell fuel and the price of crude oil.

We expect U.S. distillate inventories will increase in 2023 due to increasing refinery runs as refiners capitalize on high distillate crack spreads. Refiners have a limited ability to shift their product yields, so we also expect gasoline production to increase in 2023 alongside distillate production. As a result, we forecast gasoline inventories will rise above their previous five-year average from May 2023 through the end of the year. Although net U.S. exports of gasoline will increase in 2023, we expect these volumes will come from increased gasoline production. We forecast almost no change in U.S. gasoline consumption over the next two years. Our expectation of relatively flat gasoline consumption stems from increases in vehicle miles traveled being offset by increases in the fuel efficiency of the vehicle fleet.

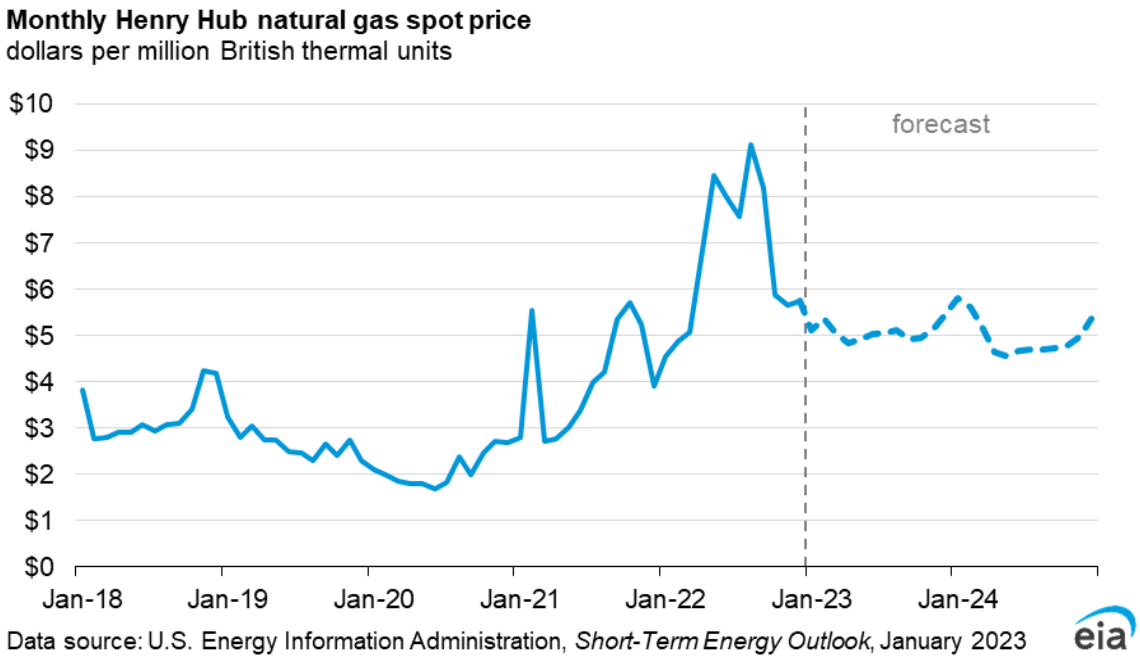
Declining freight activity and declining manufacturing activity in distillate-intensive industries led to decreased U.S. distillate consumption at the end of 2022. Our 4Q22 estimate for U.S. distillate consumption of 3.9 million b/d was the lowest for a fourth quarter since 2015. In our forecast, U.S. distillate consumption declines slightly in 2023. However, we expect distillate consumption will pick up in 2024 as the rate of economic growth increases.



Natural gas

Natural gas prices: We expect the Henry Hub natural gas spot price to average near $5.00 per million British thermal units (MMBtu) in 1Q23. The Henry Hub price began January below $4.00/MMBtu as a result of warmer-than-normal temperatures across much of the country. However, we expect that prices will rise back above $5.00/MMBtu in late-January and stay above that in February as temperatures in our forecast fall and liquefied natural gas (LNG) exports from Freeport LNG resume, increasing demand for natural gas.

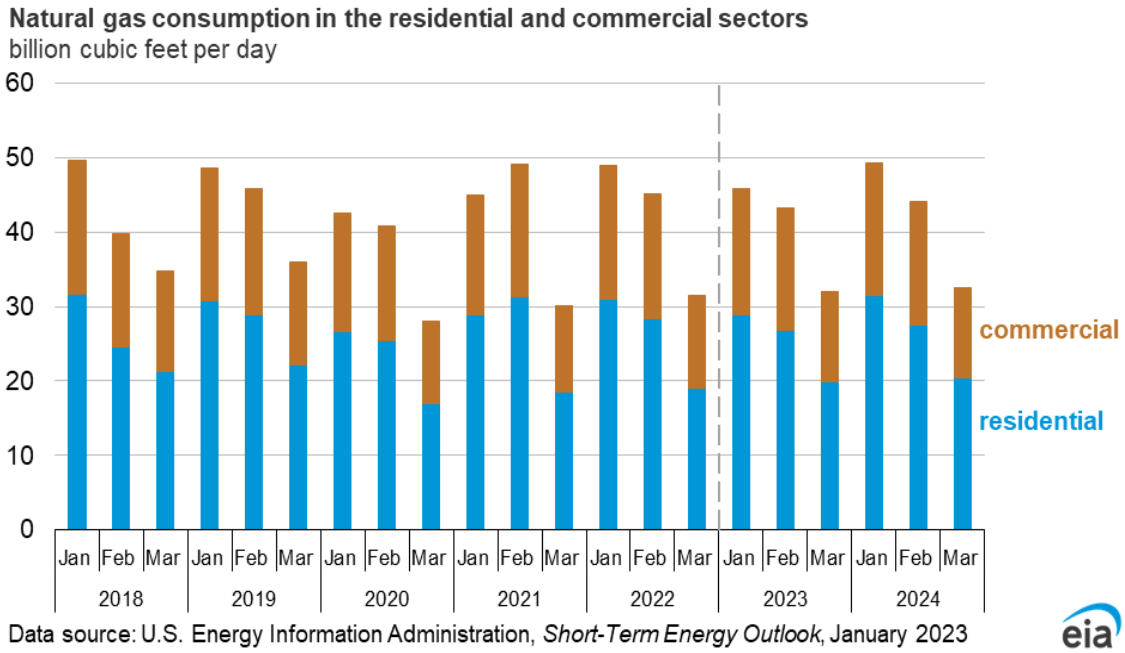
Extreme weather events can cause price spikes and volatility at both the Henry Hub and in regional markets. Spot prices reached more than $50.00/MMBtu in some western markets in December, and potential natural gas supply constraints in New England could cause large price increases if extreme cold weather hits the region. Based on the most recent press release from Freeport LNG, we expect the facility to resume partial operations in January, which will increase U.S. LNG exports and put upward pressure on prices. However, any additional delays to the restart of Freeport, which was originally scheduled to restart partial operations in November, will contribute to downward pressure on prices in the near term.



Once heating demand subsides this winter, we expect prices to average near $5.00/MMBtu for the last three quarters of 2023. Increases in U.S. natural gas production, relatively flat LNG exports, and declining domestic consumption in the electric power and industrial sectors will limit upward pressure on prices in 2023.

Despite our expectation that new LNG export facilities and expansion projects will come online in 2024 we expect natural gas prices to be relatively flat—with the possibility of lower prices—due to continued increases in U.S. natural gas production. We expect production in both the Permian region in West Texas and Southeast New Mexico and in the Haynesville region in Louisiana and East Texas to continue to grow with the completion of new pipeline infrastructure expansions in 2023 and 2024.

Natural gas consumption: During the winter months in the United States, the residential and commercial sectors are large drivers of natural gas consumption because natural gas is used for space heating in homes and commercial buildings and demand for heating rises as the weather gets colder. We expect natural gas consumption in the U.S. residential and commercial sectors to average about 46 billion cubic feet per day (Bcf/d) in January, which is slightly less than the five-year (2018–2022) average. Less-than-average January consumption reflects a relatively mild start to the month across much of the country that reduced space heating demand for natural gas. We expect U.S. residential and commercial natural gas consumption to average 43 Bcf/d in February, which is also less than the five-year average, as forecasts from the National Oceanic and Atmospheric Administration indicate above normal temperatures for February in the eastern part of the United States. Residential and commercial natural gas consumption can be highly variable in winter months due to extreme weather events, such as in February 2021 when extreme cold weather across much of the United States led to increased residential and commercial natural gas consumption.



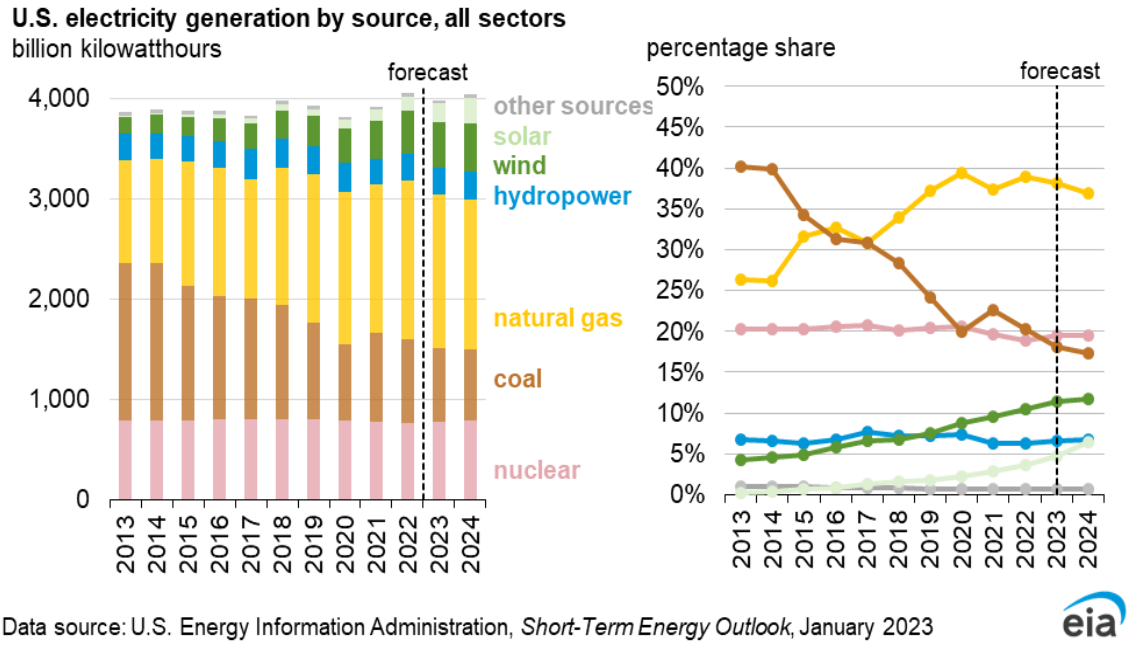
Electricity, coal, and renewables

Electricity consumption: We forecast that total consumption of electricity in the United States will remain fairly stable, falling by 1% in 2023 and then growing by just over 1% in 2024. We estimate that electricity consumption grew by 3% in 2022.

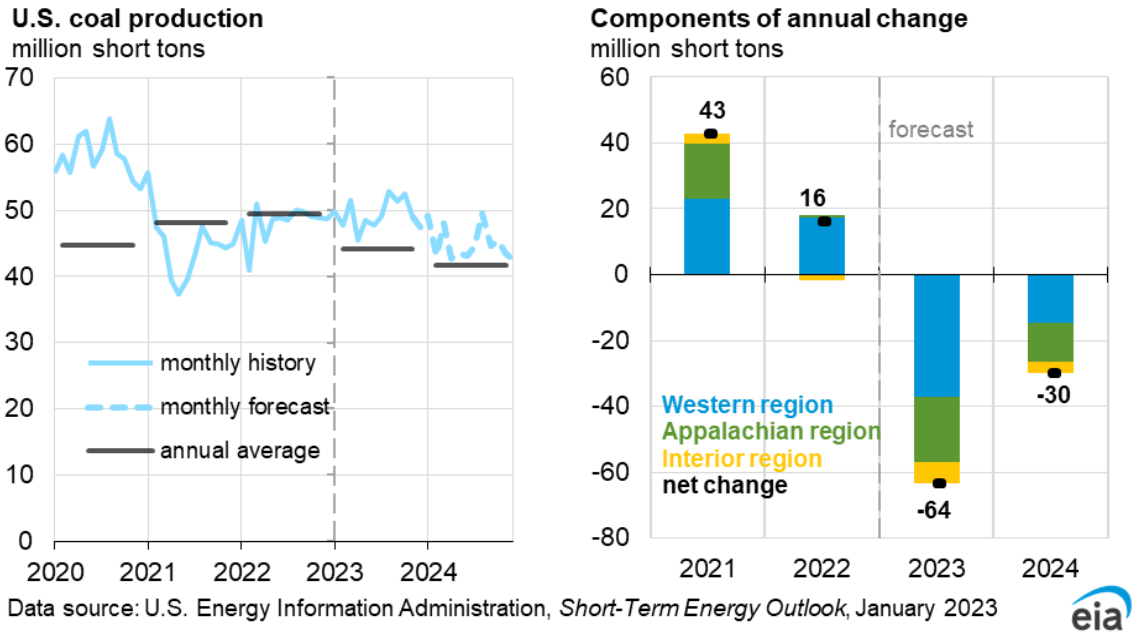
Most of our expected change in U.S. electricity demand occurs in the residential sector, where we expect retail sales will fall as a result of a milder summer in 2023 compared with 2022 with about 10% fewer cooling degree days. Residential electricity sales grow in 2024 because we expect 5% more heating degree days in 1Q24 compared with 1Q23. The forecast also reflects trends in the housing stock. Our forecast assumes the U.S. housing starts resume growing in 2024 after a sharp decline in growth in 2023.

Electricity generation: U.S. generation in our forecast largely follows consumption, declining in 2023 then rising in 2024. Generation from renewable sources is the main contributor of growth in U.S. electricity generation. The forecast share of U.S. renewables generation rises from 21% in 2022 to 24% in 2023 and to 26% in 2024. About two-thirds of this forecast increase in renewables generation comes from new utility-scale solar photovoltaic capacity, and most of the rest is from new wind projects. We expect the share of electricity generation supplied by natural gas to decrease from 39% in 2022 to 38% in 2023 and 37% 2024 while the share of electricity generated by coal will fall from 20% in 2022 to 18% in 2023 and 17% in 2024. The share of nuclear power generation remains close to 19% over the next two years.

Power generators plan to add 32 gigawatts (GW) of utility-scale solar photovoltaic (PV) in 2023 and another estimated 32 GW in 2024. We forecast that small-scale solar capacity will grow by 9 GW in 2023 and by 12 GW in 2024. Wind capacity increases by 6 GW in both 2023 and 2024. Battery storage additions to capacity in our forecast are 10 GW in 2023 and 9 GW in 2024.



Coal Markets: After increasing in both 2021 and 2022, we expect U.S. coal production to decline by 11% to about 530 million short tons (MMst) in 2023, and a further 6% to 500 MMst in 2024. The primary reason for the decrease is our forecast of an 11% reduction in coal consumption in the electric power sector in 2023 followed by a 3% reduction in 2024. That decline largely reflects almost 10 GW of coal-fired capacity retirements in 2023 and another 4 GW in 2024. At the same time, renewable generation increases by 20% between 2022 and 2024, reducing coal-fired generation.

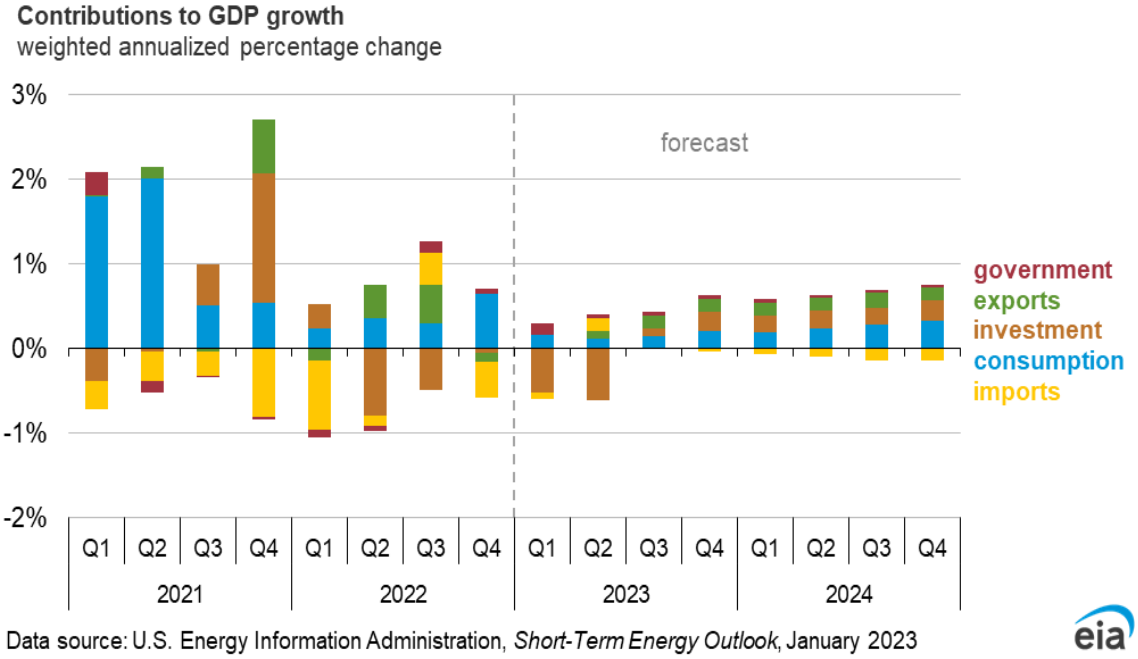


Economy, weather, and CO_2

U.S. macroeconomics: We incorporate STEO energy price forecasts into our S&P Global macroeconomic model to obtain the final U.S. macroeconomic outlook for our forecast,

S&P Global is forecasting a mild recession, starting in 1Q23. As a result, we forecast GDP to grow by 0.5% in 2023, with the economy recovering from the recession and returning to positive GDP growth in 3Q23. In 1Q23, real GDP contracts at an annual rate of 0.7%, mostly due to a decline in residential fixed investment and private business inventories of goods. We expect the recovery to be led by net exports and personal consumption expenditures in 2Q23, with the entire economy returning to growth later in the year.

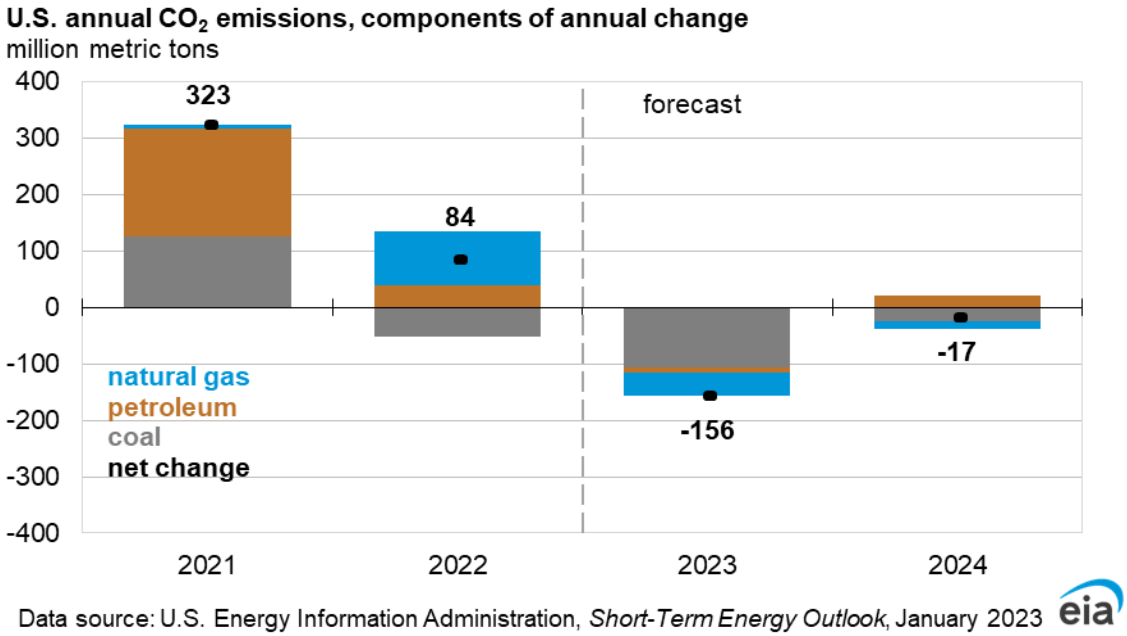
We expect personal consumption expenditures to grow through 2024, despite an increase in consumer savings from historically low levels. Throughout 2023, we expect the labor market to weaken, with the unemployment rate reaching a peak of 5.2% in 4Q23.



Emissions: We forecast total energy-related carbon dioxide (CO_2) emissions to decrease in the United States by more than 3% in 2023. Relatively flat economic growth and an increase in electricity generation from renewable sources decreases fossil fuel consumption, and therefore emissions. Among the major fossil fuel categories, CO_2 emissions from coal decline the most in the United States at around 11%, mostly from decreasing coal-fired electricity generation. More renewable generation contributes to decreases in natural gas-fired electricity generation, which in turn decreases CO_2 emissions from natural gas by 2%. We expect petroleum emissions to remain about the same.

U.S. energy-related CO_2 emissions in 2024 remain unchanged from 2023 in our forecast because increasing emissions from petroleum products offsets decreasing emissions from natural gas. Petroleum CO_2 emissions increase slightly as a result of increases in air and road travel, as well as increasing

hydrocarbon gas liquid consumption, particularly propane. More consumption of propane arises from increased industrial activity, as propane is used as a petrochemical feedstock.



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

Weather: In December, the United States experienced 27% more population-weighted heating degree days (HDDs) than last year and 9% more than the 10-year average. Based on forecasts from the National Oceanic and Atmospheric Administration, we expect 1Q23 to be milder than last winter, with 5% fewer HDDs in the United States compared with 1Q22 and 4% 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

January 10, 2023

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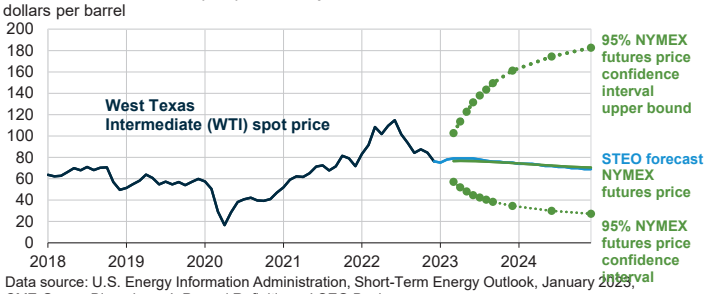
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals

dollars per barrel

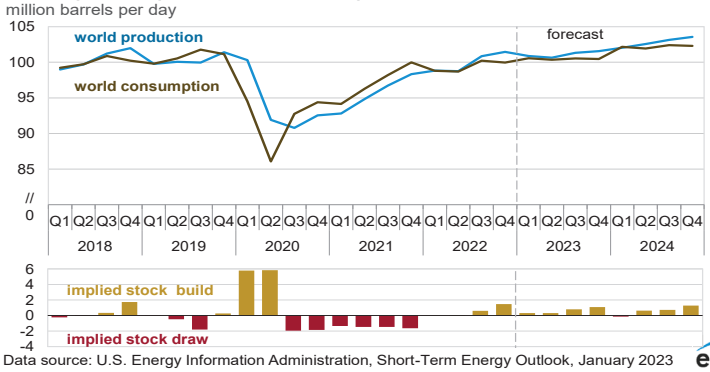


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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

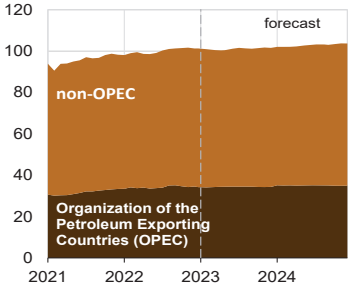
World liquid fuels production and consumption balance

million barrels per day

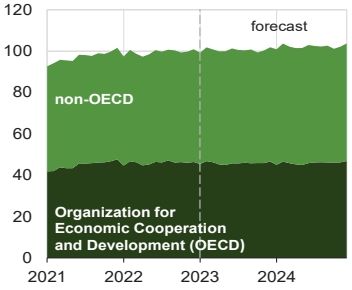


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

World liquid fuels production
million barrels per day

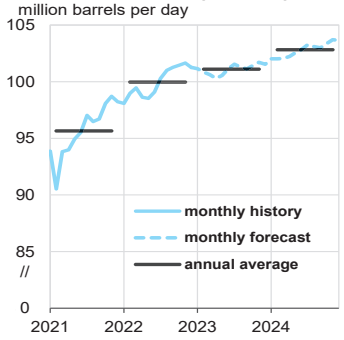


World liquid fuels consumption
million barrels per day

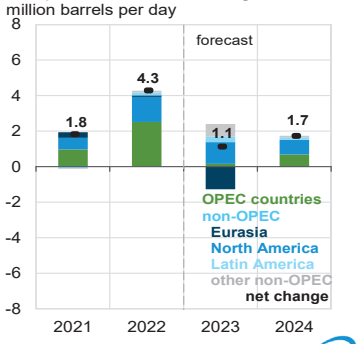


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

World crude oil and liquid fuels production
million barrels per day

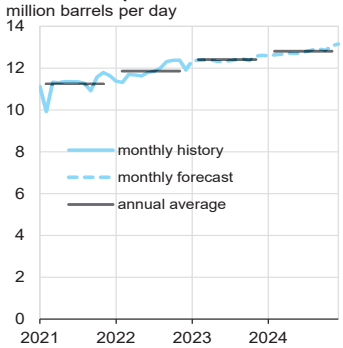


Components of annual change
million barrels per day

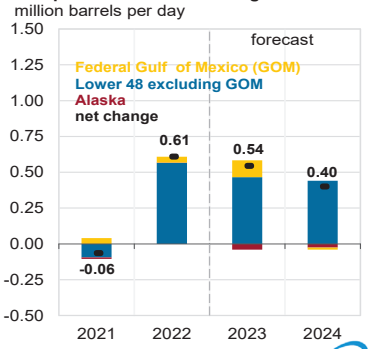


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. crude oil production
million barrels per day

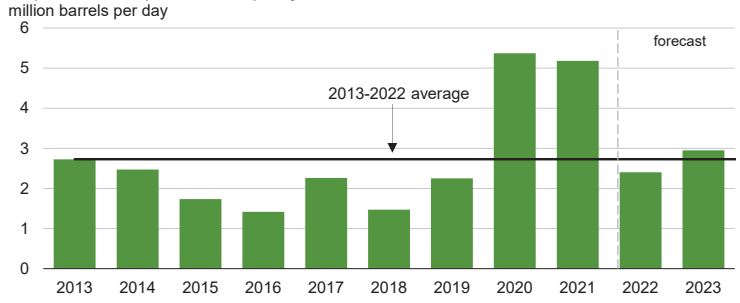


Components of annual change
million barrels per day



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

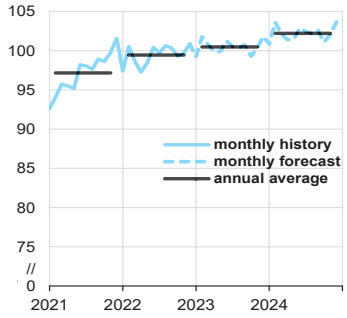
Organization of the Petroleum Exporting Countries (OPEC) surplus crude oil production capacity
million barrels per day



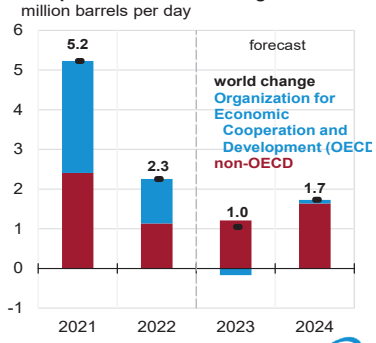
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

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

World liquid fuels consumption
million barrels per day

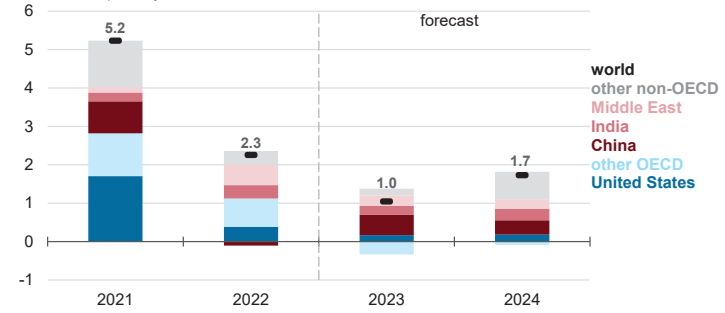


Components of annual change
million barrels per day



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

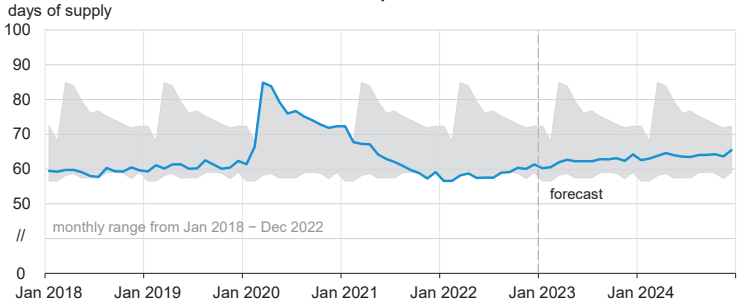
Annual change in world liquid fuels consumption
million barrels per day



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

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

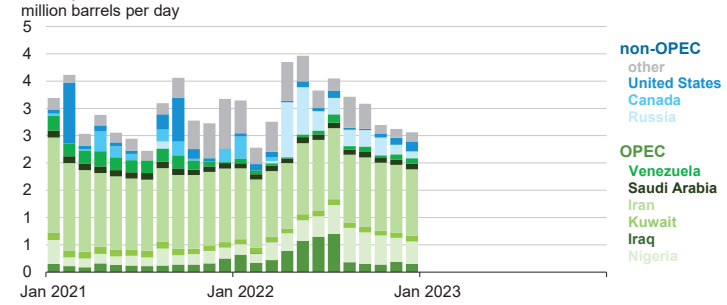
days of supply



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

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

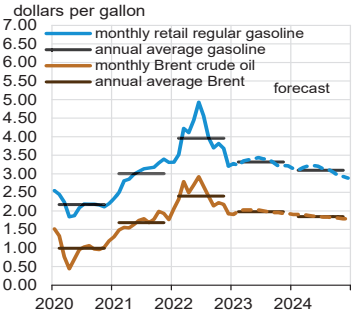
million barrels per day



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

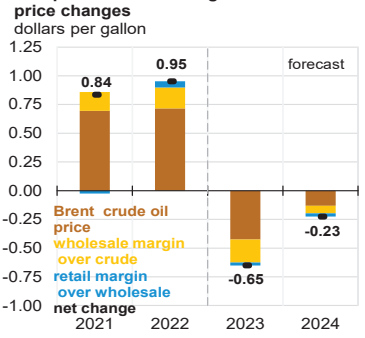
U.S. gasoline and crude oil prices

dollars per gallon



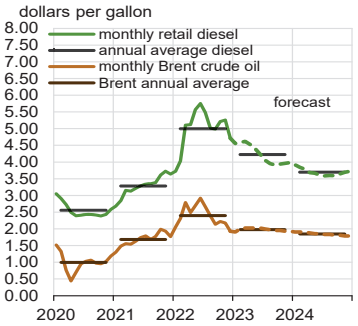
Components of annual gasoline price changes

dollars per gallon

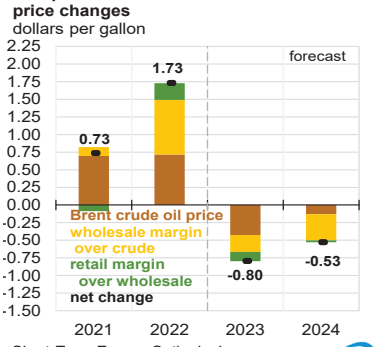


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices

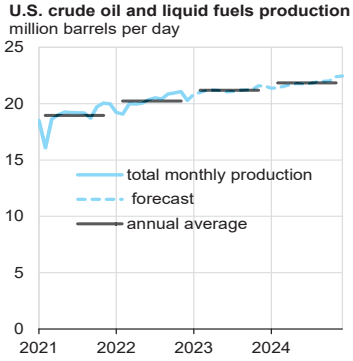


Components of annual diesel price changes

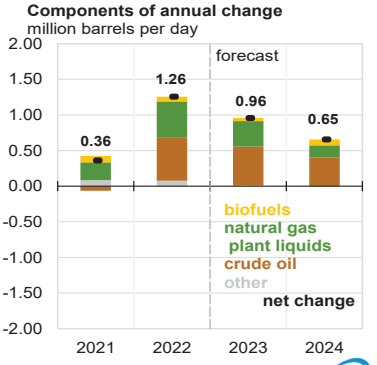


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

U.S. crude oil and liquid fuels production

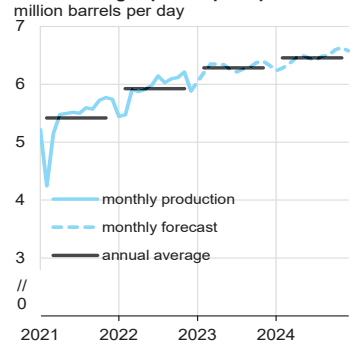


Components of annual change

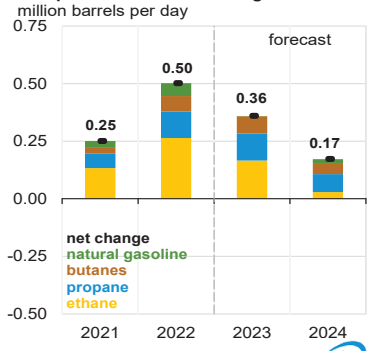


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. natural gas plant liquids production



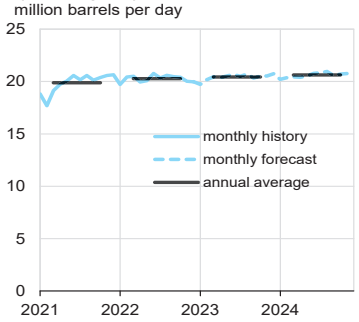
Components of annual change



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

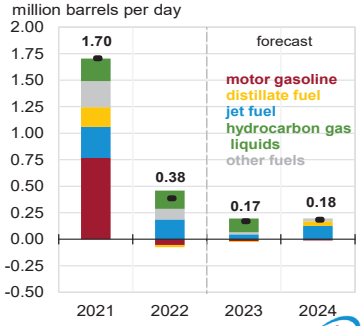
U.S. liquid fuels product supplied (consumption)

million barrels per day



Components of annual change

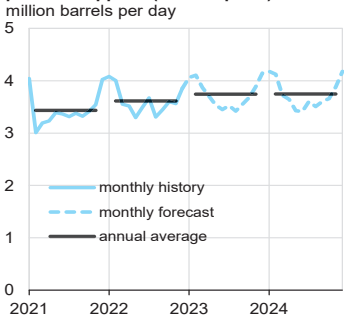
million barrels per day



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

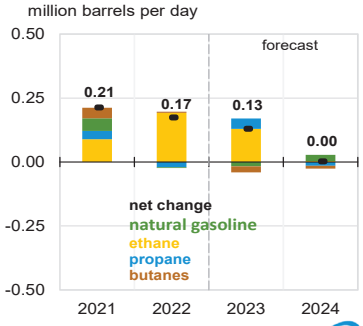
U.S. hydrocarbon gas liquids product supplied (consumption)

million barrels per day



Components of annual change

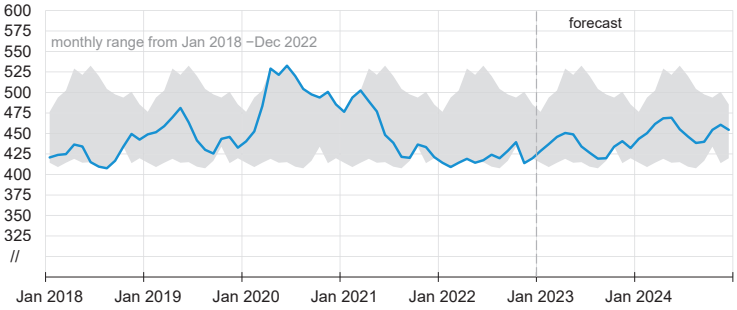
million barrels per day



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

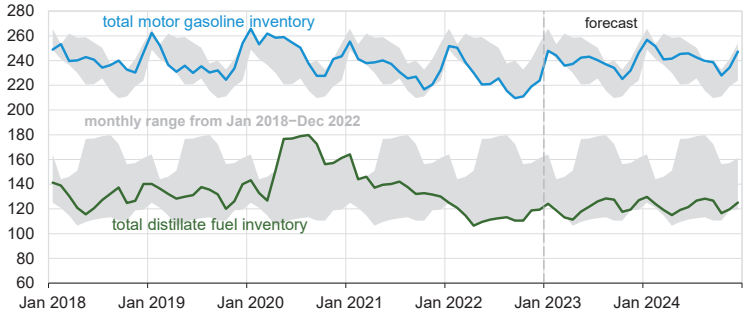
U.S. commercial crude oil inventories

million barrels



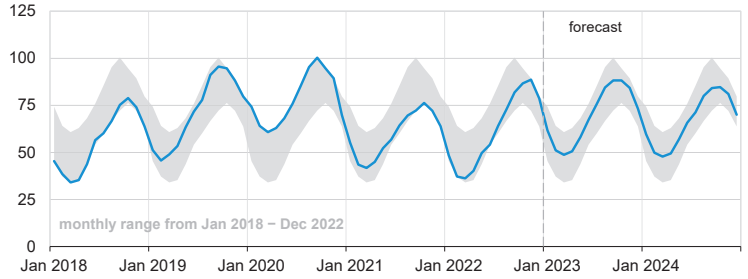
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. gasoline and distillate inventories
million barrels



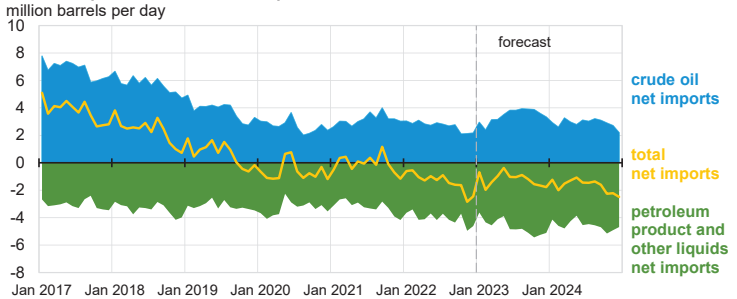
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. commercial propane inventories
million barrels



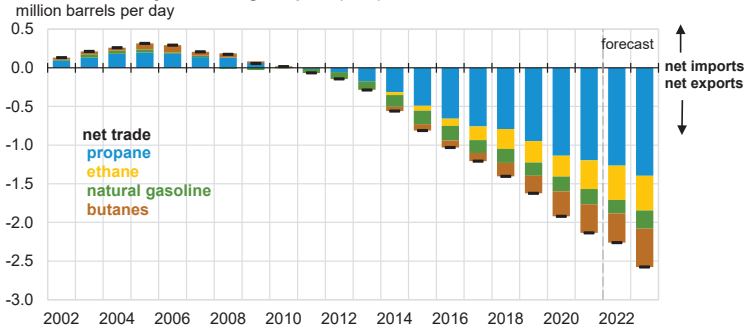
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: Excludes propylene.

U.S. net imports of crude oil and liquid fuels
million barrels per day



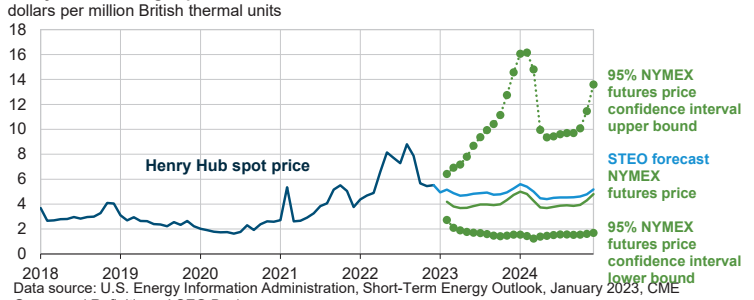
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

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



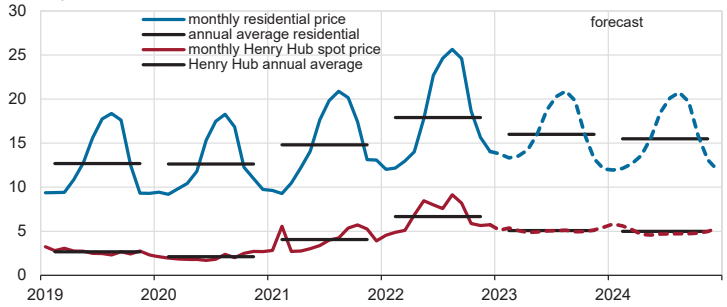
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



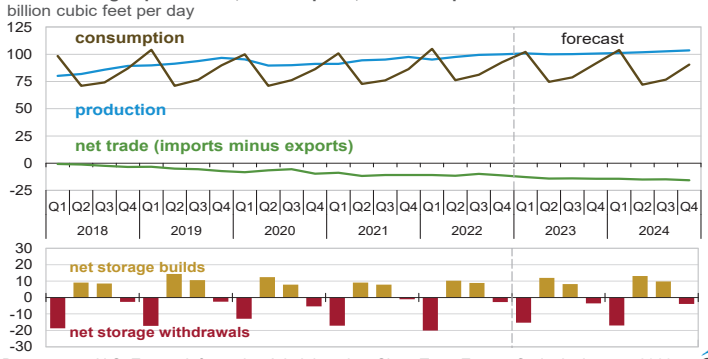
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending January 5, 2023. Intervals not calculated for months with sparse trading in near-the-money options contracts.

U.S. natural gas prices
dollars per thousand cubic feet



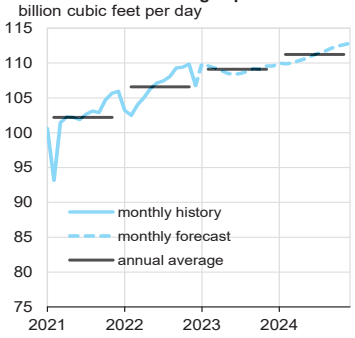
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023, and Refinitiv an LSEG Business

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

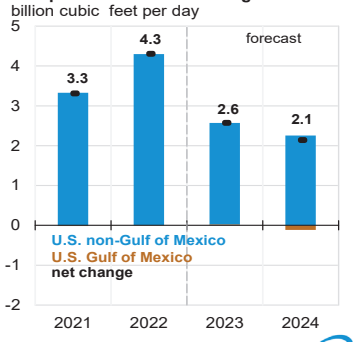


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

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

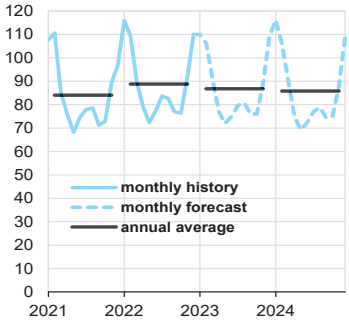


Components of annual change
billion cubic feet per day

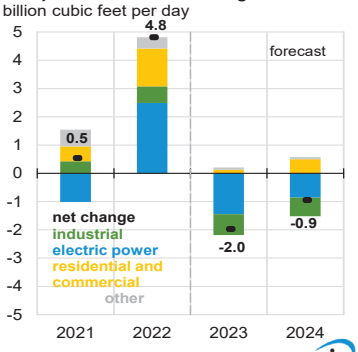


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

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



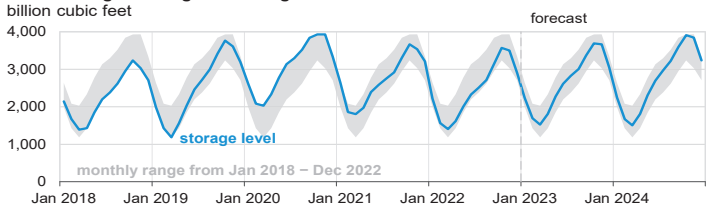
Components of annual change
billion cubic feet per day



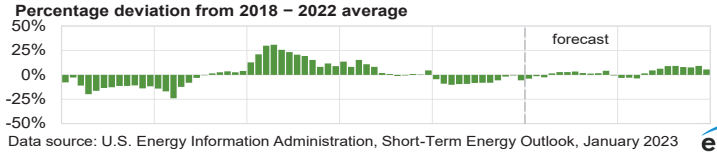
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. working natural gas in storage

billion cubic feet



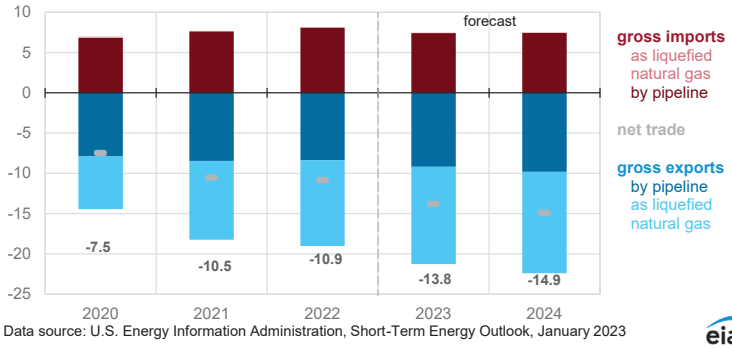
Percentage deviation from 2018 – 2022 average



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

U.S. annual natural gas trade

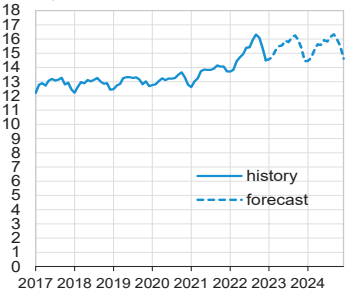
billion cubic feet per day



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

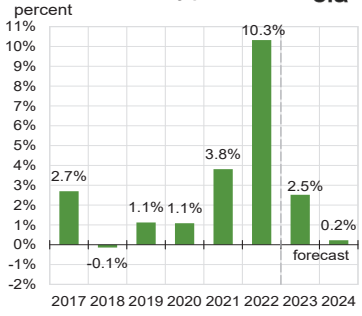
U.S. monthly nominal residential electricity price

cents per kilowatthour



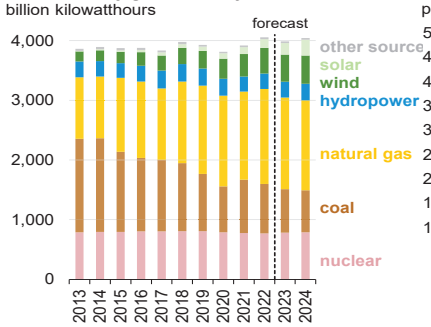
Annual growth in nominal residential electricity prices

percent

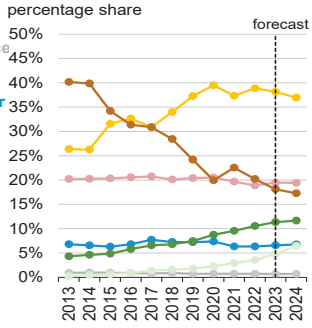


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

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

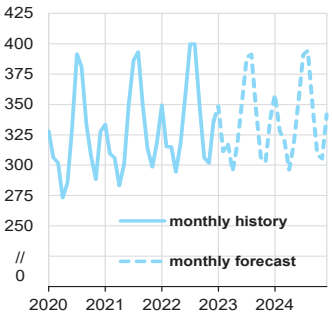


percentage share

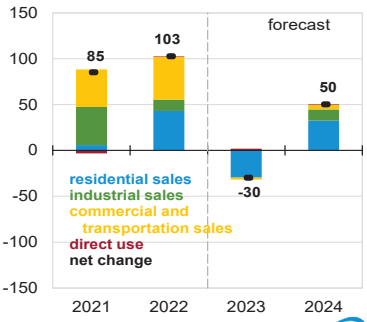


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. electricity consumption
billion kilowatthours

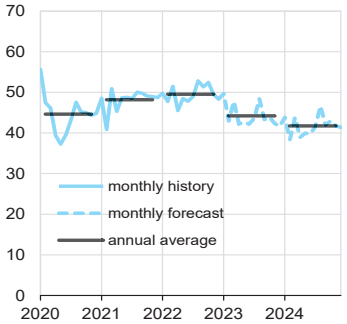


Components of annual change
billion kilowatthours

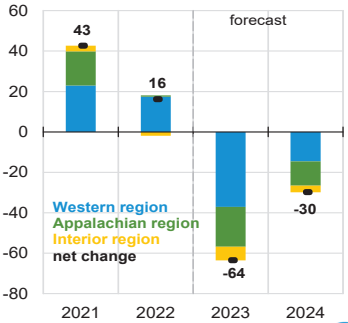


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. coal production
million short tons

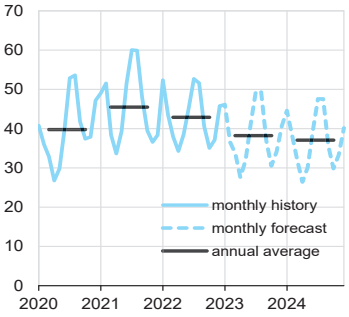


Components of annual change
million short tons

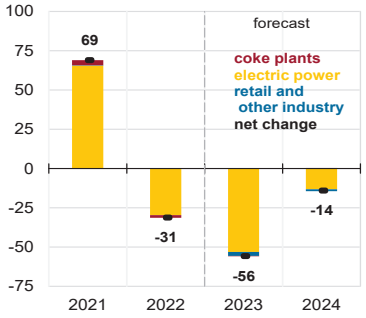


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. coal consumption
million short tons

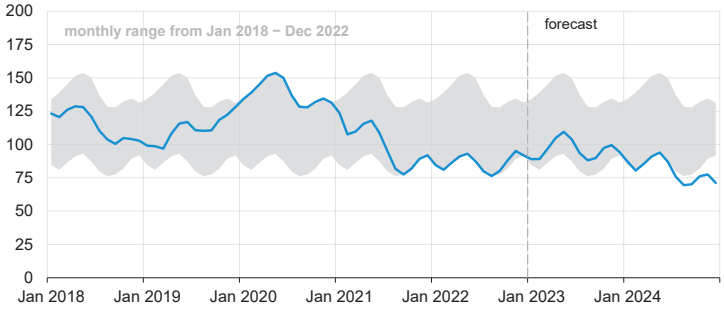


Components of annual change
million short tons



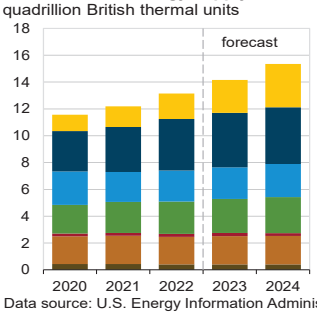
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. electric power coal inventories
million short tons

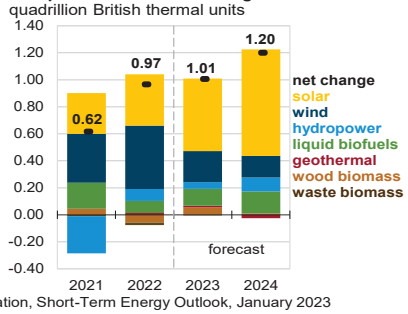


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

U.S. renewable energy supply
quadrillion British thermal units



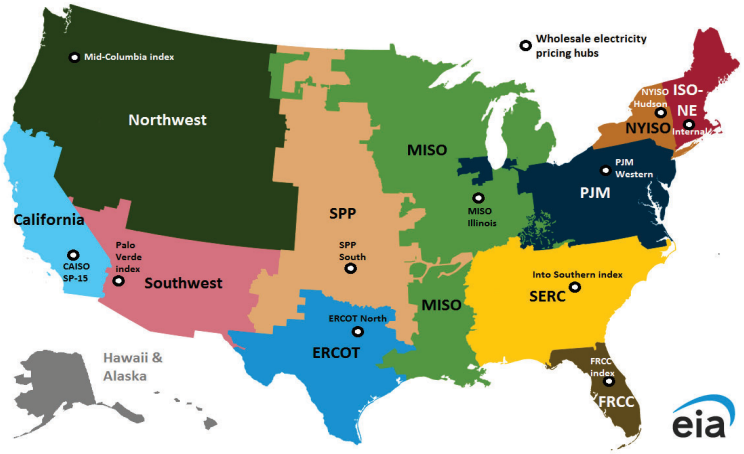
Components of annual change
quadrillion British thermal units



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

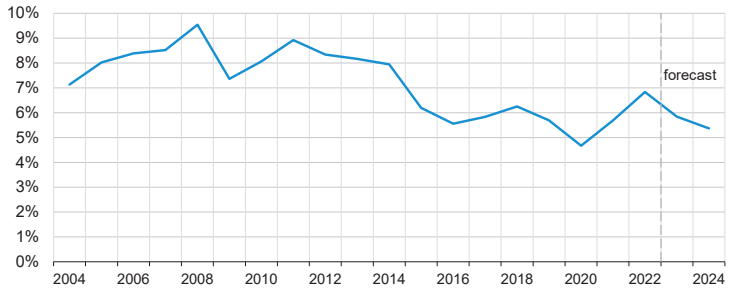
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biomass includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Short-Term Energy Outlook electricity supply regions



U.S. annual energy expenditures

share of gross domestic product

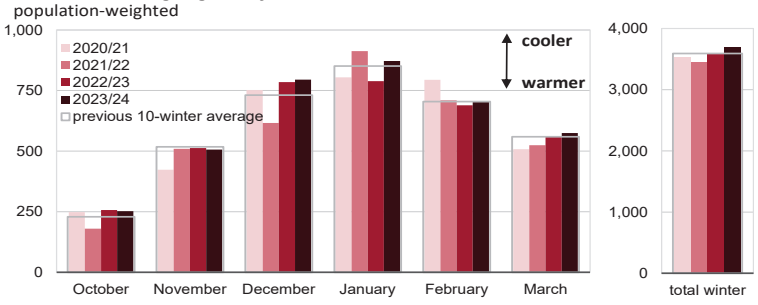


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

eia

U.S. winter heating degree days

population-weighted

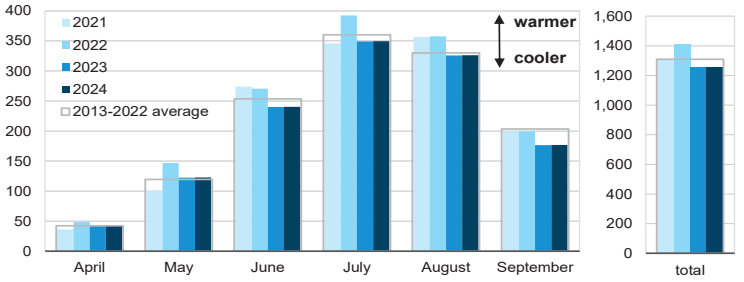


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023

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

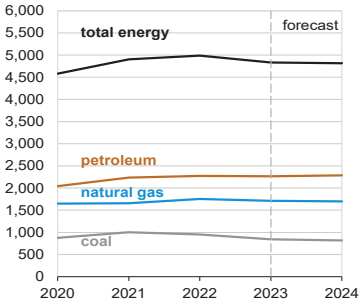
eia

U.S. summer cooling degree days
population-weighted

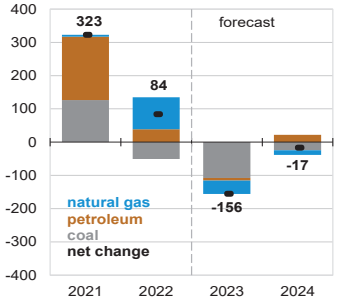


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, January 2023
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.
Projections reflect NOAA's 14-16 month outlook.

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, January 2023

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - January 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**	**12.05**	**12.23**	*12.37*	*12.34*	*12.40*	*12.51*	*12.63*	*12.72*	*12.86*	*13.03*	**11.86**	*12.41*	*12.81*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.10**	**97.59**	**99.44**	**99.87**	*100.82*	*99.87*	*100.08*	*100.62*	*101.12*	*101.75*	*102.72*	*103.57*	**98.02**	*100.34*	*102.29*
Coal Production															
(million short tons)	**149**	**142**	**153**	**150**	*140*	*127*	*135*	*128*	*126*	*119*	*130*	*126*	**594**	*531*	*501*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Natural Gas															
(billion cubic feet per day)	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
Coal (b)															
(million short tons)	**134**	**118**	**145**	**118**	*116*	*101*	*136*	*105*	*115*	*96*	*131*	*103*	**514**	*459*	*444*
Electricity															
(billion kilowatt hours per day)	**10.89**	**10.67**	**12.49**	**10.27**	*10.87*	*10.59*	*12.23*	*10.30*	*11.07*	*10.63*	*12.32*	*10.40*	**11.08**	*11.00*	*11.10*
Renewables (c)															
(quadrillion Btu)	**3.34**	**3.54**	**3.11**	**3.15**	*3.49*	*3.85*	*3.39*	*3.43*	*3.78*	*4.18*	*3.73*	*3.67*	**13.15**	*14.16*	*15.36*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.53**	**23.86**	**24.93**	**25.37**	*25.96*	*23.80*	*24.78*	*25.28*	*26.74*	*23.82*	*24.89*	*25.36*	**100.69**	*99.82*	*100.82*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**95.18**	**108.93**	**93.07**	**82.69**	*77.37*	*79.00*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.18*	*71.57*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*4.99*	*4.75*	*4.85*	*4.99*	*5.33*	*4.46*	*4.54*	*4.86*	**6.42**	*4.90*	*4.80*
Coal															
(dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,924**	**19,895**	**20,039**	**20,086**	*20,051*	*20,019*	*20,098*	*20,208*	*20,308*	*20,415*	*20,524*	*20,645*	**19,986**	*20,094*	*20,473*
Percent change from prior year	**3.7**	**1.8**	**1.9**	**0.4**	*0.6*	*0.6*	*0.3*	*0.6*	*1.3*	*2.0*	*2.1*	*2.2*	**1.9**	*0.5*	*1.9*
GDP Implicit Price Deflator															
(Index, 2012=100)	**124.2**	**126.9**	**128.2**	**129.4**	*130.3*	*131.3*	*132.1*	*133.0*	*133.7*	*134.3*	*134.9*	*135.6*	**127.2**	*131.6*	*134.6*
Percent change from prior year	**6.9**	**7.6**	**7.1**	**6.2**	*4.9*	*3.4*	*3.0*	*2.8*	*2.6*	*2.3*	*2.1*	*2.0*	**6.9**	*3.5*	*2.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,056**	**15,186**	*15,420*	*15,478*	*15,623*	*15,770*	*15,943*	*16,099*	*16,223*	*16,331*	**15,093**	*15,573*	*16,149*
Percent change from prior year	**-12.8**	**-5.7**	**-4.3**	**-2.3**	*2.1*	*3.0*	*3.8*	*3.8*	*3.4*	*4.0*	*3.8*	*3.6*	**-6.4**	*3.2*	*3.7*
Manufacturing Production Index															
(Index, 2017=100)	**101.5**	**102.4**	**102.6**	**102.7**	*102.7*	*102.2*	*102.1*	*102.8*	*103.5*	*104.2*	*105.0*	*106.1*	**102.3**	*102.5*	*104.7*
Percent change from prior year	**4.8**	**4.2**	**3.4**	**2.1**	*1.2*	*-0.2*	*-0.4*	*0.1*	*0.7*	*1.9*	*2.8*	*3.2*	**3.6**	*0.2*	*2.2*
Weather															
U.S. Heating Degree-Days	**2,147**	**492**	**54**	**1,555**	*2,040*	*490*	*75*	*1,554*	*2,149*	*489*	*75*	*1,552*	**4,248**	*4,158*	*4,265*
U.S. Cooling Degree-Days	**46**	**466**	**950**	**91**	*49*	*404*	*851*	*93*	*41*	*405*	*853*	*93*	**1,552**	*1,398*	*1,392*

(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 January 5, 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 - January 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**	*77.37*	*79.00*	*77.00*	*75.35*	*74.00*	*72.34*	*70.69*	*69.36*	**94.91**	*77.18*	*71.57*
Brent Spot Average	**101.17**	**113.84**	**100.53**	**88.44**	*83.03*	*85.00*	*83.00*	*81.35*	*80.00*	*78.34*	*76.69*	*75.36*	**100.94**	*83.10*	*77.57*
U.S. Imported Average	**89.85**	**107.23**	**91.83**	**79.07**	*74.56*	*76.25*	*74.25*	*72.61*	*71.25*	*69.58*	*67.93*	*66.63*	**92.77**	*74.39*	*68.89*
U.S. Refiner Average Acquisition Cost	**92.62**	**109.86**	**95.20**	**82.09**	*76.83*	*78.50*	*76.52*	*74.83*	*73.50*	*71.82*	*70.18*	*68.83*	**94.97**	*76.67*	*71.06*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**278**	**376**	**311**	**267**	*246*	*253*	*251*	*235*	*231*	*237*	*227*	*210*	**309**	*246*	*226*
Diesel Fuel	**301**	**418**	**357**	**363**	*320*	*304*	*277*	*276*	*255*	*237*	*236*	*247*	**360**	*294*	*244*
Fuel Oil	**284**	**419**	**344**	**358**	*309*	*301*	*268*	*269*	*251*	*231*	*225*	*242*	**352**	*300*	*242*
Refiner Prices to End Users															
Jet Fuel	**283**	**400**	**340**	**331**	*315*	*295*	*268*	*262*	*242*	*229*	*226*	*239*	**340**	*284*	*234*
No. 6 Residual Fuel Oil (a)	**252**	**258**	**228**	**201**	*198*	*200*	*198*	*194*	*193*	*186*	*183*	*180*	**236**	*198*	*185*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**371**	**450**	**408**	**357**	*328*	*340*	*337*	*321*	*314*	*321*	*310*	*292*	**397**	*332*	*309*
Gasoline All Grades (b)	**380**	**460**	**419**	**369**	*341*	*354*	*351*	*336*	*328*	*335*	*325*	*307*	**408**	*345*	*324*
On-highway Diesel Fuel	**432**	**549**	**516**	**507**	*459*	*439*	*397*	*396*	*385*	*365*	*359*	*369*	**502**	*422*	*369*
Heating Oil	**415**	**555**	**497**	**497**	*447*	*420*	*376*	*389*	*377*	*347*	*332*	*365*	**468**	*417*	*365*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**4.84**	**7.77**	**8.30**	**5.76**	*5.19*	*4.93*	*5.04*	*5.19*	*5.54*	*4.63*	*4.72*	*5.05*	**6.67**	*5.09*	*4.98*
Henry Hub Spot (dollars per million Btu)	**4.66**	**7.48**	**7.99**	**5.55**	*4.99*	*4.75*	*4.85*	*4.99*	*5.33*	*4.46*	*4.54*	*4.86*	**6.42**	*4.90*	*4.80*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**6.82**	**8.24**	**9.26**	**7.28**	*6.91*	*5.99*	*5.93*	*6.21*	*6.94*	*5.80*	*5.60*	*6.06*	**7.84**	*6.28*	*6.14*
Commercial Sector	**10.00**	**11.71**	**14.10**	**11.96**	*10.89*	*10.68*	*10.79*	*9.68*	*9.72*	*10.11*	*10.34*	*9.37*	**11.31**	*10.47*	*9.75*
Residential Sector	**12.32**	**16.57**	**24.94**	**15.26**	*13.57*	*15.72*	*20.29*	*13.07*	*12.19*	*15.22*	*20.14*	*12.97*	**14.70**	*14.25*	*13.48*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.86**	*5.56*	*4.97*	*5.04*	*5.37*	*5.93*	*4.72*	*4.75*	*5.24*	**7.00**	*5.21*	*5.13*
Residual Fuel Oil (c)	**16.81**	**26.17**	**26.53**	**20.32**	*17.41*	*17.60*	*16.28*	*15.67*	*15.60*	*15.55*	*14.54*	*14.33*	**21.64**	*16.77*	*15.03*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**26.55**	*24.45*	*23.40*	*21.35*	*21.14*	*20.07*	*18.35*	*18.12*	*18.98*	**25.43**	*22.78*	*19.08*
Prices to Ultimate Customers (cents per kilowatthour)															
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Residential Sector	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*

(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 January 5, 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 - January 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**	**31.87**	**32.54**	**33.23**	*33.86*	*33.72*	*33.87*	*34.55*	*34.65*	*34.56*	*34.81*	*35.62*	**32.32**	*34.00*	*34.91*
U.S. (50 States)	**19.44**	**20.12**	**20.59**	**20.77**	*21.01*	*21.14*	*21.16*	*21.46*	*21.44*	*21.74*	*21.90*	*22.29*	**20.24**	*21.19*	*21.85*
Canada	**5.66**	**5.51**	**5.72**	**5.94**	*6.01*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.71**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.92**	*1.94*	*1.94*	*1.94*	*1.92*	*1.94*	*1.93*	*1.91*	*1.87*	**1.91**	*1.93*	*1.91*
Other OECD	**4.61**	**4.35**	**4.33**	**4.60**	*4.90*	*4.92*	*4.85*	*5.03*	*5.06*	*4.97*	*4.87*	*5.12*	**4.47**	*4.93*	*5.00*
Non-OECD	**67.21**	**66.87**	**68.30**	**68.21**	*67.00*	*66.94*	*67.46*	*67.00*	*67.38*	*68.00*	*68.32*	*67.95*	**67.65**	*67.10*	*67.91*
OPEC	**33.75**	**33.76**	**34.71**	**34.48**	*34.18*	*34.41*	*34.46*	*34.30*	*35.06*	*35.04*	*35.07*	*34.91*	**34.18**	*34.34*	*35.02*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.96**	*28.64*	*29.00*	*29.01*	*28.82*	*29.48*	*29.58*	*29.58*	*29.38*	**28.68**	*28.87*	*29.51*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Eurasia	**14.39**	**13.39**	**13.58**	**13.94**	*13.13*	*12.17*	*12.43*	*12.51*	*12.54*	*12.52*	*12.49*	*12.58*	**13.82**	*12.56*	*12.53*
China	**5.18**	**5.18**	**5.05**	**5.12**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.22*	*5.26*	**5.13**	*5.24*	*5.23*
Other Non-OECD	**13.90**	**14.54**	**14.96**	**14.68**	*14.49*	*15.12*	*15.34*	*14.92*	*14.57*	*15.21*	*15.53*	*15.19*	**14.52**	*14.97*	*15.13*
Total World Production	**98.83**	**98.75**	**100.85**	**101.45**	*100.87*	*100.65*	*101.33*	*101.55*	*102.03*	*102.56*	*103.13*	*103.57*	**99.98**	*101.10*	*102.83*
Non-OPEC Production	**65.08**	**64.98**	**66.14**	**66.97**	*66.69*	*66.25*	*66.87*	*67.25*	*66.97*	*67.53*	*68.06*	*68.66*	**65.80**	*66.77*	*67.81*
Consumption (million barrels per day) (c)															
OECD	**45.84**	**45.45**	**46.47**	**46.23**	*46.13*	*45.28*	*45.82*	*46.10*	*45.79*	*45.33*	*46.17*	*46.40*	**46.00**	*45.83*	*45.92*
U.S. (50 States)	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
U.S. Territories	**0.22**	**0.19**	**0.20**	**0.21**	*0.21*	*0.19*	*0.20*	*0.21*	*0.21*	*0.19*	*0.20*	*0.21*	**0.21**	*0.20*	*0.20*
Canada	**2.25**	**2.21**	**2.41**	**2.33**	*2.28*	*2.23*	*2.33*	*2.30*	*2.30*	*2.25*	*2.35*	*2.33*	**2.30**	*2.28*	*2.31*
Europe	**13.15**	**13.43**	**13.93**	**13.85**	*13.59*	*13.20*	*13.60*	*13.37*	*13.15*	*13.30*	*13.70*	*13.46*	**13.59**	*13.44*	*13.40*
Japan	**3.70**	**3.03**	**3.19**	**3.51**	*3.69*	*3.05*	*3.07*	*3.37*	*3.54*	*2.94*	*3.04*	*3.36*	**3.36**	*3.29*	*3.22*
Other OECD	**6.30**	**6.33**	**6.28**	**6.19**	*6.24*	*6.08*	*6.11*	*6.25*	*6.24*	*6.08*	*6.10*	*6.25*	**6.27**	*6.17*	*6.17*
Non-OECD	**52.96**	**53.25**	**53.76**	**53.73**	*54.43*	*55.06*	*54.71*	*54.37*	*56.39*	*56.60*	*56.24*	*55.89*	**53.43**	*54.64*	*56.28*
Eurasia	**4.42**	**4.29**	**4.64**	**4.57**	*4.18*	*4.33*	*4.64*	*4.55*	*4.37*	*4.52*	*4.84*	*4.75*	**4.48**	*4.42*	*4.62*
Europe	**0.75**	**0.75**	**0.76**	**0.77**	*0.74*	*0.76*	*0.76*	*0.76*	*0.74*	*0.76*	*0.77*	*0.77*	**0.76**	*0.75*	*0.76*
China	**15.13**	**15.11**	**15.10**	**15.29**	*15.92*	*16.06*	*15.44*	*15.36*	*16.49*	*16.38*	*15.74*	*15.66*	**15.16**	*15.69*	*16.06*
Other Asia	**13.75**	**13.76**	**13.47**	**13.90**	*14.31*	*14.28*	*13.71*	*14.00*	*14.89*	*14.86*	*14.26*	*14.58*	**13.72**	*14.07*	*14.65*
Other Non-OECD	**18.91**	**19.34**	**19.79**	**19.21**	*19.28*	*19.63*	*20.17*	*19.69*	*19.90*	*20.08*	*20.63*	*20.14*	**19.31**	*19.70*	*20.19*
Total World Consumption	**98.80**	**98.71**	**100.23**	**99.97**	*100.56*	*100.34*	*100.53*	*100.47*	*102.18*	*101.93*	*102.41*	*102.29*	**99.43**	*100.48*	*102.20*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.81**	**0.51**	**0.45**	**0.69**	*-0.04*	*-0.41*	*-0.10*	*0.32*	*-0.08*	*-0.53*	*-0.17*	*0.30*	**0.61**	*-0.06*	*-0.12*
Other OECD	**-0.09**	**-0.29**	**-0.52**	**-0.71**	*-0.09*	*0.03*	*-0.22*	*-0.45*	*0.07*	*-0.03*	*-0.17*	*-0.50*	**-0.40**	*-0.18*	*-0.16*
Other Stock Draws and Balance	**-0.75**	**-0.27**	**-0.54**	**-1.46**	*-0.18*	*0.07*	*-0.47*	*-0.96*	*0.15*	*-0.07*	*-0.38*	*-1.08*	**-0.75**	*-0.39*	*-0.35*
Total Stock Draw	**-0.03**	**-0.04**	**-0.61**	**-1.48**	*-0.31*	*-0.31*	*-0.79*	*-1.09*	*0.14*	*-0.63*	*-0.72*	*-1.28*	**-0.55**	*-0.63*	*-0.62*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,154**	**1,180**	**1,215**	**1,197**	*1,202*	*1,253*	*1,266*	*1,236*	*1,237*	*1,279*	*1,289*	*1,255*	**1,197**	*1,236*	*1,255*
OECD Commercial Inventory	**2,604**	**2,656**	**2,739**	**2,786**	*2,800*	*2,848*	*2,880*	*2,892*	*2,887*	*2,932*	*2,957*	*2,969*	**2,786**	*2,892*	*2,969*

(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 January 5, 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 - January 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**	**28.63**	*28.96*	*28.80*	*29.02*	*29.52*	*29.59*	*29.60*	*29.94*	*30.50*	**27.85**	*29.08*	*29.91*
Canada	**5.66**	**5.51**	**5.72**	**5.94**	*6.01*	*5.72*	*5.93*	*6.14*	*6.21*	*5.92*	*6.13*	*6.34*	**5.71**	*5.95*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.92**	*1.94*	*1.94*	*1.94*	*1.92*	*1.94*	*1.93*	*1.91*	*1.87*	**1.91**	*1.93*	*1.91*
United States	**19.44**	**20.12**	**20.59**	**20.77**	*21.01*	*21.14*	*21.16*	*21.46*	*21.44*	*21.74*	*21.90*	*22.29*	**20.24**	*21.19*	*21.85*
Central and South America	**5.83**	**6.41**	**6.87**	**6.61**	*6.35*	*7.01*	*7.27*	*6.87*	*6.53*	*7.20*	*7.53*	*7.22*	**6.43**	*6.88*	*7.12*
Argentina	**0.77**	**0.78**	**0.79**	**0.82**	*0.85*	*0.87*	*0.88*	*0.92*	*0.89*	*0.92*	*0.93*	*0.98*	**0.79**	*0.88*	*0.93*
Brazil	**3.33**	**3.79**	**4.15**	**3.81**	*3.51*	*4.14*	*4.40*	*3.93*	*3.64*	*4.28*	*4.55*	*4.07*	**3.77**	*4.00*	*4.13*
Colombia	**0.77**	**0.77**	**0.78**	**0.79**	*0.78*	*0.78*	*0.78*	*0.79*	*0.77*	*0.77*	*0.78*	*0.79*	**0.78**	*0.78*	*0.78*
Ecuador	**0.48**	**0.47**	**0.49**	**0.49**	*0.50*	*0.50*	*0.51*	*0.51*	*0.55*	*0.54*	*0.54*	*0.54*	**0.48**	*0.51*	*0.54*
Guyana	**0.12**	**0.24**	**0.32**	**0.35**	*0.35*	*0.36*	*0.36*	*0.36*	*0.36*	*0.36*	*0.43*	*0.54*	**0.26**	*0.36*	*0.42*
Europe	**4.04**	**3.76**	**3.83**	**4.06**	*4.35*	*4.38*	*4.31*	*4.50*	*4.53*	*4.44*	*4.35*	*4.61*	**3.92**	*4.39*	*4.48*
Norway	**1.97**	**1.74**	**1.91**	**2.04**	*2.31*	*2.33*	*2.33*	*2.42*	*2.45*	*2.39*	*2.40*	*2.56*	**1.92**	*2.35*	*2.45*
United Kingdom	**0.97**	**0.91**	**0.80**	**0.90**	*0.92*	*0.91*	*0.84*	*0.93*	*0.93*	*0.92*	*0.82*	*0.90*	**0.89**	*0.90*	*0.89*
Eurasia	**14.39**	**13.39**	**13.58**	**13.94**	*13.13*	*12.17*	*12.43*	*12.51*	*12.54*	*12.52*	*12.49*	*12.58*	**13.82**	*12.56*	*12.53*
Azerbaijan	**0.70**	**0.67**	**0.65**	**0.67**	*0.67*	*0.65*	*0.64*	*0.65*	*0.66*	*0.66*	*0.66*	*0.67*	**0.67**	*0.65*	*0.66*
Kazakhstan	**2.01**	**1.77**	**1.62**	**1.92**	*2.04*	*1.97*	*1.97*	*2.04*	*2.05*	*2.03*	*2.01*	*2.09*	**1.83**	*2.01*	*2.05*
Russia	**11.30**	**10.59**	**10.92**	**10.96**	*10.01*	*9.14*	*9.41*	*9.41*	*9.43*	*9.43*	*9.43*	*9.43*	**10.94**	*9.49*	*9.43*
Turkmenistan	**0.26**	**0.26**	**0.26**	**0.26**	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	*0.27*	**0.26**	*0.27*	*0.27*
Middle East	**3.23**	**3.29**	**3.29**	**3.22**	*3.23*	*3.23*	*3.22*	*3.22*	*3.23*	*3.23*	*3.23*	*3.22*	**3.26**	*3.22*	*3.23*
Oman	**1.05**	**1.07**	**1.10**	**1.08**	*1.06*	*1.06*	*1.06*	*1.06*	*1.07*	*1.07*	*1.07*	*1.07*	**1.07**	*1.06*	*1.07*
Qatar	**1.85**	**1.86**	**1.86**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.86**	*1.86*	*1.86*
Asia and Oceania	**9.16**	**9.17**	**8.92**	**9.07**	*9.21*	*9.21*	*9.18*	*9.20*	*9.15*	*9.15*	*9.13*	*9.15*	**9.08**	*9.20*	*9.15*
Australia	**0.44**	**0.47**	**0.39**	**0.44**	*0.44*	*0.43*	*0.43*	*0.42*	*0.41*	*0.40*	*0.40*	*0.39*	**0.43**	*0.43*	*0.40*
China	**5.18**	**5.18**	**5.05**	**5.12**	*5.21*	*5.24*	*5.23*	*5.27*	*5.21*	*5.23*	*5.22*	*5.26*	**5.13**	*5.24*	*5.23*
India	**0.88**	**0.89**	**0.89**	**0.88**	*0.91*	*0.90*	*0.89*	*0.88*	*0.91*	*0.91*	*0.90*	*0.90*	**0.89**	*0.90*	*0.90*
Indonesia	**0.84**	**0.83**	**0.81**	**0.80**	*0.80*	*0.79*	*0.78*	*0.77*	*0.77*	*0.76*	*0.76*	*0.75*	**0.82**	*0.78*	*0.76*
Malaysia	**0.61**	**0.60**	**0.58**	**0.62**	*0.62*	*0.62*	*0.61*	*0.61*	*0.60*	*0.60*	*0.59*	*0.59*	**0.60**	*0.61*	*0.59*
Africa	**1.41**	**1.44**	**1.44**	**1.43**	*1.45*	*1.45*	*1.44*	*1.43*	*1.39*	*1.38*	*1.38*	*1.37*	**1.43**	*1.44*	*1.38*
Egypt	**0.66**	**0.68**	**0.67**	**0.67**	*0.69*	*0.69*	*0.69*	*0.69*	*0.66*	*0.65*	*0.65*	*0.66*	**0.67**	*0.69*	*0.65*
South Sudan	**0.15**	**0.15**	**0.16**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Total non-OPEC liquids	**65.08**	**64.98**	**66.14**	**66.97**	*66.69*	*66.25*	*66.87*	*67.25*	*66.97*	*67.53*	*68.06*	*68.66*	**65.80**	*66.77*	*67.81*
OPEC non-crude liquids	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Non-OPEC + OPEC non-crude	**70.64**	**70.42**	**71.62**	**72.49**	*72.23*	*71.66*	*72.32*	*72.74*	*72.55*	*72.98*	*73.55*	*74.19*	**71.30**	*72.24*	*73.32*
Unplanned non-OPEC Production Outages	**0.76**	**1.31**	**0.78**	**0.50**	-	-	-	-	-	-	-	-	**0.84**	-	-

- = 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 January 5, 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 - January 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**	-	-	-	-	-	-	-	-	**0.28**	-	-
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**	**4.53**	-	-	-	-	-	-	-	-	**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**	**10.51**	-	-	-	-	-	-	-	-	**10.44**	-	-
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**	**28.96**	*28.64*	*29.00*	*29.01*	*28.82*	*29.48*	*29.58*	*29.58*	*29.38*	**28.68**	*28.87*	*29.51*
Other Liquids (a)	**5.56**	**5.43**	**5.48**	**5.52**	*5.54*	*5.41*	*5.45*	*5.49*	*5.58*	*5.45*	*5.49*	*5.53*	**5.50**	*5.47*	*5.51*
Total OPEC Production	**33.75**	**33.76**	**34.71**	**34.48**	*34.18*	*34.41*	*34.46*	*34.30*	*35.06*	*35.04*	*35.07*	*34.91*	**34.18**	*34.34*	*35.02*
Crude Oil Production Capacity															
Middle East	**25.48**	**25.46**	**25.55**	**25.66**	*25.85*	*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**	**5.56**	*5.71*	*5.94*	*5.92*	*5.89*	*5.84*	*5.87*	*5.83*	*5.80*	**5.54**	*5.87*	*5.83*
OPEC Total	**31.31**	**30.91**	**30.89**	**31.22**	*31.56*	*31.92*	*31.90*	*31.87*	*32.32*	*32.45*	*32.46*	*32.43*	**31.08**	*31.82*	*32.42*
Surplus Crude Oil Production Capacity															
Middle East	**3.00**	**2.47**	**1.65**	**2.25**	*2.90*	*2.89*	*2.86*	*3.03*	*2.81*	*2.84*	*2.86*	*3.03*	**2.34**	*2.92*	*2.88*
Other	**0.12**	**0.11**	**0.01**	**0.01**	*0.03*	*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**	**2.26**	*2.93*	*2.92*	*2.89*	*3.06*	*2.84*	*2.86*	*2.88*	*3.05*	**2.40**	*2.95*	*2.91*
Unplanned OPEC Production Outages	**1.98**	**2.42**	**2.50**	**2.13**	-	-	-	-	-	-	-	-	**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 January 5, 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 - January 2023

	2022				2023				2024						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
North America	**24.24**	**24.47**	**24.77**	**24.19**	*24.16*	*24.54*	*24.63*	*24.70*	*24.38*	*24.58*	*24.90*	*24.89*	**24.42**	*24.51*	*24.69*
Canada	**2.25**	**2.21**	**2.41**	**2.33**	*2.28*	*2.23*	*2.33*	*2.30*	*2.30*	*2.25*	*2.35*	*2.33*	**2.30**	*2.28*	*2.31*
Mexico	**1.76**	**1.99**	**1.88**	**1.71**	*1.75*	*1.78*	*1.77*	*1.79*	*1.73*	*1.75*	*1.75*	*1.76*	**1.84**	*1.77*	*1.75*
United States	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Central and South America	**6.26**	**6.39**	**6.50**	**6.52**	*6.26*	*6.39*	*6.50*	*6.44*	*6.39*	*6.53*	*6.63*	*6.57*	**6.42**	*6.40*	*6.53*
Brazil	**2.85**	**2.93**	**3.02**	**3.02**	*2.88*	*2.93*	*3.01*	*2.99*	*2.96*	*3.02*	*3.09*	*3.08*	**2.95**	*2.95*	*3.04*
Europe	**13.90**	**14.18**	**14.68**	**14.62**	*14.33*	*13.96*	*14.36*	*14.13*	*13.89*	*14.06*	*14.46*	*14.23*	**14.35**	*14.20*	*14.16*
Eurasia	**4.42**	**4.29**	**4.64**	**4.57**	*4.18*	*4.33*	*4.64*	*4.55*	*4.37*	*4.52*	*4.84*	*4.75*	**4.48**	*4.42*	*4.62*
Russia	**3.34**	**3.27**	**3.54**	**3.45**	*3.15*	*3.23*	*3.52*	*3.38*	*3.31*	*3.40*	*3.69*	*3.55*	**3.40**	*3.32*	*3.49*
Middle East	**8.91**	**9.22**	**9.65**	**8.89**	*9.18*	*9.38*	*9.91*	*9.31*	*9.56*	*9.58*	*10.12*	*9.51*	**9.17**	*9.45*	*9.69*
Asia and Oceania	**36.61**	**35.72**	**35.66**	**36.72**	*37.94*	*37.21*	*36.06*	*36.73*	*38.95*	*38.02*	*36.90*	*37.61*	**36.18**	*36.98*	*37.87*
China	**15.13**	**15.11**	**15.10**	**15.29**	*15.92*	*16.06*	*15.44*	*15.36*	*16.49*	*16.38*	*15.74*	*15.66*	**15.16**	*15.69*	*16.06*
Japan	**3.70**	**3.03**	**3.19**	**3.51**	*3.69*	*3.05*	*3.07*	*3.37*	*3.54*	*2.94*	*3.04*	*3.36*	**3.36**	*3.29*	*3.22*
India	**5.08**	**5.06**	**4.83**	**5.13**	*5.29*	*5.36*	*5.01*	*5.32*	*5.60*	*5.67*	*5.30*	*5.63*	**5.03**	*5.25*	*5.55*
Africa	**4.44**	**4.44**	**4.33**	**4.46**	*4.51*	*4.53*	*4.45*	*4.61*	*4.63*	*4.64*	*4.56*	*4.72*	**4.42**	*4.52*	*4.64*
Total OECD Liquid Fuels Consumption	**45.84**	**45.45**	**46.47**	**46.23**	*46.13*	*45.28*	*45.82*	*46.10*	*45.79*	*45.33*	*46.17*	*46.40*	**46.00**	*45.83*	*45.92*
Total non-OECD Liquid Fuels Consumption	**52.96**	**53.25**	**53.76**	**53.73**	*54.43*	*55.06*	*54.71*	*54.37*	*56.39*	*56.60*	*56.24*	*55.89*	**53.43**	*54.64*	*56.28*
Total World Liquid Fuels Consumption	**98.80**	**98.71**	**100.23**	**99.97**	*100.56*	*100.34*	*100.53*	*100.47*	*102.18*	*101.93*	*102.41*	*102.29*	**99.43**	*100.48*	*102.20*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**121.6**	**121.9**	**123.0**	**123.3**	*123.7*	*124.1*	*124.9*	*125.9*	*127.0*	*128.1*	*129.4*	*130.6*	**122.5**	*124.7*	*128.8*
Percent change from prior year	**4.4**	**3.6**	**3.1**	**2.0**	*1.7*	*1.8*	*1.5*	*2.1*	*2.7*	*3.2*	*3.6*	*3.8*	**3.2**	*1.8*	*3.3*
OECD Index, 2015 = 100													**113.2**	*113.3*	*115.1*
Percent change from prior year													**2.9**	*0.1*	*1.6*
Non-OECD Index, 2015 = 100													**128.3**	*132.3*	*138.4*
Percent change from prior year													**3.5**	*3.1*	*4.6*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**109.6**	**113.0**	**117.3**	**120.1**	*119.5*	*119.7*	*119.8*	*119.8*	*119.4*	*118.7*	*117.8*	*116.8*	**115.0**	*119.7*	*118.2*
Percent change from prior year	**2.9**	**6.5**	**9.1**	**10.1**	*9.1*	*6.0*	*2.1*	*-0.3*	*-0.1*	*-0.8*	*-1.6*	*-2.5*	**7.2**	*4.1*	*-1.3*

(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 January 5, 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 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

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

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**11.47**	**11.70**	**12.05**	**12.23**	*12.37*	*12.34*	*12.40*	*12.51*	*12.63*	*12.72*	*12.86*	*13.03*	**11.86**	*12.41*	*12.81*
Alaska	**0.45**	**0.44**	**0.42**	**0.45**	*0.43*	*0.36*	*0.39*	*0.42*	*0.40*	*0.34*	*0.36*	*0.40*	**0.44**	*0.40*	*0.37*
Federal Gulf of Mexico (b)	**1.67**	**1.70**	**1.80**	**1.82**	*1.92*	*1.90*	*1.82*	*1.82*	*1.89*	*1.87*	*1.81*	*1.84*	**1.75**	*1.87*	*1.85*
Lower 48 States (excl GOM)	**9.35**	**9.56**	**9.83**	**9.95**	*10.02*	*10.08*	*10.19*	*10.27*	*10.34*	*10.51*	*10.68*	*10.79*	**9.67**	*10.14*	*10.58*
Crude Oil Net Imports (c)	**3.00**	**2.81**	**2.75**	**2.12**	*2.84*	*3.49*	*3.88*	*3.60*	*2.93*	*2.95*	*3.10*	*2.60*	**2.67**	*3.46*	*2.89*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.49**	*0.02*	*0.15*	*0.04*	*0.00*	*-0.07*	*-0.07*	*-0.07*	*-0.07*	**0.61**	*0.05*	*-0.07*
Commercial Inventory Net Withdrawals	**0.08**	**-0.03**	**-0.12**	**0.10**	*-0.29*	*0.13*	*0.15*	*-0.13*	*-0.32*	*0.07*	*0.17*	*-0.16*	**0.00**	*-0.03*	*-0.06*
Crude Oil Adjustment (d)	**0.71**	**0.81**	**0.75**	**0.98**	*0.49*	*0.59*	*0.50*	*0.48*	*0.56*	*0.63*	*0.52*	*0.52*	**0.81**	*0.52*	*0.56*
Total Crude Oil Input to Refineries	**15.56**	**16.09**	**16.26**	**15.91**	*15.43*	*16.70*	*16.98*	*16.46*	*15.73*	*16.29*	*16.58*	*15.92*	**15.96**	*16.40*	*16.13*
Other Supply															
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.02**	*1.03*	*1.03*	*1.04*	*1.07*	*1.05*	*1.03*	*1.03*	*1.05*	**1.02**	*1.04*	*1.04*
Natural Gas Plant Liquids Production	**5.61**	**5.92**	**6.09**	**6.07**	*6.20*	*6.32*	*6.26*	*6.37*	*6.29*	*6.47*	*6.47*	*6.60*	**5.93**	*6.29*	*6.46*
Renewables and Oxygenate Production (e)	**1.19**	**1.20**	**1.17**	**1.23**	*1.21*	*1.23*	*1.24*	*1.29*	*1.26*	*1.31*	*1.33*	*1.39*	**1.20**	*1.24*	*1.32*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	*0.99*	*0.99*	*0.98*	*1.01*	*1.00*	*1.00*	*0.99*	*1.03*	**1.00**	*0.99*	*1.01*
Petroleum Products Adjustment (f)	**0.22**	**0.23**	**0.23**	**0.22**	*0.21*	*0.22*	*0.22*	*0.23*	*0.22*	*0.22*	*0.22*	*0.22*	**0.23**	*0.22*	*0.22*
Product Net Imports (c)	**-3.74**	**-3.99**	**-4.07**	**-4.42**	*-4.17*	*-4.28*	*-4.92*	*-5.27*	*-4.51*	*-4.21*	*-4.57*	*-4.92*	**-4.06**	*-4.66*	*-4.55*
Hydrocarbon Gas Liquids	**-2.14**	**-2.31**	**-2.16**	**-2.43**	*-2.61*	*-2.54*	*-2.56*	*-2.60*	*-2.61*	*-2.81*	*-2.75*	*-2.85*	**-2.26**	*-2.58*	*-2.75*
Unfinished Oils	**0.09**	**0.25**	**0.28**	**0.16**	*0.13*	*0.25*	*0.37*	*0.19*	*0.19*	*0.25*	*0.30*	*0.18*	**0.20**	*0.24*	*0.23*
Other HC/Oxygenates	**-0.09**	**-0.10**	**-0.07**	**-0.04**	*-0.06*	*-0.05*	*-0.04*	*-0.05*	*-0.07*	*-0.06*	*-0.05*	*-0.06*	**-0.07**	*-0.05*	*-0.06*
Motor Gasoline Blend Comp.	**0.40**	**0.60**	**0.48**	**0.39**	*0.55*	*0.68*	*0.37*	*0.41*	*0.40*	*0.66*	*0.39*	*0.37*	**0.47**	*0.50*	*0.46*
Finished Motor Gasoline	**-0.76**	**-0.73**	**-0.81**	**-0.84**	*-0.82*	*-0.80*	*-1.07*	*-1.28*	*-0.96*	*-0.77*	*-0.88*	*-1.02*	**-0.79**	*-0.99*	*-0.91*
Jet Fuel	**-0.04**	**-0.06**	**-0.11**	**-0.06**	*-0.09*	*-0.04*	*0.00*	*0.00*	*0.11*	*0.16*	*0.17*	*0.14*	**-0.07**	*-0.03*	*0.15*
Distillate Fuel Oil	**-0.81**	**-1.15**	**-1.29**	**-1.10**	*-0.79*	*-1.28*	*-1.44*	*-1.38*	*-1.09*	*-1.17*	*-1.28*	*-1.28*	**-1.09**	*-1.22*	*-1.20*
Residual Fuel Oil	**0.14**	**0.10**	**0.10**	**0.05**	*0.08*	*0.11*	*0.08*	*0.13*	*0.06*	*0.10*	*0.08*	*0.16*	**0.10**	*0.10*	*0.10*
Other Oils (g)	**-0.54**	**-0.59**	**-0.49**	**-0.56**	*-0.55*	*-0.61*	*-0.64*	*-0.69*	*-0.56*	*-0.56*	*-0.57*	*-0.56*	**-0.54**	*-0.62*	*-0.56*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**0.10**	*0.22*	*-0.69*	*-0.29*	*0.46*	*0.31*	*-0.53*	*-0.26*	*0.53*	**0.00**	*-0.07*	*0.01*
Total Supply	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.87**	**3.43**	**3.48**	**3.67**	*4.01*	*3.56*	*3.50*	*3.90*	*4.01*	*3.49*	*3.57*	*3.91*	**3.61**	*3.74*	*3.74*
Other HC/Oxygenates	**0.13**	**0.17**	**0.17**	**0.22**	*0.20*	*0.20*	*0.21*	*0.24*	*0.22*	*0.25*	*0.27*	*0.31*	**0.17**	*0.21*	*0.26*
Unfinished Oils	**0.13**	**0.04**	**0.11**	**0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.08**	*0.00*	*0.00*
Motor Gasoline	**8.47**	**9.00**	**8.88**	**8.69**	*8.42*	*8.97*	*8.88*	*8.70*	*8.46*	*8.92*	*8.86*	*8.69*	**8.76**	*8.74*	*8.73*
Fuel Ethanol blended into Motor Gasoline	**0.87**	**0.93**	**0.92**	**0.90**	*0.87*	*0.93*	*0.92*	*0.93*	*0.88*	*0.93*	*0.92*	*0.94*	**0.91**	*0.91*	*0.92*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.57**	*1.47*	*1.62*	*1.68*	*1.64*	*1.63*	*1.74*	*1.80*	*1.74*	**1.56**	*1.60*	*1.73*
Distillate Fuel Oil	**4.14**	**3.89**	**3.86**	**3.91**	*4.00*	*3.92*	*3.86*	*4.00*	*4.08*	*3.96*	*3.89*	*4.01*	**3.95**	*3.94*	*3.99*
Residual Fuel Oil	**0.38**	**0.31**	**0.39**	**0.27**	*0.36*	*0.38*	*0.38*	*0.39*	*0.32*	*0.35*	*0.39*	*0.40*	**0.34**	*0.38*	*0.37*
Other Oils (g)	**1.65**	**1.82**	**1.99**	**1.76**	*1.66*	*1.88*	*2.00*	*1.74*	*1.63*	*1.85*	*2.00*	*1.74*	**1.80**	*1.82*	*1.81*
Total Consumption	**20.22**	**20.27**	**20.47**	**20.14**	*20.12*	*20.53*	*20.52*	*20.60*	*20.34*	*20.57*	*20.79*	*20.79*	**20.27**	*20.44*	*20.63*
Total Petroleum and Other Liquids Net Imports	**-0.74**	**-1.18**	**-1.32**	**-2.30**	*-1.34*	*-0.79*	*-1.04*	*-1.66*	*-1.58*	*-1.27*	*-1.47*	*-2.32*	**-1.39**	*-1.21*	*-1.66*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.4**	**417.5**	**428.8**	**419.9**	*445.9*	*434.0*	*419.9*	*432.2*	*461.5*	*455.1*	*439.8*	*454.5*	**419.9**	*432.2*	*454.5*
Hydrocarbon Gas Liquids	**142.0**	**186.7**	**243.6**	**208.9**	*158.1*	*208.3*	*248.4*	*203.8*	*164.9*	*212.6*	*249.1*	*203.8*	**208.9**	*203.8*	*203.8*
Unfinished Oils	**87.9**	**88.8**	**82.3**	**82.3**	*92.0*	*89.5*	*88.9*	*81.0*	*91.2*	*88.5*	*87.4*	*79.3*	**82.3**	*81.0*	*79.3*
Other HC/Oxygenates	**34.1**	**29.4**	**27.3**	**30.2**	*32.3*	*31.0*	*30.8*	*31.0*	*33.1*	*31.9*	*31.6*	*31.9*	**30.2**	*31.0*	*31.9*
Total Motor Gasoline	**238.5**	**221.0**	**209.6**	**223.8**	*235.9*	*243.1*	*234.0*	*246.2*	*240.9*	*245.8*	*238.7*	*247.3*	**223.8**	*246.2*	*247.3*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**16.1**	*15.2*	*16.9*	*18.8*	*21.5*	*18.4*	*19.6*	*21.3*	*23.5*	**16.1**	*21.5*	*23.5*
Motor Gasoline Blend Comp.	**221.2**	**203.8**	**192.0**	**207.7**	*220.7*	*226.2*	*215.3*	*224.7*	*222.5*	*226.2*	*217.4*	*223.7*	**207.7**	*224.7*	*223.7*
Jet Fuel	**35.6**	**39.3**	**36.2**	**34.0**	*37.5*	*40.4*	*42.1*	*39.3*	*40.2*	*40.3*	*42.1*	*38.3*	**34.0**	*39.3*	*38.3*
Distillate Fuel Oil	**114.6**	**111.4**	**110.5**	**119.4**	*113.0*	*121.8*	*127.5*	*127.0*	*119.1*	*121.4*	*126.7*	*125.2*	**119.4**	*127.0*	*125.2*
Residual Fuel Oil	**27.9**	**29.2**	**27.3**	**29.9**	*30.1*	*29.4*	*27.7*	*27.2*	*28.8*	*28.0*	*26.3*	*25.8*	**29.9**	*27.2*	*25.8*
Other Oils (g)	**58.5**	**56.4**	**49.5**	**48.3**	*57.7*	*55.8*	*46.8*	*48.4*	*57.6*	*55.6*	*46.5*	*48.0*	**48.3**	*48.4*	*48.0*
Total Commercial Inventory	**1153.6**	**1179.7**	**1215.1**	**1196.7**	*1202.6*	*1253.3*	*1266.0*	*1236.1*	*1237.2*	*1279.1*	*1288.1*	*1253.9*	**1196.7**	*1236.1*	*1253.9*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**371.5**	*369.6*	*356.0*	*352.6*	*352.6*	*358.7*	*364.7*	*370.7*	*376.7*	**371.5**	*352.6*	*376.7*

(a) Includes lease condensate.

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

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

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

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

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

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

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on January 5, 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; 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 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 - January 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**	**2.48**	*2.53*	*2.66*	*2.54*	*2.58*	*2.58*	*2.64*	*2.56*	*2.65*	**2.41**	*2.58*	*2.61*
Propane	**1.77**	**1.85**	**1.92**	**1.89**	*1.97*	*1.95*	*1.97*	*2.02*	*1.99*	*2.04*	*2.07*	*2.12*	**1.86**	*1.98*	*2.06*
Butanes	**0.93**	**0.98**	**1.02**	**1.03**	*1.06*	*1.04*	*1.06*	*1.09*	*1.09*	*1.10*	*1.11*	*1.13*	**0.99**	*1.06*	*1.11*
Natural Gasoline (Pentanes Plus)	**0.59**	**0.67**	**0.74**	**0.67**	*0.64*	*0.66*	*0.69*	*0.67*	*0.64*	*0.69*	*0.72*	*0.70*	**0.66**	*0.67*	*0.69*
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**	**0.29**	*0.28*	*0.27*	*0.28*	*0.28*	*0.28*	*0.28*	*0.29*	*0.28*	**0.29**	*0.28*	*0.28*
Propylene (refinery-grade)	**0.28**	**0.28**	**0.26**	**0.26**	*0.28*	*0.29*	*0.28*	*0.29*	*0.28*	*0.28*	*0.28*	*0.28*	**0.27**	*0.28*	*0.28*
Butanes/Butylenes	**-0.07**	**0.25**	**0.19**	**-0.19**	*-0.08*	*0.26*	*0.19*	*-0.20*	*-0.08*	*0.27*	*0.20*	*-0.19*	**0.05**	*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**	**-0.44**	*-0.45*	*-0.45*	*-0.45*	*-0.45*	*-0.47*	*-0.47*	*-0.46*	*-0.49*	**-0.44**	*-0.45*	*-0.47*
Propane/Propylene	**-1.18**	**-1.33**	**-1.21**	**-1.35**	*-1.40*	*-1.36*	*-1.37*	*-1.46*	*-1.37*	*-1.51*	*-1.47*	*-1.60*	**-1.27**	*-1.40*	*-1.49*
Butanes/Butylenes	**-0.28**	**-0.41**	**-0.34**	**-0.47**	*-0.51*	*-0.51*	*-0.51*	*-0.46*	*-0.53*	*-0.59*	*-0.59*	*-0.53*	**-0.38**	*-0.50*	*-0.56*
Natural Gasoline (Pentanes Plus)	**-0.17**	**-0.17**	**-0.19**	**-0.17**	*-0.25*	*-0.23*	*-0.23*	*-0.23*	*-0.24*	*-0.24*	*-0.23*	*-0.22*	**-0.17**	*-0.24*	*-0.23*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.44**	**0.31**	**0.35**	**0.52**	*0.42*	*0.29*	*0.32*	*0.52*	*0.40*	*0.28*	*0.31*	*0.51*	**0.40**	*0.39*	*0.37*
Natural Gasoline (Pentanes Plus)	**0.20**	**0.20**	**0.22**	**0.18**	*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**	**2.02**	*2.14*	*2.15*	*2.10*	*2.13*	*2.12*	*2.13*	*2.12*	*2.17*	**2.00**	*2.13*	*2.13*
Propane	**1.16**	**0.60**	**0.69**	**0.86**	*1.17*	*0.64*	*0.63*	*0.99*	*1.15*	*0.60*	*0.68*	*0.94*	**0.83**	*0.86*	*0.84*
Propylene (refinery-grade)	**0.30**	**0.29**	**0.28**	**0.28**	*0.29*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	*0.29*	*0.30*	**0.29**	*0.30*	*0.30*
Butanes/Butylenes	**0.23**	**0.26**	**0.29**	**0.21**	*0.19*	*0.24*	*0.23*	*0.23*	*0.19*	*0.23*	*0.21*	*0.21*	**0.25**	*0.22*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.21**	**0.24**	**0.26**	**0.31**	*0.22*	*0.23*	*0.24*	*0.26*	*0.25*	*0.23*	*0.28*	*0.29*	**0.25**	*0.24*	*0.26*
HGL Inventories (million barrels)															
Ethane	**51.1**	**51.7**	**49.9**	**53.5**	*50.0*	*54.7*	*55.9*	*58.3*	*56.4*	*60.4*	*60.3*	*61.2*	**51.5**	*54.7*	*59.6*
Propane	**36.3**	**54.1**	**81.9**	**78.6**	*48.7*	*67.3*	*88.2*	*73.3*	*47.8*	*65.8*	*84.1*	*70.0*	**78.6**	*73.3*	*70.0*
Propylene (at refineries only)	**1.0**	**1.2**	**1.1**	**1.0**	*1.1*	*1.5*	*1.8*	*1.7*	*1.5*	*1.7*	*1.9*	*1.8*	**1.0**	*1.7*	*1.8*
Butanes/Butylenes	**35.7**	**58.8**	**81.2**	**48.5**	*35.1*	*59.5*	*77.3*	*47.8*	*37.8*	*62.3*	*80.3*	*51.1*	**48.5**	*47.8*	*51.1*
Natural Gasoline (Pentanes Plus)	**19.4**	**22.7**	**27.2**	**26.3**	*23.4*	*24.2*	*24.6*	*23.5*	*20.7*	*21.6*	*22.2*	*21.2*	**26.3**	*23.5*	*21.2*
Refinery and Blender Net Inputs															
Crude Oil	**15.56**	**16.09**	**16.26**	**15.91**	*15.43*	*16.70*	*16.98*	*16.46*	*15.73*	*16.29*	*16.58*	*15.92*	**15.96**	*16.40*	*16.13*
Hydrocarbon Gas Liquids	**0.64**	**0.50**	**0.57**	**0.70**	*0.60*	*0.47*	*0.51*	*0.70*	*0.56*	*0.46*	*0.50*	*0.69*	**0.60**	*0.57*	*0.55*
Other Hydrocarbons/Oxygenates	**1.12**	**1.20**	**1.19**	**1.16**	*1.11*	*1.20*	*1.20*	*1.19*	*1.15*	*1.21*	*1.21*	*1.21*	**1.17**	*1.17*	*1.20*
Unfinished Oils	**-0.12**	**0.21**	**0.24**	**0.11**	*0.02*	*0.28*	*0.38*	*0.28*	*0.08*	*0.28*	*0.31*	*0.27*	**0.11**	*0.24*	*0.23*
Motor Gasoline Blend Components	**0.33**	**0.84**	**0.66**	**0.31**	*0.52*	*0.72*	*0.59*	*0.53*	*0.55*	*0.72*	*0.59*	*0.53*	**0.54**	*0.59*	*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**	**18.20**	*17.67*	*19.37*	*19.65*	*19.16*	*18.07*	*18.96*	*19.19*	*18.61*	**18.38**	*18.97*	*18.71*
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.02**	*1.03*	*1.03*	*1.04*	*1.07*	*1.05*	*1.03*	*1.03*	*1.05*	**1.02**	*1.04*	*1.04*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.49**	**0.84**	**0.75**	**0.37**	*0.48*	*0.83*	*0.77*	*0.37*	*0.48*	*0.84*	*0.77*	*0.37*	**0.61**	*0.61*	*0.61*
Finished Motor Gasoline	**9.22**	**9.74**	**9.73**	**9.58**	*9.32*	*9.85*	*10.03*	*10.18*	*9.47*	*9.76*	*9.82*	*9.90*	**9.57**	*9.85*	*9.74*
Jet Fuel	**1.48**	**1.71**	**1.67**	**1.60**	*1.60*	*1.70*	*1.70*	*1.61*	*1.52*	*1.59*	*1.65*	*1.56*	**1.62**	*1.65*	*1.58*
Distillate Fuel	**4.77**	**5.00**	**5.15**	**5.11**	*4.72*	*5.29*	*5.36*	*5.37*	*5.08*	*5.16*	*5.23*	*5.28*	**5.01**	*5.19*	*5.19*
Residual Fuel	**0.26**	**0.22**	**0.26**	**0.24**	*0.28*	*0.26*	*0.29*	*0.25*	*0.27*	*0.25*	*0.29*	*0.24*	**0.25**	*0.27*	*0.26*
Other Oils (a)	**2.26**	**2.39**	**2.40**	**2.31**	*2.31*	*2.47*	*2.54*	*2.45*	*2.30*	*2.39*	*2.47*	*2.32*	**2.34**	*2.44*	*2.37*
Total Refinery and Blender Net Production	**18.49**	**19.90**	**19.97**	**19.22**	*18.70*	*20.39*	*20.69*	*20.23*	*19.12*	*19.99*	*20.22*	*19.66*	**19.40**	*20.01*	*19.75*
Refinery Distillation Inputs	**16.07**	**16.61**	**16.82**	**16.41**	*15.74*	*16.88*	*17.21*	*16.70*	*16.01*	*16.52*	*16.86*	*16.22*	**16.48**	*16.64*	*16.40*
Refinery Operable Distillation Capacity	**17.94**	**17.94**	**17.98**	**18.02**	*18.02*	*18.15*	*18.27*	*18.27*	*18.05*	*18.01*	*18.01*	*18.01*	**17.97**	*18.18*	*18.02*
Refinery Distillation Utilization Factor	**0.90**	**0.93**	**0.94**	**0.91**	*0.87*	*0.93*	*0.94*	*0.91*	*0.89*	*0.92*	*0.94*	*0.90*	**0.92**	*0.92*	*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 January 5, 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 - January 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**	*246*	*253*	*251*	*235*	*231*	*237*	*227*	*210*	**309**	*246*	*226*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**364**	**438**	**393**	**340**	*319*	*335*	*331*	*314*	*308*	*313*	*302*	*287*	**384**	*325*	*302*
PADD 2	**352**	**436**	**397**	**345**	*310*	*323*	*320*	*309*	*301*	*309*	*299*	*279*	**383**	*316*	*297*
PADD 3	**340**	**414**	**357**	**300**	*287*	*302*	*302*	*286*	*277*	*283*	*273*	*254*	**353**	*294*	*272*
PADD 4	**360**	**446**	**434**	**359**	*323*	*344*	*350*	*328*	*311*	*325*	*318*	*297*	**402**	*337*	*313*
PADD 5	**452**	**543**	**511**	**478**	*417*	*416*	*408*	*391*	*382*	*394*	*379*	*360*	**497**	*408*	*379*
U.S. Average	**371**	**450**	**408**	**357**	*328*	*340*	*337*	*321*	*314*	*321*	*310*	*292*	**397**	*332*	*309*
Gasoline All Grades Including Taxes	**380**	**460**	**419**	**369**	*341*	*354*	*351*	*336*	*328*	*335*	*325*	*307*	**408**	*345*	*324*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**56.9**	**53.6**	**54.4**	**57.4**	*60.2*	*67.1*	*62.2*	*65.4*	*61.7*	*66.8*	*61.9*	*64.8*	**57.4**	*65.4*	*64.8*
PADD 2	**56.5**	**46.7**	**44.1**	**46.0**	*50.6*	*48.8*	*46.7*	*51.2*	*53.2*	*50.4*	*47.5*	*51.4*	**46.0**	*51.2*	*51.4*
PADD 3	**87.1**	**83.9**	**80.2**	**80.3**	*87.1*	*89.7*	*87.1*	*90.0*	*87.7*	*91.0*	*91.3*	*91.4*	**80.3**	*90.0*	*91.4*
PADD 4	**8.1**	**6.4**	**6.4**	**7.3**	*8.0*	*7.7*	*7.8*	*8.5*	*8.3*	*7.8*	*7.8*	*8.5*	**7.3**	*8.5*	*8.5*
PADD 5	**29.9**	**30.3**	**24.5**	**32.8**	*30.1*	*29.9*	*30.2*	*31.1*	*30.0*	*29.9*	*30.2*	*31.1*	**32.8**	*31.1*	*31.1*
U.S. Total	**238.5**	**221.0**	**209.6**	**223.8**	*235.9*	*243.1*	*234.0*	*246.2*	*240.9*	*245.8*	*238.7*	*247.3*	**223.8**	*246.2*	*247.3*
Finished Gasoline Inventories															
U.S. Total	**17.3**	**17.1**	**17.6**	**16.1**	*15.2*	*16.9*	*18.8*	*21.5*	*18.4*	*19.6*	*21.3*	*23.5*	**16.1**	*21.5*	*23.5*
Gasoline Blending Components Inventories															
U.S. Total	**221.2**	**203.8**	**192.0**	**207.7**	*220.7*	*226.2*	*215.3*	*224.7*	*222.5*	*226.2*	*217.4*	*223.7*	**207.7**	*224.7*	*223.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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 - January 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**	**108.25**	**108.67**	*109.58*	*108.60*	*108.83*	*109.42*	*109.96*	*110.65*	*111.70*	*112.63*	**106.61**	*109.11*	*111.24*
Alaska	**1.06**	**1.00**	**0.96**	**1.03**	*1.01*	*0.93*	*0.85*	*0.98*	*1.00*	*0.92*	*0.84*	*0.97*	**1.01**	*0.94*	*0.93*
Federal GOM (a)	**2.05**	**2.11**	**2.19**	**2.21**	*2.29*	*2.22*	*2.09*	*2.04*	*2.14*	*2.08*	*1.97*	*2.00*	**2.14**	*2.16*	*2.05*
Lower 48 States (excl GOM)	**100.16**	**103.07**	**105.10**	**105.43**	*106.28*	*105.44*	*105.90*	*106.40*	*106.83*	*107.64*	*108.88*	*109.66*	**103.46**	*106.01*	*108.26*
Total Dry Gas Production	**95.10**	**97.59**	**99.44**	**99.87**	*100.82*	*99.87*	*100.08*	*100.62*	*101.12*	*101.75*	*102.72*	*103.57*	**98.02**	*100.34*	*102.29*
LNG Gross Imports	**0.15**	**0.01**	**0.06**	**0.05**	*0.10*	*0.04*	*0.04*	*0.06*	*0.10*	*0.04*	*0.04*	*0.06*	**0.07**	*0.06*	*0.06*
LNG Gross Exports	**11.50**	**10.80**	**9.74**	**10.60**	*11.88*	*12.14*	*11.96*	*12.28*	*12.63*	*12.46*	*12.12*	*13.17*	**10.65**	*12.06*	*12.59*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**7.90**	*8.28*	*6.85*	*7.05*	*7.50*	*8.31*	*6.86*	*7.05*	*7.50*	**8.09**	*7.42*	*7.43*
Pipeline Gross Exports	**8.43**	**8.45**	**8.06**	**8.48**	*9.27*	*8.81*	*9.15*	*9.56*	*9.99*	*9.38*	*9.71*	*10.14*	**8.35**	*9.20*	*9.81*
Supplemental Gaseous Fuels	**0.21**	**0.17**	**0.18**	**0.18**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.20*	**0.18**	*0.19*	*0.19*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.72**	*15.28*	*-11.99*	*-8.25*	*3.52*	*16.97*	*-13.13*	*-9.78*	*3.93*	**0.84**	*-0.41*	*-0.51*
Total Supply	**104.56**	**76.01**	**80.78**	**91.65**	*103.52*	*74.01*	*78.00*	*90.05*	*104.06*	*73.87*	*78.40*	*91.96*	**88.19**	*86.34*	*87.06*
Balancing Item (b)	**0.33**	**0.27**	**0.37**	**1.12**	*-1.32*	*0.65*	*0.84*	*1.41*	*-0.09*	*-1.86*	*-1.67*	*-1.44*	**0.52**	*0.41*	*-1.27*
Total Primary Supply	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
Consumption (billion cubic feet per day)															
Residential	**26.09**	**7.85**	**3.56**	**17.22**	*25.18*	*8.02*	*4.26*	*17.59*	*26.40*	*8.09*	*4.31*	*17.65*	**13.63**	*13.71*	*14.10*
Commercial	**15.61**	**6.68**	**4.74**	**11.71**	*15.05*	*6.76*	*5.26*	*11.84*	*15.50*	*6.72*	*5.25*	*11.86*	**9.66**	*9.70*	*9.83*
Industrial	**25.50**	**22.38**	**21.83**	**23.59**	*23.96*	*21.43*	*21.29*	*23.66*	*24.17*	*20.65*	*20.24*	*22.62*	**23.31**	*22.58*	*21.92*
Electric Power (c)	**28.41**	**31.00**	**42.37**	**31.12**	*28.46*	*30.01*	*39.42*	*29.25*	*28.24*	*28.11*	*38.26*	*29.13*	**33.26**	*31.81*	*30.95*
Lease and Plant Fuel	**5.26**	**5.41**	**5.51**	**5.53**	*5.58*	*5.53*	*5.54*	*5.57*	*5.60*	*5.64*	*5.69*	*5.74*	**5.43**	*5.56*	*5.67*
Pipeline and Distribution Use	**3.86**	**2.81**	**2.99**	**3.46**	*3.83*	*2.76*	*2.92*	*3.42*	*3.90*	*2.66*	*2.84*	*3.38*	**3.28**	*3.23*	*3.19*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**104.89**	**76.27**	**81.15**	**92.77**	*102.20*	*74.66*	*78.84*	*91.47*	*103.97*	*72.01*	*76.73*	*90.52*	**88.72**	*86.74*	*85.79*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,897**	*1,521*	*2,612*	*3,371*	*3,047*	*1,503*	*2,698*	*3,597*	*3,236*	**2,897**	*3,047*	*3,236*
East Region (d)	**242**	**482**	**759**	**686**	*296*	*597*	*844*	*726*	*254*	*581*	*871*	*727*	**686**	*726*	*727*
Midwest Region (d)	**296**	**557**	**917**	**832**	*343*	*635*	*966*	*843*	*325*	*655*	*1,024*	*890*	**832**	*843*	*890*
South Central Region (d)	**587**	**885**	**1,006**	**1,033**	*715*	*1,032*	*1,079*	*1,035*	*627*	*1,003*	*1,129*	*1,096*	**1,033**	*1,035*	*1,096*
Mountain Region (d)	**90**	**137**	**184**	**155**	*57*	*108*	*183*	*170*	*107*	*152*	*217*	*197*	**155**	*170*	*197*
Pacific Region (d)	**165**	**240**	**247**	**163**	*82*	*213*	*271*	*245*	*162*	*279*	*329*	*298*	**163**	*245*	*298*
Alaska	**21**	**25**	**32**	**28**	*28*	*28*	*28*	*28*	*28*	*28*	*28*	*28*	**28**	*28*	*28*

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

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

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

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on January 5, 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 - January 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**	*5.19*	*4.93*	*5.04*	*5.19*	*5.54*	*4.63*	*4.72*	*5.05*	**6.67**	*5.09*	*4.98*
Residential Retail															
New England	**17.69**	**20.93**	**26.81**	**21.03**	*19.64*	*19.69*	*21.98*	*17.33*	*16.67*	*17.46*	*20.29*	*16.08*	**19.67**	*19.09*	*16.84*
Middle Atlantic	**12.79**	**15.55**	**23.86**	**15.96**	*13.63*	*15.00*	*19.48*	*13.06*	*12.05*	*14.20*	*18.96*	*12.72*	**14.79**	*14.08*	*13.02*
E. N. Central	**9.81**	**14.81**	**25.79**	**13.69**	*11.63*	*13.94*	*19.94*	*10.76*	*10.20*	*13.01*	*19.42*	*10.57*	**12.50**	*12.24*	*11.31*
W. N. Central	**11.40**	**15.25**	**25.07**	**12.75**	*11.05*	*13.54*	*19.74*	*11.23*	*10.29*	*13.08*	*19.36*	*10.97*	**13.04**	*12.02*	*11.43*
S. Atlantic	**13.91**	**22.14**	**32.52**	**17.47**	*15.12*	*19.24*	*25.56*	*14.77*	*13.12*	*18.15*	*24.89*	*14.36*	**17.38**	*16.42*	*15.02*
E. S. Central	**11.80**	**17.16**	**27.62**	**15.72**	*13.51*	*18.03*	*24.78*	*15.01*	*13.16*	*18.09*	*24.91*	*15.15*	**14.29**	*15.56*	*15.21*
W. S. Central	**12.62**	**20.91**	**30.98**	**15.70**	*11.82*	*16.88*	*23.05*	*13.59*	*10.89*	*16.57*	*22.77*	*13.53*	**15.79**	*14.08*	*13.37*
Mountain	**10.31**	**12.87**	**19.38**	**13.72**	*11.86*	*12.78*	*15.96*	*10.36*	*10.11*	*11.97*	*15.62*	*10.26*	**12.29**	*11.84*	*10.87*
Pacific	**17.07**	**17.80**	**20.54**	**17.68**	*17.37*	*17.37*	*18.07*	*17.21*	*17.86*	*18.50*	*19.13*	*18.19*	**17.79**	*17.41*	*18.22*
U.S. Average	**12.32**	**16.57**	**24.94**	**15.26**	*13.57*	*15.72*	*20.29*	*13.07*	*12.19*	*15.22*	*20.14*	*12.97*	**14.70**	*14.25*	*13.48*
Commercial Retail															
New England	**12.62**	**14.46**	**16.18**	**15.34**	*14.17*	*13.23*	*12.38*	*11.89*	*12.34*	*12.38*	*11.81*	*11.50*	**14.13**	*13.17*	*12.04*
Middle Atlantic	**10.36**	**10.79**	**12.01**	**11.77**	*11.33*	*10.41*	*9.50*	*9.66*	*9.97*	*9.59*	*8.88*	*9.22*	**11.06**	*10.46*	*9.57*
E. N. Central	**8.12**	**10.46**	**14.23**	**10.68**	*9.64*	*9.96*	*10.90*	*8.70*	*8.97*	*9.88*	*10.72*	*8.60*	**9.66**	*9.48*	*9.11*
W. N. Central	**10.22**	**11.73**	**15.07**	**10.81**	*9.83*	*9.79*	*10.88*	*8.97*	*9.16*	*9.58*	*10.60*	*8.77*	**10.97**	*9.63*	*9.21*
S. Atlantic	**10.52**	**12.23**	**14.05**	**12.56**	*11.49*	*11.73*	*11.95*	*10.77*	*10.68*	*11.50*	*11.66*	*10.60*	**11.86**	*11.37*	*10.92*
E. S. Central	**10.41**	**12.80**	**15.71**	**13.53**	*11.83*	*11.91*	*12.10*	*10.74*	*10.28*	*11.26*	*11.62*	*10.40*	**12.27**	*11.52*	*10.60*
W. S. Central	**10.09**	**12.86**	**15.00**	**12.41**	*10.18*	*9.93*	*10.14*	*9.24*	*8.77*	*9.48*	*9.78*	*9.00*	**11.91**	*9.88*	*9.10*
Mountain	**8.78**	**9.98**	**12.60**	**11.44**	*10.49*	*10.26*	*10.69*	*9.19*	*8.92*	*9.24*	*9.95*	*8.65*	**10.16**	*10.06*	*8.99*
Pacific	**13.08**	**13.67**	**15.58**	**13.27**	*12.19*	*11.21*	*11.11*	*10.41*	*10.37*	*10.18*	*10.39*	*9.91*	**13.64**	*11.28*	*10.19*
U.S. Average	**10.00**	**11.71**	**14.10**	**11.96**	*10.89*	*10.68*	*10.79*	*9.68*	*9.72*	*10.11*	*10.34*	*9.37*	**11.31**	*10.47*	*9.75*
Industrial Retail															
New England	**11.11**	**12.09**	**12.03**	**12.59**	*11.46*	*10.17*	*9.01*	*9.98*	*10.66*	*9.90*	*8.70*	*9.75*	**11.90**	*10.37*	*9.92*
Middle Atlantic	**10.80**	**10.10**	**11.92**	**11.78**	*10.90*	*9.68*	*9.16*	*9.39*	*9.90*	*9.35*	*8.79*	*9.08*	**11.09**	*10.13*	*9.49*
E. N. Central	**7.66**	**8.72**	**10.75**	**9.27**	*8.49*	*7.80*	*7.66*	*7.61*	*8.24*	*7.70*	*7.36*	*7.43*	**8.64**	*8.02*	*7.82*
W. N. Central	**7.96**	**8.58**	**9.58**	**8.18**	*7.61*	*6.51*	*6.32*	*6.79*	*7.39*	*6.36*	*6.00*	*6.56*	**8.52**	*6.85*	*6.62*
S. Atlantic	**7.44**	**8.84**	**11.17**	**8.62**	*7.57*	*6.77*	*6.77*	*7.02*	*7.75*	*6.64*	*6.43*	*6.85*	**8.93**	*7.06*	*6.96*
E. S. Central	**6.53**	**8.70**	**10.55**	**7.83**	*7.18*	*6.43*	*6.29*	*6.61*	*7.33*	*6.30*	*5.96*	*6.45*	**8.27**	*6.66*	*6.56*
W. S. Central	**5.58**	**7.69**	**8.45**	**5.92**	*5.46*	*5.08*	*5.23*	*5.26*	*5.71*	*4.86*	*4.87*	*5.08*	**6.89**	*5.25*	*5.12*
Mountain	**7.11**	**8.39**	**10.45**	**10.30**	*9.39*	*8.44*	*8.16*	*7.73*	*7.84*	*7.46*	*7.45*	*7.24*	**8.95**	*8.48*	*7.51*
Pacific	**8.82**	**9.02**	**9.60**	**9.03**	*8.86*	*8.17*	*8.09*	*8.12*	*8.63*	*8.21*	*7.99*	*8.01*	**9.07**	*8.34*	*8.23*
U.S. Average	**6.82**	**8.24**	**9.26**	**7.28**	*6.91*	*5.99*	*5.93*	*6.21*	*6.94*	*5.80*	*5.60*	*6.06*	**7.84**	*6.28*	*6.14*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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 - January 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**	**150.3**	*140.4*	*127.1*	*135.2*	*127.9*	*126.0*	*118.6*	*130.0*	*126.2*	**594.2**	*530.7*	*500.8*
Appalachia	**40.2**	**38.7**	**38.7**	**38.8**	*38.2*	*35.9*	*31.7*	*31.0*	*32.8*	*32.4*	*29.4*	*30.1*	**156.4**	*136.8*	*124.7*
Interior	**23.8**	**21.9**	**22.7**	**23.1**	*23.3*	*20.7*	*21.1*	*19.6*	*21.1*	*19.6*	*20.9*	*20.0*	**91.6**	*84.8*	*81.6*
Western	**85.0**	**81.1**	**91.7**	**88.3**	*78.8*	*70.4*	*82.4*	*77.4*	*72.1*	*66.6*	*79.8*	*76.1*	**346.2**	*309.1*	*294.5*
Primary Inventory Withdrawals	**-1.9**	**0.0**	**3.4**	**-0.2**	*-1.8*	*0.1*	*3.5*	*0.0*	*-1.7*	*0.1*	*3.5*	*0.0*	**1.3**	*1.9*	*1.9*
Imports	**1.3**	**1.6**	**2.0**	**1.1**	*0.8*	*1.0*	*1.3*	*1.0*	*0.7*	*0.9*	*1.2*	*0.9*	**6.0**	*4.1*	*3.6*
Exports	**20.2**	**23.0**	**20.7**	**20.5**	*20.7*	*21.8*	*19.9*	*20.9*	*21.8*	*23.6*	*22.7*	*24.6*	**84.4**	*83.3*	*92.6*
Metallurgical Coal	**10.5**	**13.1**	**11.6**	**11.2**	*10.7*	*11.6*	*10.4*	*10.7*	*11.4*	*12.6*	*11.9*	*12.6*	**46.3**	*43.4*	*48.5*
Steam Coal	**9.7**	**9.9**	**9.2**	**9.7**	*9.9*	*10.2*	*9.5*	*10.2*	*10.4*	*11.0*	*10.8*	*11.9*	**38.5**	*39.9*	*44.1*
Total Primary Supply	**128.2**	**120.4**	**137.8**	**130.8**	*118.7*	*106.5*	*120.2*	*108.0*	*103.2*	*96.0*	*112.1*	*102.5*	**517.2**	*453.4*	*413.8*
Secondary Inventory Withdrawals	**5.9**	**-1.1**	**5.7**	**-11.4**	*-4.2*	*-7.3*	*13.9*	*-4.4*	*9.5*	*-1.8*	*16.7*	*-1.1*	**-0.9**	*-2.1*	*23.4*
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	**135.9**	**121.2**	**145.4**	**121.2**	*116.4*	*100.9*	*135.8*	*105.4*	*114.6*	*96.1*	*130.6*	*103.2*	**523.8**	*458.5*	*444.4*
Consumption (million short tons)															
Coke Plants	**4.2**	**3.9**	**3.9**	**3.9**	*3.9*	*3.9*	*3.9*	*4.0*	*4.0*	*4.0*	*4.0*	*4.1*	**15.9**	*15.8*	*16.1*
Electric Power Sector (b)	**122.6**	**107.2**	**134.7**	**107.1**	*105.8*	*91.3*	*126.3*	*95.1*	*104.3*	*86.8*	*121.3*	*93.0*	**471.7**	*418.6*	*405.4*
Retail and Other Industry	**6.9**	**6.7**	**6.3**	**6.8**	*6.7*	*5.7*	*5.6*	*6.2*	*6.3*	*5.2*	*5.3*	*6.1*	**26.7**	*24.1*	*22.9*
Residential and Commercial	**0.2**	**0.1**	**0.2**	**0.3**	*0.3*	*0.2*	*0.2*	*0.3*	*0.4*	*0.2*	*0.2*	*0.3*	**0.8**	*1.0*	*1.0*
Other Industrial	**6.7**	**6.6**	**6.1**	**6.6**	*6.3*	*5.5*	*5.4*	*6.0*	*5.9*	*5.0*	*5.1*	*5.8*	**25.9**	*23.2*	*21.9*
Total Consumption	**133.7**	**117.9**	**144.9**	**117.9**	*116.4*	*100.9*	*135.8*	*105.4*	*114.6*	*96.1*	*130.6*	*103.2*	**514.4**	*458.5*	*444.4*
Discrepancy (c)	**2.2**	**3.3**	**0.6**	**3.3**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**9.4**	*0.0*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**21.0**	**20.9**	**17.5**	**17.7**	*19.5*	*19.3*	*15.8*	*15.8*	*17.5*	*17.3*	*13.8*	*13.9*	**17.7**	*15.8*	*13.9*
Secondary Inventories	**90.5**	**91.5**	**85.8**	**97.2**	*101.4*	*108.8*	*94.9*	*99.3*	*89.8*	*91.5*	*74.8*	*75.9*	**97.2**	*99.3*	*75.9*
Electric Power Sector	**86.3**	**87.4**	**80.2**	**91.7**	*96.7*	*103.9*	*89.8*	*94.3*	*85.5*	*87.1*	*70.1*	*71.2*	**91.7**	*94.3*	*71.2*
Retail and General Industry	**2.4**	**2.4**	**3.6**	**3.5**	*3.0*	*3.0*	*3.2*	*3.2*	*2.7*	*2.8*	*3.0*	*3.1*	**3.5**	*3.2*	*3.1*
Coke Plants	**1.6**	**1.6**	**1.9**	**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*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.1*	*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**	*0.242*	*0.237*	*0.234*	*0.236*	*0.241*	*0.236*	*0.239*	*0.247*	**0.247**	*0.237*	*0.241*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*

(a) Waste coal includes waste coal and cloal 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 January 5, 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 - January 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	**1,030**	**1,026**	**1,187**	**1,002**	*1,009*	*1,016*	*1,164*	*988*	*1,039*	*1,020*	*1,173*	*998*	**4,245**	*4,177*	*4,230*
Electric Power Sector (a)	**991**	**989**	**1,148**	**963**	*970*	*978*	*1,123*	*950*	*1,000*	*983*	*1,132*	*959*	**4,091**	*4,022*	*4,074*
Industrial Sector (b)	**36**	**34**	**36**	**35**	*35*	*35*	*37*	*36*	*35*	*35*	*37*	*36*	**141**	*142*	*143*
Commercial Sector (b)	**3**	**3**	**3**	**3**	*3*	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*14*
Net Imports	**9**	**12**	**16**	**11**	*12*	*12*	*14*	*11*	*12*	*12*	*14*	*11*	**48**	*49*	*50*
Total Supply	**1,039**	**1,038**	**1,203**	**1,013**	*1,021*	*1,029*	*1,178*	*999*	*1,051*	*1,033*	*1,187*	*1,009*	**4,293**	*4,227*	*4,279*
Losses and Unaccounted for (c)	**59**	**68**	**54**	**68**	*42*	*65*	*53*	*52*	*44*	*65*	*53*	*53*	**249**	*213*	*215*
Electricity Consumption (billion kilowatthours unless noted)															
Sales to Ultimate Customers	**945**	**938**	**1,114**	**910**	*944*	*930*	*1,089*	*913*	*973*	*934*	*1,097*	*922*	**3,908**	*3,876*	*3,926*
Residential Sector	**380**	**347**	**457**	**330**	*373*	*338*	*440*	*333*	*394*	*342*	*444*	*336*	**1,514**	*1,484*	*1,517*
Commercial Sector	**322**	**335**	**389**	**329**	*326*	*336*	*384*	*328*	*329*	*335*	*385*	*329*	**1,375**	*1,373*	*1,378*
Industrial Sector	**242**	**255**	**266**	**250**	*244*	*254*	*264*	*250*	*247*	*255*	*267*	*255*	**1,013**	*1,013*	*1,025*
Transportation Sector	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**34**	**33**	**35**	**34**	*34*	*34*	*36*	*34*	*34*	*34*	*36*	*35*	**136**	*138*	*139*
Total Consumption	**980**	**971**	**1,149**	**944**	*978*	*963*	*1,125*	*947*	*1,007*	*967*	*1,133*	*956*	**4,044**	*4,014*	*4,064*
Average residential electricity usage per customer (kWh)	**2,711**	**2,475**	**3,265**	**2,354**	*2,640*	*2,395*	*3,112*	*2,358*	*2,769*	*2,403*	*3,117*	*2,357*	**10,806**	*10,505*	*10,646*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**86.3**	**87.4**	**80.2**	**91.7**	*96.7*	*103.9*	*89.8*	*94.3*	*85.5*	*87.1*	*70.1*	*71.2*	**91.7**	*94.3*	*71.2*
Residual Fuel (mmb)	**5.6**	**5.9**	**5.7**	**5.8**	*4.1*	*4.2*	*2.5*	*2.9*	*1.3*	*1.9*	*0.4*	*1.0*	**5.8**	*2.9*	*1.0*
Distillate Fuel (mmb)	**17.6**	**17.7**	**16.7**	**16.8**	*16.6*	*16.4*	*16.3*	*16.5*	*16.4*	*16.2*	*16.2*	*16.4*	**16.8**	*16.5*	*16.4*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.18**	**2.26**	**2.50**	**2.47**	*2.48*	*2.48*	*2.48*	*2.45*	*2.47*	*2.48*	*2.48*	*2.45*	**2.36**	*2.47*	*2.47*
Natural Gas	**5.95**	**7.39**	**8.23**	**5.86**	*5.56*	*4.97*	*5.04*	*5.37*	*5.93*	*4.72*	*4.75*	*5.24*	**7.00**	*5.21*	*5.13*
Residual Fuel Oil	**16.81**	**26.17**	**26.53**	**20.32**	*17.41*	*17.60*	*16.28*	*15.67*	*15.60*	*15.55*	*14.54*	*14.33*	**21.64**	*16.77*	*15.03*
Distillate Fuel Oil	**21.23**	**30.70**	**26.79**	**26.55**	*24.45*	*23.40*	*21.35*	*21.14*	*20.07*	*18.35*	*18.12*	*18.98*	**25.43**	*22.78*	*19.08*
Prices to Ultimate Customers (cents per kilowatthour)															
Residential Sector	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*
Commercial Sector	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Industrial Sector	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**42.73**	**83.19**	**130.71**	**53.01**	*42.16*	*39.45*	*51.53*	*38.67*	*39.00*	*33.10*	*42.12*	*32.84*	**77.41**	*42.95*	*36.77*
CAISO SP15 zone	**45.20**	**60.34**	**110.03**	**135.13**	*145.24*	*62.71*	*97.65*	*60.25*	*57.04*	*32.14*	*72.58*	*55.34*	**87.67**	*91.46*	*54.28*
ISO-NE Internal hub	**116.48**	**73.28**	**99.14**	**80.77**	*141.38*	*59.04*	*54.03*	*92.66*	*147.12*	*50.92*	*54.80*	*86.52*	**92.42**	*86.78*	*84.84*
NYISO Hudson Valley zone	**100.10**	**79.72**	**104.71**	**77.17**	*102.02*	*55.51*	*53.78*	*73.52*	*108.24*	*49.15*	*52.79*	*71.97*	**90.42**	*71.21*	*70.54*
PJM Western hub	**58.33**	**93.00**	**110.99**	**71.60**	*65.52*	*61.29*	*67.30*	*63.30*	*78.76*	*58.56*	*64.68*	*64.66*	**83.48**	*64.35*	*66.67*
Midcontinent ISO Illinois hub	**47.88**	**89.21**	**101.80**	**57.87**	*52.67*	*50.77*	*55.76*	*52.25*	*58.90*	*49.07*	*55.80*	*53.05*	**74.19**	*52.86*	*54.21*
SPP ISO South hub	**37.25**	**72.85**	**109.97**	**56.06**	*44.90*	*46.81*	*52.76*	*47.95*	*51.63*	*45.81*	*54.13*	*48.71*	**69.03**	*48.11*	*50.07*
SERC index, Into Southern	**42.45**	**84.96**	**94.82**	**59.33**	*51.40*	*50.34*	*55.22*	*51.36*	*56.65*	*48.49*	*53.75*	*51.17*	**70.39**	*52.08*	*52.51*
FRCC index, Florida Reliability	**41.11**	**78.70**	**92.71**	**58.54**	*51.73*	*50.69*	*52.83*	*48.43*	*50.15*	*46.16*	*48.49*	*46.59*	**67.77**	*50.92*	*47.85*
Northwest index, Mid-Columbia	**39.85**	**59.39**	**137.82**	**151.39**	*149.00*	*64.69*	*110.25*	*59.56*	*56.51*	*31.83*	*73.62*	*54.40*	**97.11**	*95.87*	*54.09*
Southwest index, Palo Verde	**39.02**	**60.50**	**128.25**	**130.12**	*127.67*	*64.87*	*107.64*	*55.87*	*54.52*	*33.98*	*73.38*	*50.50*	**89.47**	*89.02*	*53.10*

Notes: EIA completed modeling and analysis for this report on January 5, 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 colocated 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 - January 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**	*12.6*	*10.5*	*12.5*	*11.1*	*13.1*	*10.5*	*12.6*	*11.2*	**48.3**	*46.6*	*47.4*
Middle Atlantic	**36.1**	**30.0**	**42.5**	**29.9**	*35.2*	*30.1*	*39.3*	*30.3*	*36.8*	*30.2*	*39.4*	*30.4*	**138.4**	*134.9*	*136.9*
E. N. Central	**50.8**	**43.8**	**54.8**	**43.0**	*49.2*	*42.9*	*54.9*	*44.1*	*51.7*	*43.4*	*55.4*	*44.3*	**192.3**	*191.2*	*194.7*
W. N. Central	**30.6**	**24.7**	**31.3**	**25.0**	*30.2*	*24.3*	*31.1*	*25.4*	*31.6*	*24.8*	*31.6*	*25.8*	**111.6**	*111.0*	*113.7*
S. Atlantic	**96.0**	**91.5**	**116.2**	**83.8**	*95.2*	*89.7*	*114.5*	*85.5*	*103.3*	*91.0*	*115.7*	*86.1*	**387.5**	*384.9*	*396.1*
E. S. Central	**32.6**	**27.7**	**37.0**	**26.5**	*32.2*	*27.1*	*36.5*	*27.0*	*34.9*	*27.4*	*36.7*	*27.1*	**123.8**	*122.8*	*126.1*
W. S. Central	**56.9**	**58.8**	**81.3**	**49.4**	*54.1*	*55.6*	*76.6*	*50.4*	*58.2*	*56.7*	*77.9*	*51.3*	**246.3**	*236.6*	*244.0*
Mountain	**24.1**	**26.2**	**36.1**	**23.7**	*24.3*	*25.4*	*34.3*	*23.4*	*24.7*	*25.7*	*34.8*	*23.7*	**110.2**	*107.3*	*108.9*
Pacific contiguous	**38.4**	**32.4**	**43.1**	**36.4**	*38.8*	*31.6*	*38.8*	*34.7*	*39.0*	*31.6*	*38.8*	*34.7*	**150.3**	*144.0*	*144.1*
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**	*4.8*	*4.8*
Total	**379.8**	**346.7**	**457.3**	**329.7**	*372.9*	*338.4*	*439.7*	*333.2*	*394.5*	*342.4*	*444.1*	*335.8*	**1,513.5**	*1,484.1*	*1,516.7*
Commercial Sector															
New England	**12.1**	**11.8**	**13.9**	**11.8**	*12.0*	*11.8*	*13.2*	*11.7*	*12.1*	*11.6*	*13.1*	*11.6*	**49.5**	*48.7*	*48.4*
Middle Atlantic	**36.0**	**34.3**	**40.5**	**34.6**	*36.2*	*34.2*	*38.8*	*34.1*	*36.2*	*33.9*	*38.6*	*33.9*	**145.3**	*143.3*	*142.5*
E. N. Central	**43.3**	**42.9**	**48.8**	**42.6**	*43.2*	*42.4*	*48.2*	*42.1*	*43.1*	*42.0*	*48.0*	*42.0*	**177.5**	*175.8*	*175.1*
W. N. Central	**25.1**	**24.6**	**28.1**	**24.2**	*25.3*	*24.7*	*27.9*	*24.2*	*25.5*	*24.5*	*27.9*	*24.3*	**101.9**	*102.1*	*102.1*
S. Atlantic	**75.1**	**82.5**	**93.5**	**77.5**	*77.3*	*83.9*	*94.8*	*79.1*	*80.2*	*85.7*	*97.1*	*81.3*	**328.5**	*335.1*	*344.4*
E. S. Central	**21.0**	**22.4**	**26.8**	**20.9**	*21.1*	*22.1*	*26.4*	*20.9*	*21.3*	*21.7*	*26.1*	*20.8*	**91.2**	*90.4*	*89.9*
W. S. Central	**47.0**	**52.1**	**61.2**	**51.1**	*47.7*	*52.0*	*60.1*	*50.9*	*48.1*	*51.7*	*60.1*	*51.1*	**211.5**	*210.6*	*210.9*
Mountain	**23.2**	**25.4**	**29.6**	**23.8**	*23.3*	*25.2*	*28.9*	*23.5*	*23.3*	*25.0*	*28.9*	*23.5*	**102.0**	*100.9*	*100.7*
Pacific contiguous	**37.7**	**37.9**	**45.4**	**40.9**	*38.4*	*38.0*	*44.2*	*39.9*	*38.0*	*37.2*	*43.5*	*39.5*	**161.9**	*160.5*	*158.2*
AK and HI	**1.3**	**1.3**	**1.4**	**1.4**	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	**5.4**	*5.5*	*5.5*
Total	**321.8**	**335.2**	**389.0**	**328.7**	*325.7*	*335.5*	*383.9*	*327.7*	*329.1*	*334.6*	*384.7*	*329.4*	**1,374.8**	*1,372.9*	*1,377.8*
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*	*15.2*
Middle Atlantic	**17.5**	**18.2**	**19.4**	**18.1**	*17.6*	*18.2*	*19.3*	*18.0*	*17.8*	*18.3*	*19.5*	*18.3*	**73.2**	*73.2*	*73.9*
E. N. Central	**45.9**	**47.0**	**48.8**	**45.9**	*45.8*	*46.5*	*47.9*	*45.3*	*45.7*	*46.1*	*48.1*	*46.0*	**187.7**	*185.5*	*185.9*
W. N. Central	**24.0**	**24.8**	**26.9**	**24.8**	*24.2*	*24.7*	*26.5*	*24.8*	*24.7*	*25.0*	*27.1*	*25.6*	**100.5**	*100.3*	*102.3*
S. Atlantic	**36.3**	**37.5**	**38.7**	**36.5**	*36.6*	*37.2*	*38.0*	*36.4*	*37.2*	*37.4*	*38.4*	*37.0*	**149.0**	*148.2*	*150.0*
E. S. Central	**24.7**	**25.8**	**25.6**	**24.2**	*24.7*	*25.5*	*25.1*	*23.9*	*24.6*	*25.2*	*25.0*	*23.9*	**100.4**	*99.1*	*98.7*
W. S. Central	**49.8**	**53.3**	**53.8**	**54.7**	*51.5*	*54.6*	*55.0*	*56.3*	*53.7*	*56.3*	*57.0*	*58.6*	**211.6**	*217.5*	*225.7*
Mountain	**19.9**	**21.7**	**24.0**	**20.4**	*19.9*	*21.9*	*24.2*	*20.6*	*20.3*	*22.0*	*24.4*	*20.9*	**86.0**	*86.6*	*87.6*
Pacific contiguous	**19.0**	**21.0**	**23.4**	**20.7**	*18.7*	*20.5*	*22.7*	*20.1*	*18.5*	*20.1*	*22.3*	*19.9*	**84.1**	*82.0*	*80.8*
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**	*4.7*	*4.7*
Total	**242.2**	**254.5**	**265.9**	**250.4**	*244.1*	*254.2*	*263.9*	*250.4*	*247.4*	*255.2*	*266.9*	*255.0*	**1,013.0**	*1,012.5*	*1,024.6*
Total All Sectors (a)															
New England	**29.2**	**26.3**	**32.0**	**26.5**	*28.5*	*26.2*	*29.9*	*26.6*	*29.1*	*26.0*	*29.8*	*26.6*	**114.0**	*111.2*	*111.4*
Middle Atlantic	**90.4**	**83.3**	**103.2**	**83.4**	*89.9*	*83.3*	*98.2*	*83.2*	*91.7*	*83.2*	*98.2*	*83.4*	**360.3**	*354.5*	*356.5*
E. N. Central	**140.2**	**133.8**	**152.4**	**131.6**	*138.4*	*131.9*	*151.1*	*131.6*	*140.7*	*131.5*	*151.6*	*132.4*	**557.9**	*553.0*	*556.2*
W. N. Central	**79.7**	**74.1**	**86.2**	**74.0**	*79.7*	*73.7*	*85.6*	*74.5*	*81.7*	*74.2*	*86.6*	*75.6*	**314.1**	*313.4*	*318.1*
S. Atlantic	**207.7**	**211.8**	**248.6**	**198.0**	*209.4*	*211.1*	*247.5*	*201.2*	*221.0*	*214.3*	*251.5*	*204.6*	**866.1**	*869.2*	*891.5*
E. S. Central	**78.4**	**76.0**	**89.4**	**71.6**	*78.0*	*74.7*	*88.0*	*71.7*	*80.8*	*74.3*	*87.8*	*71.8*	**315.3**	*312.3*	*314.8*
W. S. Central	**153.7**	**164.2**	**196.4**	**155.3**	*153.3*	*162.3*	*191.8*	*157.6*	*160.1*	*164.7*	*195.1*	*161.0*	**669.6**	*665.0*	*680.8*
Mountain	**67.2**	**73.4**	**89.7**	**68.0**	*67.5*	*72.5*	*87.4*	*67.5*	*68.3*	*72.8*	*88.1*	*68.1*	**298.3**	*294.9*	*297.3*
Pacific contiguous	**95.3**	**91.5**	**112.1**	**98.2**	*96.1*	*90.3*	*105.9*	*94.9*	*95.6*	*89.0*	*104.9*	*94.3*	**397.1**	*387.2*	*383.8*
AK and HI	**3.7**	**3.6**	**3.8**	**3.9**	*3.7*	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**15.0**	*15.0*	*15.0*
Total	**945.5**	**938.0**	**1,113.9**	**910.4**	*944.4*	*929.6*	*1,089.1*	*912.8*	*972.7*	*933.7*	*1,097.3*	*921.8*	**3,907.8**	*3,875.9*	*3,925.5*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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 - January 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**	**24.80**	**25.67**	*27.82*	*27.86*	*27.81*	*27.90*	*29.53*	*28.96*	*28.61*	*28.57*	**24.66**	*27.84*	*28.93*
Middle Atlantic	**17.13**	**18.29**	**18.97**	**18.39**	*17.85*	*18.35*	*18.68*	*18.05*	*17.97*	*18.44*	*18.73*	*18.13*	**18.22**	*18.25*	*18.33*
E. N. Central	**14.21**	**15.50**	**16.21**	**15.82**	*14.98*	*15.95*	*16.42*	*15.66*	*14.85*	*16.04*	*16.63*	*15.99*	**15.43**	*15.77*	*15.88*
W. N. Central	**11.28**	**13.26**	**14.36**	**12.21**	*11.44*	*13.45*	*14.37*	*11.98*	*11.30*	*13.41*	*14.39*	*12.11*	**12.79**	*12.82*	*12.80*
S. Atlantic	**12.68**	**13.61**	**14.27**	**13.55**	*13.31*	*14.03*	*14.41*	*13.29*	*13.05*	*13.98*	*14.42*	*13.41*	**13.56**	*13.80*	*13.74*
E. S. Central	**11.97**	**13.08**	**13.79**	**12.78**	*12.49*	*13.16*	*13.55*	*12.68*	*12.56*	*13.32*	*13.72*	*12.85*	**12.93**	*12.99*	*13.13*
W. S. Central	**11.82**	**12.93**	**13.81**	**13.90**	*12.84*	*13.44*	*13.95*	*13.62*	*12.62*	*13.48*	*14.00*	*13.65*	**13.16**	*13.51*	*13.48*
Mountain	**12.14**	**12.85**	**13.23**	**13.03**	*12.78*	*13.58*	*13.87*	*13.48*	*12.92*	*13.32*	*13.36*	*13.05*	**12.86**	*13.47*	*13.18*
Pacific	**18.12**	**20.54**	**22.06**	**19.35**	*19.28*	*22.00*	*22.78*	*19.61*	*19.53*	*22.51*	*23.20*	*19.91*	**20.07**	*20.90*	*21.26*
U.S. Average	**13.97**	**15.05**	**15.85**	**15.26**	*14.82*	*15.66*	*16.02*	*15.18*	*14.75*	*15.73*	*16.09*	*15.30*	**15.07**	*15.45*	*15.48*
Commercial Sector															
New England	**18.47**	**17.46**	**18.32**	**18.19**	*20.04*	*18.72*	*19.36*	*18.72*	*20.39*	*18.95*	*19.56*	*18.99*	**18.12**	*19.22*	*19.48*
Middle Atlantic	**14.04**	**14.92**	**16.60**	**14.82**	*14.67*	*14.91*	*16.28*	*14.30*	*14.19*	*14.76*	*16.10*	*14.05*	**15.15**	*15.08*	*14.81*
E. N. Central	**11.06**	**11.85**	**12.15**	**11.78**	*11.62*	*12.06*	*12.03*	*11.47*	*11.34*	*12.03*	*12.16*	*11.58*	**11.72**	*11.80*	*11.79*
W. N. Central	**9.65**	**10.71**	**11.70**	**9.76**	*9.19*	*9.90*	*11.32*	*9.63*	*9.37*	*10.74*	*11.94*	*9.70*	**10.50**	*10.05*	*10.48*
S. Atlantic	**10.30**	**10.87**	**11.52**	**10.95**	*10.84*	*11.13*	*11.51*	*10.57*	*10.43*	*10.95*	*11.41*	*10.56*	**10.94**	*11.04*	*10.87*
E. S. Central	**11.69**	**12.20**	**13.02**	**12.37**	*12.51*	*12.64*	*13.19*	*12.33*	*12.46*	*12.82*	*13.44*	*12.51*	**12.36**	*12.70*	*12.84*
W. S. Central	**8.68**	**9.63**	**10.47**	**9.15**	*8.83*	*9.54*	*10.50*	*9.28*	*9.10*	*9.93*	*10.84*	*9.51*	**9.55**	*9.59*	*9.90*
Mountain	**9.56**	**10.31**	**10.96**	**10.25**	*10.07*	*10.79*	*11.43*	*10.56*	*10.14*	*10.59*	*11.11*	*10.27*	**10.32**	*10.75*	*10.56*
Pacific	**16.10**	**17.77**	**20.29**	**17.87**	*18.25*	*20.25*	*22.62*	*19.38*	*18.96*	*19.92*	*21.84*	*18.73*	**18.12**	*20.21*	*19.92*
U.S. Average	**11.63**	**12.34**	**13.37**	**12.35**	*12.30*	*12.75*	*13.62*	*12.37*	*12.23*	*12.76*	*13.57*	*12.29*	**12.47**	*12.80*	*12.75*
Industrial Sector															
New England	**15.12**	**15.16**	**15.93**	**14.87**	*16.08*	*15.75*	*16.28*	*15.02*	*16.18*	*15.82*	*16.39*	*15.17*	**15.28**	*15.79*	*15.90*
Middle Atlantic	**7.87**	**8.29**	**9.82**	**7.88**	*7.81*	*7.82*	*9.14*	*7.62*	*7.73*	*7.59*	*8.90*	*7.44*	**8.49**	*8.11*	*7.93*
E. N. Central	**7.73**	**8.56**	**9.01**	**8.37**	*7.95*	*8.37*	*8.76*	*8.37*	*8.09*	*8.41*	*8.81*	*8.43*	**8.43**	*8.37*	*8.44*
W. N. Central	**7.16**	**7.99**	**8.70**	**7.37**	*7.33*	*7.98*	*8.65*	*7.47*	*7.50*	*8.11*	*8.79*	*7.58*	**7.83**	*7.87*	*8.01*
S. Atlantic	**6.85**	**8.09**	**9.11**	**7.27**	*6.98*	*7.77*	*8.67*	*7.15*	*6.97*	*7.71*	*8.61*	*7.13*	**7.85**	*7.65*	*7.61*
E. S. Central	**6.35**	**7.36**	**8.41**	**7.02**	*6.62*	*7.17*	*8.13*	*6.94*	*6.64*	*7.13*	*8.09*	*6.92*	**7.30**	*7.22*	*7.20*
W. S. Central	**6.19**	**7.28**	**8.08**	**6.93**	*6.39*	*6.90*	*7.46*	*6.62*	*6.21*	*6.65*	*7.16*	*6.36*	**7.14**	*6.85*	*6.60*
Mountain	**6.57**	**7.27**	**8.41**	**7.26**	*7.02*	*7.42*	*8.48*	*7.20*	*6.91*	*7.34*	*8.44*	*7.22*	**7.42**	*7.57*	*7.52*
Pacific	**10.37**	**11.97**	**14.16**	**12.21**	*11.18*	*12.40*	*14.55*	*12.38*	*11.25*	*12.56*	*14.85*	*12.73*	**12.28**	*12.71*	*12.94*
U.S. Average	**7.42**	**8.41**	**9.42**	**8.08**	*7.69*	*8.25*	*9.15*	*7.99*	*7.69*	*8.19*	*9.10*	*7.96*	**8.36**	*8.28*	*8.25*
All Sectors (a)															
New England	**20.46**	**19.83**	**20.80**	**20.73**	*22.90*	*21.90*	*22.46*	*21.98*	*23.92*	*22.51*	*22.94*	*22.43*	**20.47**	*22.32*	*22.97*
Middle Atlantic	**14.06**	**14.66**	**16.28**	**14.58**	*14.56*	*14.59*	*15.82*	*14.21*	*14.44*	*14.51*	*15.71*	*14.08*	**14.95**	*14.83*	*14.72*
E. N. Central	**11.10**	**11.89**	**12.60**	**11.90**	*11.60*	*12.02*	*12.59*	*11.80*	*11.57*	*12.08*	*12.73*	*11.96*	**11.89**	*12.02*	*12.10*
W. N. Central	**9.53**	**10.65**	**11.73**	**9.78**	*9.48*	*10.42*	*11.60*	*9.71*	*9.55*	*10.74*	*11.85*	*9.80*	**10.46**	*10.34*	*10.51*
S. Atlantic	**10.79**	**11.56**	**12.43**	**11.37**	*11.28*	*11.76*	*12.41*	*11.11*	*11.07*	*11.67*	*12.36*	*11.14*	**11.58**	*11.68*	*11.59*
E. S. Central	**10.12**	**10.88**	**12.02**	**10.71**	*10.64*	*10.96*	*11.89*	*10.67*	*10.73*	*11.08*	*12.03*	*10.78*	**10.98**	*11.08*	*11.19*
W. S. Central	**9.03**	**10.05**	**11.20**	**9.88**	*9.42*	*9.99*	*11.00*	*9.72*	*9.41*	*10.03*	*11.03*	*9.68*	**10.11**	*10.09*	*10.09*
Mountain	**9.60**	**10.32**	**11.19**	**10.33**	*10.14*	*10.75*	*11.57*	*10.54*	*10.19*	*10.57*	*11.25*	*10.30*	**10.42**	*10.81*	*10.63*
Pacific	**15.76**	**17.41**	**19.68**	**17.22**	*17.27*	*19.06*	*20.93*	*17.96*	*17.68*	*19.16*	*20.83*	*17.88*	**17.61**	*18.86*	*18.93*
U.S. Average	**11.49**	**12.28**	**13.45**	**12.23**	*12.10*	*12.58*	*13.50*	*12.19*	*12.09*	*12.60*	*13.50*	*12.19*	**12.41**	*12.63*	*12.63*

(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 January 5, 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 1. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continues on Table 7d part 2*

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

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
United States															
Natural Gas	**337.0**	**365.5**	**509.4**	**378.5**	*339.8*	*357.0*	*477.5*	*359.1*	*342.3*	*337.1*	*466.6*	*359.8*	**1,590.5**	*1,533.4*	*1,505.7*
Coal	**217.5**	**189.1**	**234.6**	**186.1**	*187.8*	*158.2*	*218.8*	*163.9*	*183.9*	*149.7*	*209.8*	*160.1*	**827.3**	*728.7*	*703.5*
Nuclear	**195.6**	**184.4**	**201.5**	**190.2**	*193.9*	*187.7*	*206.4*	*196.2*	*200.4*	*192.8*	*207.4*	*190.7*	**771.7**	*784.2*	*791.3*
Renewable Energy Sources:	**233.2**	**244.9**	**197.4**	**203.2**	*243.1*	*271.2*	*216.2*	*225.7*	*267.8*	*298.9*	*244.2*	*244.0*	**878.7**	*956.2*	*1,055.0*
Conventional Hydropower	**74.4**	**69.2**	**62.3**	**52.9**	*67.0*	*76.0*	*62.5*	*58.6*	*71.7*	*79.9*	*64.6*	*59.6*	**258.8**	*264.1*	*275.7*
Wind	**119.0**	**121.0**	**80.6**	**110.1**	*127.3*	*128.2*	*85.2*	*115.7*	*133.7*	*131.5*	*88.0*	*121.2*	**430.6**	*456.4*	*474.3*
Solar (a)	**29.1**	**44.3**	**43.2**	**29.3**	*37.3*	*56.8*	*57.2*	*40.6*	*52.1*	*78.4*	*80.3*	*52.8*	**145.9**	*191.9*	*263.6*
Biomass	**6.6**	**6.5**	**7.1**	**6.3**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.2*	**26.5**	*25.6*	*26.0*
Geothermal	**4.1**	**4.0**	**4.2**	**4.6**	*4.9*	*4.0*	*4.6*	*4.7*	*3.7*	*2.8*	*4.5*	*4.3*	**16.8**	*18.2*	*15.3*
Pumped Storage Hydropower	**-1.2**	**-1.3**	**-2.0**	**-1.4**	*-1.4*	*-1.5*	*-2.1*	*-1.5*	*-1.4*	*-1.5*	*-2.1*	*-1.4*	**-5.9**	*-6.4*	*-6.4*
Petroleum (b)	**6.4**	**4.1**	**4.5**	**4.4**	*5.3*	*3.8*	*4.4*	*4.2*	*5.5*	*3.7*	*4.4*	*4.3*	**19.4**	*17.7*	*17.8*
Other Gases	**0.8**	**0.9**	**1.0**	**0.9**	*0.8*	*0.8*	*0.9*	*0.8*	*0.8*	*0.9*	*0.9*	*0.8*	**3.5**	*3.3*	*3.4*
Other Nonrenewable Fuels (c)	**1.6**	**1.6**	**1.6**	**1.5**	*1.2*	*1.2*	*1.2*	*1.1*	*0.8*	*0.9*	*0.8*	*0.7*	**6.3**	*4.7*	*3.2*
Total Generation	**990.8**	**989.3**	**1,147.8**	**963.4**	*970.4*	*978.2*	*1,123.4*	*949.7*	*1,000.0*	*982.5*	*1,132.0*	*959.1*	**4,091.4**	*4,021.8*	*4,073.6*
New England (ISO-NE)															
Natural Gas	**12.1**	**12.6**	**17.4**	**13.9**	*11.9*	*12.3*	*15.2*	*12.5*	*12.8*	*11.4*	*15.3*	*12.1*	**56.0**	*52.0*	*51.7*
Coal	**0.3**	**0.0**	**0.0**	**0.1**	*0.2*	*0.0*	*0.0*	*0.0*	*0.3*	*0.0*	*0.0*	*0.1*	**0.4**	*0.3*	*0.4*
Nuclear	**7.1**	**5.6**	**7.3**	**7.5**	*7.1*	*5.6*	*7.3*	*6.2*	*7.2*	*7.2*	*7.3*	*5.7*	**27.5**	*26.2*	*27.4*
Conventional hydropower	**1.7**	**1.5**	**1.0**	**1.5**	*1.9*	*2.2*	*1.2*	*1.7*	*2.0*	*2.2*	*1.2*	*1.7*	**5.6**	*7.0*	*7.1*
Nonhydro renewables (d)	**3.2**	**3.2**	**3.0**	**2.7**	*3.1*	*3.2*	*3.0*	*2.9*	*3.3*	*3.8*	*3.6*	*3.6*	**12.1**	*12.2*	*14.3*
Other energy sources (e)	**1.4**	**0.4**	**0.4**	**0.4**	*1.0*	*0.3*	*0.3*	*0.4*	*0.9*	*0.4*	*0.3*	*0.3*	**2.4**	*1.9*	*1.9*
Total generation	**25.7**	**23.1**	**29.2**	**26.1**	*25.3*	*23.6*	*27.0*	*23.7*	*26.5*	*25.0*	*27.6*	*23.5*	**104.0**	*99.6*	*102.7*
Net energy for load (f)	**30.2**	**26.0**	**33.0**	**27.6**	*29.7*	*27.7*	*32.0*	*28.8*	*31.0*	*28.1*	*32.5*	*29.3*	**116.8**	*118.3*	*120.9*
New York (NYISO)															
Natural Gas	**14.1**	**15.5**	**21.2**	**13.2**	*13.5*	*15.4*	*18.8*	*12.8*	*14.1*	*15.2*	*17.4*	*13.0*	**63.9**	*60.5*	*59.6*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**6.4**	**7.0**	**6.4**	**6.9**	*6.6*	*6.4*	*7.0*	*7.0*	*6.3*	*6.9*	*6.8*	*6.4*	**26.7**	*27.0*	*26.4*
Conventional hydropower	**7.3**	**6.9**	**6.6**	**6.7**	*6.6*	*6.7*	*6.8*	*7.0*	*6.9*	*6.9*	*6.9*	*7.1*	**27.5**	*27.2*	*27.7*
Nonhydro renewables (d)	**2.1**	**2.0**	**1.7**	**2.0**	*2.4*	*2.7*	*2.1*	*2.9*	*3.8*	*4.2*	*3.3*	*3.7*	**7.8**	*10.0*	*14.9*
Other energy sources (e)	**1.1**	**0.1**	**0.1**	**0.1**	*0.5*	*0.1*	*0.2*	*0.1*	*0.7*	*0.1*	*0.2*	*0.1*	**1.5**	*0.9*	*1.1*
Total generation	**31.0**	**31.5**	**36.0**	**28.9**	*29.7*	*31.4*	*34.8*	*29.8*	*31.7*	*33.3*	*34.6*	*30.2*	**127.4**	*125.7*	*129.8*
Net energy for load (f)	**37.6**	**34.0**	**43.3**	**35.0**	*36.5*	*35.3*	*41.5*	*35.0*	*37.1*	*35.3*	*41.6*	*35.3*	**150.0**	*148.3*	*149.3*
Mid-Atlantic (PJM)															
Natural Gas	**76.8**	**74.3**	**103.8**	**83.0**	*86.5*	*88.4*	*104.0*	*86.4*	*78.0*	*86.7*	*103.2*	*84.8*	**337.9**	*365.3*	*352.7*
Coal	**48.6**	**35.3**	**42.2**	**32.3**	*40.9*	*27.7*	*39.1*	*27.1*	*37.9*	*26.4*	*38.2*	*27.2*	**158.3**	*134.7*	*129.8*
Nuclear	**69.0**	**65.1**	**69.7**	**66.5**	*67.8*	*67.1*	*72.0*	*68.7*	*69.0*	*64.8*	*72.0*	*68.6*	**270.3**	*275.6*	*274.5*
Conventional hydropower	**2.7**	**2.4**	**1.4**	**1.8**	*2.6*	*2.6*	*1.7*	*2.1*	*2.7*	*2.6*	*1.7*	*2.1*	**8.4**	*8.9*	*9.0*
Nonhydro renewables (d)	**13.3**	**13.0**	**9.7**	**13.0**	*14.1*	*14.2*	*11.4*	*14.9*	*16.4*	*17.5*	*14.3*	*16.8*	**49.0**	*54.6*	*65.0*
Other energy sources (e)	**0.7**	**0.4**	**0.2**	**0.6**	*0.6*	*0.4*	*0.2*	*0.7*	*0.6*	*0.4*	*0.2*	*0.7*	**1.9**	*1.9*	*2.0*
Total generation	**211.1**	**190.3**	**227.1**	**197.2**	*212.5*	*200.4*	*228.4*	*199.8*	*204.6*	*198.5*	*229.7*	*200.3*	**825.7**	*841.1*	*833.1*
Net energy for load (f)	**201.0**	**180.3**	**213.2**	**187.0**	*197.4*	*181.2*	*207.2*	*182.8*	*202.2*	*181.2*	*208.4*	*184.5*	**781.4**	*768.7*	*776.2*
Southeast (SERC)															
Natural Gas	**63.5**	**67.1**	**86.7**	**65.3**	*68.1*	*64.5*	*82.9*	*62.3*	*72.4*	*61.6*	*83.3*	*66.3*	**282.6**	*277.9*	*283.7*
Coal	**32.3**	**32.8**	**32.0**	**27.0**	*27.0*	*25.9*	*36.8*	*22.9*	*29.4*	*24.7*	*35.4*	*22.6*	**124.1**	*112.5*	*112.1*
Nuclear	**51.4**	**51.1**	**55.4**	**51.1**	*52.5*	*53.8*	*57.3*	*57.4*	*56.7*	*57.6*	*59.3*	*55.0*	**209.1**	*221.0*	*228.5*
Conventional hydropower	**10.3**	**8.3**	**6.1**	**7.8**	*11.0*	*8.9*	*8.0*	*9.1*	*11.5*	*9.0*	*8.1*	*9.1*	**32.5**	*37.1*	*37.7*
Nonhydro renewables (d)	**5.0**	**7.0**	**6.5**	**5.1**	*5.7*	*7.8*	*7.3*	*5.8*	*6.5*	*8.6*	*8.0*	*6.2*	**23.7**	*26.6*	*29.3*
Other energy sources (e)	**-0.2**	**-0.3**	**-0.6**	**-0.4**	*-0.3*	*-0.4*	*-0.7*	*-0.4*	*-0.2*	*-0.4*	*-0.7*	*-0.3*	**-1.5**	*-1.8*	*-1.7*
Total generation	**162.3**	**166.0**	**186.2**	**156.0**	*164.1*	*160.6*	*191.6*	*157.0*	*176.2*	*161.1*	*193.3*	*159.0*	**670.4**	*673.3*	*689.6*
Net energy for load (f)	**164.8**	**167.3**	**180.3**	**154.4**	*165.0*	*165.7*	*191.1*	*160.6*	*178.4*	*169.8*	*195.3*	*164.2*	**666.9**	*682.4*	*707.8*
Florida (FRCC)															
Natural Gas	**38.4**	**47.7**	**56.8**	**39.9**	*34.4*	*40.8*	*56.0*	*41.6*	*41.5*	*43.8*	*59.1*	*44.2*	**182.7**	*172.8*	*188.6*
Coal	**3.5**	**4.3**	**3.7**	**3.6**	*2.6*	*3.3*	*3.5*	*3.7*	*2.4*	*3.0*	*3.3*	*3.6*	**15.0**	*13.1*	*12.3*
Nuclear	**7.3**	**7.9**	**7.5**	**8.1**	*7.0*	*6.9*	*7.5*	*7.7*	*7.2*	*7.8*	*7.1*	*7.1*	**30.8**	*29.2*	*29.3*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.9**	**3.7**	**3.5**	**2.8**	*3.7*	*4.7*	*4.4*	*3.5*	*4.9*	*6.0*	*5.6*	*4.4*	**12.9**	*16.4*	*21.0*
Other energy sources (e)	**0.7**	**0.6**	**0.7**	**0.6**	*0.7*	*0.6*	*0.7*	*0.6*	*0.7*	*0.6*	*0.7*	*0.6*	**2.6**	*2.6*	*2.7*
Total generation	**52.9**	**64.2**	**72.2**	**55.0**	*48.5*	*56.4*	*72.2*	*57.2*	*56.8*	*61.3*	*75.9*	*59.9*	**244.3**	*234.3*	*253.9*
Net energy for load (f)	**53.3**	**65.8**	**76.6**	**57.9**	*49.9*	*60.2*	*67.9*	*53.1*	*51.3*	*60.5*	*68.4*	*53.5*	**253.6**	*231.1*	*233.7*

(a) Solar generation from large-scale 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 January 5, 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 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 - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Midwest (MISO)															
Natural Gas	**41.6**	**47.4**	**59.7**	**44.8**	*36.4*	*48.8*	*53.2*	*41.6*	*42.0*	*48.7*	*56.0*	*44.1*	**193.5**	*180.1*	*190.7*
Coal	**64.5**	**54.1**	**68.6**	**53.0**	*55.6*	*49.6*	*65.4*	*50.2*	*55.3*	*46.0*	*61.3*	*48.0*	**240.1**	*220.8*	*210.6*
Nuclear	**23.8**	**19.6**	**24.3**	**23.7**	*22.4*	*21.1*	*24.4*	*20.9*	*23.2*	*22.5*	*23.8*	*21.4*	**91.4**	*88.7*	*90.9*
Conventional hydropower	**2.9**	**2.7**	**2.4**	**1.9**	*2.4*	*2.9*	*2.3*	*2.2*	*2.5*	*2.9*	*2.3*	*2.2*	**10.0**	*9.8*	*9.9*
Nonhydro renewables (d)	**32.0**	**28.7**	**20.3**	**30.0**	*34.1*	*30.6*	*22.0*	*32.1*	*35.9*	*32.3*	*24.3*	*33.5*	**111.1**	*118.7*	*126.0*
Other energy sources (e)	**1.4**	**1.7**	**1.3**	**1.6**	*1.5*	*1.4*	*1.4*	*1.6*	*1.6*	*1.5*	*1.5*	*1.6*	**6.0**	*5.9*	*6.2*
Total generation	**166.1**	**154.2**	**176.8**	**155.0**	*152.3*	*154.4*	*168.7*	*148.5*	*160.5*	*153.8*	*169.1*	*150.8*	**652.1**	*624.0*	*634.2*
Net energy for load (f)	**165.1**	**158.9**	**179.5**	**157.6**	*160.7*	*160.2*	*179.2*	*157.4*	*164.2*	*160.5*	*180.5*	*159.1*	**661.2**	*657.4*	*664.3*
Central (Southwest Power Pool)															
Natural Gas	**10.6**	**13.4**	**22.4**	**14.6**	*14.1*	*14.3*	*19.7*	*11.9*	*14.6*	*14.2*	*20.2*	*12.8*	**61.0**	*60.0*	*61.8*
Coal	**22.1**	**20.5**	**30.1**	**19.2**	*19.1*	*14.9*	*23.4*	*15.9*	*19.2*	*14.7*	*23.4*	*16.1*	**91.9**	*73.3*	*73.4*
Nuclear	**4.3**	**4.3**	**3.9**	**2.1**	*4.3*	*4.3*	*4.4*	*4.4*	*4.3*	*3.0*	*4.4*	*3.5*	**14.6**	*17.3*	*15.2*
Conventional hydropower	**4.3**	**3.9**	**3.2**	**2.5**	*3.4*	*4.1*	*3.7*	*3.1*	*3.6*	*4.2*	*3.7*	*3.1*	**13.9**	*14.2*	*14.5*
Nonhydro renewables (d)	**28.6**	**29.6**	**21.3**	**27.8**	*31.4*	*31.6*	*22.6*	*28.7*	*33.3*	*32.5*	*23.7*	*30.1*	**107.3**	*114.2*	*119.5*
Other energy sources (e)	**0.3**	**0.4**	**0.2**	**0.3**	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	**1.1**	*1.0*	*1.1*
Total generation	**70.2**	**72.0**	**81.1**	**66.6**	*72.5*	*69.5*	*73.9*	*64.2*	*75.3*	*68.9*	*75.5*	*65.9*	**289.9**	*280.1*	*285.6*
Net energy for load (f)	**67.3**	**69.0**	**82.6**	**65.2**	*65.7*	*66.0*	*77.7*	*62.5*	*67.5*	*66.5*	*78.9*	*63.8*	**284.1**	*271.9*	*276.7*
Texas (ERCOT)															
Natural Gas	**33.6**	**42.9**	**64.7**	**41.2**	*27.7*	*31.7*	*50.8*	*34.5*	*25.1*	*24.3*	*42.5*	*30.2*	**182.4**	*144.7*	*122.2*
Coal	**17.7**	**16.8**	**20.2**	**16.5**	*14.9*	*16.2*	*20.9*	*15.6*	*14.7*	*15.6*	*20.4*	*14.4*	**71.1**	*67.6*	*65.2*
Nuclear	**11.0**	**9.9**	**10.7**	**10.1**	*10.7*	*8.9*	*11.0*	*10.1*	*10.9*	*9.7*	*11.0*	*9.1*	**41.7**	*40.7*	*40.6*
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*	**0.4**	*0.6*	*0.6*
Nonhydro renewables (d)	**30.9**	**39.1**	**28.0**	**28.8**	*36.4*	*45.7*	*34.0*	*33.2*	*41.1*	*52.5*	*42.5*	*39.5*	**126.8**	*149.3*	*175.5*
Other energy sources (e)	**0.4**	**0.5**	**0.4**	**0.4**	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.2*	*0.2*	**1.6**	*1.3*	*0.9*
Total generation	**93.7**	**109.2**	**124.0**	**97.0**	*90.2*	*103.1*	*117.1*	*93.8*	*92.2*	*102.6*	*116.8*	*93.6*	**423.9**	*404.2*	*405.1*
Net energy for load (f)	**93.7**	**109.2**	**124.0**	**97.0**	*90.2*	*103.1*	*117.1*	*93.8*	*92.2*	*102.6*	*116.8*	*93.6*	**423.9**	*404.2*	*405.1*
Northwest															
Natural Gas	**20.2**	**15.9**	**27.3**	**25.9**	*20.0*	*14.2*	*28.3*	*22.2*	*17.1*	*9.6*	*25.6*	*20.8*	**89.4**	*84.6*	*73.0*
Coal	**21.6**	**18.1**	**26.9**	**25.3**	*20.1*	*14.8*	*21.5*	*19.6*	*17.5*	*13.6*	*19.8*	*19.2*	**91.9**	*76.0*	*70.2*
Nuclear	**2.5**	**2.3**	**2.5**	**2.6**	*2.4*	*1.2*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	*2.4*	**9.9**	*8.4*	*9.6*
Conventional hydropower	**38.9**	**35.7**	**33.9**	**26.1**	*33.0*	*38.9*	*29.8*	*28.1*	*35.4*	*41.2*	*30.7*	*28.2*	**134.5**	*129.8*	*135.4*
Nonhydro renewables (d)	**19.2**	**20.4**	**15.9**	**17.6**	*18.6*	*21.1*	*17.4*	*18.6*	*21.0*	*23.7*	*20.7*	*20.1*	**73.1**	*75.7*	*85.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	**0.7**	*0.4*	*0.2*
Total generation	**102.6**	**92.6**	**106.7**	**97.6**	*94.1*	*90.3*	*99.5*	*91.0*	*93.4*	*90.5*	*99.2*	*90.8*	**399.5**	*374.9*	*374.0*
Net energy for load (f)	**89.9**	**87.6**	**98.9**	**95.3**	*91.5*	*86.2*	*96.4*	*88.9*	*91.6*	*85.9*	*96.3*	*88.9*	**371.7**	*363.1*	*362.7*
Southwest															
Natural Gas	**9.6**	**12.9**	**18.6**	**14.1**	*14.7*	*15.1*	*21.9*	*11.8*	*13.0*	*13.1*	*20.7*	*11.6*	**55.1**	*63.5*	*58.4*
Coal	**6.1**	**6.3**	**8.1**	**6.6**	*5.1*	*4.2*	*5.2*	*6.2*	*5.0*	*4.1*	*4.9*	*6.1*	**27.1**	*20.6*	*20.1*
Nuclear	**8.2**	**7.5**	**8.7**	**7.6**	*8.4*	*7.5*	*8.6*	*7.5*	*8.5*	*7.4*	*8.6*	*7.6*	**32.0**	*32.0*	*32.1*
Conventional hydropower	**1.9**	**2.1**	**1.8**	**1.4**	*1.6*	*1.9*	*1.9*	*1.3*	*1.7*	*2.0*	*1.8*	*1.4*	**7.1**	*6.7*	*7.0*
Nonhydro renewables (d)	**4.6**	**5.7**	**3.9**	**3.6**	*4.3*	*6.2*	*4.4*	*4.2*	*5.1*	*7.0*	*4.9*	*4.5*	**17.8**	*19.2*	*21.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.2**	*0.1*	*0.0*
Total generation	**30.4**	**34.4**	**41.1**	**33.4**	*34.2*	*34.8*	*41.9*	*31.1*	*33.3*	*33.6*	*41.0*	*31.1*	**139.3**	*142.0*	*139.0*
Net energy for load (f)	**21.7**	**27.2**	**34.9**	**23.4**	*22.5*	*27.1*	*34.4*	*23.1*	*22.7*	*27.0*	*34.5*	*23.2*	**107.2**	*107.1*	*107.4*
California															
Natural Gas	**15.8**	**15.5**	**29.9**	**21.9**	*11.7*	*10.7*	*26.2*	*20.7*	*10.9*	*8.0*	*22.7*	*19.0*	**83.2**	*69.3*	*60.7*
Coal	**0.5**	**0.7**	**2.4**	**2.3**	*1.9*	*1.2*	*2.6*	*2.3*	*1.8*	*1.1*	*2.6*	*2.4*	**5.9**	*8.1*	*7.9*
Nuclear	**4.6**	**4.2**	**5.0**	**3.9**	*4.6*	*4.7*	*4.6*	*4.1*	*4.7*	*3.6*	*4.7*	*3.9*	**17.7**	*18.0*	*16.9*
Conventional hydropower	**3.6**	**5.3**	**5.3**	**2.7**	*3.8*	*7.1*	*6.6*	*3.5*	*4.7*	*8.3*	*7.7*	*4.2*	**16.9**	*21.0*	*24.9*
Nonhydro renewables (d)	**16.7**	**22.8**	**20.7**	**16.4**	*21.8*	*26.9*	*24.5*	*19.8*	*24.5*	*30.2*	*28.1*	*21.5*	**76.5**	*93.2*	*104.4*
Other energy sources (e)	**0.0**	**-0.2**	**0.1**	**-0.3**	*-0.5*	*-0.5*	*-0.1*	*-0.7*	*-0.7*	*-0.7*	*-0.3*	*-0.9*	**-0.4**	*-1.7*	*-2.7*
Total generation	**41.2**	**48.2**	**63.4**	**46.9**	*43.4*	*50.1*	*64.6*	*49.7*	*45.9*	*50.5*	*65.7*	*50.1*	**199.8**	*207.9*	*212.1*
Net energy for load (f)	**57.3**	**61.9**	**79.6**	**61.6**	*57.7*	*61.9*	*75.1*	*59.8*	*58.3*	*61.7*	*75.0*	*59.8*	**260.5**	*254.5*	*254.8*

(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.

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

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

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - January 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**	**0.041**	*0.044*	*0.035*	*0.040*	*0.042*	*0.033*	*0.025*	*0.040*	*0.038*	**0.149**	*0.161*	*0.135*
Hydroelectric Power (a)	**0.658**	**0.612**	**0.551**	**0.481**	*0.597*	*0.677*	*0.557*	*0.522*	*0.638*	*0.712*	*0.575*	*0.530*	**2.301**	*2.352*	*2.455*
Solar (b)	**0.259**	**0.394**	**0.384**	**0.261**	*0.332*	*0.506*	*0.509*	*0.362*	*0.464*	*0.698*	*0.715*	*0.470*	**1.299**	*1.709*	*2.348*
Waste Biomass (c)	**0.055**	**0.053**	**0.053**	**0.053**	*0.054*	*0.053*	*0.053*	*0.053*	*0.054*	*0.053*	*0.053*	*0.053*	**0.214**	*0.213*	*0.213*
Wood Biomass	**0.051**	**0.046**	**0.056**	**0.044**	*0.046*	*0.041*	*0.051*	*0.043*	*0.048*	*0.044*	*0.053*	*0.043*	**0.197**	*0.181*	*0.187*
Wind	**1.060**	**1.077**	**0.718**	**0.980**	*1.134*	*1.142*	*0.759*	*1.030*	*1.190*	*1.171*	*0.783*	*1.079*	**3.835**	*4.064*	*4.224*
Subtotal	**2.119**	**2.218**	**1.798**	**1.860**	*2.207*	*2.454*	*1.969*	*2.050*	*2.427*	*2.703*	*2.219*	*2.213*	**7.996**	*8.680*	*9.562*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.199*	*0.199*	*0.206*	*0.201*	*0.202*	*0.203*	*0.210*	**0.807**	*0.801*	*0.815*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.008*	*0.008*
Solar (b)	**0.008**	**0.011**	**0.012**	**0.008**	*0.009*	*0.012*	*0.012*	*0.009*	*0.009*	*0.013*	*0.014*	*0.009*	**0.039**	*0.042*	*0.046*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	*0.040*	*0.039*	*0.039*	*0.041*	*0.040*	*0.039*	*0.039*	*0.041*	**0.160**	*0.159*	*0.159*
Wood Biomass	**0.319**	**0.324**	**0.322**	**0.328**	*0.332*	*0.335*	*0.348*	*0.350*	*0.338*	*0.335*	*0.347*	*0.350*	**1.292**	*1.365*	*1.370*
Subtotal (e)	**0.580**	**0.586**	**0.576**	**0.590**	*0.586*	*0.594*	*0.606*	*0.614*	*0.596*	*0.598*	*0.610*	*0.618*	**2.331**	*2.399*	*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)	**0.033**	**0.048**	**0.048**	**0.033**	*0.038*	*0.056*	*0.057*	*0.040*	*0.046*	*0.066*	*0.067*	*0.047*	**0.163**	*0.190*	*0.226*
Waste Biomass (c)	**0.009**	**0.009**	**0.009**	**0.010**	*0.009*	*0.009*	*0.009*	*0.010*	*0.009*	*0.009*	*0.009*	*0.010*	**0.037**	*0.037*	*0.038*
Wood Biomass	**0.020**	**0.021**	**0.021**	**0.021**	*0.020*	*0.021*	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.077**	**0.092**	**0.093**	**0.077**	*0.081*	*0.100*	*0.101*	*0.084*	*0.089*	*0.111*	*0.112*	*0.091*	**0.338**	*0.366*	*0.403*
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**	**0.088**	*0.098*	*0.149*	*0.151*	*0.105*	*0.118*	*0.182*	*0.185*	*0.129*	**0.408**	*0.504*	*0.615*
Wood Biomass	**0.119**	**0.121**	**0.122**	**0.117**	*0.119*	*0.121*	*0.122*	*0.117*	*0.119*	*0.121*	*0.122*	*0.117*	**0.479**	*0.479*	*0.479*
Subtotal	**0.209**	**0.250**	**0.252**	**0.215**	*0.227*	*0.280*	*0.283*	*0.232*	*0.247*	*0.312*	*0.317*	*0.256*	**0.926**	*1.022*	*1.133*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.138**	*0.130*	*0.142*	*0.150*	*0.162*	*0.154*	*0.174*	*0.189*	*0.204*	**0.464**	*0.584*	*0.721*
Ethanol (g)	**0.259**	**0.281**	**0.279**	**0.279**	*0.260*	*0.280*	*0.280*	*0.283*	*0.266*	*0.281*	*0.282*	*0.285*	**1.097**	*1.104*	*1.114*
Subtotal	**0.353**	**0.397**	**0.395**	**0.412**	*0.390*	*0.423*	*0.430*	*0.445*	*0.419*	*0.455*	*0.471*	*0.489*	**1.557**	*1.688*	*1.834*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.094**	**0.117**	**0.116**	**0.138**	*0.130*	*0.142*	*0.150*	*0.162*	*0.154*	*0.174*	*0.189*	*0.204*	**0.464**	*0.584*	*0.721*
Biofuel Losses and Co-products (d)	**0.203**	**0.203**	**0.197**	**0.205**	*0.196*	*0.199*	*0.199*	*0.206*	*0.201*	*0.202*	*0.203*	*0.210*	**0.807**	*0.801*	*0.815*
Ethanol (f)	**0.271**	**0.293**	**0.292**	**0.286**	*0.272*	*0.293*	*0.293*	*0.296*	*0.278*	*0.294*	*0.295*	*0.298*	**1.141**	*1.153*	*1.164*
Geothermal	**0.053**	**0.052**	**0.054**	**0.059**	*0.060*	*0.052*	*0.057*	*0.059*	*0.050*	*0.042*	*0.057*	*0.055*	**0.218**	*0.229*	*0.203*
Hydroelectric Power (a)	**0.661**	**0.615**	**0.553**	**0.483**	*0.600*	*0.679*	*0.559*	*0.524*	*0.641*	*0.715*	*0.577*	*0.533*	**2.312**	*2.362*	*2.466*
Solar (b)(f)	**0.381**	**0.573**	**0.565**	**0.390**	*0.477*	*0.723*	*0.729*	*0.515*	*0.637*	*0.960*	*0.981*	*0.656*	**1.908**	*2.446*	*3.234*
Waste Biomass (c)	**0.106**	**0.102**	**0.099**	**0.105**	*0.103*	*0.101*	*0.101*	*0.103*	*0.103*	*0.101*	*0.101*	*0.103*	**0.413**	*0.409*	*0.409*
Wood Biomass	**0.509**	**0.511**	**0.521**	**0.509**	*0.518*	*0.518*	*0.541*	*0.530*	*0.525*	*0.520*	*0.543*	*0.531*	**2.051**	*2.107*	*2.119*
Wind	**1.060**	**1.077**	**0.718**	**0.980**	*1.134*	*1.142*	*0.759*	*1.030*	*1.190*	*1.171*	*0.783*	*1.079*	**3.835**	*4.064*	*4.224*
Total Consumption	**3.338**	**3.543**	**3.114**	**3.154**	*3.491*	*3.850*	*3.389*	*3.425*	*3.779*	*4.178*	*3.729*	*3.668*	**13.149**	*14.156*	*15.355*

(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 January 5, 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 - January 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,083**	**6,083**	**6,019**	**5,994**	*5,991*	*6,027*	*6,027*	*6,009*	*6,009*	*6,028*	*6,028*	*6,028*	**5,994**	*6,009*	*6,028*
Waste	**3,648**	**3,649**	**3,585**	**3,560**	*3,557*	*3,592*	*3,592*	*3,590*	*3,590*	*3,609*	*3,609*	*3,609*	**3,560**	*3,590*	*3,609*
Wood	**2,435**	**2,435**	**2,435**	**2,435**	*2,435*	*2,435*	*2,435*	*2,419*	*2,419*	*2,419*	*2,419*	*2,419*	**2,435**	*2,419*	*2,419*
Conventional Hydroelectric	**79,645**	**79,649**	**79,649**	**79,501**	*79,701*	*79,715*	*79,742*	*79,749*	*79,749*	*79,758*	*79,758*	*79,759*	**79,501**	*79,749*	*79,759*
Geothermal	**2,523**	**2,540**	**2,578**	**2,578**	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	*2,603*	**2,578**	*2,603*	*2,603*
Large-Scale Solar (b)	**63,191**	**65,253**	**67,177**	**75,471**	*79,643*	*83,583*	*89,700*	*107,143*	*113,441*	*123,584*	*125,932*	*138,714*	**75,471**	*107,143*	*138,714*
Wind	**134,822**	**137,344**	**138,029**	**142,929**	*144,659*	*145,276*	*145,476*	*148,855*	*149,197*	*151,281*	*151,281*	*155,209*	**142,929**	*148,855*	*155,209*
Other Sectors (c)															
Biomass	**6,306**	**6,298**	**6,310**	**6,312**	*6,339*	*6,339*	*6,339*	*6,330*	*6,330*	*6,330*	*6,330*	*6,330*	**6,312**	*6,330*	*6,330*
Waste	**817**	**817**	**817**	**817**	*817*	*817*	*817*	*817*	*817*	*817*	*817*	*817*	**817**	*817*	*817*
Wood	**5,489**	**5,481**	**5,493**	**5,495**	*5,522*	*5,522*	*5,522*	*5,513*	*5,513*	*5,513*	*5,513*	*5,513*	**5,495**	*5,513*	*5,513*
Conventional Hydroelectric	**299**	**302**	**302**	**302**	*302*	*302*	*300*	*300*	*300*	*300*	*300*	*300*	**302**	*300*	*300*
Large-Scale Solar (b)	**559**	**569**	**571**	**588**	*592*	*601*	*647*	*647*	*647*	*647*	*647*	*647*	**588**	*647*	*647*
Small-Scale Solar (d)	**34,700**	**36,348**	**38,092**	**39,967**	*42,114*	*44,380*	*46,776*	*49,313*	*51,997*	*54,836*	*57,837*	*61,011*	**39,967**	*49,313*	*61,011*
Residential Sector	**22,293**	**23,588**	**24,993**	**26,479**	*28,061*	*29,744*	*31,533*	*33,435*	*35,456*	*37,603*	*39,884*	*42,307*	**26,479**	*33,435*	*42,307*
Commercial Sector	**10,175**	**10,502**	**10,807**	**11,133**	*11,636*	*12,157*	*12,701*	*13,272*	*13,869*	*14,495*	*15,147*	*15,829*	**11,133**	*13,272*	*15,829*
Industrial Sector	**2,232**	**2,257**	**2,291**	**2,355**	*2,417*	*2,479*	*2,542*	*2,606*	*2,671*	*2,738*	*2,806*	*2,875*	**2,355**	*2,606*	*2,875*
Wind	**125**	**125**	**125**	**125**	*125*	*125*	*125*	*125*	*125*	*125*	*125*	*125*	**125**	*125*	*125*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**6.6**	**6.5**	**7.1**	**6.3**	*6.5*	*6.2*	*6.7*	*6.2*	*6.6*	*6.3*	*6.9*	*6.2*	**26.5**	*25.6*	*26.0*
Waste	**3.5**	**3.6**	**3.6**	**3.5**	*3.6*	*3.5*	*3.6*	*3.5*	*3.6*	*3.5*	*3.5*	*3.5*	**14.2**	*14.2*	*14.2*
Wood	**3.1**	**2.9**	**3.6**	**2.8**	*2.9*	*2.6*	*3.2*	*2.7*	*3.0*	*2.7*	*3.3*	*2.7*	**12.3**	*11.4*	*11.8*
Conventional Hydroelectric	**74.4**	**69.2**	**62.3**	**52.9**	*67.0*	*76.0*	*62.5*	*58.6*	*71.7*	*79.9*	*64.6*	*59.6*	**258.8**	*264.1*	*275.7*
Geothermal	**4.1**	**4.0**	**4.2**	**4.6**	*4.9*	*4.0*	*4.6*	*4.7*	*3.7*	*2.8*	*4.5*	*4.3*	**16.8**	*18.2*	*15.3*
Large-Scale Solar (b)	**29.1**	**44.3**	**43.2**	**29.3**	*37.3*	*56.8*	*57.2*	*40.6*	*52.1*	*78.4*	*80.3*	*52.8*	**145.9**	*191.9*	*263.6*
Wind	**119.0**	**121.0**	**80.6**	**110.1**	*127.3*	*128.2*	*85.2*	*115.7*	*133.7*	*131.5*	*88.0*	*121.2*	**430.6**	*456.4*	*474.3*
Other Sectors (c)															
Biomass	**6.7**	**6.8**	**6.8**	**6.6**	*6.7*	*6.8*	*6.8*	*6.6*	*6.8*	*6.8*	*6.8*	*6.6*	**26.9**	*26.9*	*27.0*
Waste	**0.7**	**0.7**	**0.7**	**0.8**	*0.7*	*0.7*	*0.7*	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	**2.9**	*2.9*	*2.9*
Wood	**6.0**	**6.1**	**6.2**	**5.8**	*6.0*	*6.1*	*6.2*	*5.8*	*6.1*	*6.1*	*6.2*	*5.8*	**24.1**	*24.1*	*24.1*
Conventional Hydroelectric	**0.3**	**0.3**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	**1.2**	*1.2*	*1.2*
Large-Scale Solar (b)	**0.2**	**0.3**	**0.3**	**0.2**	*0.2*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.2*	**1.0**	*1.1*	*1.1*
Small-Scale Solar (d)	**12.0**	**17.7**	**17.8**	**12.9**	*14.6*	*21.9*	*22.2*	*15.5*	*17.7*	*26.9*	*27.4*	*19.1*	**60.5**	*74.2*	*91.1*
Residential Sector	**7.6**	**11.3**	**11.4**	**8.6**	*9.6*	*14.5*	*14.8*	*10.3*	*11.8*	*18.2*	*18.6*	*13.0*	**38.9**	*49.3*	*61.7*
Commercial Sector	**3.6**	**5.2**	**5.2**	**3.5**	*4.1*	*6.0*	*6.1*	*4.2*	*4.9*	*7.2*	*7.3*	*5.0*	**17.5**	*20.5*	*24.5*
Industrial Sector	**0.8**	**1.2**	**1.2**	**0.8**	*0.9*	*1.3*	*1.3*	*0.9*	*1.0*	*1.5*	*1.5*	*1.0*	**4.1**	*4.5*	*5.0*
Wind	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.3**	*0.3*	*0.3*

(a) Power plants larger than or equal to one megawatt in size that are operated by electric utilities or independent power producers.

(b) Solar thermal and photovoltaic generating units at power plants larger than or equal to 1 megawatt.

(c) Businesses or individual households not primarily engaged in electric power production for sale to the public, whose generating capacity is at least one megawatt (except for small-scale solar photovoltaic data, which consists of systems smaller than 1 megawatt).

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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 Electric Power Monthly, DOE/EIA-0226.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - January 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**	**20,039**	**20,086**	*20,051*	*20,019*	*20,098*	*20,208*	*20,308*	*20,415*	*20,524*	*20,645*	**19,986**	*20,094*	*20,473*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**14,028**	**14,099**	**14,160**	**14,290**	*14,322*	*14,345*	*14,375*	*14,416*	*14,455*	*14,505*	*14,563*	*14,630*	**14,144**	*14,364*	*14,538*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,629**	**3,582**	**3,544**	**3,504**	*3,458*	*3,415*	*3,414*	*3,433*	*3,458*	*3,486*	*3,514*	*3,544*	**3,565**	*3,430*	*3,500*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**257**	**145**	**85**	**115**	*59*	*-20*	*-2*	*25*	*41*	*56*	*70*	*90*	**151**	*15*	*64*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,393**	**3,379**	**3,405**	**3,417**	*3,445*	*3,454*	*3,463*	*3,472*	*3,480*	*3,487*	*3,492*	*3,499*	**3,399**	*3,458*	*3,489*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,437**	**2,517**	**2,608**	**2,589**	*2,589*	*2,608*	*2,637*	*2,670*	*2,701*	*2,731*	*2,767*	*2,798*	**2,538**	*2,626*	*2,749*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,926**	**3,947**	**3,873**	**3,959**	*3,974*	*3,944*	*3,943*	*3,951*	*3,964*	*3,982*	*4,010*	*4,038*	**3,926**	*3,953*	*3,999*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**15,109**	**15,022**	**15,056**	**15,186**	*15,420*	*15,478*	*15,623*	*15,770*	*15,943*	*16,099*	*16,223*	*16,331*	**15,093**	*15,573*	*16,149*
Non-Farm Employment															
(millions)	**150.4**	**151.6**	**152.7**	**153.5**	*154.1*	*153.5*	*152.8*	*152.3*	*152.4*	*152.7*	*152.9*	*153.2*	**152.0**	*153.1*	*152.8*
Civilian Unemployment Rate															
(percent)	**3.8**	**3.6**	**3.6**	**3.7**	*3.7*	*4.4*	*4.9*	*5.2*	*5.1*	*5.0*	*4.8*	*4.7*	**3.7**	*4.5*	*4.9*
Housing Starts															
(millions - SAAR)	**1.72**	**1.65**	**1.46**	**1.39**	*1.26*	*1.20*	*1.17*	*1.16*	*1.19*	*1.21*	*1.27*	*1.33*	**1.55**	*1.20*	*1.25*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**102.9**	**104.2**	**104.7**	**104.7**	*105.1*	*104.2*	*103.9*	*104.3*	*104.8*	*105.3*	*105.9*	*106.7*	**104.1**	*104.4*	*105.7*
Manufacturing	**101.5**	**102.4**	**102.6**	**102.7**	*102.7*	*102.2*	*102.1*	*102.8*	*103.5*	*104.2*	*105.0*	*106.1*	**102.3**	*102.5*	*104.7*
Food	**105.5**	**105.1**	**104.2**	**104.5**	*104.7*	*105.0*	*105.0*	*105.1*	*105.3*	*105.5*	*105.9*	*106.3*	**104.8**	*105.0*	*105.8*
Paper	**96.4**	**97.3**	**92.8**	**90.2**	*90.1*	*90.2*	*89.5*	*89.4*	*88.9*	*88.9*	*89.0*	*89.7*	**94.2**	*89.8*	*89.1*
Petroleum and Coal Products	**94.2**	**94.2**	**95.3**	**95.7**	*95.7*	*95.3*	*94.8*	*94.6*	*94.2*	*94.0*	*94.1*	*94.2*	**94.8**	*95.1*	*94.1*
Chemicals	**102.4**	**103.1**	**103.8**	**103.8**	*104.2*	*104.6*	*103.7*	*103.8*	*104.0*	*104.4*	*105.0*	*106.1*	**103.3**	*104.1*	*104.9*
Nonmetallic Mineral Products	**102.9**	**103.3**	**104.8**	**105.1**	*103.5*	*102.3*	*101.7*	*101.6*	*102.0*	*102.4*	*102.9*	*103.6*	**104.0**	*102.3*	*102.7*
Primary Metals	**95.6**	**97.4**	**96.3**	**95.0**	*96.0*	*95.7*	*93.4*	*94.0*	*93.0*	*92.9*	*94.0*	*96.9*	**96.1**	*94.8*	*94.2*
Coal-weighted Manufacturing (a)	**96.2**	**96.8**	**96.6**	**96.1**	*96.1*	*95.8*	*94.3*	*94.4*	*94.0*	*94.0*	*94.6*	*96.1*	**96.4**	*95.1*	*94.7*
Distillate-weighted Manufacturing (a)	**99.8**	**100.3**	**100.2**	**99.4**	*98.8*	*98.2*	*97.4*	*97.6*	*97.7*	*98.0*	*98.5*	*99.4*	**99.9**	*98.0*	*98.4*
Electricity-weighted Manufacturing (a)	**98.0**	**98.6**	**98.3**	**97.8**	*98.0*	*97.9*	*96.8*	*96.9*	*96.9*	*97.1*	*97.8*	*99.0*	**98.2**	*97.4*	*97.7*
Natural Gas-weighted Manufacturing (a)	**95.2**	**95.5**	**95.0**	**94.2**	*94.4*	*94.4*	*93.1*	*93.0*	*92.9*	*93.0*	*93.6*	*94.8*	**95.0**	*93.8*	*93.6*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.85**	**2.92**	**2.96**	**2.99**	*3.01*	*3.03*	*3.05*	*3.07*	*3.09*	*3.10*	*3.11*	*3.13*	**2.93**	*3.04*	*3.11*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.53**	**2.73**	**2.70**	**2.58**	*2.52*	*2.48*	*2.47*	*2.47*	*2.47*	*2.44*	*2.42*	*2.43*	**2.64**	*2.48*	*2.44*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**3.16**	**4.21**	**3.74**	**3.38**	*2.69*	*2.69*	*2.61*	*2.52*	*2.45*	*2.41*	*2.35*	*2.29*	**3.62**	*2.63*	*2.37*
GDP Implicit Price Deflator															
(index, 2012=100)	**124.2**	**126.9**	**128.2**	**129.4**	*130.3*	*131.3*	*132.1*	*133.0*	*133.7*	*134.3*	*134.9*	*135.6*	**127.2**	*131.6*	*134.6*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**8,372**	**9,164**	**9,317**	**8,901**	*8,472*	*9,308*	*9,425*	*9,064*	*8,650*	*9,420*	*9,573*	*9,220*	**8,941**	*9,070*	*9,217*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**656**	**686**	**692**	**721**	*634*	*664*	*689*	*675*	*624*	*681*	*703*	*671*	**689**	*665*	*670*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**356**	**419**	**422**	**391**	*370*	*409*	*409*	*383*	*372*	*420*	*413*	*401*	**397**	*393*	*402*
Airline Ticket Price Index															
(index, 1982-1984=100)	**225.6**	**328.7**	**293.1**	**287.5**	*244.0*	*310.5*	*303.2*	*302.3*	*285.7*	*337.0*	*314.8*	*303.8*	**283.7**	*290.0*	*310.3*
Raw Steel Production															
(million short tons per day)	**0.253**	**0.253**	**0.247**	**0.235**	*0.242*	*0.237*	*0.234*	*0.236*	*0.241*	*0.236*	*0.239*	*0.247*	**0.247**	*0.237*	*0.241*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**562**	**564**	**576**	**571**	*551*	*567*	*572*	*574*	*563*	*569*	*577*	*577*	**2,272**	*2,264*	*2,286*
Natural Gas	**511**	**375**	**403**	**462**	*498*	*367*	*392*	*455*	*512*	*354*	*381*	*450*	**1,751**	*1,711*	*1,697*
Coal	**246**	**216**	**265**	**225**	*212*	*186*	*250*	*196*	*209*	*177*	*241*	*193*	**952**	*844*	*819*
Total Energy (c)	**1,321**	**1,157**	**1,247**	**1,261**	*1,264*	*1,123*	*1,216*	*1,228*	*1,288*	*1,102*	*1,201*	*1,223*	**4,986**	*4,830*	*4,814*

(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 January 5, 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 - January 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**	**1,033**	*1,031*	*1,030*	*1,033*	*1,039*	*1,043*	*1,048*	*1,054*	*1,059*	**1,030**	*1,033*	*1,051*
Middle Atlantic	**2,858**	**2,858**	**2,879**	**2,883**	*2,874*	*2,866*	*2,875*	*2,891*	*2,905*	*2,919*	*2,934*	*2,952*	**2,869**	*2,876*	*2,927*
E. N. Central	**2,596**	**2,583**	**2,595**	**2,598**	*2,594*	*2,589*	*2,596*	*2,608*	*2,619*	*2,632*	*2,644*	*2,657*	**2,593**	*2,597*	*2,638*
W. N. Central	**1,220**	**1,215**	**1,222**	**1,226**	*1,225*	*1,224*	*1,230*	*1,237*	*1,242*	*1,249*	*1,255*	*1,261*	**1,221**	*1,229*	*1,252*
S. Atlantic	**3,578**	**3,578**	**3,601**	**3,615**	*3,609*	*3,605*	*3,619*	*3,640*	*3,657*	*3,677*	*3,697*	*3,719*	**3,593**	*3,618*	*3,688*
E. S. Central	**884**	**883**	**888**	**890**	*888*	*886*	*888*	*892*	*895*	*898*	*902*	*907*	**886**	*888*	*901*
W. S. Central	**2,377**	**2,383**	**2,411**	**2,422**	*2,423*	*2,422*	*2,434*	*2,450*	*2,466*	*2,483*	*2,500*	*2,518*	**2,398**	*2,432*	*2,492*
Mountain	**1,359**	**1,354**	**1,365**	**1,367**	*1,364*	*1,363*	*1,369*	*1,378*	*1,386*	*1,395*	*1,404*	*1,414*	**1,361**	*1,369*	*1,399*
Pacific	**3,805**	**3,802**	**3,832**	**3,837**	*3,826*	*3,819*	*3,835*	*3,855*	*3,874*	*3,894*	*3,913*	*3,936*	**3,819**	*3,834*	*3,904*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**99.3**	**100.0**	**99.9**	**99.8**	*99.9*	*99.5*	*99.5*	*100.2*	*100.9*	*101.6*	*102.3*	*103.3*	**99.8**	*99.8*	*102.0*
Middle Atlantic	**96.6**	**97.4**	**97.1**	**97.3**	*97.3*	*96.8*	*96.6*	*97.2*	*97.7*	*98.2*	*98.8*	*99.7*	**97.1**	*97.0*	*98.6*
E. N. Central	**98.9**	**99.4**	**99.1**	**99.3**	*99.6*	*99.0*	*98.8*	*99.1*	*99.7*	*100.5*	*101.3*	*102.2*	**99.2**	*99.1*	*100.9*
W. N. Central	**102.0**	**102.6**	**102.7**	**102.7**	*102.7*	*102.3*	*102.3*	*103.1*	*103.8*	*104.6*	*105.5*	*106.5*	**102.5**	*102.6*	*105.1*
S. Atlantic	**103.4**	**104.5**	**105.0**	**105.0**	*104.9*	*104.2*	*103.9*	*104.5*	*105.1*	*105.9*	*106.7*	*107.7*	**104.5**	*104.4*	*106.4*
E. S. Central	**100.9**	**101.3**	**101.1**	**101.3**	*101.2*	*100.5*	*100.2*	*100.6*	*101.2*	*101.9*	*102.8*	*103.8*	**101.1**	*100.6*	*102.4*
W. S. Central	**103.5**	**105.0**	**105.6**	**105.9**	*106.0*	*105.7*	*105.8*	*106.6*	*107.2*	*107.8*	*108.7*	*109.7*	**105.0**	*106.0*	*108.3*
Mountain	**112.7**	**113.9**	**114.6**	**114.9**	*114.7*	*114.2*	*114.1*	*114.8*	*115.5*	*116.4*	*117.4*	*118.6*	**114.0**	*114.4*	*117.0*
Pacific	**97.8**	**98.7**	**98.6**	**98.9**	*99.0*	*98.7*	*98.7*	*99.7*	*100.5*	*101.3*	*102.2*	*103.4*	**98.5**	*99.0*	*101.9*
Real Personal Income (Billion $2012)															
New England	**935**	**924**	**928**	**934**	*938*	*938*	*942*	*946*	*953*	*960*	*967*	*972*	**930**	*941*	*963*
Middle Atlantic	**2,385**	**2,373**	**2,379**	**2,391**	*2,406*	*2,405*	*2,412*	*2,422*	*2,441*	*2,458*	*2,472*	*2,486*	**2,382**	*2,411*	*2,464*
E. N. Central	**2,464**	**2,445**	**2,441**	**2,452**	*2,469*	*2,467*	*2,474*	*2,483*	*2,503*	*2,521*	*2,537*	*2,551*	**2,451**	*2,473*	*2,528*
W. N. Central	**1,156**	**1,152**	**1,153**	**1,160**	*1,171*	*1,172*	*1,177*	*1,183*	*1,192*	*1,201*	*1,209*	*1,216*	**1,155**	*1,176*	*1,205*
S. Atlantic	**3,436**	**3,419**	**3,436**	**3,455**	*3,484*	*3,485*	*3,501*	*3,520*	*3,551*	*3,578*	*3,605*	*3,629*	**3,436**	*3,498*	*3,591*
E. S. Central	**931**	**924**	**921**	**923**	*931*	*930*	*932*	*935*	*942*	*948*	*954*	*960*	**925**	*932*	*951*
W. S. Central	**2,056**	**2,057**	**2,067**	**2,079**	*2,097*	*2,099*	*2,110*	*2,122*	*2,141*	*2,159*	*2,175*	*2,190*	**2,065**	*2,107*	*2,166*
Mountain	**1,291**	**1,285**	**1,293**	**1,301**	*1,309*	*1,310*	*1,316*	*1,324*	*1,335*	*1,347*	*1,357*	*1,367*	**1,292**	*1,315*	*1,351*
Pacific	**2,985**	**2,963**	**2,975**	**3,040**	*3,009*	*3,011*	*3,022*	*3,035*	*3,056*	*3,080*	*3,101*	*3,120*	**2,991**	*3,020*	*3,089*
Households (Thousands)															
New England	**6,085**	**6,089**	**6,091**	**6,095**	*6,105*	*6,115*	*6,122*	*6,129*	*6,136*	*6,142*	*6,148*	*6,155*	**6,095**	*6,129*	*6,155*
Middle Atlantic	**16,449**	**16,457**	**16,459**	**16,469**	*16,499*	*16,525*	*16,547*	*16,565*	*16,583*	*16,599*	*16,616*	*16,633*	**16,469**	*16,565*	*16,633*
E. N. Central	**19,197**	**19,205**	**19,207**	**19,217**	*19,248*	*19,278*	*19,303*	*19,325*	*19,346*	*19,366*	*19,386*	*19,406*	**19,217**	*19,325*	*19,406*
W. N. Central	**8,796**	**8,813**	**8,826**	**8,838**	*8,859*	*8,879*	*8,897*	*8,913*	*8,929*	*8,944*	*8,959*	*8,974*	**8,838**	*8,913*	*8,974*
S. Atlantic	**26,673**	**26,761**	**26,836**	**26,907**	*27,008*	*27,100*	*27,183*	*27,265*	*27,343*	*27,421*	*27,495*	*27,569*	**26,907**	*27,265*	*27,569*
E. S. Central	**7,903**	**7,922**	**7,937**	**7,949**	*7,971*	*7,990*	*8,007*	*8,023*	*8,039*	*8,053*	*8,067*	*8,081*	**7,949**	*8,023*	*8,081*
W. S. Central	**15,582**	**15,639**	**15,687**	**15,732**	*15,793*	*15,850*	*15,904*	*15,954*	*16,003*	*16,051*	*16,099*	*16,147*	**15,732**	*15,954*	*16,147*
Mountain	**9,805**	**9,845**	**9,881**	**9,913**	*9,957*	*10,001*	*10,039*	*10,078*	*10,115*	*10,149*	*10,181*	*10,218*	**9,913**	*10,078*	*10,218*
Pacific	**19,078**	**19,097**	**19,108**	**19,117**	*19,150*	*19,180*	*19,204*	*19,228*	*19,254*	*19,281*	*19,312*	*19,344*	**19,117**	*19,228*	*19,344*
Total Non-farm Employment (Millions)															
New England	**7.4**	**7.4**	**7.5**	**7.5**	*7.5*	*7.5*	*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**	*19.9*	*19.8*	*19.7*	*19.6*	*19.6*	*19.7*	*19.7*	*19.7*	**19.6**	*19.8*	*19.7*
E. N. Central	**21.8**	**21.9**	**22.0**	**22.1**	*22.2*	*22.1*	*22.0*	*21.9*	*21.9*	*22.0*	*22.0*	*22.0*	**22.0**	*22.1*	*22.0*
W. N. Central	**10.6**	**10.7**	**10.7**	**10.8**	*10.9*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	*10.8*	**10.7**	*10.8*	*10.8*
S. Atlantic	**29.5**	**29.8**	**30.1**	**30.2**	*30.3*	*30.2*	*30.1*	*30.0*	*30.0*	*30.1*	*30.1*	*30.2*	**29.9**	*30.2*	*30.1*
E. S. Central	**8.4**	**8.4**	**8.5**	**8.5**	*8.5*	*8.5*	*8.5*	*8.4*	*8.4*	*8.4*	*8.4*	*8.5*	**8.4**	*8.5*	*8.4*
W. S. Central	**18.1**	**18.3**	**18.5**	**18.6**	*18.6*	*18.6*	*18.5*	*18.5*	*18.5*	*18.5*	*18.5*	*18.6*	**18.3**	*18.5*	*18.5*
Mountain	**11.4**	**11.5**	**11.6**	**11.6**	*11.7*	*11.6*	*11.6*	*11.5*	*11.5*	*11.6*	*11.6*	*11.6*	**11.5**	*11.6*	*11.6*
Pacific	**23.6**	**23.9**	**24.1**	**24.2**	*24.3*	*24.2*	*24.0*	*24.0*	*24.0*	*24.0*	*24.1*	*24.1*	**23.9**	*24.1*	*24.0*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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 - January 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	**3,141**	**789**	**115**	**1,995**	*3,024*	*864*	*136*	*2,217*	*3,215*	*864*	*136*	*2,217*	**6,040**	*6,241*	*6,433*
Middle Atlantic	**2,939**	**671**	**73**	**1,949**	*2,790*	*696*	*85*	*2,027*	*2,970*	*695*	*85*	*2,026*	**5,633**	*5,597*	*5,777*
E. N. Central	**3,270**	**755**	**99**	**2,220**	*3,044*	*732*	*121*	*2,268*	*3,165*	*732*	*121*	*2,268*	**6,345**	*6,165*	*6,286*
W. N. Central	**3,483**	**792**	**111**	**2,516**	*3,179*	*696*	*155*	*2,456*	*3,254*	*696*	*155*	*2,456*	**6,902**	*6,486*	*6,562*
South Atlantic	**1,341**	**188**	**13**	**981**	*1,274*	*193*	*13*	*976*	*1,444*	*192*	*13*	*974*	**2,523**	*2,456*	*2,623*
E. S. Central	**1,822**	**248**	**22**	**1,337**	*1,681*	*245*	*20*	*1,327*	*1,859*	*245*	*20*	*1,328*	**3,430**	*3,272*	*3,452*
W. S. Central	**1,343**	**58**	**2**	**840**	*1,081*	*75*	*5*	*823*	*1,207*	*75*	*5*	*823*	**2,242**	*1,984*	*2,109*
Mountain	**2,302**	**738**	**84**	**2,039**	*2,261*	*696*	*152*	*1,880*	*2,269*	*695*	*152*	*1,879*	**5,163**	*4,989*	*4,996*
Pacific	**1,391**	**605**	**49**	**1,272**	*1,569*	*615*	*93*	*1,235*	*1,550*	*616*	*93*	*1,236*	**3,317**	*3,513*	*3,496*
U.S. Average	**2,147**	**492**	**54**	**1,555**	*2,040*	*490*	*75*	*1,554*	*2,149*	*489*	*75*	*1,552*	**4,248**	*4,158*	*4,265*
Heating Degree Days, Prior 10-year Average															
New England	**3,100**	**853**	**107**	**2,103**	*3,151*	*859*	*106*	*2,095*	*3,142*	*861*	*103*	*2,087*	**6,163**	*6,211*	*6,193*
Middle Atlantic	**2,887**	**684**	**71**	**1,908**	*2,945*	*692*	*70*	*1,910*	*2,928*	*692*	*66*	*1,906*	**5,551**	*5,617*	*5,592*
E. N. Central	**3,133**	**727**	**97**	**2,162**	*3,215*	*742*	*93*	*2,168*	*3,191*	*739*	*94*	*2,149*	**6,119**	*6,218*	*6,172*
W. N. Central	**3,219**	**726**	**125**	**2,357**	*3,317*	*754*	*121*	*2,373*	*3,294*	*733*	*126*	*2,346*	**6,426**	*6,565*	*6,500*
South Atlantic	**1,380**	**187**	**11**	**905**	*1,401*	*190*	*10*	*904*	*1,377*	*188*	*10*	*903*	**2,483**	*2,505*	*2,478*
E. S. Central	**1,763**	**243**	**15**	**1,228**	*1,809*	*251*	*14*	*1,230*	*1,784*	*246*	*15*	*1,221*	**3,249**	*3,304*	*3,267*
W. S. Central	**1,145**	**93**	**3**	**754**	*1,189*	*95*	*3*	*767*	*1,179*	*89*	*3*	*748*	**1,994**	*2,054*	*2,019*
Mountain	**2,181**	**685**	**132**	**1,817**	*2,201*	*701*	*129*	*1,843*	*2,185*	*697*	*131*	*1,831*	**4,816**	*4,874*	*4,844*
Pacific	**1,454**	**523**	**79**	**1,136**	*1,438*	*523*	*76*	*1,146*	*1,439*	*535*	*77*	*1,147*	**3,192**	*3,183*	*3,198*
U.S. Average	**2,096**	**479**	**62**	**1,473**	*2,133*	*486*	*60*	*1,478*	*2,115*	*484*	*60*	*1,467*	**4,110**	*4,157*	*4,126*
Cooling Degree Days															
New England	**0**	**80**	**558**	**0**	*0*	*85*	*417*	*1*	*0*	*85*	*417*	*1*	**638**	*503*	*503*
Middle Atlantic	**0**	**152**	**683**	**1**	*0*	*151*	*541*	*4*	*0*	*151*	*542*	*4*	**836**	*697*	*697*
E. N. Central	**1**	**255**	**554**	**2**	*0*	*215*	*541*	*7*	*0*	*215*	*541*	*7*	**812**	*763*	*763*
W. N. Central	**3**	**306**	**734**	**8**	*3*	*271*	*679*	*10*	*3*	*271*	*679*	*10*	**1,051**	*963*	*963*
South Atlantic	**155**	**710**	**1,195**	**228**	*143*	*645*	*1,153*	*232*	*117*	*646*	*1,153*	*233*	**2,287**	*2,172*	*2,149*
E. S. Central	**29**	**600**	**1,066**	**38**	*33*	*513*	*1,046*	*65*	*26*	*513*	*1,046*	*65*	**1,732**	*1,657*	*1,649*
W. S. Central	**55**	**1,094**	**1,666**	**189**	*104*	*909*	*1,499*	*193*	*82*	*910*	*1,499*	*194*	**3,003**	*2,705*	*2,685*
Mountain	**17**	**472**	**1,018**	**65**	*16*	*423*	*912*	*73*	*15*	*423*	*912*	*73*	**1,571**	*1,423*	*1,424*
Pacific	**31**	**222**	**763**	**82**	*24*	*163*	*568*	*62*	*25*	*163*	*567*	*62*	**1,098**	*817*	*816*
U.S. Average	**46**	**466**	**950**	**91**	*49*	*404*	*851*	*93*	*41*	*405*	*853*	*93*	**1,552**	*1,398*	*1,392*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**87**	**472**	**2**	*0*	*87*	*479*	*2*	*0*	*86*	*476*	*2*	**561**	*568*	*564*
Middle Atlantic	**0**	**162**	**608**	**8**	*0*	*159*	*614*	*8*	*0*	*159*	*616*	*8*	**779**	*781*	*783*
E. N. Central	**3**	**238**	**571**	**9**	*1*	*234*	*561*	*10*	*1*	*234*	*568*	*10*	**821**	*805*	*812*
W. N. Central	**7**	**299**	**681**	**11**	*4*	*292*	*674*	*12*	*4*	*296*	*677*	*12*	**999**	*982*	*989*
South Atlantic	**147**	**668**	**1,188**	**269**	*144*	*675*	*1,192*	*273*	*148*	*680*	*1,203*	*270*	**2,272**	*2,284*	*2,301*
E. S. Central	**44**	**518**	**1,057**	**83**	*36*	*521*	*1,059*	*83*	*38*	*527*	*1,072*	*84*	**1,702**	*1,699*	*1,721*
W. S. Central	**113**	**853**	**1,536**	**223**	*101*	*861*	*1,548*	*224*	*104*	*873*	*1,547*	*227*	**2,725**	*2,734*	*2,751*
Mountain	**23**	**459**	**946**	**84**	*23*	*456*	*951*	*82*	*23*	*451*	*951*	*84*	**1,511**	*1,512*	*1,508*
Pacific	**31**	**208**	**664**	**86**	*32*	*214*	*675*	*86*	*32*	*208*	*673*	*87*	**989**	*1,007*	*1,000*
U.S. Average	**53**	**412**	**889**	**109**	*50*	*415*	*894*	*110*	*51*	*418*	*899*	*110*	**1,463**	*1,469*	*1,478*

- = no data available

Notes: EIA completed modeling and analysis for this report on January 5, 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).