



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

# **Short-Term Energy Outlook**

**STEO**



# Short-Term Energy Outlook

November 2022

## Overview

U.S. energy market indicators	2021	2022	2023
Brent crude oil spot price (dollars per barrel)	\$70.89	\$102.13	\$95.33
Retail gasoline price (dollars per gallon)	\$3.02	\$4.02	\$3.61
U.S. crude oil production (million barrels per day)	11.25	11.83	12.31
Natural gas price at Henry Hub (dollars per MMBtu)	\$3.91	\$6.49	\$5.46
U.S. LNG gross exports (billion cubic feet per day)	9.8	10.8	12.3
<b>Shares of U.S. electricity generation</b>			
Natural gas	37%	38%	36%
Coal	23%	20%	19%
Renewables	20%	22%	24%
Nuclear	20%	19%	20%
U.S. GDP (percentage change)	5.9%	1.7%	-0.1%
U.S. CO <sub>2</sub> emissions (billion metric tons)	4.90	4.98	4.84

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

- The November 2022 *Short-Term Energy Outlook* (STEO) marks the [release of our new text format](#). We have reconfigured the text to provide readers with discussions and visualizations we think best convey our energy forecast and its key drivers.
- Uncertainty in macroeconomic conditions could significantly affect energy markets in the forecast period. Based on the S&P Global macroeconomic model, we now expect U.S. GDP will fall slightly in 2023, which we forecast will contribute to a drop in total U.S. energy consumption next year.
- We estimate U.S. natural gas inventories ended October 2022 at more than 3.5 trillion cubic feet (Tcf), which is 4% below the five-year average and higher than what we had been forecasting in recent months. They fall in our forecast by 2.1 Tcf this winter to 1.4 Tcf by the end of March 2023. This withdrawal would be similar to the five-year average and result in inventories that are 8% below the five-year average at the end of March 2023.
- Because of higher-than-expected storage levels heading into winter our forecast natural gas spot price at Henry Hub averages about \$6 per million British thermal units (MMBtu) across 4Q22 and 1Q23, which is more than \$1/MMBtu lower than we forecast in the October STEO. We expect natural gas prices will decline after January as the deficit to the five-year average in inventories decreases.

- We expect renewable sources to provide 22% of U.S. electricity generation in 2022 and 24% in 2023 as generation from natural gas declines from 38% in 2022 to 36% in 2023. The increase in renewables generation comes mostly from solar and wind capacity additions.
- U.S. distillate fuel inventories average 17% below the five-year average in our forecast for 2023. We estimate distillate inventories were 104 million barrels at the end of October, the lowest end-of-October level since 1951.
- Retail heating oil and diesel prices will continue to average more than \$5 per gallon for the rest of 4Q22. We expect a slightly contracting U.S. economy will reduce distillate prices in the first half of 2023 (1H23). However, the EU's ban on seaborne imports of petroleum products from Russia creates supply uncertainty for distillate markets in early 2023.
- Higher heating oil prices and consumption, due to colder forecasted temperatures this winter, result in our expectation that the average U.S. home that uses heating oil as its primary space heating fuel will see expenditures increase by 45% compared with last winter. In last month's *Winter Fuels Outlook*, we forecast expenditures would rise 27% over last winter in the baseline.
- We forecast OPEC crude oil production will fall in November and December. Annual OPEC production averages 28.9 million barrels per day (b/d) in 2023, up by 0.3 million b/d from 2022.
- Growth in OPEC and non-OPEC oil production—most notably production in the United States—keeps the Brent crude oil price in our forecast lower on an annual average basis in 2023 than in 2022. However, we expect the Brent crude oil price will begin rising in 2H23.

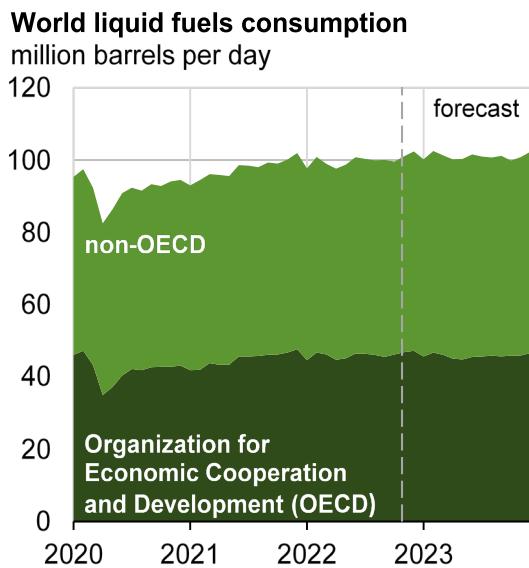
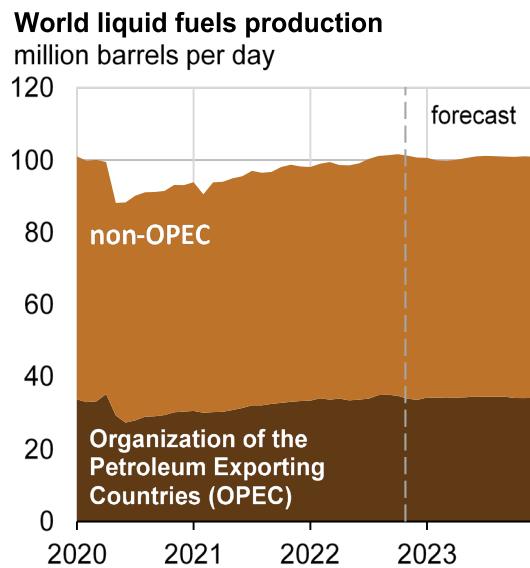
#### Notable forecast changes

Current forecast: November 8, 2022; previous forecast: October 12, 2022	2022	2023
<b>Real gross domestic product</b> (percentage change)	<b>1.7%</b>	<b>-0.1%</b>
Previous	1.7%	1.3%
<b>Henry Hub spot average</b> (dollars per MMBtu)	<b>\$6.49</b>	<b>\$5.46</b>
Previous	\$6.88	\$5.77
Percentage change	-5.8%	-5.4%
<b>Diesel fuel prices</b> (dollars per gallon)	<b>\$5.09</b>	<b>\$4.65</b>
Previous	\$4.97	\$4.29
Percentage change	2.5%	8.4%

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

## Global oil markets

**Crude oil production:** On October 5, 2022, OPEC+ producers agreed to reduce crude oil production targets by 2.0 million barrels per day (b/d) from their previously stated targets beginning in November 2022. The announcement had a limited effect on our global oil production forecast in the October STEO when the cuts were first incorporated because we had already included an expectation that OPEC+ would not meet the previously stated production targets. We expect that Saudi Arabia, Kuwait, and the United Arab Emirates will account for most of OPEC's share of the cut, while the forecast production for other OPEC members remains largely unchanged from our assessment made before the October 5 announcement. Total OPEC crude oil production in our forecast falls from an average of 29.2 million b/d in the third quarter of 2022 (3Q22) to 28.6 million b/d in 4Q22, largely unchanged from last month's STEO forecast. OPEC crude oil production in the forecast averages 28.9 million b/d in 2023.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022 

Among the non-OPEC participants in OPEC+, the majority of the reductions in OPEC+ production will come from Russia, where we expect production declines will materialize as the result of Russia's full-scale invasion of Ukraine and sanctions imposed on Russia, rather than the newly announced production cuts. We expect that Russia's total liquids production will fall from an average of 10.9 million b/d in 3Q22 to 10.8 million b/d in 4Q22, before falling further to an average of 9.3 million b/d for all of 2023. This forecast is subject to significant uncertainty around the extent to which upcoming EU sanctions will impact trade flows and the ability for oil suppliers in Russia to find alternative shipping arrangements and buyers.

We expect global oil inventory levels to begin to fall again in early 2023, after increasing by an estimated 0.8 million b/d in 3Q22. We expect total global oil inventories will decline by 1.2 million b/d in 1Q23,

after a forecast build of 0.2 million b/d in 4Q22. We forecast global oil inventories will fall by 0.3 million b/d in 2023.

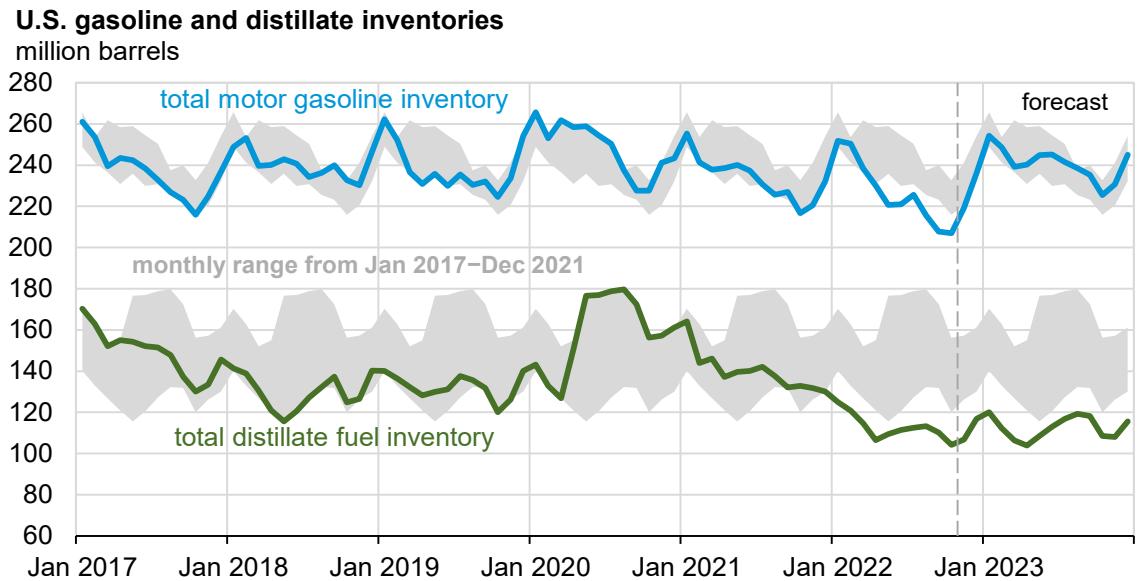
**Crude oil prices:** The Brent crude oil spot price averaged \$93 per barrel (b) in October. We expect the Brent price will average near that price through 1H23. Weakening global economic conditions, which could limit oil demand growth, create the potential for oil prices to end up lower than our forecast. Higher-than-forecast oil prices could stem from supply disruptions resulting from the EU's impending bans on the seaborne import of crude oil and petroleum products from Russia. Despite increasing concerns around weakening global economic conditions, we forecast that global oil consumption will outpace global oil production in 2023, which will contribute to increasing oil prices in 2H23. We forecast the Brent crude oil price will rise from an average of \$94/b in 1H23 to an average of \$98/b in 4Q23, averaging \$95/b for all of 2023.

## Petroleum products

**Distillate fuel:** Distillate inventories have been well below the five-year average through all of 2022 in all major trading regions globally, a situation largely related to reduced distillate exports from Russia and trade dislocations following Russia's full-scale invasion of Ukraine in February. Seasonal increases in demand and refinery closures are now affecting inventories and [contributing to price increases](#). Wholesale diesel fuel prices averaged \$4.11 per gallon (gal) in October, an increase of 66 cents/gal (19%) from September and \$1.60/gal (64%) from October 2021. Diesel fuel use in the U.S. agricultural sector rises in autumn at the same time the use of heating oil in the residential sectors also begins to rise. This year, widespread [refinery strikes in France](#) are further reducing global diesel supplies. In addition, regional production of distillate in the U.S. Northeast has also been less than historical levels since the closures of the [Philadelphia Energy Solutions refinery](#) in 2019 and the Come-by-Chance refinery in Newfoundland in 2020, which was a source of imports for the region.

We forecast that distillate prices will rise in November before falling slightly in December as activity at some refineries in Europe increases and U.S. refiners finish their seasonal maintenance. However, we still expect U.S. distillate inventories will remain at or near multiyear lows through the end of our forecast. Ongoing constraints on global refining capacity will continue to limit distillate supplies and inventory builds during this time, although we forecast distillate refinery margins to moderate beginning in early 2023 as seasonal demand for the fuel decreases and refinery production remains greater than usual because of strong refining margins. Low global distillate supplies mean that there is limited potential for distillate imports to supplement U.S. domestic production, particularly after [the EU's ban](#) on seaborne refined product imports from Russia beginning in February 2023.

We expect [new refinery capacity](#) coming online in the Middle East, China, and the United States through 2023 to contribute to lowering distillate margins. We forecast U.S. distillate refinery margins (calculated as the difference between the wholesale diesel price and the Brent crude oil price) will average \$1.14/gal in 2023, compared with \$1.34/gal in 2022. Significant sources of uncertainty in our forecast include the potential for future disruptions relating to global refinery outages and unexpected developments linked to EU's ban on refined products from Russia.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



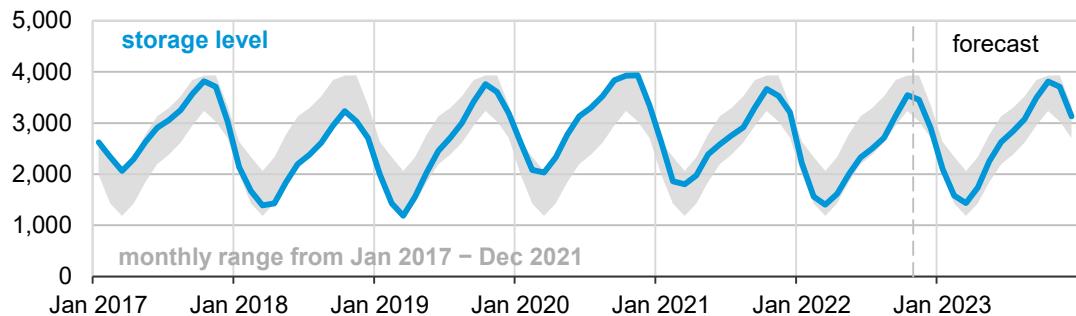
**Gasoline:** After falling for three straight months, U.S. retail gasoline prices increased in October. We expect gasoline prices to resume their decline in November, as refiners increase production to meet distillate demand and gasoline inventories begin increasing. Rising gasoline production contributes to inventory builds in our forecast that will return gasoline stocks to levels within the five-year range by early 2023. The U.S. average retail price in our forecast falls from \$3.82/gal in October 2022 to \$3.60/gal in February 2023, with the largest price decrease on the [West Coast](#). Following this decrease, we expect U.S. retail gasoline prices to remain relatively flat for the rest of 2023.

## Natural gas

**Natural gas storage:** At the end of October, typically considered the end of storage injection season (March–October), we estimate working natural gas in storage was 3,544 billion cubic feet (Bcf), 4% below the five-year (2017–2021) average. [Higher-than-average injections](#) of natural gas into storage in September and October reduced the deficit of natural gas inventories to the five-year average and contributed to falling natural gas prices. The natural gas spot price at Henry Hub averaged \$8.80 per million British thermal units (MMBtu) in August but declined to an average of \$5.66/MMBtu in October.

Natural gas inventories play an important role in price formation. Inventory levels below the five-year average are often correlated with higher natural gas prices, while inventory levels above the five-year average are often correlated with lower natural gas prices. We expect natural gas inventories to fall by 2,110 Bcf this winter, which is similar to the five-year average winter withdrawal. We forecast that natural gas inventories will total 1,433 Bcf at the end of March, which is 8% below the five-year average. However, actual inventory outcomes will highly depend on realized temperatures throughout the winter.

### U.S. working natural gas in storage billion cubic feet



### Percentage deviation from 2017 – 2021 average



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022 

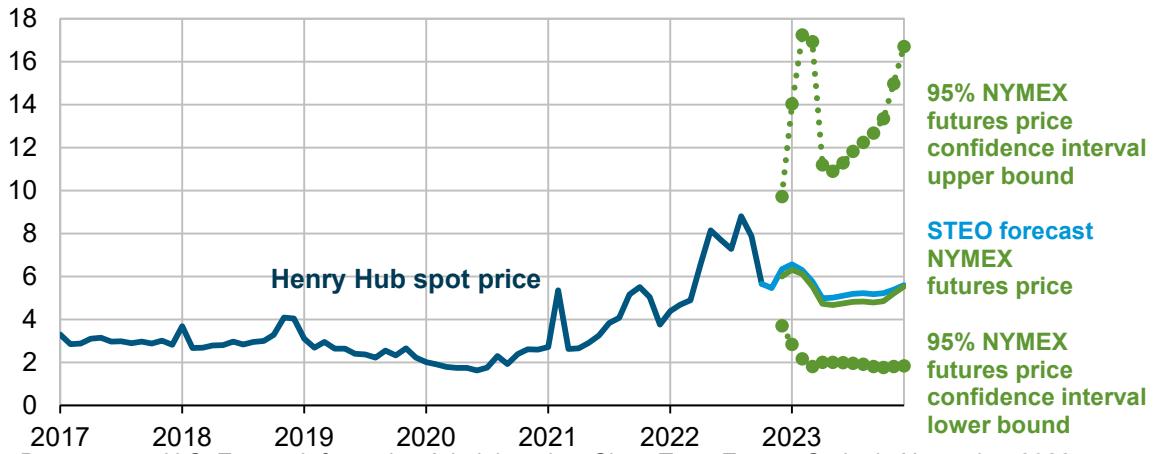
**Natural gas production:** Natural gas production has increased steadily throughout 2022, and dry natural gas production averages 100.4 billion cubic feet per day (Bcf/d) in our forecast for November. We expect declines in natural gas production during the winter months due to the possibility of extreme weather, which can cause production shut-ins. In addition, natural gas prices for the rest of the forecast remain lower than prices from 2Q22 and 3Q22. We expect that lower prices and some constraints in the pipeline capacity to move natural gas from production fields to consuming markets will reduce drilling activity, and we forecast natural gas production will average 99.7 Bcf/d in 2023, 2% more than in 2022, but down from current monthly average production.

**Prices:** We expect the benchmark Henry Hub natural gas spot price to average nearly \$5.50/MMBtu in November 2022, before rising to more than \$6/MMBtu in December and 1Q23. Natural gas prices typically increase in winter months as colder weather increases demand for natural gas for space-heating. Based on the current weather forecast from the National Oceanic and Atmospheric Administration, our forecast assumes colder weather, with 2% more [heating degree days](#) (HDD) from November to March compared with the 10-year (2011–2021) average. We expect inventory draws in December and January to outpace the five-year average, driven by a seasonal decline in natural gas production, rising demand for space heating, and increases in liquefied natural gas (LNG) exports that largely result from the [return of Freeport LNG](#). Although any delay in the return of Freeport LNG could contribute to some downward price pressures in the near term, these factors will likely limit any downward price pressures this winter, and the possibility for [price spikes](#) and volatility in the case of extremely cold weather is high. Price spikes could affect both Henry Hub and regional pricing hubs, [particularly in New England](#). Price spikes will have a limited effect on retail natural gas prices this winter, as there is typically a delay between changes in wholesale and retail prices for natural gas.

We expect downward pressures on natural gas prices will emerge in 2Q23. In 2023, the combination of natural gas consumption and exports in our forecast falls by more than 1 Bcf/d on average compared with 2022, while combined production and imports rise by a similar amount, leading to strong injections during the 2023 refill season.

#### **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, November 2022, CME Group, and Refinitiv an LSEG Business

Note: Confidence interval derived from options market information for the five trading days ending November 3, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

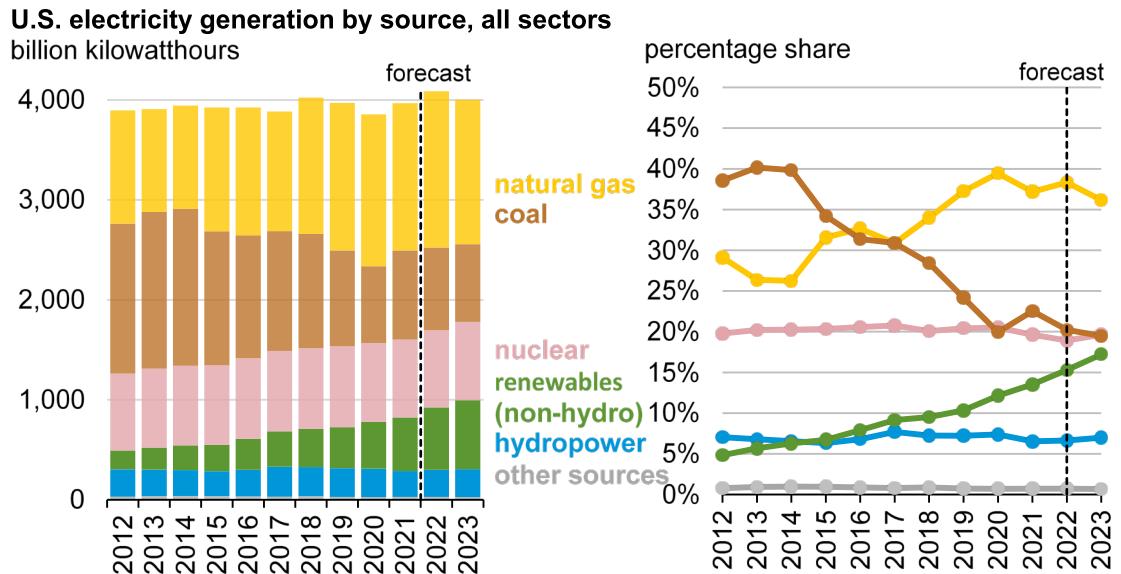


## Electricity, coal, and renewables

**Electricity generation:** We forecast 2% less U.S. electricity generation in 2023 than in 2022, driven mostly by a decline in air-conditioning use because of cooler forecast temperatures next year, and also by slight economic contraction. Due to less electricity demand, we expect that generation from renewable sources will make up an increasing share of total U.S. electricity generation, rising from 22% this year to 24% in 2023. Without growth in U.S. electricity consumption, strong growth in renewables generating capacity results in lower shares of generation from all other sources next year, most notably natural gas and coal.

**Power generators are reporting** that they plan to add 15 gigawatts (GW) of utility-scale solar photovoltaic (PV) capacity in 2022 and 30 GW in 2023. Small-scale solar capacity grows by 7 GW in 2022 and by almost 10 GW in 2023. Wind capacity additions in the forecast total 11 GW in 2022 and 5 GW in 2023. Battery additions total 5 GW in 2022 and 9 GW in 2023.

Despite a forecast decline in natural gas prices from this year to next year, we expect the share of generation supplied by natural gas will fall from 38% this year to 36% in 2023 as more renewable generating capacity comes online. We expect the share of generation fueled by coal will fall from 20% this year to 19% in 2023. Generators plan to retire 12 GW of coal-fired capacity in 2022 and 9 GW in 2023, a decline of 10% from the level of capacity operating at the end of 2021.



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



**Coal production:** We expect U.S. coal production will total 595 million short tons (MMst) in 2022, up 3% from 2021. The increase reflects strong international demand for U.S. coal and a need among power plant operators to replenish coal stocks. However, the ability of the coal industry to produce more coal has been limited in 2022 by labor shortages at mines and railroads, which constrained the supply and transport of coal requested by customers during the summer months. Limited supply growth has led to higher coal prices, and the average cost of coal for power generators rose to \$2.51 per million British thermal units (MMBtu) in August, up 22% from August 2021. In 2023, we forecast that moderating natural gas prices and coal plant retirements will lead to a 4% reduction in coal production. Less demand for coal in 2023 combined with rising coal inventories will result in delivered coal prices to the electric power sector declining below \$2.40/MMBtu by the end of 2023.

**Coal inventories:** On average, monthly U.S. coal inventories through August 2022 were 19% lower compared with the same period in 2021 as production was not sufficient to both replenish stocks and satisfy summer power demand. Although we expect coal production to decrease in 2023, further declines in coal consumption and net exports to lead to an 18% increase in coal inventories during 2023.

## Economy, weather, and CO<sub>2</sub>

**U.S. macroeconomics:** Our U.S. macroeconomic forecasts are based on the model produced and maintained by S&P Global (formerly IHS Markit). We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic forecasts. S&P Global forecasts that the U.S. economy will enter a recession starting in 4Q22 and start recovering in 3Q23. On an annual basis, U.S. real GDP falls by 0.1% in 2023 in the forecast.

The forecast recession is primarily driven by a decline in real private fixed investment, which is expected to decline by 4.4% in 2023. A large component of this decline is in residential fixed investment, which

has fallen due to slowing demand for housing. As a result, housing starts are expected to decline by 21.1% in 2023. Demand for housing has fallen as the cost of purchasing a new home and mortgage rates have increased and as the U.S. Federal Reserve has raised interest rates in 2022 to combat inflationary pressures. Annual inflation based on the Consumer Price Index is expected to fall from 8.1% in 2022 to 4.1% in 2023. As the effects of monetary policy slows real economic activity, S&P Global forecasts a corresponding rise in the unemployment rate, peaking at 5.8% at the end of 2023.

Although the decline in economic activity mostly stems from the residential investment sector, other sectors of the economy will also see a decline in activity. In particular, industrial production is expected to fall by 0.1% in 2023, driven by expected declines in several manufacturing industries.

**Emissions:** We forecast total energy-related CO<sub>2</sub> emissions to increase slightly in 2022 compared with 2021, driven by more consumption of natural gas and petroleum products and offset by less coal consumption. Among fossil fuels, natural gas emissions increase the most in 2022 as a result of strong demand in the electric power sector and constraints in the coal market that have reduced coal-fired generation. Increases in petroleum emissions are attributable to increased travel following the pandemic.

We forecast CO<sub>2</sub> emissions will decrease slightly in 2023 compared with 2022, driven by less U.S. energy consumption resulting from the forecast decline in economic activity. We expect consumption (and therefore emissions from) coal, petroleum, and natural gas to decline in 2023.

**Weather:** Based on forecasts from the National Oceanic and Atmospheric Administration, we expect a colder winter (October–March), with 7% more population-weighted HDDs in the United States compared with last winter and 2% more HDDs than the ten-year average.

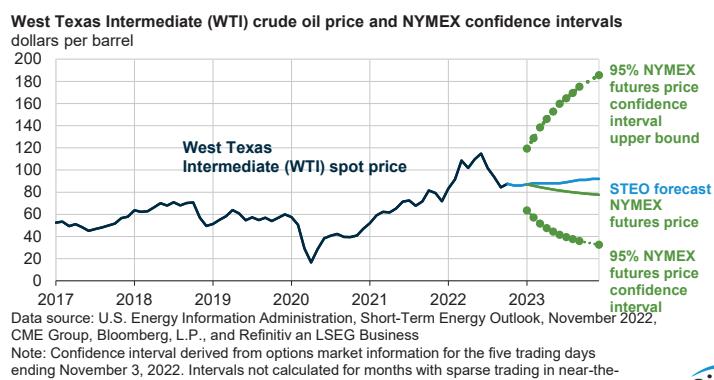
The U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (DOE), prepared this report. By law, our data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report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

# Short-Term Energy Outlook Chart Gallery

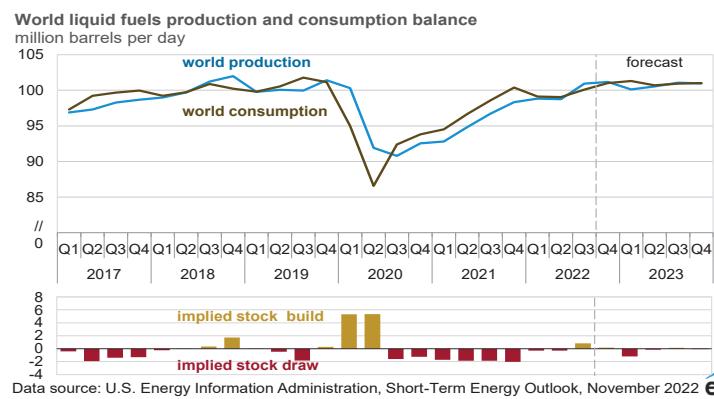


November 8, 2022

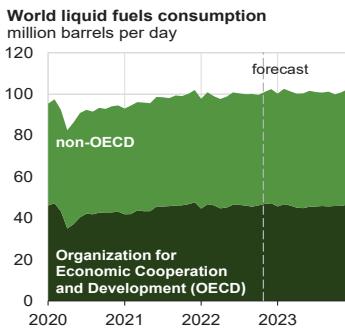
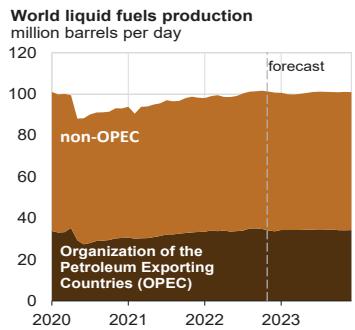
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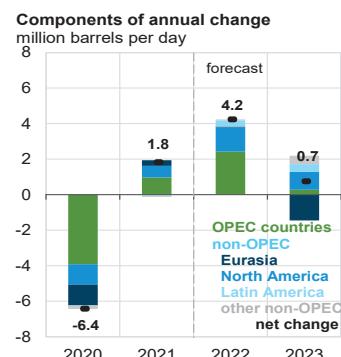
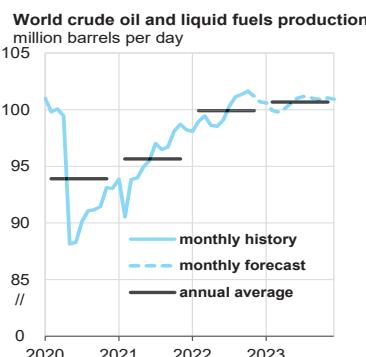
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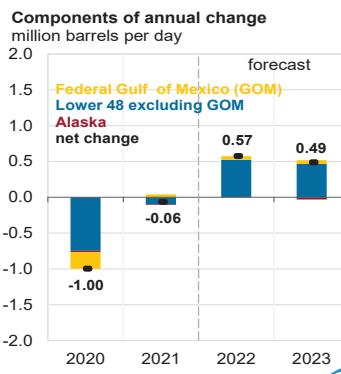
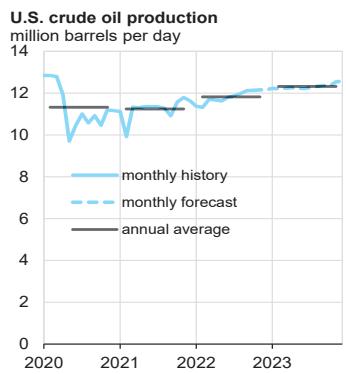
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Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

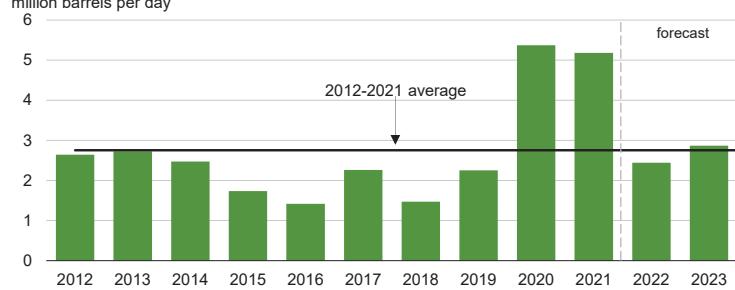


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

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

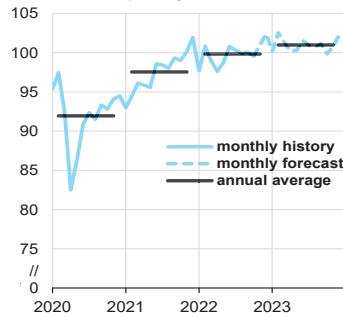


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

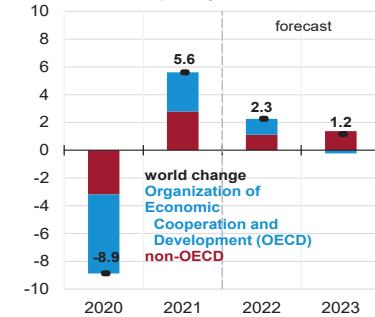
Note: Black line represents 2012-2021 average (2.8 million barrels per day).



**World liquid fuels consumption**  
million barrels per day



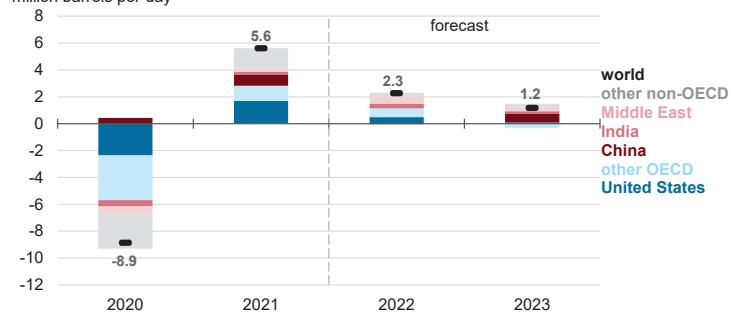
**Components of annual change**  
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



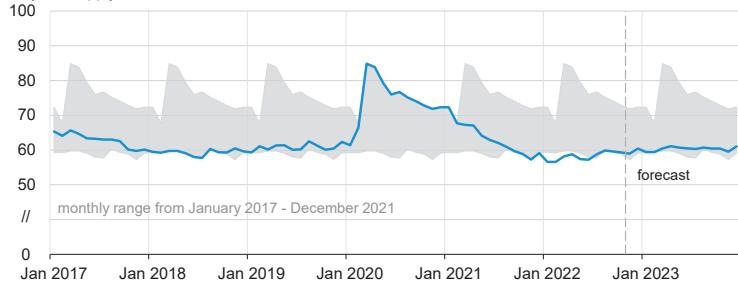
**Annual change in world liquid fuels consumption**  
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



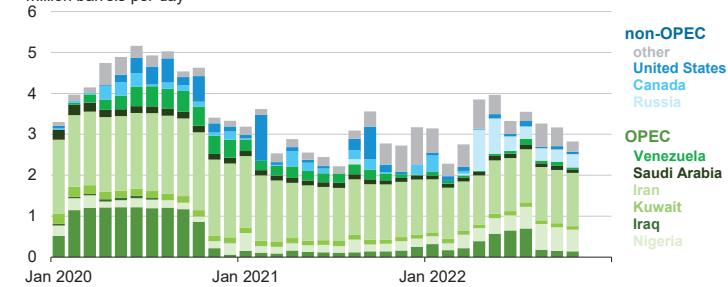
Organization for Economic Cooperation and Development (OECD)  
commercial inventories of crude oil and other liquids  
days of supply



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



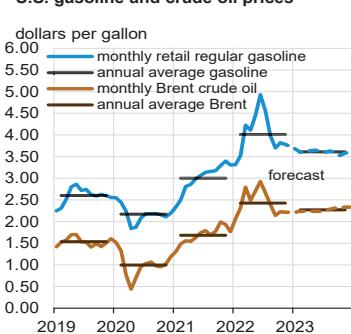
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers  
million barrels per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

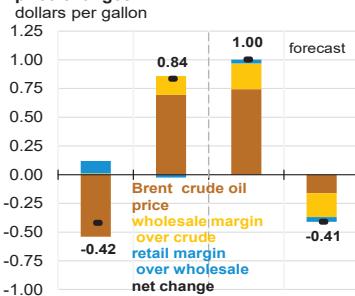


U.S. gasoline and crude oil prices

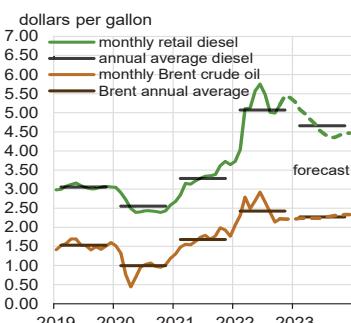


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, and Refinitiv an LSEG Business

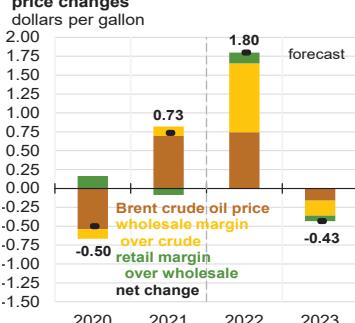
Components of annual gasoline price changes



### U.S. diesel and crude oil prices



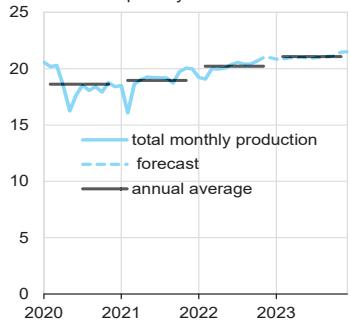
### Components of annual diesel price changes



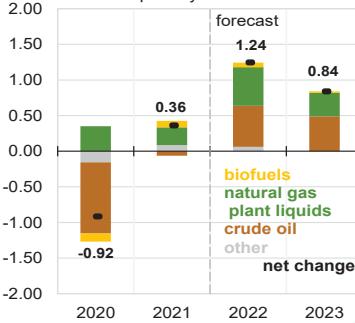
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022, and Refinitiv an LSEG Business



### U.S. crude oil and liquid fuels production



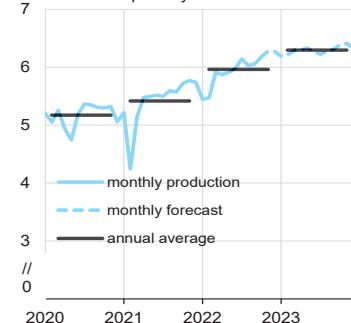
### Components of annual change



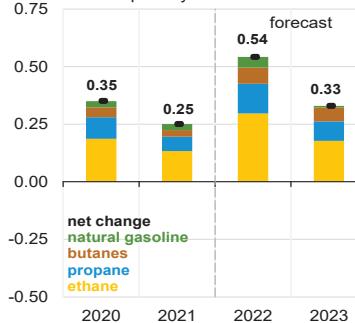
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



### U.S. natural gas plant liquids production

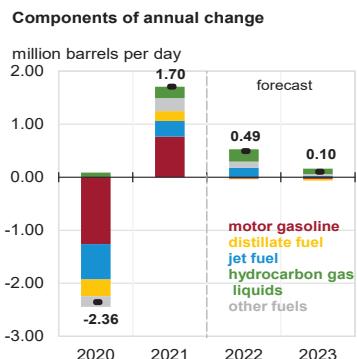
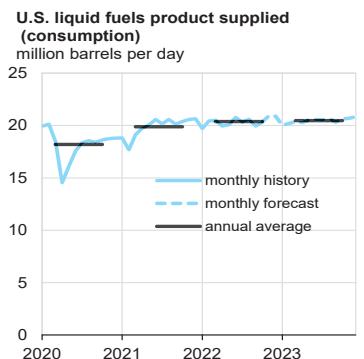


### Components of annual change



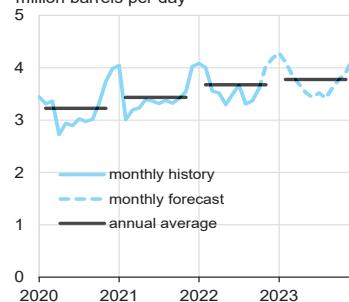
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



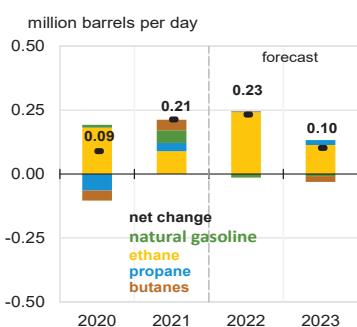


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

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

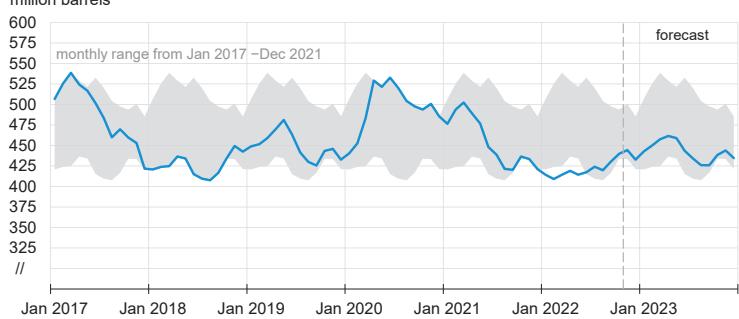


**Components of annual change**



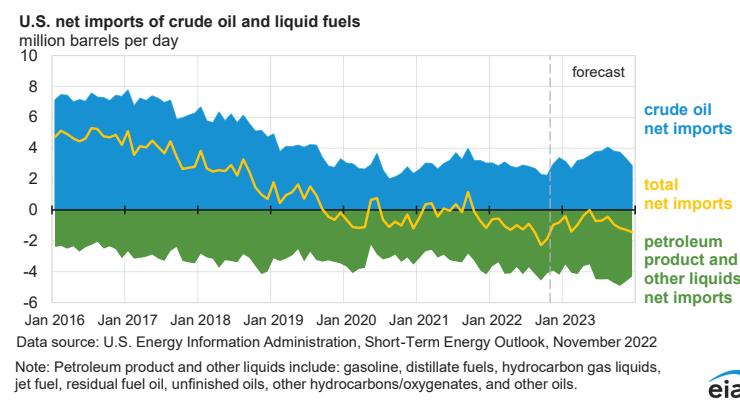
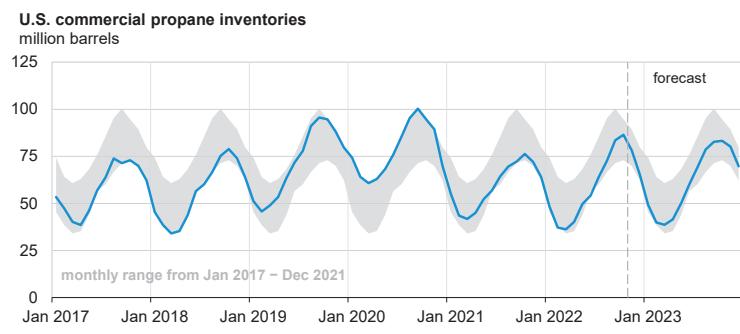
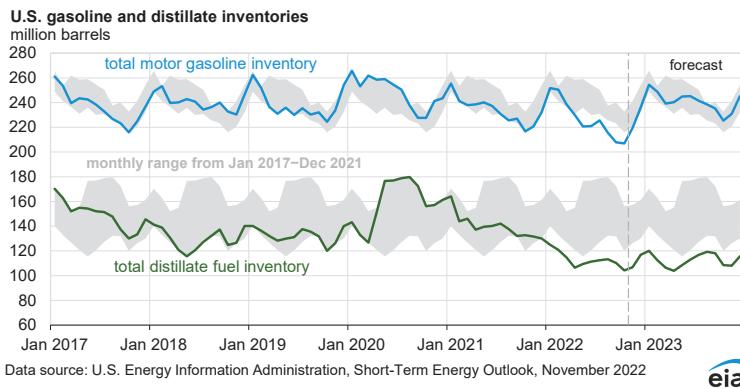
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

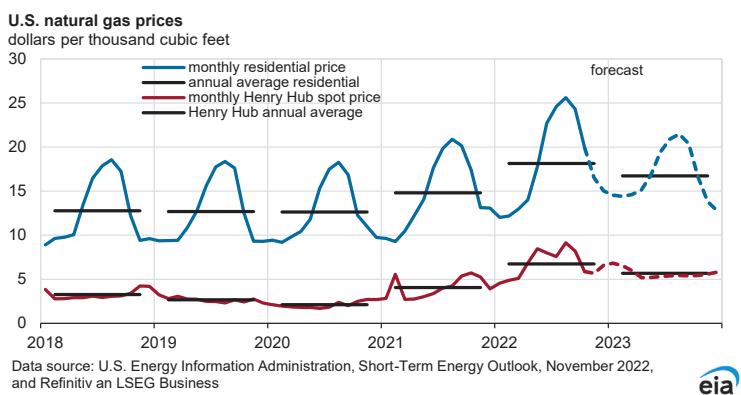
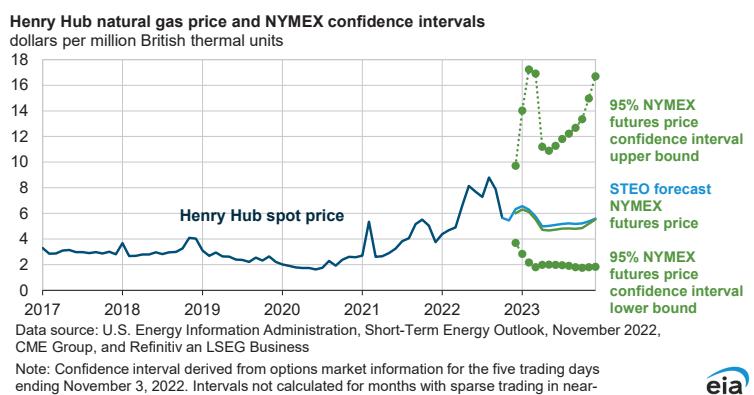
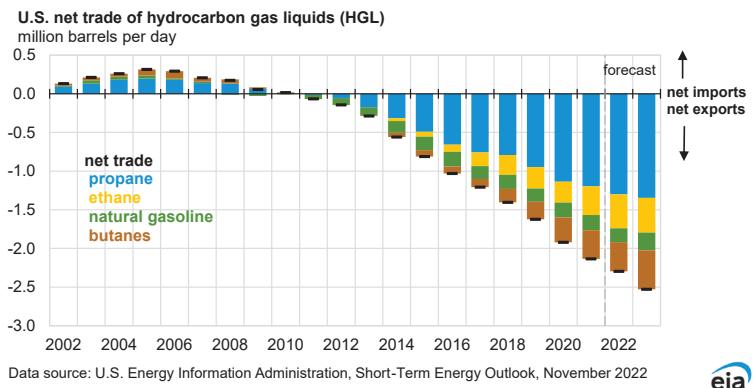
**U.S. commercial crude oil inventories**  
million barrels

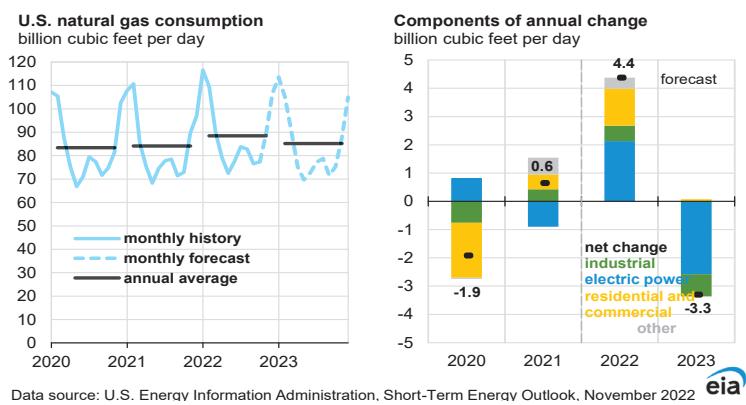
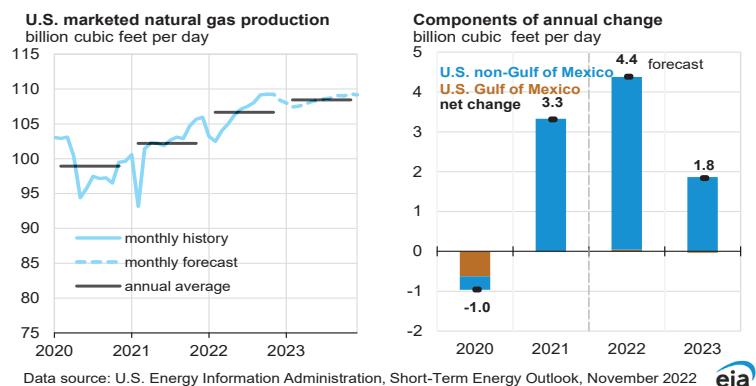
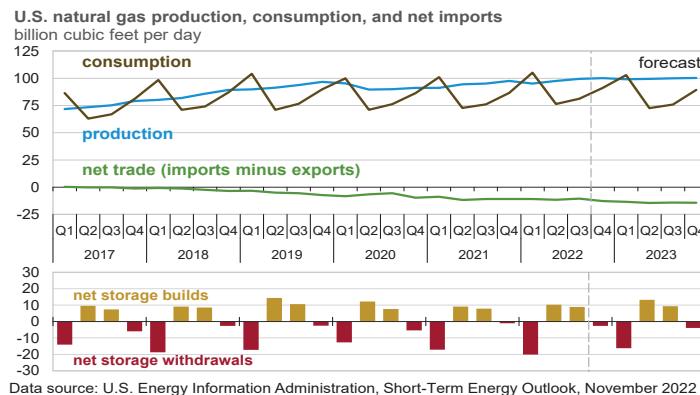


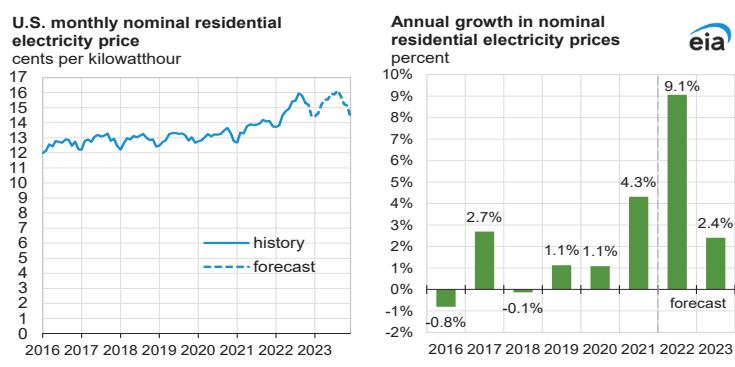
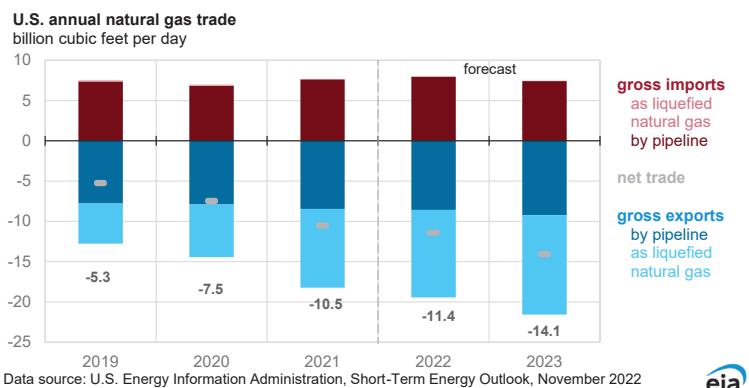
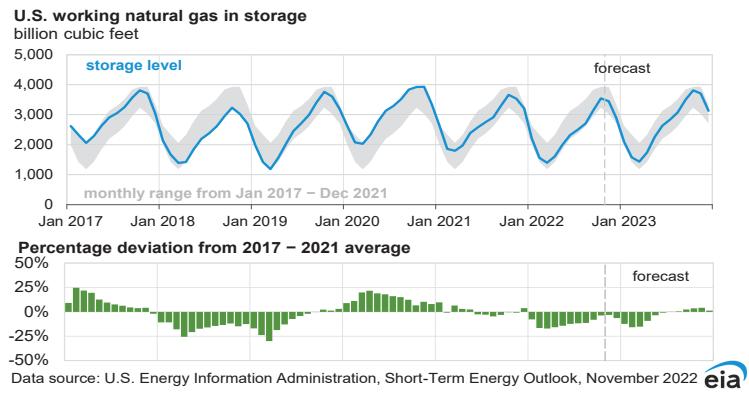
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

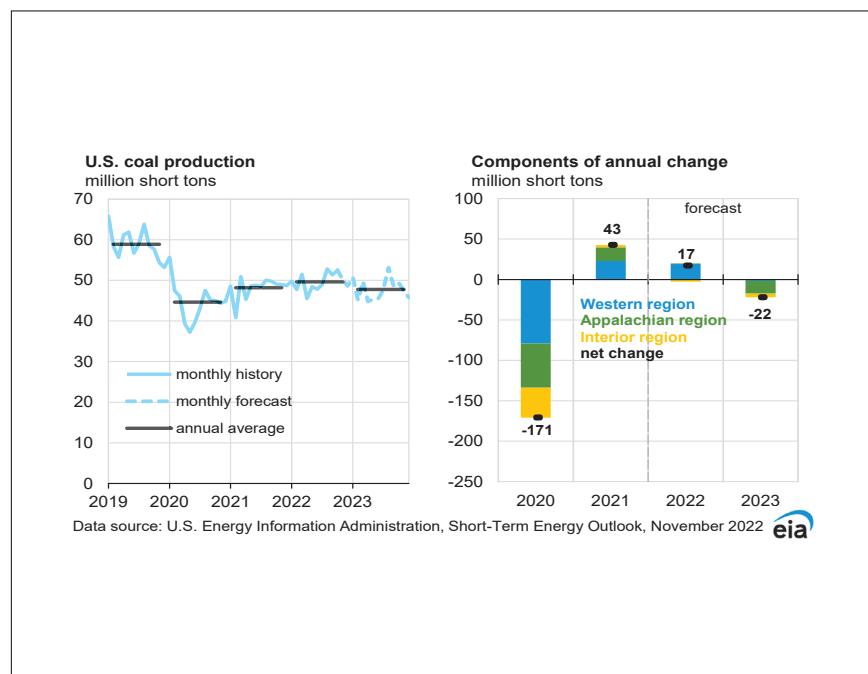
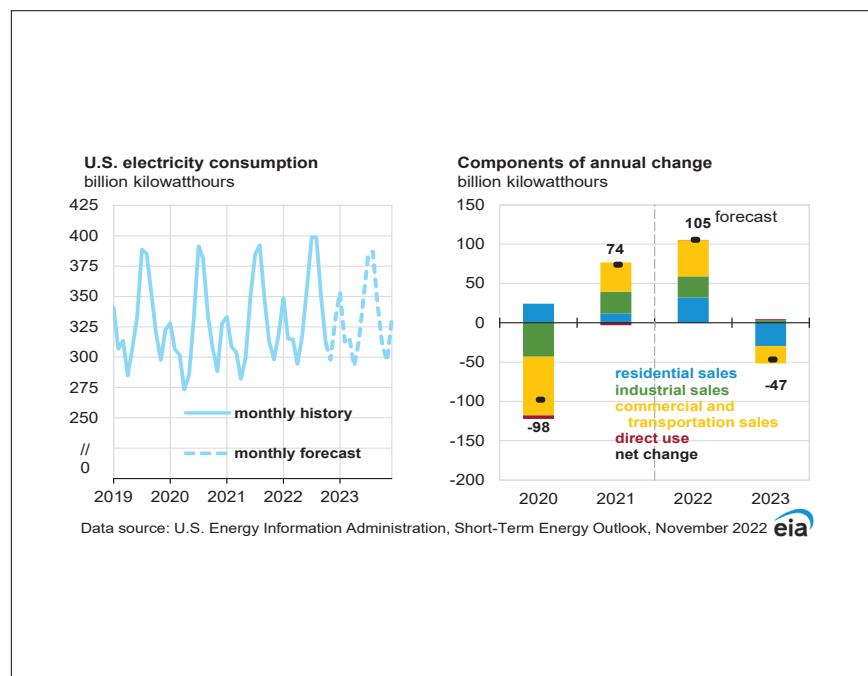
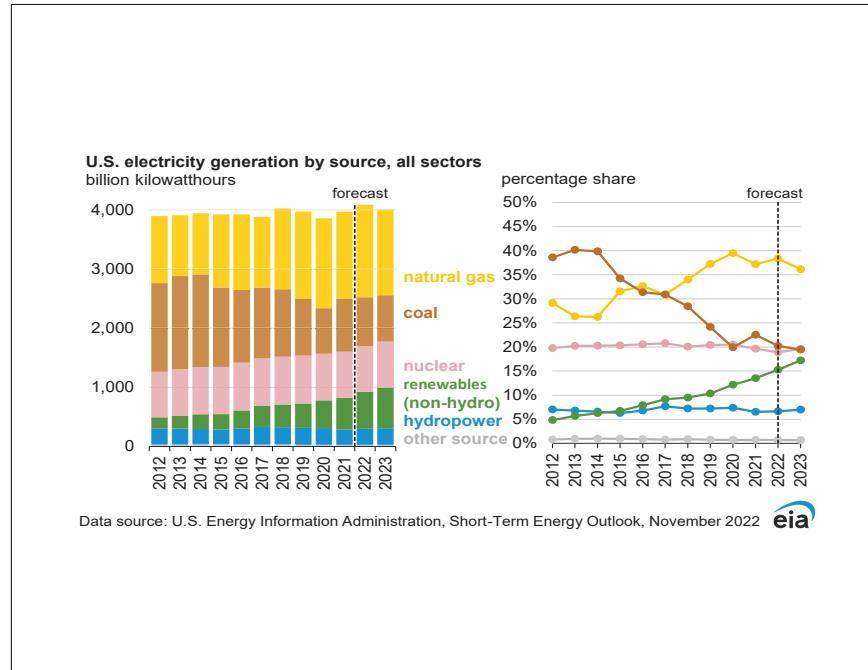


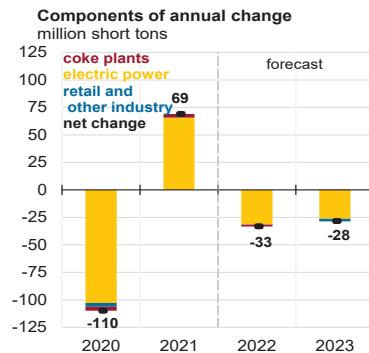
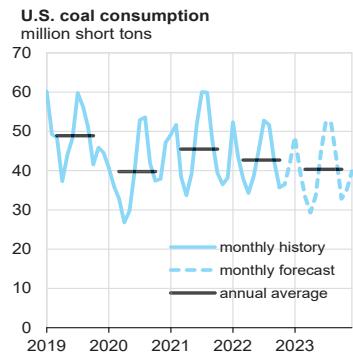






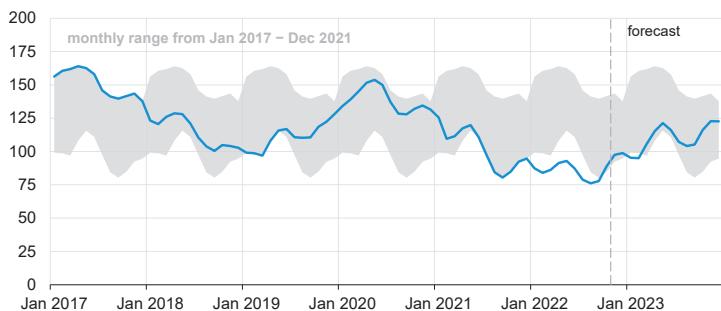






Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

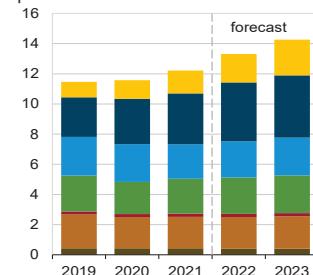
**U.S. electric power coal inventories**  
million short tons



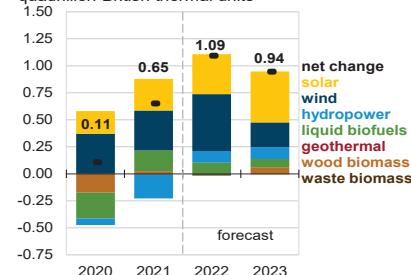
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022



**U.S. renewable energy supply**  
quadrillion British thermal units



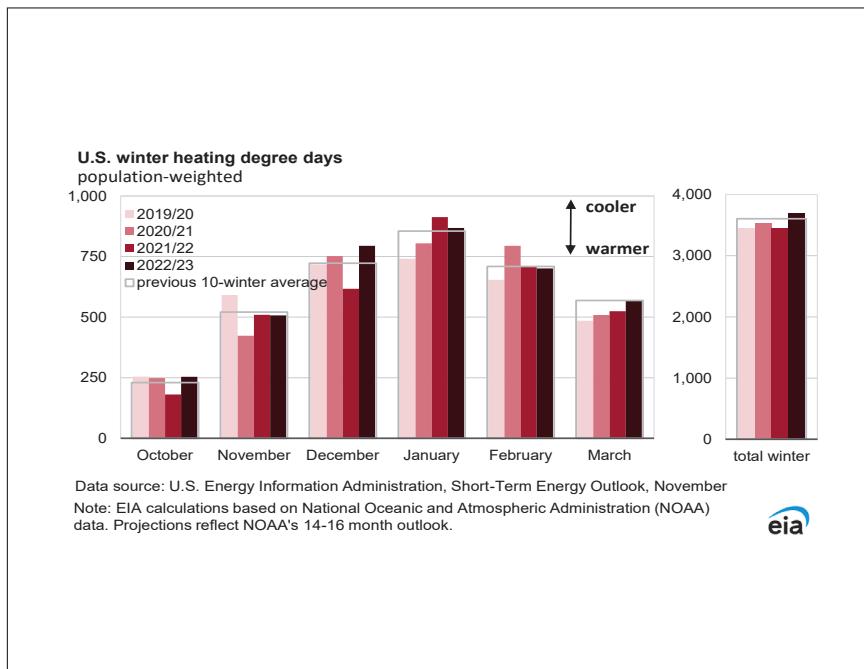
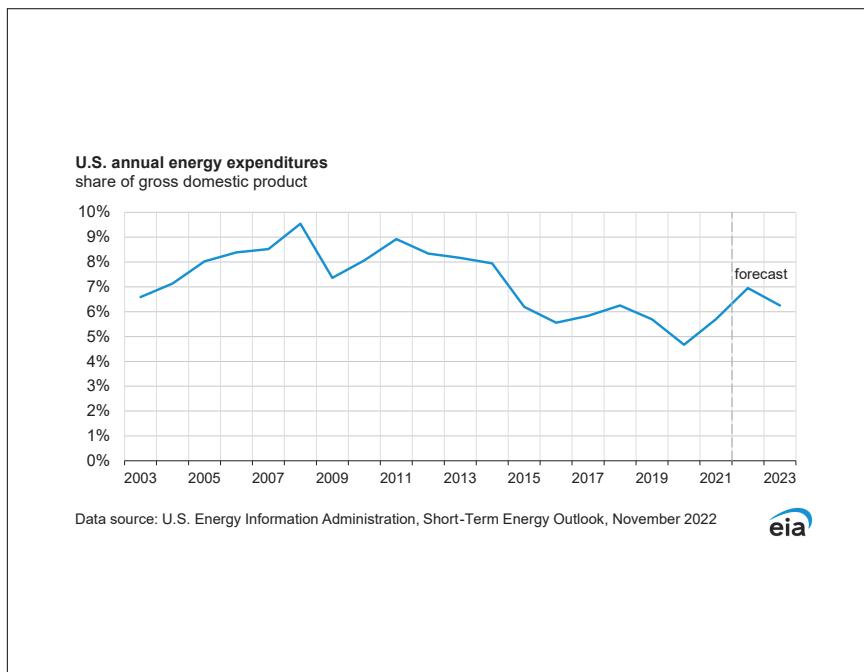
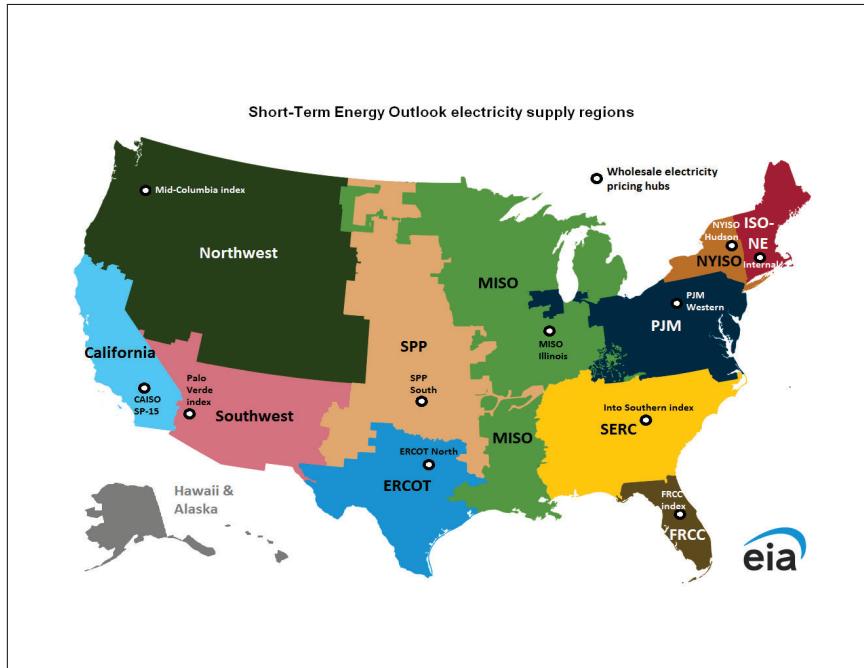
**Components of annual change**  
quadrillion British thermal units



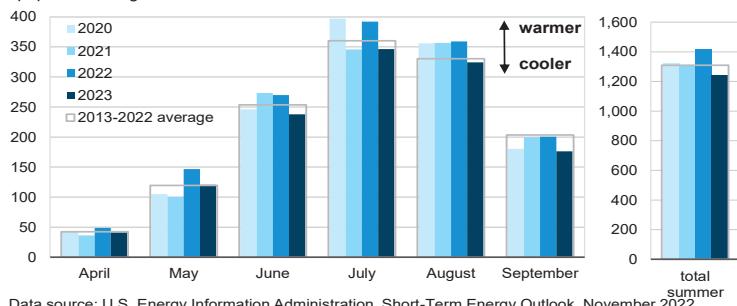
Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

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





**U.S. summer cooling degree days**  
population-weighted

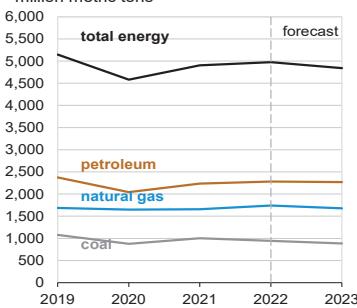


Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022  
Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data.  
Projections reflect NOAA's 14-16 month outlook.

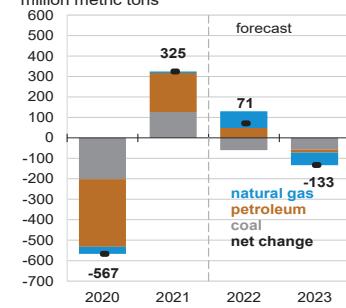
total  
summer

eria

**U.S. annual CO<sub>2</sub> emissions by source**  
million metric tons



**Components of annual change**  
million metric tons



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

eria

**Table 1. U.S. Energy Markets Summary**

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Energy Production</b>															
Crude Oil Production (a) (million barrels per day) .....	10.82	11.34	11.18	11.66	11.47	11.70	11.99	12.15	12.22	12.24	12.32	12.48	11.25	11.83	12.31
Dry Natural Gas Production (billion cubic feet per day) .....	91.14	94.43	95.14	97.49	95.10	97.59	99.42	100.10	99.01	99.42	99.99	100.33	94.57	98.07	99.69
Coal Production (million short tons) .....	140	143	148	147	149	142	153	151	146	136	149	143	578	595	573
<b>Energy Consumption</b>															
Liquid Fuels (million barrels per day) .....	18.58	20.13	20.30	20.54	20.22	20.27	20.31	20.72	20.21	20.46	20.51	20.72	19.89	20.38	20.48
Natural Gas (billion cubic feet per day) .....	101.03	72.76	75.96	86.56	105.13	76.42	81.10	91.14	102.90	72.52	75.89	89.28	84.01	88.39	85.08
Coal (b) (million short tons) .....	139	125	168	114	134	118	147	114	121	107	148	108	546	512	484
Electricity (billion kilowatt hours per day) .....	10.51	10.23	12.22	10.10	10.87	10.65	12.47	10.22	10.92	10.49	12.11	10.19	10.77	11.06	10.93
Renewables (c) (quadrillion Btu) .....	2.95	3.17	2.96	3.14	3.35	3.55	3.17	3.24	3.50	3.88	3.41	3.47	12.22	13.32	14.26
Total Energy Consumption (d) (quadrillion Btu) .....	25.26	23.28	24.66	24.70	26.56	23.70	25.04	25.23	26.13	23.70	24.73	25.17	97.91	100.53	99.72
<b>Energy Prices</b>															
Crude Oil West Texas Intermediate Spot (dollars per barrel) .....	58.09	66.19	70.61	77.27	95.18	108.93	93.07	86.51	87.67	88.00	90.00	91.65	68.21	95.88	89.33
Natural Gas Henry Hub Spot (dollars per million Btu) .....	3.56	2.94	4.36	4.77	4.66	7.48	7.99	5.82	6.21	5.04	5.20	5.40	3.91	6.49	5.46
Coal (dollars per million Btu) .....	1.91	1.93	2.03	2.05	2.19	2.26	2.49	2.47	2.47	2.45	2.42	2.38	1.98	2.36	2.43
<b>Macroeconomic</b>															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR) .....	19,216	19,544	19,673	20,006	19,924	19,895	20,003	19,963	19,872	19,863	19,949	20,039	19,610	19,946	19,931
Percent change from prior year .....	1.2	12.5	5.0	5.7	3.7	1.8	1.7	-0.2	-0.3	-0.2	-0.3	0.4	5.9	1.7	-0.1
GDP Implicit Price Deflator (Index, 2012=100) .....	116.2	118.0	119.8	121.8	124.2	126.9	128.1	129.7	131.0	131.9	132.8	133.7	118.9	127.2	132.4
Percent change from prior year .....	2.4	4.4	5.0	6.1	6.9	7.6	7.0	6.6	5.5	4.0	3.7	3.1	4.5	7.0	4.0
Real Disposable Personal Income (billion chained 2012 dollars - SAAR) .....	17,325	15,921	15,735	15,537	15,109	15,052	15,093	15,138	15,293	15,330	15,523	15,709	16,130	15,098	15,464
Percent change from prior year .....	14.5	-4.4	-1.5	-0.4	-12.8	-5.5	-4.1	-2.6	1.2	1.8	2.8	3.8	1.9	-6.4	2.4
Manufacturing Production Index (Index, 2017=100) .....	96.9	98.3	99.2	100.6	101.5	102.4	102.9	103.1	102.1	101.5	101.7	102.3	98.8	102.5	101.9
Percent change from prior year .....	-0.8	15.8	5.1	4.5	4.8	4.2	3.8	2.5	0.5	-0.9	-1.2	-0.8	5.8	3.8	-0.6
<b>Weather</b>															
U.S. Heating Degree-Days .....	2,108	472	51	1,307	2,147	492	54	1,556	2,138	496	76	1,552	3,938	4,249	4,263
U.S. Cooling Degree-Days .....	50	410	902	127	46	465	952	84	44	399	847	93	1,489	1,547	1,383

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Crude Oil (dollars per barrel)</b>															
West Texas Intermediate Spot Average .....	58.09	66.19	70.61	77.27	95.18	108.93	93.07	86.51	87.67	88.00	90.00	91.65	68.21	95.88	89.33
Brent Spot Average .....	61.12	68.91	73.45	79.42	101.17	113.84	100.53	93.13	93.67	94.00	96.00	97.65	70.89	102.13	95.33
U.S. Imported Average .....	55.29	64.75	68.42	73.66	89.85	107.23	92.32	83.66	84.89	85.25	87.24	88.87	65.92	93.17	86.62
U.S. Refiner Average Acquisition Cost .....	57.14	66.11	70.31	76.36	92.62	109.86	94.18	86.01	87.15	87.50	89.48	91.16	67.83	95.70	88.86
<b>U.S. Liquid Fuels (cents per gallon)</b>															
<b>Refiner Prices for Resale</b>															
Gasoline .....	180	216	232	243	278	376	311	295	282	282	280	272	219	316	279
Diesel Fuel .....	178	204	219	241	301	419	357	428	384	341	317	323	211	377	341
Fuel Oil .....	162	180	197	222	284	419	343	420	379	338	304	316	188	375	356
<b>Refiner Prices to End Users</b>															
Jet Fuel .....	163	182	199	226	283	400	340	400	350	303	299	302	195	357	312
No. 6 Residual Fuel Oil (a) .....	162	181	194	211	252	258	230	206	221	222	227	232	190	235	225
<b>Retail Prices Including Taxes</b>															
Gasoline Regular Grade (b) .....	256	297	316	333	371	450	408	378	363	364	361	357	302	402	361
Gasoline All Grades (b) .....	265	306	325	343	380	460	419	390	376	377	375	371	311	413	375
On-highway Diesel Fuel .....	290	321	336	366	432	549	516	535	512	469	438	445	329	509	465
Heating Oil .....	272	283	297	346	415	555	498	536	499	452	409	432	300	479	463
<b>Natural Gas</b>															
Henry Hub Spot (dollars per thousand cubic feet) .....	3.70	3.06	4.53	4.96	4.84	7.77	8.30	6.05	6.45	5.23	5.40	5.61	4.06	6.74	5.67
Henry Hub Spot (dollars per million Btu) .....	3.56	2.94	4.36	4.77	4.66	7.48	7.99	5.82	6.21	5.04	5.20	5.40	3.91	6.49	5.46
<b>U.S. Retail Prices (dollars per thousand cubic feet)</b>															
Industrial Sector .....	5.77	4.13	5.09	6.82	6.82	8.26	9.14	7.75	8.02	6.48	6.26	6.64	5.50	7.93	6.88
Commercial Sector .....	7.54	8.86	10.14	10.27	10.00	11.71	13.96	12.29	11.48	11.38	11.27	10.15	8.81	11.39	11.03
Residential Sector .....	9.71	13.82	20.27	13.71	12.32	16.57	24.81	16.27	14.52	16.52	20.88	13.71	12.21	15.02	15.04
<b>U.S. Electricity</b>															
<b>Power Generation Fuel Costs (dollars per million Btu)</b>															
Coal .....	1.91	1.93	2.03	2.05	2.19	2.26	2.49	2.47	2.47	2.45	2.42	2.38	1.98	2.36	2.43
Natural Gas .....	7.24	3.26	4.36	5.42	5.68	7.38	8.18	6.20	6.80	5.29	5.43	5.79	4.97	7.01	5.80
Residual Fuel Oil (c) .....	11.28	13.09	14.22	16.10	16.91	26.17	26.07	20.47	20.03	19.50	18.21	18.24	13.66	21.56	19.08
Distillate Fuel Oil .....	13.54	15.20	16.19	18.03	21.11	30.70	26.94	32.02	30.04	26.22	24.23	24.59	15.50	26.26	26.79
<b>Prices to Ultimate Customers (cents per kilowatthour)</b>															
Industrial Sector .....	7.09	6.92	7.62	7.38	7.42	8.40	9.33	7.83	7.67	8.21	9.03	7.72	7.26	8.27	8.18
Commercial Sector .....	10.99	11.07	11.59	11.37	11.63	12.34	13.10	12.16	12.28	12.72	13.25	12.03	11.27	12.35	12.60
Residential Sector .....	13.10	13.84	13.99	13.97	13.98	15.08	15.73	14.93	14.71	15.69	15.94	14.86	13.72	14.97	15.33

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Production (million barrels per day) (a)</b>															
OECD .....	30.25	30.84	31.13	32.23	31.62	31.87	32.47	33.32	33.61	33.38	33.52	34.22	31.12	32.33	33.68
U.S. (50 States) .....	17.79	19.16	19.03	19.91	19.44	20.12	20.45	20.87	20.89	20.98	21.03	21.36	18.98	20.22	21.06
Canada .....	5.62	5.37	5.49	5.68	5.66	5.51	5.68	5.90	5.96	5.67	5.88	6.10	5.54	5.69	5.90
Mexico .....	1.93	1.95	1.90	1.92	1.91	1.89	1.89	1.86	1.90	1.87	1.83	1.79	1.92	1.89	1.85
Other OECD .....	4.91	4.37	4.72	4.71	4.61	4.35	4.44	4.70	4.86	4.86	4.79	4.97	4.68	4.52	4.87
Non-OECD .....	62.56	63.98	65.60	66.11	67.21	66.87	68.46	67.85	66.50	67.17	67.54	66.73	64.57	67.60	66.99
OPEC .....	30.34	30.88	32.28	33.10	33.75	33.76	34.68	34.15	34.31	34.42	34.55	34.19	31.66	34.09	34.37
Crude Oil Portion .....	25.07	25.49	26.84	27.67	28.19	28.33	29.21	28.63	28.73	28.96	29.05	28.66	26.28	28.59	28.85
Other Liquids (b) .....	5.26	5.39	5.44	5.44	5.56	5.43	5.48	5.52	5.59	5.46	5.50	5.54	5.38	5.50	5.52
Eurasia .....	13.42	13.65	13.63	14.27	14.39	13.39	13.58	13.78	12.49	12.29	12.29	12.31	13.74	13.79	12.34
China .....	4.99	5.03	5.01	4.93	5.18	5.18	5.11	5.17	5.21	5.24	5.23	5.27	4.99	5.16	5.24
Other Non-OECD .....	13.80	14.41	14.69	13.80	13.90	14.54	15.08	14.74	14.49	15.22	15.47	14.96	14.18	14.57	15.04
Total World Production .....	92.81	94.82	96.74	98.33	98.83	98.75	100.92	101.17	100.11	100.54	101.07	100.95	95.70	99.93	100.67
Non-OPEC Production .....	62.48	63.94	64.46	65.23	65.08	64.98	66.24	67.02	65.80	66.12	66.52	66.76	64.03	65.84	66.30
<b>Consumption (million barrels per day) (c)</b>															
OECD .....	42.58	44.13	45.87	46.89	45.84	45.46	46.03	46.77	46.16	45.15	45.75	46.16	44.88	46.03	45.81
U.S. (50 States) .....	18.58	20.13	20.30	20.54	20.22	20.27	20.31	20.72	20.21	20.46	20.51	20.72	19.89	20.38	20.48
U.S. Territories .....	0.21	0.19	0.19	0.20	0.22	0.20	0.20	0.22	0.22	0.20	0.21	0.22	0.20	0.21	0.21
Canada .....	2.19	2.16	2.43	2.33	2.25	2.23	2.43	2.33	2.27	2.22	2.32	2.29	2.28	2.31	2.27
Europe .....	11.95	12.66	13.88	13.94	13.15	13.41	13.78	13.83	13.57	13.18	13.58	13.35	13.12	13.55	13.42
Japan .....	3.77	3.07	3.17	3.66	3.70	3.03	3.16	3.51	3.72	3.06	3.09	3.39	3.41	3.35	3.31
Other OECD .....	5.89	5.93	5.90	6.23	6.30	6.33	6.14	6.17	6.18	6.02	6.05	6.19	5.99	6.23	6.11
Non-OECD .....	51.94	52.54	52.73	53.48	53.28	53.58	54.06	54.24	55.14	55.54	55.19	54.84	52.68	53.79	55.18
Eurasia .....	4.57	4.63	4.98	4.84	4.49	4.36	4.71	4.64	4.25	4.40	4.71	4.63	4.76	4.55	4.50
Europe .....	0.74	0.74	0.74	0.76	0.76	0.76	0.76	0.77	0.75	0.77	0.77	0.77	0.75	0.76	0.76
China .....	15.27	15.48	14.99	15.33	15.14	15.12	15.11	15.55	16.27	16.16	15.54	15.46	15.27	15.23	15.85
Other Asia .....	13.43	12.98	12.84	13.69	13.83	13.84	13.52	13.90	14.41	14.38	13.80	14.09	13.23	13.77	14.17
Other Non-OECD .....	17.93	18.71	19.18	18.86	19.06	19.50	19.96	19.37	19.47	19.83	20.37	19.89	18.68	19.47	19.89
Total World Consumption .....	94.52	96.67	98.59	100.37	99.12	99.04	100.09	101.00	101.30	100.69	100.94	101.00	97.56	99.82	100.98
<b>Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)</b>															
U.S. (50 States) .....	0.36	0.51	0.37	0.83	0.81	0.51	0.45	0.64	0.01	-0.37	-0.06	0.50	0.52	0.60	0.02
Other OECD .....	0.88	0.14	0.91	0.73	-0.09	-0.29	-0.65	-0.27	0.38	0.16	-0.02	-0.14	0.66	-0.33	0.09
Other Stock Draws and Balance .....	0.46	1.20	0.58	0.48	-0.42	0.07	-0.63	-0.55	0.80	0.36	-0.05	-0.31	0.68	-0.38	0.20
Total Stock Draw .....	1.71	1.85	1.85	2.04	0.29	0.30	-0.83	-0.17	1.19	0.14	-0.13	0.05	1.86	-0.11	0.31
<b>End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)</b>															
U.S. Commercial Inventory .....	1,311	1,281	1,251	1,199	1,154	1,180	1,216	1,200	1,200	1,249	1,260	1,224	1,199	1,200	1,224
OECD Commercial Inventory .....	2,916	2,873	2,759	2,640	2,604	2,656	2,752	2,760	2,726	2,761	2,774	2,751	2,640	2,760	2,751

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>North America</b> .....	<b>25.34</b>	<b>26.47</b>	<b>26.42</b>	<b>27.51</b>	<b>27.01</b>	<b>27.52</b>	<b>28.03</b>	<b>28.63</b>	<b>28.75</b>	<b>28.51</b>	<b>28.73</b>	<b>29.25</b>	<b>26.44</b>	<b>27.80</b>	<b>28.81</b>
Canada .....	5.62	5.37	5.49	5.68	5.66	5.51	5.68	5.90	5.96	5.67	5.88	6.10	<b>5.54</b>	5.69	5.90
Mexico .....	1.93	1.95	1.90	1.92	1.91	1.89	1.89	1.86	1.90	1.87	1.83	1.79	<b>1.92</b>	1.89	1.85
United States .....	17.79	19.16	19.03	19.91	19.44	20.12	20.45	20.87	20.89	20.98	21.03	21.36	<b>18.98</b>	20.22	21.06
<b>Central and South America</b> .....	<b>5.64</b>	<b>6.29</b>	<b>6.69</b>	<b>5.79</b>	<b>5.83</b>	<b>6.41</b>	<b>6.97</b>	<b>6.62</b>	<b>6.35</b>	<b>7.11</b>	<b>7.40</b>	<b>6.91</b>	<b>6.10</b>	<b>6.46</b>	<b>6.95</b>
Argentina .....	0.65	0.69	0.73	0.74	0.77	0.78	0.79	0.81	0.85	0.86	0.87	0.90	<b>0.70</b>	0.79	0.87
Brazil .....	3.22	3.89	4.21	3.42	3.33	3.79	4.28	3.82	3.49	4.22	4.52	3.98	<b>3.69</b>	3.81	4.05
Colombia .....	0.77	0.74	0.77	0.77	0.77	0.78	0.78	0.79	0.77	0.77	0.78	0.77	<b>0.76</b>	0.78	0.77
Ecuador .....	0.51	0.50	0.49	0.41	0.48	0.47	0.49	0.52	0.54	0.55	0.56	0.56	<b>0.48</b>	0.49	0.55
Other Central and S. America .....	0.48	0.46	0.49	0.46	0.49	0.60	0.64	0.68	0.71	0.71	0.68	0.70	<b>0.47</b>	0.60	0.70
<b>Europe</b> .....	<b>4.33</b>	<b>3.83</b>	<b>4.12</b>	<b>4.11</b>	<b>4.04</b>	<b>3.76</b>	<b>3.95</b>	<b>4.21</b>	<b>4.36</b>	<b>4.37</b>	<b>4.30</b>	<b>4.49</b>	<b>4.10</b>	<b>3.99</b>	<b>4.38</b>
Norway .....	2.11	1.90	2.06	2.05	1.97	1.74	1.98	2.14	2.32	2.33	2.33	2.41	<b>2.03</b>	1.96	2.35
United Kingdom .....	1.07	0.81	0.93	0.93	0.97	0.91	0.85	0.93	0.92	0.91	0.83	0.93	<b>0.94</b>	0.91	0.90
<b>Eurasia</b> .....	<b>13.42</b>	<b>13.65</b>	<b>13.63</b>	<b>14.27</b>	<b>14.39</b>	<b>13.39</b>	<b>13.58</b>	<b>13.78</b>	<b>12.49</b>	<b>12.29</b>	<b>12.29</b>	<b>12.31</b>	<b>13.74</b>	<b>13.79</b>	<b>12.34</b>
Azerbaijan .....	0.75	0.70	0.71	0.71	0.70	0.67	0.65	0.66	0.65	0.64	0.63	0.64	<b>0.72</b>	0.67	0.64
Kazakhstan .....	1.87	1.86	1.72	2.01	2.01	1.77	1.62	1.97	2.01	1.94	1.95	2.02	<b>1.86</b>	1.84	1.98
Russia .....	10.42	10.71	10.80	11.16	11.30	10.59	10.92	10.76	9.41	9.30	9.31	9.24	<b>10.78</b>	10.89	9.32
Turkmenistan .....	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	<b>0.25</b>	0.26	0.27
Other Eurasia .....	0.13	0.14	0.14	0.13	0.14	0.11	0.13	0.14	0.14	0.14	0.13	0.13	<b>0.13</b>	0.13	0.14
<b>Middle East</b> .....	<b>3.09</b>	<b>3.12</b>	<b>3.16</b>	<b>3.17</b>	<b>3.23</b>	<b>3.29</b>	<b>3.29</b>	<b>3.25</b>	<b>3.24</b>	<b>3.24</b>	<b>3.23</b>	<b>3.23</b>	<b>3.13</b>	<b>3.26</b>	<b>3.23</b>
Oman .....	0.96	0.97	0.98	1.01	1.05	1.07	1.10	1.08	1.06	1.06	1.06	1.06	<b>0.98</b>	1.07	1.06
Qatar .....	1.80	1.82	1.83	1.83	1.85	1.86	1.86	1.86	1.86	1.86	1.86	1.86	<b>1.82</b>	1.86	1.86
<b>Asia and Oceania</b> .....	<b>9.18</b>	<b>9.10</b>	<b>9.03</b>	<b>8.96</b>	<b>9.16</b>	<b>9.17</b>	<b>8.98</b>	<b>9.11</b>	<b>9.16</b>	<b>9.16</b>	<b>9.13</b>	<b>9.15</b>	<b>9.07</b>	<b>9.10</b>	<b>9.15</b>
Australia .....	0.46	0.42	0.47	0.49	0.44	0.44	0.47	0.38	0.39	0.39	0.38	0.37	<b>0.46</b>	0.42	0.38
China .....	4.99	5.03	5.01	4.93	5.18	5.18	5.11	5.17	5.21	5.24	5.23	5.27	<b>4.99</b>	5.16	5.24
India .....	0.90	0.90	0.89	0.88	0.88	0.89	0.89	0.88	0.90	0.90	0.89	0.88	<b>0.89</b>	0.89	0.89
Indonesia .....	0.88	0.85	0.85	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78	<b>0.86</b>	0.82	0.80
Malaysia .....	0.66	0.62	0.57	0.59	0.61	0.60	0.58	0.61	0.62	0.61	0.61	0.60	<b>0.61</b>	0.60	0.61
Vietnam .....	0.21	0.21	0.20	0.21	0.21	0.20	0.20	0.19	0.19	0.18	0.18	0.18	<b>0.21</b>	0.20	0.18
<b>Africa</b> .....	<b>1.48</b>	<b>1.47</b>	<b>1.41</b>	<b>1.41</b>	<b>1.41</b>	<b>1.44</b>	<b>1.44</b>	<b>1.43</b>	<b>1.44</b>	<b>1.44</b>	<b>1.42</b>	<b>1.42</b>	<b>1.44</b>	<b>1.43</b>	<b>1.43</b>
Egypt .....	0.66	0.67	0.65	0.66	0.66	0.68	0.66	0.66	0.68	0.67	0.67	0.68	<b>0.66</b>	0.66	0.68
South Sudan .....	0.16	0.16	0.15	0.16	0.15	0.15	0.16	0.16	0.17	0.17	0.17	0.17	<b>0.16</b>	0.16	0.17
<b>Total non-OPEC liquids</b> .....	<b>62.48</b>	<b>63.94</b>	<b>64.46</b>	<b>65.23</b>	<b>65.08</b>	<b>64.98</b>	<b>66.24</b>	<b>67.02</b>	<b>65.80</b>	<b>66.12</b>	<b>66.52</b>	<b>66.76</b>	<b>64.03</b>	<b>65.84</b>	<b>66.30</b>
<b>OPEC non-crude liquids</b> .....	<b>5.26</b>	<b>5.39</b>	<b>5.44</b>	<b>5.44</b>	<b>5.56</b>	<b>5.43</b>	<b>5.48</b>	<b>5.52</b>	<b>5.59</b>	<b>5.46</b>	<b>5.50</b>	<b>5.54</b>	<b>5.38</b>	<b>5.50</b>	<b>5.52</b>
<b>Non-OPEC + OPEC non-crude</b> .....	<b>67.74</b>	<b>69.33</b>	<b>69.90</b>	<b>70.67</b>	<b>70.64</b>	<b>70.42</b>	<b>71.72</b>	<b>72.54</b>	<b>71.39</b>	<b>71.58</b>	<b>72.01</b>	<b>72.29</b>	<b>69.42</b>	<b>71.33</b>	<b>71.82</b>
<b>Unplanned non-OPEC Production Outages</b> .....	<b>0.61</b>	<b>0.50</b>	<b>0.80</b>	<b>0.86</b>	<b>0.76</b>	<b>1.31</b>	<b>0.80</b>	-	-	-	-	-	<b>0.70</b>	-	-

- = 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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Crude Oil</b>															
Algeria .....	0.86	0.88	0.92	0.95	0.97	1.00	1.02	-	-	-	-	-	0.90	-	-
Angola .....	1.11	1.08	1.11	1.13	1.15	1.19	1.16	-	-	-	-	-	1.11	-	-
Congo (Brazzaville) .....	0.28	0.27	0.26	0.26	0.27	0.29	0.29	-	-	-	-	-	0.26	-	-
Equatorial Guinea .....	0.11	0.10	0.10	0.09	0.09	0.09	0.09	-	-	-	-	-	0.10	-	-
Gabon .....	0.16	0.17	0.18	0.19	0.19	0.19	0.20	-	-	-	-	-	0.18	-	-
Iran .....	2.18	2.47	2.47	2.45	2.55	2.53	2.50	-	-	-	-	-	2.39	-	-
Iraq .....	3.94	3.98	4.07	4.25	4.30	4.42	4.55	-	-	-	-	-	4.06	-	-
Kuwait .....	2.33	2.36	2.45	2.53	2.61	2.69	2.80	-	-	-	-	-	2.42	-	-
Libya .....	1.18	1.16	1.18	1.12	1.06	0.76	0.95	-	-	-	-	-	1.16	-	-
Nigeria .....	1.31	1.32	1.28	1.31	1.27	1.11	0.97	-	-	-	-	-	1.30	-	-
Saudi Arabia .....	8.49	8.53	9.55	9.87	10.08	10.30	10.85	-	-	-	-	-	9.11	-	-
United Arab Emirates .....	2.61	2.65	2.76	2.86	2.94	3.04	3.17	-	-	-	-	-	2.72	-	-
Venezuela .....	0.52	0.53	0.53	0.68	0.70	0.72	0.66	-	-	-	-	-	0.56	-	-
OPEC Total .....	25.07	25.49	26.84	27.67	28.19	28.33	29.21	28.63	28.73	28.96	29.05	28.66	26.28	28.59	28.85
Other Liquids (a) .....	5.26	5.39	5.44	5.44	5.56	5.43	5.48	5.52	5.59	5.46	5.50	5.54	5.38	5.50	5.52
<b>Total OPEC Production</b> .....	<b>30.34</b>	<b>30.88</b>	<b>32.28</b>	<b>33.10</b>	<b>33.75</b>	<b>33.76</b>	<b>34.68</b>	<b>34.15</b>	<b>34.31</b>	<b>34.42</b>	<b>34.55</b>	<b>34.19</b>	<b>31.66</b>	<b>34.09</b>	<b>34.37</b>
<b>Crude Oil Production Capacity</b>															
Middle East .....	25.21	25.50	25.50	25.48	25.48	25.46	25.52	25.60	25.90	26.03	26.03	26.03	25.42	25.52	26.00
Other .....	6.12	6.10	5.96	5.98	5.83	5.45	5.34	5.46	5.74	5.78	5.70	5.66	6.04	5.52	5.72
OPEC Total .....	31.33	31.59	31.45	31.46	31.31	30.92	30.86	31.06	31.64	31.81	31.73	31.69	31.46	31.04	31.72
<b>Surplus Crude Oil Production Capacity</b>															
Middle East .....	5.66	5.52	4.21	3.53	3.00	2.48	1.66	2.41	2.90	2.83	2.66	3.03	4.72	2.38	2.85
Other .....	0.59	0.59	0.40	0.27	0.12	0.11	0.00	0.01	0.02	0.02	0.02	0.01	0.46	0.06	0.02
OPEC Total .....	6.25	6.10	4.61	3.80	3.12	2.59	1.66	2.42	2.92	2.85	2.68	3.03	5.18	2.44	2.87
<b>Unplanned OPEC Production Outages</b> .....	<b>2.49</b>	<b>2.12</b>	<b>2.15</b>	<b>2.03</b>	<b>1.98</b>	<b>2.42</b>	<b>2.53</b>	-	-	-	-	-	<b>2.20</b>	-	-

(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 November 3, 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 - November 2022

	2021				2022				2023				2021	2022	2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
<b>North America .....</b>	22.40	23.95	24.34	24.60	24.24	24.49	24.54	24.75	24.17	24.40	24.55	24.75	<b>23.83</b>	24.51	24.47
Canada .....	2.19	2.16	2.43	2.33	2.25	2.23	2.43	2.33	2.27	2.22	2.32	2.29	<b>2.28</b>	2.31	2.27
Mexico .....	1.63	1.66	1.61	1.72	1.76	1.99	1.80	1.70	1.69	1.71	1.71	1.72	<b>1.65</b>	1.81	1.71
United States .....	18.58	20.13	20.30	20.54	20.22	20.27	20.31	20.72	20.21	20.46	20.51	20.72	<b>19.89</b>	20.38	20.48
<b>Central and South America .....</b>	6.09	6.17	6.34	6.34	6.27	6.40	6.50	6.53	6.30	6.43	6.53	6.47	<b>6.24</b>	6.43	6.43
Brazil .....	2.79	2.86	2.95	2.95	2.86	2.93	3.02	3.03	2.90	2.95	3.03	3.01	<b>2.89</b>	2.96	2.97
<b>Europe .....</b>	12.69	13.41	14.62	14.70	13.91	14.17	14.55	14.60	14.32	13.95	14.35	14.12	<b>13.86</b>	14.31	14.18
<b>Eurasia .....</b>	4.57	4.63	4.98	4.84	4.49	4.36	4.71	4.64	4.25	4.40	4.71	4.63	<b>4.76</b>	4.55	4.50
Russia .....	3.34	3.42	3.70	3.56	3.34	3.27	3.54	3.45	3.16	3.24	3.53	3.39	<b>3.51</b>	3.40	3.33
<b>Middle East .....</b>	8.13	8.80	9.26	8.76	8.99	9.30	9.73	8.97	9.26	9.46	9.99	9.39	<b>8.74</b>	9.25	9.53
<b>Asia and Oceania .....</b>	36.28	35.34	34.78	36.67	36.71	35.81	35.66	36.98	38.41	37.44	36.28	36.95	<b>35.76</b>	36.29	37.26
China .....	15.27	15.48	14.99	15.33	15.14	15.12	15.11	15.55	16.27	16.16	15.54	15.46	<b>15.27</b>	15.23	15.85
Japan .....	3.77	3.07	3.17	3.66	3.70	3.03	3.16	3.51	3.72	3.06	3.09	3.39	<b>3.41</b>	3.35	3.31
India .....	4.94	4.37	4.41	4.87	5.08	5.06	4.80	5.05	5.25	5.32	4.96	5.28	<b>4.65</b>	5.00	5.20
<b>Africa .....</b>	4.36	4.38	4.28	4.47	4.51	4.50	4.40	4.53	4.60	4.61	4.53	4.69	<b>4.37</b>	4.49	4.61
<b>Total OECD Liquid Fuels Consumption .....</b>	42.58	44.13	45.87	46.89	45.84	45.46	46.03	46.77	46.16	45.15	45.75	46.16	<b>44.88</b>	46.03	45.81
<b>Total non-OECD Liquid Fuels Consumption .....</b>	51.94	52.54	52.73	53.48	53.28	53.58	54.06	54.24	55.14	55.54	55.19	54.84	<b>52.68</b>	53.79	55.18
<b>Total World Liquid Fuels Consumption .....</b>	94.52	96.67	98.59	100.37	99.12	99.04	100.09	101.00	101.30	100.69	100.94	101.00	<b>97.56</b>	99.82	100.98
<b>Real Gross Domestic Product (a)</b>															
World Index, 2015 Q1 = 100 .....	116.4	117.7	119.1	120.8	121.5	121.9	122.5	123.1	123.5	124.1	125.1	126.2	<b>118.5</b>	122.3	124.7
Percent change from prior year .....	3.5	11.6	5.1	4.7	4.3	3.5	2.9	1.9	1.7	1.8	2.1	2.5	<b>6.1</b>	3.2	2.0
OECD Index, 2015 = 100 .....													<b>110.0</b>	112.9	112.9
Percent change from prior year .....													<b>5.6</b>	2.6	0.0
Non-OECD Index, 2015 = 100 .....													<b>123.8</b>	128.3	132.9
Percent change from prior year .....													<b>6.5</b>	3.6	3.6
<b>Nominal U.S. Dollar Index (b)</b>															
Index, 2015 Q1 = 100 .....	<b>106.5</b>	<b>106.1</b>	<b>107.5</b>	<b>109.1</b>	<b>109.6</b>	<b>113.0</b>	<b>117.3</b>	<b>121.7</b>	<b>121.8</b>	<b>121.2</b>	<b>120.7</b>	<b>120.2</b>	<b>107.3</b>	<b>115.4</b>	<b>121.0</b>
Percent change from prior year .....	-4.6	-8.2	-3.4	0.9	2.9	6.5	9.1	11.6	11.1	7.3	2.9	-1.2	<b>-3.9</b>	7.5	4.8

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Supply (million barrels per day)</b>															
Crude Oil Supply															
Domestic Production (a)	<b>10.82</b>	<b>11.34</b>	<b>11.18</b>	<b>11.66</b>	<b>11.47</b>	<b>11.70</b>	<b>11.99</b>	<b>12.15</b>	<b>12.22</b>	<b>12.24</b>	<b>12.32</b>	<b>12.48</b>	<b>11.25</b>	<b>11.83</b>	<b>12.31</b>
Alaska	0.46	0.44	0.41	0.44	0.45	0.44	0.43	0.44	0.44	0.38	0.40	0.41	0.44	0.44	0.41
Federal Gulf of Mexico (b)	1.83	1.80	1.49	1.71	1.67	1.70	1.80	1.86	1.86	1.85	1.77	1.76	1.71	1.76	1.81
Lower 48 States (excl GOM)	8.54	9.10	9.29	9.50	9.35	9.56	9.77	9.85	9.92	10.01	10.15	10.31	9.11	9.63	10.10
Crude Oil Net Imports (c)	2.88	2.94	3.64	3.13	3.00	2.81	2.60	2.86	3.00	3.52	3.89	3.31	3.15	2.81	3.43
SPR Net Withdrawals	0.00	0.18	0.04	0.26	0.31	0.80	0.85	0.46	0.01	0.17	0.06	0.11	0.12	0.61	0.09
Commercial Inventory Net Withdrawals	-0.19	0.60	0.30	-0.01	0.08	-0.03	-0.14	-0.02	-0.28	0.15	0.19	-0.10	0.18	-0.03	-0.01
Crude Oil Adjustment (d)	0.30	0.59	0.44	0.44	0.71	0.81	0.95	0.43	0.22	0.22	0.23	0.16	0.44	0.72	0.21
Total Crude Oil Input to Refineries	13.81	15.65	15.61	15.49	15.56	16.09	16.24	15.87	15.19	16.30	16.68	15.97	15.15	15.94	16.04
Other Supply															
Refinery Processing Gain	0.85	0.98	0.96	1.04	0.95	1.07	1.00	1.02	1.03	1.00	1.02	1.02	0.96	1.01	1.02
Natural Gas Plant Liquids Production	4.89	5.50	5.56	5.74	5.61	5.92	6.08	6.24	6.24	6.30	6.27	6.38	5.42	5.97	6.30
Renewables and Oxygenate Production (e)	1.04	1.13	1.11	1.24	1.19	1.20	1.16	1.24	1.19	1.22	1.20	1.26	1.13	1.20	1.22
Fuel Ethanol Production	0.90	0.99	0.96	1.06	1.02	1.01	0.97	1.02	0.98	0.99	0.97	1.00	0.98	1.00	0.99
Petroleum Products Adjustment (f)	0.20	0.22	0.22	0.23	0.22	0.23	0.23	0.22	0.21	0.22	0.22	0.22	0.22	0.22	0.22
Product Net Imports (c)	-2.79	-3.07	-3.19	-3.79	-3.74	-3.99	-4.14	-4.08	-3.91	-3.88	-4.57	-4.61	-3.21	-3.99	-4.25
Hydrocarbon Gas Liquids	-1.95	-2.25	-2.15	-2.18	-2.14	-2.31	-2.21	-2.53	-2.52	-2.51	-2.54	-2.54	-2.14	-2.30	-2.53
Unfinished Oils	0.18	0.30	0.25	0.10	0.09	0.25	0.29	0.27	0.22	0.26	0.37	0.19	0.21	0.23	0.26
Other HC/Oxygenates	-0.08	-0.04	-0.03	-0.05	-0.09	-0.10	-0.05	-0.05	-0.06	-0.05	-0.04	-0.04	-0.05	-0.07	-0.04
Motor Gasoline Blend Comp.	0.55	0.79	0.67	0.43	0.40	0.60	0.46	0.32	0.41	0.66	0.36	0.38	0.61	0.44	0.45
Finished Motor Gasoline	-0.64	-0.64	-0.68	-0.88	-0.76	-0.73	-0.79	-0.62	-0.60	-0.61	-0.86	-0.92	-0.71	-0.73	-0.75
Jet Fuel	0.03	0.08	0.08	0.01	-0.04	-0.06	-0.11	-0.06	-0.04	0.06	0.03	0.05	0.05	-0.07	0.02
Distillate Fuel Oil	-0.48	-0.87	-0.91	-0.86	-0.81	-1.15	-1.34	-1.03	-0.84	-1.19	-1.36	-1.22	-0.78	-1.08	-1.16
Residual Fuel Oil	0.07	0.05	0.08	0.15	0.14	0.10	0.07	0.18	0.13	0.13	0.11	0.17	0.09	0.12	0.14
Other Oils (g)	-0.48	-0.49	-0.50	-0.50	-0.54	-0.59	-0.46	-0.56	-0.61	-0.62	-0.64	-0.69	-0.49	-0.54	-0.64
Product Inventory Net Withdrawals	0.55	-0.27	0.03	0.58	0.42	-0.25	-0.25	0.20	0.27	-0.70	-0.30	0.49	0.22	0.03	-0.06
Total Supply	18.54	20.13	20.30	20.53	20.22	20.27	20.31	20.72	20.21	20.46	20.51	20.72	19.88	20.38	20.48
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.43	3.33	3.34	3.66	3.87	3.43	3.45	3.93	4.08	3.55	3.52	3.95	3.44	3.67	3.77
Other HC/Oxygenates	0.11	0.13	0.13	0.16	0.13	0.17	0.17	0.22	0.21	0.21	0.21	0.26	0.13	0.17	0.22
Unfinished Oils	0.08	0.07	-0.05	0.00	0.13	0.04	0.08	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.00
Motor Gasoline	8.04	9.09	9.14	8.98	8.47	9.00	8.88	8.79	8.41	8.95	8.89	8.76	8.82	8.79	8.75
Fuel Ethanol blended into Motor Gasoline	0.81	0.93	0.94	0.95	0.87	0.93	0.92	0.91	0.87	0.93	0.92	0.93	0.91	0.91	0.91
Jet Fuel	1.12	1.34	1.52	1.50	1.45	1.61	1.59	1.54	1.44	1.58	1.65	1.62	1.37	1.55	1.57
Distillate Fuel Oil	3.99	3.96	3.90	4.03	4.14	3.89	3.80	4.02	4.05	3.91	3.82	3.96	3.97	3.96	3.93
Residual Fuel Oil	0.26	0.25	0.35	0.40	0.38	0.31	0.34	0.40	0.38	0.39	0.41	0.41	0.31	0.36	0.40
Other Oils (g)	1.54	1.95	1.98	1.81	1.65	1.82	1.99	1.81	1.65	1.87	2.02	1.76	1.82	1.82	1.83
Total Consumption	18.58	20.13	20.30	20.54	20.22	20.27	20.31	20.72	20.21	20.46	20.51	20.72	19.88	20.38	20.48
Total Petroleum and Other Liquids Net Imports	0.09	-0.13	0.45	-0.65	-0.74	-1.18	-1.54	-1.22	-0.91	-0.36	-0.68	-1.30	-0.06	-1.17	-0.81
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	502.5	448.1	420.3	421.2	414.4	417.5	430.6	432.7	457.4	443.4	425.7	434.7	421.2	432.7	434.7
Hydrocarbon Gas Liquids	176.9	205.3	235.5	193.1	142.0	186.7	243.4	194.5	150.2	203.6	245.8	204.0	193.1	194.5	204.0
Unfinished Oils	92.5	92.3	89.5	79.7	87.9	88.8	83.3	79.0	91.2	89.3	88.9	80.8	79.7	79.0	80.8
Other HC/Oxygenates	29.3	27.7	25.7	28.7	34.1	29.4	27.2	28.5	30.5	29.3	29.0	29.3	28.7	28.5	29.3
Total Motor Gasoline	237.8	237.3	227.0	232.2	238.5	221.0	207.7	236.2	239.2	245.2	235.3	245.0	232.2	236.2	245.0
Finished Motor Gasoline	20.3	18.5	18.5	17.8	17.3	17.1	17.2	17.6	15.5	17.0	18.9	21.5	17.8	17.6	21.5
Motor Gasoline Blend Comp.	217.6	218.7	208.5	214.4	221.2	203.8	190.6	218.6	223.7	228.2	216.4	223.5	214.4	218.6	223.5
Jet Fuel	39.1	44.7	42.0	35.8	35.6	39.3	36.2	33.4	35.1	38.9	40.9	37.7	35.8	33.4	37.7
Distillate Fuel Oil	146.1	140.1	132.1	130.0	114.6	111.4	110.2	116.8	106.4	112.9	118.1	115.6	130.0	116.8	115.6
Residual Fuel Oil	30.9	31.5	27.8	25.8	27.9	29.2	28.8	28.3	30.2	29.3	27.7	27.1	25.8	28.3	27.1
Other Oils (g)	55.8	54.3	51.0	52.2	58.5	56.4	48.8	50.3	59.5	57.5	48.3	49.7	52.2	50.3	49.7
Total Commercial Inventory	1310.9	1281.4	1250.9	1198.6	1153.6	1179.7	1216.2	1199.5	1199.8	1249.3	1259.6	1223.9	1198.6	1199.5	1223.9
Crude Oil in SPR	637.8	621.3	617.8	593.7	566.1	493.3	415.3	372.7	371.5	355.9	350.7	340.2	593.7	372.7	340.2

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>HGL Production</b>															
<b>Natural Gas Processing Plants</b>															
Ethane .....	1.88	2.20	2.19	2.32	2.33	2.43	2.43	2.59	2.63	2.67	2.57	2.62	2.15	2.45	2.62
Propane .....	1.63	1.76	1.77	1.82	1.77	1.85	1.91	1.96	1.94	1.94	1.95	2.00	1.74	1.87	1.96
Butanes .....	0.86	0.93	0.94	0.96	0.93	0.98	1.02	1.04	1.04	1.03	1.06	1.08	0.92	0.99	1.05
Natural Gasoline (Pentanes Plus) .....	0.53	0.61	0.66	0.64	0.59	0.67	0.71	0.65	0.63	0.66	0.69	0.67	0.61	0.66	0.66
<b>Refinery and Blender Net Production</b>															
Ethane/Ethylene .....	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01
Propane .....	0.25	0.29	0.28	0.29	0.27	0.29	0.30	0.29	0.28	0.28	0.29	0.28	0.28	0.29	0.28
Propylene (refinery-grade) .....	0.27	0.31	0.29	0.29	0.28	0.28	0.27	0.28	0.27	0.28	0.28	0.28	0.29	0.28	0.28
Butanes/Butylenes .....	-0.09	0.24	0.18	-0.16	-0.07	0.25	0.19	-0.19	-0.08	0.27	0.20	-0.19	0.04	0.05	0.05
<b>Renewable Fuels and Oxygenate Plant Net Production</b>															
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
<b>HGL Net Imports</b>															
Ethane .....	-0.31	-0.38	-0.37	-0.41	-0.50	-0.40	-0.43	-0.43	-0.45	-0.45	-0.45	-0.45	-0.37	-0.44	-0.45
Propane/Propylene .....	-1.08	-1.26	-1.22	-1.24	-1.18	-1.33	-1.25	-1.44	-1.33	-1.33	-1.34	-1.39	-1.20	-1.30	-1.35
Butanes/Butylenes .....	-0.34	-0.41	-0.38	-0.35	-0.28	-0.41	-0.35	-0.47	-0.51	-0.51	-0.52	-0.47	-0.37	-0.38	-0.50
Natural Gasoline (Pentanes Plus) .....	-0.22	-0.21	-0.18	-0.18	-0.17	-0.17	-0.18	-0.19	-0.23	-0.22	-0.23	-0.23	-0.20	-0.18	-0.23
<b>HGL Refinery and Blender Net Inputs</b>															
Butanes/Butylenes .....	0.40	0.29	0.31	0.53	0.44	0.31	0.33	0.49	0.41	0.28	0.31	0.51	0.38	0.39	0.38
Natural Gasoline (Pentanes Plus) .....	0.14	0.14	0.16	0.23	0.20	0.20	0.22	0.19	0.18	0.19	0.19	0.18	0.17	0.20	0.19
<b>HGL Consumption</b>															
Ethane/Ethylene .....	1.55	1.86	1.83	1.98	1.98	2.03	2.01	2.17	2.20	2.16	2.12	2.16	1.81	2.05	2.16
Propane .....	1.11	0.61	0.65	0.95	1.16	0.60	0.62	1.00	1.16	0.63	0.64	1.02	0.83	0.84	0.86
Propylene (refinery-grade) .....	0.29	0.32	0.30	0.30	0.30	0.29	0.29	0.29	0.30	0.29	0.29	0.29	0.31	0.29	0.29
Butanes/Butylenes .....	0.22	0.29	0.26	0.20	0.23	0.26	0.27	0.21	0.19	0.24	0.23	0.22	0.24	0.24	0.22
Natural Gasoline (Pentanes Plus) .....	0.26	0.24	0.30	0.22	0.21	0.24	0.26	0.26	0.23	0.22	0.24	0.25	0.26	0.24	0.23
<b>HGL Inventories (million barrels)</b>															
Ethane .....	70.4	72.3	69.8	67.4	51.1	51.7	49.1	51.0	47.6	53.3	54.6	57.3	70.0	50.7	53.2
Propane .....	41.8	56.8	72.2	63.9	36.3	54.1	83.5	65.2	38.6	60.0	82.7	69.7	63.9	65.2	69.7
Propylene (at refineries only) .....	1.1	1.2	1.3	1.4	1.0	1.2	1.0	1.3	1.3	1.6	1.8	1.7	1.4	1.3	1.7
Butanes/Butylenes .....	37.7	54.7	69.9	43.9	35.7	58.8	82.9	53.1	39.9	64.5	82.4	53.3	43.9	53.1	53.3
Natural Gasoline (Pentanes Plus) .....	23.0	22.5	22.5	20.7	19.4	22.7	26.1	25.0	22.2	23.1	23.6	22.6	20.7	25.0	22.6
<b>Refinery and Blender Net Inputs</b>															
Crude Oil .....	13.81	15.65	15.61	15.49	15.56	16.09	16.24	15.87	15.19	16.30	16.68	15.97	15.15	15.94	16.04
Hydrocarbon Gas Liquids .....	0.53	0.43	0.47	0.76	0.64	0.50	0.55	0.68	0.59	0.47	0.50	0.69	0.55	0.59	0.56
Other Hydrocarbons/Oxygenates .....	1.06	1.19	1.20	1.18	1.12	1.20	1.19	1.16	1.10	1.17	1.16	1.16	1.16	1.17	1.15
Unfinished Oils .....	-0.07	0.24	0.32	0.21	-0.12	0.21	0.27	0.31	0.08	0.28	0.38	0.28	0.18	0.17	0.26
Motor Gasoline Blend Components .....	0.70	0.92	0.82	0.28	0.33	0.84	0.68	0.26	0.48	0.72	0.59	0.53	0.68	0.53	0.58
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 .....	16.03	18.43	18.41	17.92	17.53	18.84	18.92	18.29	17.43	18.94	19.31	18.62	17.71	18.40	18.58
<b>Refinery Processing Gain</b>															
	0.85	0.98	0.96	1.04	0.95	1.07	1.00	1.02	1.03	1.00	1.02	1.02	0.96	1.01	1.02
<b>Refinery and Blender Net Production</b>															
Hydrocarbon Gas Liquids .....	0.44	0.85	0.76	0.42	0.49	0.84	0.76	0.39	0.48	0.83	0.77	0.37	0.62	0.62	0.61
Finished Motor Gasoline .....	8.75	9.83	9.83	9.70	9.22	9.74	9.72	9.64	9.07	9.64	9.83	9.88	9.53	9.58	9.61
Jet Fuel .....	1.10	1.32	1.41	1.42	1.48	1.71	1.66	1.57	1.51	1.57	1.64	1.53	1.31	1.61	1.56
Distillate Fuel .....	4.30	4.77	4.72	4.87	4.77	5.00	5.13	5.12	4.77	5.17	5.24	5.16	4.67	5.01	5.09
Residual Fuel .....	0.20	0.21	0.22	0.23	0.26	0.22	0.26	0.21	0.26	0.25	0.28	0.24	0.21	0.24	0.26
Other Oils (a) .....	2.10	2.43	2.44	2.33	2.26	2.39	2.37	2.39	2.36	2.48	2.56	2.47	2.32	2.35	2.47
Total Refinery and Blender Net Production .....	16.88	19.41	19.37	18.96	18.49	19.90	19.92	19.31	18.46	19.94	20.33	19.64	18.66	19.41	19.60
<b>Refinery Distillation Inputs</b>															
	14.25	16.17	16.23	16.02	16.07	16.61	16.75	16.24	15.53	16.52	16.95	16.26	15.67	16.42	16.32
<b>Refinery Operable Distillation Capacity</b>															
	18.13	18.13	18.13	18.05	17.94	17.94	17.96	17.96	17.96	18.09	18.21	18.21	18.11	17.95	18.12
<b>Refinery Distillation Utilization Factor</b>															
	0.79	0.89	0.89	0.89	0.90	0.93	0.93	0.90	0.86	0.91	0.93	0.89	0.87	0.91	0.90

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Prices (cents per gallon)</b>															
Refiner Wholesale Price .....	180	216	232	243	278	376	311	295	282	282	280	272	219	316	279
<b>Gasoline Regular Grade Retail Prices Including Taxes</b>															
PADD 1 .....	252	287	304	327	364	438	392	350	350	356	351	350	294	387	352
PADD 2 .....	247	288	304	315	352	436	398	367	344	347	350	344	290	389	346
PADD 3 .....	227	267	282	298	340	414	358	320	320	328	326	322	270	358	324
PADD 4 .....	247	311	360	351	360	446	436	380	367	369	370	362	319	407	367
PADD 5 .....	312	366	391	410	452	543	510	513	462	439	430	425	372	505	439
U.S. Average .....	256	297	316	333	371	450	408	378	363	364	361	357	302	402	361
Gasoline All Grades Including Taxes	265	306	325	343	380	460	419	390	376	377	375	371	311	413	375
<b>End-of-period Inventories (million barrels)</b>															
<b>Total Gasoline Inventories</b>															
PADD 1 .....	65.1	69.9	59.0	61.8	56.9	53.6	54.3	58.5	60.2	67.1	62.3	64.4	61.8	58.5	64.4
PADD 2 .....	50.6	50.6	46.8	50.7	56.5	46.7	44.1	51.8	54.3	51.2	48.3	52.2	50.7	51.8	52.2
PADD 3 .....	82.1	81.6	83.0	81.7	87.1	83.9	78.7	88.0	87.1	89.4	86.7	89.3	81.7	88.0	89.3
PADD 4 .....	8.6	6.2	7.6	8.1	8.1	6.4	6.0	7.7	8.0	7.7	7.8	8.3	8.1	7.7	8.3
PADD 5 .....	31.5	29.0	30.6	29.7	29.9	30.3	24.7	30.2	29.6	29.8	30.2	30.8	29.7	30.2	30.8
U.S. Total .....	237.8	237.3	227.0	232.2	238.5	221.0	207.7	236.2	239.2	245.2	235.3	245.0	232.2	236.2	245.0
<b>Finished Gasoline Inventories</b>															
U.S. Total .....	20.3	18.5	18.5	17.8	17.3	17.1	17.2	17.6	15.5	17.0	18.9	21.5	17.8	17.6	21.5
<b>Gasoline Blending Components Inventories</b>															
U.S. Total .....	217.6	218.7	208.5	214.4	221.2	203.8	190.6	218.6	223.7	228.2	216.4	223.5	214.4	218.6	223.5

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Supply (billion cubic feet per day)</b>															
Total Marketed Production .....	98.57	102.12	102.88	105.43	103.27	106.18	108.24	108.97	107.67	108.16	108.79	109.15	102.27	106.69	108.45
Alaska .....	1.02	0.95	0.90	1.02	1.06	1.00	0.96	1.02	1.01	0.93	0.85	0.98	0.97	1.01	0.94
Federal GOM (a) .....	2.33	2.30	1.82	2.10	2.05	2.11	2.22	2.34	2.28	2.21	2.07	2.02	2.14	2.18	2.15
Lower 48 States (excl GOM) .....	95.22	98.87	100.16	102.30	100.16	103.07	105.07	105.62	104.38	105.03	105.87	106.15	99.16	103.50	105.36
Total Dry Gas Production .....	91.14	94.43	95.14	97.49	95.10	97.59	99.42	100.10	99.01	99.42	99.99	100.33	94.57	98.07	99.69
LNG Gross Imports .....	0.15	0.02	0.03	0.04	0.15	0.01	0.07	0.06	0.10	0.04	0.04	0.06	0.06	0.07	0.06
LNG Gross Exports .....	9.27	9.81	9.60	10.32	11.50	10.80	9.84	11.27	12.40	12.53	12.10	12.28	9.76	10.85	12.33
Pipeline Gross Imports .....	8.68	6.81	7.24	7.82	8.89	7.73	7.62	7.56	8.30	6.86	7.04	7.46	7.63	7.95	7.41
Pipeline Gross Exports .....	8.31	8.66	8.50	8.40	8.43	8.45	8.37	9.11	9.40	8.84	9.15	9.56	8.47	8.59	9.24
Supplemental Gaseous Fuels .....	0.17	0.18	0.18	0.19	0.21	0.15	0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.18	0.19
Net Inventory Withdrawals .....	17.18	-9.12	-7.87	1.03	20.14	-10.25	-8.85	2.61	16.25	-13.17	-9.38	3.95	0.24	0.84	-0.65
Total Supply .....	99.74	73.84	76.62	87.84	104.56	75.98	80.23	90.16	102.04	71.97	76.62	90.15	84.46	87.67	85.14
Balancing Item (b) .....	1.28	-1.08	-0.66	-1.28	0.57	0.43	0.87	0.98	0.86	0.55	-0.74	-0.87	-0.44	0.72	-0.06
Total Primary Supply .....	101.03	72.76	75.96	86.56	105.13	76.42	81.10	91.14	102.90	72.52	75.89	89.28	84.01	88.39	85.08
<b>Consumption (billion cubic feet per day)</b>															
Residential .....	26.05	7.58	3.67	14.61	26.09	7.85	3.64	16.94	25.83	7.92	4.14	17.02	12.92	13.58	13.68
Commercial .....	15.03	6.31	4.73	10.17	15.62	6.70	4.87	11.66	15.19	6.67	5.26	11.61	9.04	9.69	9.66
Industrial .....	24.21	21.67	21.45	23.59	25.49	22.38	21.62	23.64	23.96	21.28	21.21	23.53	22.73	23.28	22.49
Electric Power (c) .....	26.79	29.20	37.94	29.47	28.65	31.12	42.34	29.81	28.45	28.32	36.79	28.09	30.88	33.01	30.43
Lease and Plant Fuel .....	5.02	5.20	5.24	5.37	5.26	5.41	5.51	5.55	5.48	5.51	5.54	5.56	5.21	5.43	5.52
Pipeline and Distribution Use .....	3.77	2.65	2.78	3.19	3.87	2.81	2.98	3.38	3.85	2.67	2.80	3.32	3.09	3.26	3.16
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 .....	101.03	72.76	75.96	86.56	105.13	76.42	81.10	91.14	102.90	72.52	75.89	89.28	84.01	88.39	85.08
<b>End-of-period Inventories (billion cubic feet)</b>															
Working Gas Inventory .....	1,801	2,585	3,306	3,210	1,401	2,325	3,137	2,896	1,433	2,632	3,495	3,132	3,210	2,896	3,132
East Region (d) .....	313	515	804	766	242	482	756	654	195	548	864	727	766	654	727
Midwest Region (d) .....	395	630	966	887	296	557	916	813	303	633	989	845	887	813	845
South Central Region (d) .....	760	993	1,053	1,143	587	885	1,003	1,041	699	1,046	1,125	1,089	1,143	1,041	1,089
Mountain Region (d) .....	113	175	205	171	90	137	184	174	96	142	207	187	171	174	187
Pacific Region (d) .....	197	246	248	218	165	240	247	184	110	232	279	252	218	184	252
Alaska .....	23	27	30	25	21	25	31	31	31	31	31	31	25	31	31

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Wholesale/Spot</b>															
Henry Hub Spot Price .....	<b>3.70</b>	<b>3.06</b>	<b>4.53</b>	<b>4.96</b>	<b>4.84</b>	<b>7.77</b>	<b>8.30</b>	<b>6.05</b>	<b>6.45</b>	<b>5.23</b>	<b>5.40</b>	<b>5.61</b>	<b>4.06</b>	<b>6.74</b>	<b>5.67</b>
<b>Residential Retail</b>															
New England .....	<b>14.70</b>	<b>16.23</b>	<b>20.39</b>	<b>17.65</b>	<b>17.69</b>	<b>20.93</b>	<b>26.87</b>	<b>21.70</b>	<b>20.28</b>	<b>20.33</b>	<b>22.50</b>	<b>17.89</b>	<b>16.15</b>	<b>19.82</b>	<b>19.72</b>
Middle Atlantic .....	<b>10.41</b>	<b>13.46</b>	<b>19.65</b>	<b>14.28</b>	<b>12.79</b>	<b>15.55</b>	<b>23.57</b>	<b>15.76</b>	<b>14.08</b>	<b>15.60</b>	<b>19.98</b>	<b>13.65</b>	<b>12.54</b>	<b>14.63</b>	<b>14.60</b>
E. N. Central .....	<b>7.42</b>	<b>12.74</b>	<b>22.45</b>	<b>11.38</b>	<b>9.81</b>	<b>14.81</b>	<b>26.18</b>	<b>14.54</b>	<b>12.79</b>	<b>14.76</b>	<b>20.55</b>	<b>11.37</b>	<b>10.20</b>	<b>12.57</b>	<b>13.12</b>
W. N. Central .....	<b>7.52</b>	<b>11.60</b>	<b>20.46</b>	<b>12.48</b>	<b>11.40</b>	<b>15.25</b>	<b>24.92</b>	<b>14.54</b>	<b>12.43</b>	<b>14.48</b>	<b>20.37</b>	<b>11.89</b>	<b>10.22</b>	<b>13.39</b>	<b>13.07</b>
S. Atlantic .....	<b>11.69</b>	<b>17.52</b>	<b>26.47</b>	<b>16.15</b>	<b>13.91</b>	<b>22.15</b>	<b>31.77</b>	<b>18.18</b>	<b>15.82</b>	<b>20.04</b>	<b>26.12</b>	<b>15.44</b>	<b>14.83</b>	<b>17.42</b>	<b>17.12</b>
E. S. Central .....	<b>9.41</b>	<b>15.00</b>	<b>23.30</b>	<b>14.36</b>	<b>11.80</b>	<b>17.16</b>	<b>28.60</b>	<b>16.92</b>	<b>14.33</b>	<b>18.98</b>	<b>25.16</b>	<b>15.63</b>	<b>12.11</b>	<b>14.37</b>	<b>16.28</b>
W. S. Central .....	<b>9.18</b>	<b>15.73</b>	<b>23.63</b>	<b>17.68</b>	<b>12.62</b>	<b>20.91</b>	<b>30.36</b>	<b>16.23</b>	<b>12.68</b>	<b>17.74</b>	<b>23.41</b>	<b>14.29</b>	<b>13.04</b>	<b>15.87</b>	<b>14.91</b>
Mountain .....	<b>7.93</b>	<b>10.64</b>	<b>15.52</b>	<b>10.83</b>	<b>10.31</b>	<b>12.87</b>	<b>19.09</b>	<b>13.09</b>	<b>12.26</b>	<b>13.48</b>	<b>16.61</b>	<b>11.12</b>	<b>9.78</b>	<b>12.01</b>	<b>12.44</b>
Pacific .....	<b>14.14</b>	<b>14.95</b>	<b>15.84</b>	<b>16.39</b>	<b>17.07</b>	<b>17.80</b>	<b>20.65</b>	<b>19.16</b>	<b>18.61</b>	<b>18.53</b>	<b>18.81</b>	<b>17.82</b>	<b>15.18</b>	<b>18.22</b>	<b>18.38</b>
U.S. Average .....	<b>9.71</b>	<b>13.82</b>	<b>20.27</b>	<b>13.71</b>	<b>12.32</b>	<b>16.57</b>	<b>24.81</b>	<b>16.27</b>	<b>14.52</b>	<b>16.52</b>	<b>20.88</b>	<b>13.71</b>	<b>12.21</b>	<b>15.02</b>	<b>15.04</b>
<b>Commercial Retail</b>															
New England .....	<b>10.39</b>	<b>11.15</b>	<b>12.42</b>	<b>12.59</b>	<b>12.62</b>	<b>14.46</b>	<b>16.06</b>	<b>14.73</b>	<b>14.33</b>	<b>13.80</b>	<b>12.83</b>	<b>12.34</b>	<b>11.35</b>	<b>13.94</b>	<b>13.54</b>
Middle Atlantic .....	<b>7.92</b>	<b>7.99</b>	<b>8.26</b>	<b>10.13</b>	<b>10.36</b>	<b>10.79</b>	<b>11.44</b>	<b>11.70</b>	<b>11.66</b>	<b>10.92</b>	<b>9.96</b>	<b>10.12</b>	<b>8.61</b>	<b>10.97</b>	<b>10.89</b>
E. N. Central .....	<b>6.12</b>	<b>8.63</b>	<b>11.05</b>	<b>8.70</b>	<b>8.12</b>	<b>10.46</b>	<b>14.38</b>	<b>11.45</b>	<b>10.54</b>	<b>10.87</b>	<b>11.38</b>	<b>9.14</b>	<b>7.62</b>	<b>9.88</b>	<b>10.21</b>
W. N. Central .....	<b>6.35</b>	<b>7.72</b>	<b>9.99</b>	<b>10.05</b>	<b>10.22</b>	<b>11.73</b>	<b>14.80</b>	<b>11.49</b>	<b>10.67</b>	<b>10.55</b>	<b>11.33</b>	<b>9.43</b>	<b>7.90</b>	<b>11.14</b>	<b>10.32</b>
S. Atlantic .....	<b>8.76</b>	<b>9.86</b>	<b>10.44</b>	<b>11.20</b>	<b>10.51</b>	<b>12.23</b>	<b>13.77</b>	<b>12.52</b>	<b>11.90</b>	<b>12.27</b>	<b>12.26</b>	<b>11.22</b>	<b>9.81</b>	<b>11.80</b>	<b>11.80</b>
E. S. Central .....	<b>8.25</b>	<b>9.93</b>	<b>12.00</b>	<b>11.82</b>	<b>10.41</b>	<b>12.80</b>	<b>15.63</b>	<b>13.31</b>	<b>12.09</b>	<b>12.51</b>	<b>12.52</b>	<b>11.19</b>	<b>9.86</b>	<b>12.20</b>	<b>11.92</b>
W. S. Central .....	<b>6.94</b>	<b>8.62</b>	<b>10.20</b>	<b>10.91</b>	<b>10.09</b>	<b>12.86</b>	<b>14.87</b>	<b>12.64</b>	<b>10.78</b>	<b>10.74</b>	<b>10.61</b>	<b>9.72</b>	<b>8.64</b>	<b>11.95</b>	<b>10.46</b>
Mountain .....	<b>6.46</b>	<b>7.70</b>	<b>9.14</b>	<b>8.93</b>	<b>8.78</b>	<b>9.98</b>	<b>12.46</b>	<b>11.20</b>	<b>10.71</b>	<b>10.75</b>	<b>11.15</b>	<b>9.72</b>	<b>7.68</b>	<b>10.05</b>	<b>10.45</b>
Pacific .....	<b>10.52</b>	<b>10.37</b>	<b>11.38</b>	<b>12.19</b>	<b>13.08</b>	<b>13.67</b>	<b>15.48</b>	<b>14.53</b>	<b>13.36</b>	<b>12.26</b>	<b>11.86</b>	<b>11.07</b>	<b>11.16</b>	<b>13.97</b>	<b>12.19</b>
U.S. Average .....	<b>7.54</b>	<b>8.86</b>	<b>10.14</b>	<b>10.27</b>	<b>10.00</b>	<b>11.71</b>	<b>13.96</b>	<b>12.29</b>	<b>11.48</b>	<b>11.38</b>	<b>11.27</b>	<b>10.15</b>	<b>8.81</b>	<b>11.39</b>	<b>11.03</b>
<b>Industrial Retail</b>															
New England .....	<b>8.60</b>	<b>8.09</b>	<b>7.86</b>	<b>10.10</b>	<b>11.11</b>	<b>12.09</b>	<b>12.10</b>	<b>12.23</b>	<b>11.96</b>	<b>10.76</b>	<b>9.35</b>	<b>10.37</b>	<b>8.74</b>	<b>11.81</b>	<b>10.84</b>
Middle Atlantic .....	<b>8.20</b>	<b>7.79</b>	<b>8.32</b>	<b>11.11</b>	<b>10.80</b>	<b>10.10</b>	<b>12.01</b>	<b>11.75</b>	<b>11.55</b>	<b>10.53</b>	<b>9.72</b>	<b>9.87</b>	<b>8.80</b>	<b>11.11</b>	<b>10.76</b>
E. N. Central .....	<b>5.62</b>	<b>8.64</b>	<b>8.45</b>	<b>8.18</b>	<b>7.66</b>	<b>9.10</b>	<b>10.68</b>	<b>9.61</b>	<b>9.36</b>	<b>8.43</b>	<b>8.00</b>	<b>8.05</b>	<b>7.14</b>	<b>8.82</b>	<b>8.66</b>
W. N. Central .....	<b>4.89</b>	<b>4.61</b>	<b>5.48</b>	<b>6.97</b>	<b>7.96</b>	<b>8.58</b>	<b>9.41</b>	<b>8.82</b>	<b>8.60</b>	<b>7.16</b>	<b>6.72</b>	<b>7.21</b>	<b>5.55</b>	<b>8.65</b>	<b>7.48</b>
S. Atlantic .....	<b>4.88</b>	<b>4.58</b>	<b>5.66</b>	<b>7.36</b>	<b>7.44</b>	<b>8.84</b>	<b>10.83</b>	<b>8.67</b>	<b>8.66</b>	<b>7.27</b>	<b>7.07</b>	<b>7.46</b>	<b>5.63</b>	<b>8.84</b>	<b>7.67</b>
E. S. Central .....	<b>4.50</b>	<b>4.07</b>	<b>5.11</b>	<b>6.87</b>	<b>6.53</b>	<b>8.70</b>	<b>10.48</b>	<b>8.35</b>	<b>8.31</b>	<b>6.98</b>	<b>6.62</b>	<b>7.05</b>	<b>5.14</b>	<b>8.39</b>	<b>7.29</b>
W. S. Central .....	<b>5.90</b>	<b>3.28</b>	<b>4.49</b>	<b>6.11</b>	<b>5.58</b>	<b>7.69</b>	<b>8.40</b>	<b>6.44</b>	<b>6.71</b>	<b>5.49</b>	<b>5.55</b>	<b>5.70</b>	<b>4.92</b>	<b>7.04</b>	<b>5.85</b>
Mountain .....	<b>5.24</b>	<b>5.55</b>	<b>6.96</b>	<b>7.67</b>	<b>7.11</b>	<b>8.39</b>	<b>10.31</b>	<b>9.69</b>	<b>9.43</b>	<b>8.71</b>	<b>8.47</b>	<b>8.09</b>	<b>6.31</b>	<b>8.73</b>	<b>8.71</b>
Pacific .....	<b>8.08</b>	<b>7.05</b>	<b>7.60</b>	<b>8.69</b>	<b>8.82</b>	<b>9.02</b>	<b>10.01</b>	<b>10.52</b>	<b>10.11</b>	<b>9.19</b>	<b>8.72</b>	<b>8.69</b>	<b>7.95</b>	<b>9.58</b>	<b>9.25</b>
U.S. Average .....	<b>5.77</b>	<b>4.13</b>	<b>5.09</b>	<b>6.82</b>	<b>6.82</b>	<b>8.26</b>	<b>9.14</b>	<b>7.75</b>	<b>8.02</b>	<b>6.48</b>	<b>6.26</b>	<b>6.64</b>	<b>5.50</b>	<b>7.93</b>	<b>6.88</b>

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Supply (million short tons)</b>															
Production .....	140.3	142.7	148.3	146.7	149.0	141.7	153.2	151.4	145.6	135.6	149.4	142.8	578.1	595.3	573.2
Appalachia .....	40.8	39.5	36.6	38.9	40.2	38.7	38.7	38.9	38.6	36.9	33.0	32.2	155.8	156.4	140.7
Interior .....	25.0	23.3	22.7	22.5	23.8	21.9	22.7	22.5	22.7	20.7	22.1	20.9	93.5	90.9	86.4
Western .....	74.5	80.0	89.0	85.3	85.0	81.1	91.7	90.1	84.3	78.0	94.2	89.6	328.8	347.9	346.2
Primary Inventory Withdrawals .....	1.0	0.3	3.3	0.0	-1.9	0.0	3.4	-0.3	-2.0	0.0	3.4	-0.1	4.6	1.2	1.3
Imports .....	1.1	1.5	1.1	1.7	1.3	1.6	2.2	2.2	2.0	2.3	2.6	2.3	5.4	7.4	9.2
Exports .....	20.7	22.0	20.6	21.8	20.2	23.0	20.5	20.2	20.1	21.6	20.3	21.9	85.1	83.9	83.9
Metallurgical Coal .....	10.3	11.7	11.3	11.7	10.5	13.1	11.6	10.2	10.0	11.0	10.1	10.6	45.0	45.3	41.7
Steam Coal .....	10.4	10.3	9.3	10.1	9.7	9.9	9.0	10.1	10.1	10.6	10.3	11.2	40.1	38.7	42.2
Total Primary Supply .....	121.7	122.5	132.1	126.6	128.2	120.4	138.3	133.1	125.5	116.2	135.1	123.1	503.0	520.1	499.9
Secondary Inventory Withdrawals .....	20.4	0.3	30.5	-14.1	8.8	-1.1	7.9	-20.9	-6.0	-10.6	10.7	-17.2	37.1	-5.3	-23.0
Waste Coal (a) .....	2.2	1.7	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	7.9	7.5	7.2
Total Supply .....	144.2	124.5	164.6	114.6	138.8	121.2	148.2	114.1	121.3	107.4	147.6	107.7	547.9	522.3	484.0
<b>Consumption (million short tons)</b>															
Coke Plants .....	4.4	4.5	4.4	4.4	4.2	3.9	3.9	3.9	3.9	4.0	4.0	4.2	17.6	15.8	16.0
Electric Power Sector (b) .....	128.0	113.8	157.0	102.7	122.6	107.4	136.5	103.5	110.7	97.8	138.0	97.1	501.4	470.0	443.7
Retail and Other Industry .....	6.9	6.3	6.5	7.0	6.9	6.7	6.3	6.7	6.7	5.6	5.6	6.4	26.7	26.6	24.3
Residential and Commercial .....	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.4	0.2	0.2	0.3	0.8	0.9	1.0
Other Industrial .....	6.6	6.2	6.3	6.8	6.7	6.6	6.1	6.4	6.3	5.4	5.4	6.1	25.9	25.8	23.3
Total Consumption .....	139.2	124.6	167.9	114.1	133.7	118.0	146.6	114.1	121.3	107.4	147.6	107.7	545.7	512.4	484.0
Discrepancy (c) .....	5.0	-0.1	-3.2	0.5	5.2	3.2	1.5	0.0	0.0	0.0	0.0	0.0	2.2	9.9	0.0
<b>End-of-period Inventories (million short tons)</b>															
Primary Inventories (d) .....	22.6	22.4	19.0	19.0	21.0	20.9	17.5	17.8	19.8	19.8	16.4	16.5	19.0	17.8	16.5
Secondary Inventories .....	115.8	115.5	85.0	99.1	90.3	91.4	83.5	104.4	110.4	121.0	110.2	127.4	99.1	104.4	127.4
Electric Power Sector .....	111.5	110.9	80.4	94.7	86.2	87.3	77.8	98.9	105.7	116.2	105.3	122.6	94.7	98.9	122.6
Retail and General Industry .....	2.5	2.6	2.6	2.6	2.4	2.4	3.6	3.5	2.9	3.0	3.1	3.1	2.6	3.5	3.1
Coke Plants .....	1.5	1.9	1.8	1.7	1.6	1.6	1.9	1.8	1.6	1.7	1.7	1.7	1.7	1.8	1.7
Commercial & Institutional .....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1
<b>Coal Market Indicators</b>															
Coal Miner Productivity (Tons per hour) .....	6.08	6.08	6.08	6.08	6.05	6.05	6.05	6.05	6.05	5.98	5.98	5.98	6.08	6.05	5.98
Total Raw Steel Production (Million short tons per day) .....	0.246	0.258	0.267	0.260	0.253	0.253	0.247	0.230	0.241	0.235	0.237	0.248	0.258	0.246	0.240
Cost of Coal to Electric Utilities (Dollars per million Btu) .....	1.91	1.93	2.03	2.05	2.19	2.26	2.49	2.47	2.47	2.45	2.42	2.38	1.98	2.36	2.43

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

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

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

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Electricity Supply (billion kilowatthours)</b>															
Electricity Generation .....	989	985	1,166	975	1,033	1,028	1,192	983	1,014	1,007	1,153	978	4,116	4,235	4,151
Electric Power Sector (a) .....	952	949	1,127	935	994	991	1,153	944	976	969	1,112	939	3,963	4,082	3,996
Industrial Sector (b) .....	34	33	36	36	35	33	36	35	35	34	37	36	140	140	142
Commercial Sector (b) .....	3	3	4	3	3	3	3	3	3	3	4	3	13	13	13
Net Imports .....	11	11	11	6	7	10	12	9	11	12	14	11	39	38	48
Total Supply .....	1,000	997	1,177	981	1,040	1,037	1,204	992	1,025	1,019	1,167	989	4,155	4,272	4,200
Losses and Unaccounted for (c) .....	54	66	52	52	61	68	57	51	43	64	53	51	225	237	211
<b>Electricity Consumption (billion kilowatthours unless noted)</b>															
Sales to Ultimate Customers .....	913	898	1,089	894	944	937	1,112	906	949	921	1,078	903	3,795	3,900	3,851
Residential Sector .....	379	329	446	324	379	346	455	328	380	335	434	330	1,477	1,509	1,479
Commercial Sector .....	304	321	377	322	322	335	387	328	323	330	375	321	1,325	1,371	1,349
Industrial Sector .....	229	247	264	247	242	255	268	249	244	255	268	250	987	1,014	1,017
Transportation Sector .....	2	2	2	2	2	2	2	2	2	2	2	2	6	6	6
Direct Use (d) .....	33	32	35	35	34	33	35	34	34	33	36	35	136	136	138
Total Consumption .....	946	931	1,124	929	979	969	1,147	941	983	955	1,114	938	3,930	4,036	3,989
Average residential electricity usage per customer (kWh) .....	2,746	2,383	3,234	2,348	2,716	2,478	3,261	2,352	2,700	2,380	3,080	2,344	10,711	10,806	10,504
<b>End-of-period Fuel Inventories Held by Electric Power Sector</b>															
Coal (mmst) .....	111.5	110.9	80.4	94.7	86.2	87.3	77.8	98.9	105.7	116.2	105.3	122.6	94.7	98.9	122.6
Residual Fuel (mmb) .....	8.0	7.4	6.9	7.0	5.7	5.8	6.1	6.4	4.2	4.2	2.4	3.1	7.0	6.4	3.1
Distillate Fuel (mmb) .....	16.0	15.5	15.3	16.0	15.5	15.4	15.0	15.1	14.9	14.7	14.7	15.0	16.0	15.1	15.0
<b>Prices</b>															
<b>Power Generation Fuel Costs (dollars per million Btu)</b>															
Coal .....	1.91	1.93	2.03	2.05	2.19	2.26	2.49	2.47	2.47	2.45	2.42	2.38	1.98	2.36	2.43
Natural Gas .....	7.24	3.26	4.36	5.42	5.68	7.38	8.18	6.20	6.80	5.29	5.43	5.79	4.97	7.01	5.80
Residual Fuel Oil .....	11.28	13.09	14.22	16.10	16.91	26.17	26.07	20.47	20.03	19.50	18.21	18.24	13.66	21.56	19.08
Distillate Fuel Oil .....	13.54	15.20	16.19	18.03	21.11	30.70	26.94	32.02	30.04	26.22	24.23	24.59	15.50	26.26	26.79
<b>Prices to Ultimate Customers (cents per kilowatthour)</b>															
Residential Sector .....	13.10	13.84	13.99	13.97	13.98	15.08	15.73	14.93	14.71	15.69	15.94	14.86	13.72	14.97	15.33
Commercial Sector .....	10.99	11.07	11.59	11.37	11.63	12.34	13.10	12.16	12.28	12.72	13.25	12.03	11.27	12.35	12.60
Industrial Sector .....	7.09	6.92	7.62	7.38	7.42	8.40	9.33	7.83	7.67	8.21	9.03	7.72	7.26	8.27	8.18
<b>Wholesale Electricity Prices (dollars per megawatthour)</b>															
ERCOT North hub .....	616.34	39.74	52.31	49.79	42.73	83.19	130.71	54.37	52.89	41.56	55.33	42.90	189.54	77.75	48.17
CAISO SP15 zone .....	44.74	36.90	72.02	60.47	45.20	60.34	110.03	70.55	54.51	49.71	80.86	44.49	53.53	71.53	57.39
ISO-NE Internal hub .....	55.26	33.67	52.57	65.75	116.48	73.28	99.14	78.67	155.64	54.30	53.53	80.86	51.81	91.89	86.08
NYISO Hudson Valley zone .....	44.74	31.85	50.42	57.54	100.10	79.72	104.71	87.13	118.43	56.26	59.95	70.09	46.14	92.91	76.18
PJM Western hub .....	35.09	33.71	51.32	62.57	58.33	93.00	110.99	79.75	83.91	67.18	70.62	64.83	45.67	85.52	71.63
Midcontinent ISO Illinois hub .....	44.97	33.82	49.36	57.71	47.88	89.21	101.80	65.69	66.00	56.27	58.56	52.89	46.47	76.14	58.43
SPP ISO South hub .....	250.31	30.86	48.63	45.72	37.25	72.85	109.97	57.03	54.06	47.49	53.94	44.54	93.88	69.27	50.01
SERC Index, Into Southern .....	41.10	32.93	44.18	51.34	42.45	84.96	94.82	62.19	61.08	52.42	54.99	49.07	42.39	71.10	54.39
FRC index, Florida Reliability .....	27.73	32.17	42.76	49.02	41.11	78.70	92.71	62.49	61.24	54.21	55.02	49.35	37.92	68.75	54.95
Northwest index, Mid-Columbia .....	34.56	51.51	91.61	60.46	39.85	59.39	137.82	75.90	59.42	50.25	84.55	49.51	59.53	78.24	60.93
Southwest index, Palo Verde .....	41.72	46.57	79.86	53.60	39.02	60.50	128.25	56.39	46.45	48.52	76.95	39.76	55.44	71.04	52.92

Notes: EIA completed modeling and analysis for this report on November 3, 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&amp;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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Residential Sector</b>															
New England .....	12.9	10.8	14.0	11.0	13.1	10.5	13.9	10.8	12.8	10.4	12.5	10.8	48.7	48.4	46.4
Middle Atlantic .....	36.0	30.3	41.9	30.5	36.1	30.0	42.5	30.6	36.2	30.1	39.1	30.6	138.7	139.3	136.0
E. N. Central .....	50.1	43.1	56.3	43.2	50.9	43.8	54.2	44.0	50.2	42.6	53.7	44.6	192.6	192.9	191.0
W. N. Central .....	29.9	23.7	31.0	24.0	30.6	24.7	31.4	23.9	30.5	23.7	30.4	23.5	108.6	110.7	108.1
S. Atlantic .....	95.2	85.1	111.5	83.1	96.0	91.6	115.7	84.5	99.1	89.3	113.3	86.4	374.9	387.8	388.0
E. S. Central .....	33.5	25.3	35.8	25.9	32.7	27.7	37.0	26.8	34.1	27.1	36.3	27.1	120.5	124.2	124.6
W. S. Central .....	56.8	50.0	76.2	47.5	55.7	57.9	80.8	48.2	53.5	54.2	75.1	48.9	230.5	242.6	231.7
Mountain .....	23.7	26.9	35.2	22.3	24.2	26.3	35.9	23.1	24.1	25.4	33.9	23.4	108.1	109.4	106.8
Pacific contiguous .....	39.0	32.2	43.0	34.8	38.5	32.4	42.5	35.0	38.5	31.4	38.4	33.5	149.0	148.5	141.8
AK and HI .....	1.3	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.2	1.1	1.2	1.3	4.9	4.8	4.8
Total .....	378.5	328.5	445.8	323.7	379.1	346.0	455.2	328.4	380.2	335.2	433.7	330.0	1,476.6	1,508.7	1,479.1
<b>Commercial Sector</b>															
New England .....	11.7	11.7	13.5	11.5	12.1	11.8	13.7	11.8	12.1	11.7	13.0	11.5	48.5	49.4	48.3
Middle Atlantic .....	34.6	33.2	39.7	34.3	36.0	34.3	40.3	34.6	36.3	34.1	38.5	33.8	141.9	145.2	142.8
E. N. Central .....	41.7	42.1	48.9	42.1	43.3	42.9	48.6	42.5	43.2	42.1	47.5	41.5	174.8	177.2	174.3
W. N. Central .....	24.0	23.7	27.6	24.0	25.1	24.6	27.9	24.2	25.1	24.1	27.2	23.7	99.3	101.8	100.1
S. Atlantic .....	70.8	77.3	89.6	75.3	75.1	82.5	92.9	76.3	75.5	81.2	90.9	75.7	313.1	326.9	323.2
E. S. Central .....	20.7	21.5	26.0	20.9	21.0	22.4	26.7	20.7	21.0	21.8	26.0	20.5	89.0	90.9	89.3
W. S. Central .....	42.4	50.5	58.7	49.5	46.7	51.7	61.2	51.4	47.4	51.0	59.3	50.8	201.0	211.0	208.4
Mountain .....	21.9	24.8	28.8	23.2	23.2	25.4	29.5	23.8	23.2	25.0	28.5	23.4	98.7	101.9	100.2
Pacific contiguous .....	35.2	35.3	43.1	39.6	37.7	37.9	44.6	40.9	37.8	37.3	42.6	39.1	153.2	161.1	156.8
AK and HI .....	1.3	1.3	1.3	1.4	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.4	5.3	5.3	5.3
Total .....	304.3	321.5	377.2	321.8	321.5	334.7	386.9	327.5	322.9	329.6	374.9	321.4	1,324.8	1,370.7	1,348.7
<b>Industrial Sector</b>															
New England .....	3.8	4.0	4.2	3.9	3.9	3.9	4.1	3.8	3.8	3.8	4.1	3.8	15.8	15.7	15.5
Middle Atlantic .....	17.6	17.9	19.4	18.1	17.5	18.2	19.5	18.1	17.7	18.3	19.4	18.1	73.1	73.4	73.4
E. N. Central .....	44.5	46.4	48.6	46.0	45.9	47.0	49.1	45.8	46.1	46.7	48.7	45.7	185.5	187.9	187.2
W. N. Central .....	23.0	24.2	26.0	24.6	24.0	24.8	26.6	24.7	24.3	24.4	26.1	24.5	97.9	100.1	99.4
S. Atlantic .....	33.4	35.9	38.2	36.1	36.3	37.4	38.8	36.4	36.8	37.4	38.6	36.6	143.7	149.1	149.4
E. S. Central .....	23.7	24.9	26.1	25.0	24.7	25.8	25.9	24.4	24.4	25.5	25.6	24.3	99.7	100.8	99.7
W. S. Central .....	44.1	49.7	54.3	51.5	49.8	53.4	55.4	53.6	51.7	55.7	57.8	55.7	199.7	212.2	220.9
Mountain .....	19.2	21.6	23.2	20.4	19.9	21.7	23.7	20.6	19.9	21.8	23.9	20.8	84.4	85.9	86.5
Pacific contiguous .....	18.2	20.9	23.1	20.4	19.0	21.0	23.6	20.3	18.4	20.2	22.5	19.4	82.5	84.0	80.5
AK and HI .....	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	4.6	4.7	4.7
Total .....	228.5	246.7	264.4	247.2	242.1	254.6	268.2	249.0	244.2	255.0	267.7	250.0	986.8	1,013.8	1,017.0
<b>Total All Sectors (a)</b>															
New England .....	28.5	26.6	31.7	26.5	29.2	26.3	31.9	26.5	28.8	26.0	29.6	26.2	113.4	114.0	110.6
Middle Atlantic .....	89.1	82.3	101.8	83.7	90.5	83.3	103.2	84.1	91.0	83.2	97.8	83.3	356.9	361.2	355.4
E. N. Central .....	136.4	131.7	154.0	131.3	140.3	133.8	152.1	132.4	139.6	131.5	150.0	131.9	553.4	558.5	552.9
W. N. Central .....	77.0	71.6	84.6	72.6	79.7	74.1	85.9	72.8	79.9	72.3	83.8	71.7	305.8	312.6	307.6
S. Atlantic .....	199.7	198.6	239.6	194.9	207.7	211.8	247.7	197.6	211.7	208.1	243.0	198.9	832.7	864.8	861.7
E. S. Central .....	77.8	71.8	87.8	71.9	78.4	76.0	89.6	72.0	79.5	74.4	87.8	71.8	309.2	315.9	313.5
W. S. Central .....	143.4	150.2	189.2	148.5	152.3	163.0	197.5	153.2	152.6	160.9	192.3	155.4	631.4	666.0	661.2
Mountain .....	64.9	73.3	87.3	66.0	67.3	73.4	89.1	67.5	67.3	72.2	86.4	67.7	291.4	297.4	293.6
Pacific contiguous .....	92.5	88.6	109.3	95.0	95.4	91.5	111.0	96.4	94.9	89.1	103.6	92.2	385.5	394.3	379.8
AK and HI .....	3.7	3.6	3.7	3.9	3.7	3.6	3.7	3.8	3.7	3.6	3.7	3.8	14.9	14.9	14.8
Total .....	913.0	898.2	1,089.1	894.3	944.5	936.9	1,111.9	906.4	948.9	921.3	1,077.9	903.0	3,794.5	3,899.6	3,851.1

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Residential Sector</b>															
New England .....	21.38	21.34	21.43	21.95	23.93	24.31	25.12	26.15	27.96	27.94	28.18	28.40	21.51	24.85	28.12
Middle Atlantic .....	15.63	16.51	16.93	16.85	17.12	18.31	18.63	17.58	17.80	18.46	18.40	17.28	16.49	17.94	18.00
E. N. Central .....	13.39	14.50	14.14	14.48	14.22	15.51	16.06	15.47	14.92	16.06	16.41	15.43	14.10	15.32	15.71
W. N. Central .....	10.88	12.77	13.29	11.90	11.28	13.27	14.25	12.15	11.47	13.57	14.35	12.00	12.21	12.75	12.85
S. Atlantic .....	11.66	12.34	12.48	12.48	12.68	13.61	14.15	13.36	13.24	14.13	14.38	13.15	12.24	13.49	13.76
E. S. Central .....	11.20	12.24	11.99	12.02	11.97	13.09	13.75	12.63	12.42	13.22	13.53	12.54	11.83	12.89	12.94
W. S. Central .....	11.85	11.70	11.80	12.28	11.83	12.97	13.80	13.76	12.76	13.53	14.02	13.53	11.89	13.14	13.51
Mountain .....	11.53	12.09	12.33	12.27	12.14	12.86	13.20	12.81	12.52	13.24	13.44	12.89	12.08	12.80	13.06
Pacific .....	16.75	18.15	19.43	17.55	18.12	20.58	21.67	18.16	18.90	21.62	22.26	18.38	18.01	19.68	20.29
U.S. Average .....	13.10	13.84	13.99	13.97	13.98	15.08	15.73	14.93	14.71	15.69	15.94	14.86	13.72	14.97	15.33
<b>Commercial Sector</b>															
New England .....	16.31	15.96	16.78	16.89	18.54	17.56	18.52	18.92	20.40	18.96	19.63	19.50	16.49	18.39	19.63
Middle Atlantic .....	12.51	13.24	14.31	13.53	14.05	14.93	16.39	14.61	14.73	15.05	16.17	14.09	13.43	15.04	15.04
E. N. Central .....	10.40	10.70	10.66	10.92	11.08	11.85	12.03	11.65	11.71	12.22	12.08	11.44	10.67	11.66	11.87
W. N. Central .....	9.10	10.19	10.83	9.61	9.65	10.70	11.33	9.11	9.22	9.96	10.91	8.76	9.97	10.24	9.75
S. Atlantic .....	9.29	9.18	9.52	9.95	10.30	10.87	11.10	10.67	10.88	11.23	11.21	10.36	9.49	10.76	10.94
E. S. Central .....	10.98	11.24	11.27	11.26	11.69	12.20	13.05	12.58	12.57	12.74	13.32	12.58	11.19	12.42	12.83
W. S. Central .....	10.37	8.89	8.55	8.65	8.65	9.60	9.81	8.81	8.80	9.51	9.81	8.87	9.04	9.26	9.28
Mountain .....	9.11	9.76	10.20	9.59	9.56	10.31	10.78	9.92	9.84	10.53	10.93	9.94	9.70	10.18	10.35
Pacific .....	14.52	15.99	18.08	16.12	16.09	17.77	20.42	17.91	17.83	19.38	21.49	18.28	16.27	18.15	19.30
U.S. Average .....	10.99	11.07	11.59	11.37	11.63	12.34	13.10	12.16	12.28	12.72	13.25	12.03	11.27	12.35	12.60
<b>Industrial Sector</b>															
New England .....	13.50	12.99	13.71	14.13	15.14	15.22	15.97	15.51	16.00	15.76	16.29	15.64	13.58	15.47	15.93
Middle Atlantic .....	6.52	6.59	7.11	7.30	7.87	8.28	8.97	7.47	7.92	7.85	8.40	7.17	6.89	8.17	7.84
E. N. Central .....	6.97	6.97	7.38	7.70	7.72	8.55	9.32	8.26	8.03	8.41	9.08	8.21	7.26	8.48	8.44
W. N. Central .....	6.97	7.30	8.00	7.06	7.16	7.99	8.84	7.25	7.39	8.02	8.82	7.33	7.35	7.83	7.90
S. Atlantic .....	6.24	6.31	7.04	6.89	6.85	8.08	8.75	7.04	7.08	7.80	8.35	6.89	6.64	7.70	7.54
E. S. Central .....	5.75	5.86	6.27	6.26	6.35	7.36	8.35	6.87	6.62	7.17	8.06	6.76	6.04	7.25	7.16
W. S. Central .....	7.22	5.46	6.00	6.13	6.20	7.26	7.92	6.60	6.36	6.80	7.25	6.29	6.17	7.02	6.69
Mountain .....	6.27	6.63	7.39	6.54	6.59	7.27	8.26	6.91	6.76	7.32	8.23	6.89	6.74	7.30	7.34
Pacific .....	9.69	10.71	12.62	11.06	10.34	11.97	14.27	11.75	10.76	12.27	14.52	11.97	11.10	12.20	12.48
U.S. Average .....	7.09	6.92	7.62	7.38	7.42	8.40	9.33	7.83	7.67	8.21	9.03	7.72	7.26	8.27	8.18
<b>All Sectors (a)</b>															
New England .....	18.20	17.67	18.40	18.54	20.48	19.88	21.05	21.34	23.13	22.04	22.74	22.56	18.21	20.70	22.64
Middle Atlantic .....	12.57	12.98	14.00	13.37	14.07	14.67	15.89	14.14	14.61	14.69	15.51	13.75	13.26	14.74	14.68
E. N. Central .....	10.38	10.62	10.90	10.96	11.11	11.89	12.58	11.75	11.64	12.10	12.65	11.67	10.72	11.85	12.03
W. N. Central .....	9.16	10.07	10.86	9.50	9.53	10.65	11.62	9.48	9.52	10.49	11.51	9.33	9.92	10.36	10.24
S. Atlantic .....	9.91	10.01	10.50	10.46	10.79	11.56	12.16	11.15	11.32	11.85	12.23	10.93	10.23	11.45	11.62
E. S. Central .....	9.48	9.72	10.08	9.80	10.12	10.88	11.98	10.66	10.68	11.01	11.88	10.60	9.78	10.96	11.07
W. S. Central .....	9.99	8.69	9.13	8.93	9.01	10.03	10.91	9.59	9.36	9.93	10.68	9.41	9.17	9.96	9.90
Mountain .....	9.16	9.69	10.31	9.55	9.61	10.33	11.09	9.99	9.89	10.51	11.17	10.02	9.73	10.32	10.45
Pacific .....	14.50	15.52	17.45	15.55	15.75	17.42	19.58	16.69	16.88	18.54	20.24	16.98	15.83	17.45	18.21
U.S. Average .....	10.88	10.94	11.61	11.21	11.49	12.28	13.27	11.97	12.07	12.55	13.28	11.87	11.18	12.30	12.48

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>United States</b>															
Natural Gas .....	319.3	345.7	453.9	354.7	337.9	365.1	505.1	357.0	335.7	331.9	439.6	338.1	1,473.6	1,565.1	1,445.4
Coal .....	230.0	203.8	280.9	178.1	217.5	189.1	238.7	180.4	196.5	170.7	241.6	169.1	892.8	825.6	777.9
Nuclear .....	198.4	186.6	202.8	190.4	195.6	184.3	201.7	190.8	193.9	187.7	206.4	196.2	778.2	772.4	784.2
Renewable Energy Sources: .....	197.9	207.3	183.3	206.6	235.5	247.1	202.2	210.6	243.5	274.6	219.6	230.1	795.2	895.5	967.8
Conventional Hydropower	68.7	65.8	60.7	63.8	76.5	70.8	66.3	57.1	70.9	81.1	66.4	61.2	259.0	270.8	279.6
Wind .....	97.0	96.1	76.8	108.8	119.5	121.7	82.1	114.7	127.6	128.4	87.5	120.1	378.6	437.9	463.7
Solar (a) .....	21.3	34.7	34.6	23.3	28.9	44.3	42.6	28.5	34.6	55.0	54.7	38.5	113.9	144.3	182.8
Biomass .....	7.2	6.8	7.2	6.7	6.7	6.5	7.2	6.3	6.6	6.3	6.8	6.3	27.9	26.7	26.0
Geothermal .....	3.8	3.9	4.0	4.0	3.9	3.8	4.1	4.0	3.9	3.8	4.2	3.9	15.7	15.8	15.8
Pumped Storage Hydropower .....	-1.1	-1.0	-1.8	-1.2	-1.2	-1.3	-1.8	-1.3	-1.1	-1.4	-1.9	-1.3	-5.1	-5.7	-5.7
Petroleum (b) .....	5.2	3.5	4.7	4.4	6.6	4.1	4.2	4.0	5.4	3.7	4.2	4.0	17.8	18.8	17.4
Other Gases .....	0.7	0.8	0.9	0.7	0.8	0.9	0.9	0.8	0.8	0.7	0.9	0.8	3.2	3.3	3.2
Other Nonrenewable Fuels (c) .....	1.8	1.8	1.8	1.8	1.6	1.6	1.7	1.8	1.5	1.5	1.5	1.7	7.2	6.6	6.2
Total Generation .....	952.3	948.7	1,126.7	935.6	994.2	990.9	1,152.6	944.0	976.2	969.5	1,112.0	938.8	3,963.2	4,081.7	3,996.4
<b>New England (ISO-NE)</b>															
Natural Gas .....	12.2	11.0	15.7	12.6	11.8	12.4	17.2	13.8	12.3	12.1	15.0	11.8	51.5	55.3	51.2
Coal .....	0.5	0.0	0.0	0.0	0.3	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.6	0.4	0.6
Nuclear .....	7.1	7.1	7.3	5.6	7.1	5.6	7.4	7.3	7.1	5.6	7.3	6.2	27.1	27.3	26.2
Conventional hydropower .....	1.7	1.5	1.5	1.5	1.7	1.4	1.2	1.8	2.0	2.2	1.2	1.8	6.3	6.2	7.2
Nonhydro renewables (d) .....	2.8	2.9	2.6	2.8	3.1	3.2	3.0	2.8	3.1	3.2	3.0	2.9	11.2	12.1	12.3
Other energy sources (e) .....	0.4	0.3	0.3	0.4	1.4	0.4	0.3	0.4	1.0	0.3	0.3	0.4	1.5	2.5	2.0
Total generation .....	24.7	22.9	27.6	23.1	25.4	23.0	29.2	26.2	25.9	23.6	26.8	23.2	98.2	103.9	99.4
Net energy for load (f) .....	29.4	27.0	32.5	27.6	30.2	26.0	33.1	27.4	29.9	27.5	31.9	28.5	116.4	116.6	117.8
<b>New York (NYISO)</b>															
Natural Gas .....	12.9	14.1	19.7	15.2	14.0	15.5	22.1	13.6	13.4	16.6	18.9	13.7	61.9	65.1	62.7
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 .....	9.3	7.7	7.2	7.0	6.4	7.0	6.4	6.7	6.6	6.4	7.0	7.0	31.1	26.5	27.1
Conventional hydropower .....	6.9	6.8	6.9	7.2	7.1	6.6	6.6	6.9	7.2	7.3	7.3	7.6	27.9	27.2	29.4
Nonhydro renewables (d) .....	1.8	1.8	1.6	1.9	2.2	2.1	1.8	2.1	2.4	2.7	2.2	2.8	7.1	8.1	10.2
Other energy sources (e) .....	0.6	0.2	0.4	0.1	1.4	0.1	0.2	0.1	0.7	0.1	0.2	0.1	1.3	1.8	1.2
Total generation .....	31.5	30.6	35.8	31.4	31.0	31.4	37.0	29.3	30.4	33.2	35.7	31.2	129.3	128.7	130.5
Net energy for load (f) .....	36.6	34.7	42.8	34.9	37.6	34.0	43.4	35.0	36.9	35.4	41.5	35.0	149.0	150.0	148.7
<b>Mid-Atlantic (PJM)</b>															
Natural Gas .....	72.7	70.8	88.9	78.5	76.9	74.4	102.5	75.5	85.6	74.3	94.5	80.7	310.9	329.3	335.1
Coal .....	50.5	39.9	55.4	29.5	48.6	35.4	41.8	29.5	40.9	30.7	42.7	28.3	175.4	155.3	142.5
Nuclear .....	68.3	64.6	70.5	68.3	69.0	65.1	69.7	66.7	67.8	67.1	72.0	68.7	271.7	270.5	275.7
Conventional hydropower .....	2.6	2.3	2.2	2.2	2.6	2.2	1.5	2.1	2.7	2.7	1.7	2.1	9.3	8.5	9.1
Nonhydro renewables (d) .....	11.0	10.7	9.2	11.5	13.2	12.9	10.3	11.9	14.1	13.7	11.8	13.4	42.4	48.4	53.0
Other energy sources (e) .....	0.9	0.6	0.4	0.6	0.6	0.4	0.2	0.5	0.6	0.3	0.2	0.6	2.5	1.8	1.7
Total generation .....	206.0	188.9	226.7	190.6	211.0	190.4	226.2	186.2	211.7	188.8	223.0	193.7	812.1	813.7	817.1
Net energy for load (f) .....	194.5	177.6	215.3	182.9	200.9	180.1	213.7	183.9	200.9	181.4	206.8	182.7	770.2	778.7	771.8
<b>Southeast (SERC)</b>															
Natural Gas .....	57.6	57.2	73.2	64.3	64.1	67.5	86.4	66.0	64.4	61.6	77.1	60.7	252.3	284.1	263.8
Coal .....	36.3	33.7	44.3	23.3	32.3	32.8	32.7	28.1	30.3	27.6	41.6	26.8	137.7	125.8	126.3
Nuclear .....	53.8	52.2	54.1	52.0	51.4	51.1	55.5	52.1	52.5	53.8	57.3	57.4	212.2	210.1	221.0
Conventional hydropower .....	11.6	10.4	10.9	11.0	11.9	9.8	8.9	10.1	12.8	10.1	9.3	10.2	43.9	40.7	42.4
Nonhydro renewables (d) .....	3.9	5.7	5.4	4.1	5.0	7.0	6.4	4.9	5.7	8.0	7.3	5.6	19.1	23.4	26.6
Other energy sources (e) .....	0.0	-0.2	-0.5	-0.2	-0.2	-0.3	-0.6	-0.3	-0.2	-0.4	-0.6	-0.3	-0.9	-1.3	-1.5
Total generation .....	163.2	159.0	187.3	154.6	164.6	167.9	189.4	160.9	165.5	160.8	191.9	160.4	664.2	682.7	678.5
Net energy for load (f) .....	161.3	154.7	183.9	154.5	166.7	168.3	182.6	152.8	164.9	161.0	186.7	157.5	654.4	670.3	670.1
<b>Florida (FRCC)</b>															
Natural Gas .....	34.5	43.8	52.5	40.9	38.3	46.7	55.9	39.9	33.0	39.6	51.6	47.3	171.8	180.7	171.6
Coal .....	4.7	5.3	5.6	2.8	3.5	4.2	3.7	2.8	2.7	4.0	3.6	1.8	18.3	14.2	12.0
Nuclear .....	7.8	7.2	7.2	5.8	7.3	7.9	7.5	7.9	7.0	6.9	7.5	7.7	28.1	30.6	29.2
Conventional hydropower .....	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Nonhydro renewables (d) .....	2.4	3.1	2.9	2.6	3.7	3.8	3.3	3.8	5.3	4.8	4.1	11.0	13.7	18.0	
Other energy sources (e) .....	0.8	0.7	0.7	0.6	0.7	0.6	0.7	0.7	0.6	0.7	0.7	0.7	2.8	2.7	2.8
Total generation .....	50.3	60.2	68.9	52.8	52.8	63.1	71.6	54.6	47.3	56.5	68.2	61.6	232.2	242.1	233.7
Net energy for load (f) .....	52.4	63.8	72.4	55.6	53.9	66.2	77.5	54.2	50.5	60.2	67.9	53.0	244.2	251.8	231.5

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Midwest (MISO)</b>															
Natural Gas .....	35.4	41.1	50.2	43.1	41.8	47.3	59.0	43.6	41.3	48.9	51.0	39.6	169.7	191.7	180.7
Coal .....	69.7	60.1	83.2	54.7	64.5	54.0	70.3	53.2	59.3	53.0	69.5	48.5	267.7	241.9	230.3
Nuclear .....	23.6	22.6	25.2	24.4	23.8	19.6	24.3	23.7	22.3	21.1	24.3	20.9	95.7	91.4	88.6
Conventional hydropower .....	2.8	2.7	2.5	2.7	3.1	2.9	2.9	2.4	2.6	3.0	2.4	2.3	10.7	11.2	10.3
Nonhydro renewables (d) .....	24.1	23.1	18.5	27.3	31.8	28.7	20.2	27.9	34.3	30.6	21.8	29.4	93.1	108.7	116.1
Other energy sources (e) .....	1.8	1.3	1.7	1.7	1.3	1.6	1.1	1.3	1.5	1.4	1.3	1.4	6.4	5.4	5.6
Total generation .....	157.4	150.9	181.2	153.8	166.4	154.1	177.8	152.0	161.3	157.9	170.4	142.0	643.3	650.3	631.6
Net energy for load (f) .....	159.0	154.0	180.7	153.5	165.1	158.8	180.0	157.1	163.1	160.5	179.3	157.4	647.3	661.0	660.3
<b>Central (Southwest Power Pool)</b>															
Natural Gas .....	12.4	14.3	18.8	10.9	11.1	14.0	22.5	12.4	10.6	12.2	16.6	8.9	56.3	60.0	48.2
Coal .....	21.8	19.8	31.3	19.2	22.1	20.5	30.3	17.7	20.3	16.5	25.7	15.6	92.0	90.6	78.1
Nuclear .....	4.1	2.8	4.2	4.3	4.3	4.3	4.0	2.5	4.3	4.3	4.4	4.4	15.5	15.1	17.3
Conventional hydropower .....	4.2	3.9	3.6	3.9	4.6	4.1	4.0	3.3	4.1	4.9	4.4	3.6	15.5	16.0	16.9
Nonhydro renewables (d) .....	22.9	23.8	20.5	26.4	28.8	29.8	21.7	28.5	31.0	31.8	23.2	29.5	93.6	108.9	115.5
Other energy sources (e) .....	0.4	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	1.1	1.0	1.0
Total generation .....	65.8	64.8	78.6	64.8	71.2	73.0	82.7	64.6	70.4	70.0	74.4	62.1	274.1	291.6	277.0
Net energy for load (f) .....	65.5	65.5	78.5	62.0	68.0	69.5	83.6	63.5	66.2	64.9	76.4	60.0	271.5	284.6	267.5
<b>Texas (ERCOT)</b>															
Natural Gas .....	32.8	39.7	57.3	34.5	34.2	43.2	65.0	34.6	27.2	29.8	49.1	29.7	164.2	177.1	135.8
Coal .....	16.3	18.5	22.7	17.0	17.7	16.8	20.2	15.6	14.9	16.0	20.8	15.2	74.5	70.3	66.8
Nuclear .....	10.5	9.8	11.0	8.9	11.0	9.9	10.7	9.9	10.7	8.9	11.0	10.1	40.2	41.5	40.7
Conventional hydropower .....	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.6	0.6	0.6
Nonhydro renewables (d) .....	25.2	27.8	23.8	29.4	31.2	39.4	27.7	32.1	36.5	45.9	33.9	36.3	106.3	130.4	152.6
Other energy sources (e) .....	0.2	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	1.4	1.6	1.5
Total generation .....	85.2	96.2	115.3	90.4	94.6	109.9	124.2	92.7	89.7	101.3	115.2	91.7	387.1	421.4	398.0
Net energy for load (f) .....	85.2	96.2	115.3	90.4	94.6	109.9	124.2	92.7	89.7	101.3	115.2	91.7	387.1	421.4	398.0
<b>Northwest</b>															
Natural Gas .....	20.9	20.1	28.2	21.0	19.6	15.4	27.6	23.3	23.4	10.2	23.6	17.0	90.2	86.0	74.2
Coal .....	22.5	19.1	26.6	22.2	21.6	18.1	28.3	25.2	20.8	16.6	26.8	24.0	90.5	93.1	88.1
Nuclear .....	2.5	1.2	2.5	2.3	2.5	2.3	2.5	2.5	2.4	1.2	2.4	2.4	8.5	9.8	8.4
Conventional hydropower .....	33.8	31.0	25.7	30.4	39.3	36.0	34.1	25.9	33.6	40.9	31.0	28.3	121.0	135.2	133.9
Nonhydro renewables (d) .....	15.9	17.0	15.2	17.4	19.1	20.5	16.2	18.9	19.6	21.4	17.3	20.4	65.5	74.6	78.8
Other energy sources (e) .....	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.5
Total generation .....	95.8	88.7	98.5	93.5	102.2	92.5	108.8	95.8	99.9	90.5	101.2	92.1	376.4	399.2	383.7
Net energy for load (f) .....	89.7	86.0	97.5	89.4	87.7	86.8	101.7	89.4	91.3	86.1	95.3	87.8	362.7	365.6	360.5
<b>Southwest</b>															
Natural Gas .....	10.7	15.2	19.4	11.5	9.6	12.9	18.7	12.6	11.0	13.3	17.2	8.7	56.8	53.8	50.2
Coal .....	5.5	5.6	8.3	7.4	6.1	6.3	8.5	6.0	5.4	4.6	7.7	6.7	26.8	26.9	24.5
Nuclear .....	8.5	7.1	8.6	7.5	8.2	7.5	8.7	7.5	8.4	7.5	8.6	7.5	31.6	31.9	31.9
Conventional hydropower .....	2.0	2.3	1.9	1.5	1.9	2.0	1.7	1.5	1.6	2.0	1.9	1.5	7.7	7.1	7.0
Nonhydro renewables (d) .....	3.1	3.9	3.2	3.7	4.6	5.7	3.8	4.7	4.5	6.3	4.4	5.6	14.0	18.8	20.7
Other energy sources (e) .....	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.2	0.2	0.1
Total generation .....	29.8	34.2	41.5	31.6	30.4	34.4	41.6	32.3	30.9	33.7	39.9	30.0	137.1	138.7	134.5
Net energy for load (f) .....	20.6	26.4	33.1	22.4	21.1	26.9	34.8	22.2	21.4	26.0	33.1	22.2	102.5	105.1	102.6
<b>California</b>															
Natural Gas .....	16.7	17.9	29.4	21.6	15.8	15.4	27.4	21.0	12.8	12.7	24.4	19.3	85.6	79.6	69.2
Coal .....	1.8	1.4	3.0	1.4	0.5	0.7	2.3	2.0	1.4	1.2	2.7	1.9	7.6	5.5	7.1
Nuclear .....	2.9	4.2	5.0	4.3	4.6	4.1	5.0	4.1	4.6	4.7	4.6	4.1	16.5	17.8	18.0
Conventional hydropower .....	2.4	4.2	4.9	2.8	3.6	5.2	4.8	2.7	3.6	7.2	6.6	3.4	14.4	16.2	20.9
Nonhydro renewables (d) .....	15.5	21.2	19.2	15.2	16.7	22.8	20.6	15.9	17.2	24.1	23.1	18.3	71.1	76.0	82.7
Other energy sources (e) .....	-0.1	-0.1	0.0	-0.1	0.0	-0.2	0.2	-0.1	0.0	-0.2	0.2	-0.1	-0.2	-0.1	0.0
Total generation .....	39.3	48.9	61.5	45.3	41.2	48.0	60.3	45.5	39.7	49.7	61.6	47.0	195.0	195.0	198.0
Net energy for load (f) .....	55.7	62.7	77.2	59.3	55.9	61.3	79.8	62.0	57.8	61.8	74.3	59.1	254.9	259.0	253.0

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

(b) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

(c) Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, nonrenewable waste, and miscellaneous technologies.

(d) Wind, large-scale solar, biomass, and geothermal

(e) Pumped storage hydroelectric, petroleum, other gases, batteries, and other nonrenewable fuels. See notes (b) and (c).

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

Notes: EIA completed modeling and analysis for this report on November 3, 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 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Electric Power Sector</b>															
Geothermal .....	0.034	0.035	0.035	0.035	0.034	0.033	0.036	0.035	0.034	0.033	0.037	0.034	0.138	0.139	0.138
Hydroelectric Power (a) .....	0.603	0.577	0.533	0.560	0.671	0.621	0.578	0.509	0.631	0.722	0.591	0.545	2.272	2.379	2.490
Solar (b) .....	0.189	0.309	0.308	0.207	0.257	0.394	0.380	0.254	0.308	0.490	0.487	0.343	1.014	1.285	1.628
Waste Biomass (c) .....	0.060	0.059	0.059	0.058	0.056	0.053	0.055	0.055	0.055	0.054	0.055	0.055	0.236	0.219	0.219
Wood Biomass .....	0.051	0.046	0.054	0.048	0.052	0.047	0.054	0.043	0.047	0.042	0.050	0.043	0.199	0.196	0.182
Wind .....	0.863	0.856	0.684	0.969	1.064	1.084	0.731	1.021	1.136	1.144	0.779	1.070	3.372	3.900	4.129
Subtotal .....	1.800	1.881	1.673	1.876	2.135	2.233	1.833	1.917	2.211	2.485	2.000	2.089	7.231	8.118	8.786
<b>Industrial Sector</b>															
Biofuel Losses and Co-products (d) .....	0.179	0.199	0.196	0.216	0.203	0.203	0.202	0.204	0.195	0.199	0.198	0.204	0.789	0.812	0.796
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) .....	0.007	0.011	0.011	0.007	0.008	0.011	0.012	0.008	0.009	0.012	0.012	0.009	0.036	0.039	0.042
Waste Biomass (c) .....	0.042	0.040	0.037	0.042	0.042	0.040	0.039	0.042	0.040	0.039	0.039	0.041	0.160	0.162	0.160
Wood Biomass .....	0.333	0.339	0.343	0.328	0.315	0.321	0.339	0.353	0.346	0.344	0.355	0.357	1.342	1.328	1.403
Subtotal (e) .....	0.568	0.596	0.595	0.602	0.576	0.583	0.600	0.615	0.598	0.603	0.613	0.620	2.361	2.374	2.434
<b>Commercial Sector</b>															
Geothermal .....	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.024	0.025	0.024
Solar (b) .....	0.028	0.042	0.042	0.028	0.033	0.049	0.048	0.034	0.039	0.057	0.057	0.040	0.140	0.164	0.193
Waste Biomass (c) .....	0.009	0.008	0.009	0.009	0.010	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.035	0.037	0.037
Wood Biomass .....	0.020	0.020	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) .....	0.070	0.085	0.086	0.072	0.077	0.093	0.093	0.078	0.082	0.101	0.102	0.084	0.313	0.340	0.369
<b>Residential Sector</b>															
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) .....	0.065	0.099	0.097	0.067	0.079	0.118	0.120	0.084	0.095	0.147	0.150	0.105	0.329	0.401	0.497
Wood Biomass .....	0.114	0.116	0.117	0.117	0.119	0.121	0.120	0.117	0.119	0.121	0.120	0.117	0.464	0.477	0.477
Subtotal .....	0.189	0.225	0.224	0.194	0.208	0.249	0.250	0.211	0.224	0.278	0.280	0.232	0.832	0.918	1.014
<b>Transportation Sector</b>															
Biodiesel, Renewable Diesel, and Other (g) ...	0.083	0.099	0.094	0.110	0.094	0.117	0.115	0.139	0.127	0.135	0.135	0.160	0.386	0.464	0.556
Ethanol (g) .....	0.242	0.281	0.285	0.289	0.259	0.281	0.281	0.280	0.258	0.280	0.279	0.282	1.098	1.101	1.099
Subtotal .....	0.326	0.379	0.379	0.400	0.353	0.397	0.396	0.421	0.385	0.415	0.414	0.442	1.484	1.567	1.656
<b>All Sectors Total</b>															
Biodiesel, Renewable Diesel, and Other (g) ...	0.083	0.099	0.094	0.110	0.094	0.117	0.115	0.139	0.127	0.135	0.135	0.160	0.386	0.464	0.556
Biofuel Losses and Co-products (d) .....	0.179	0.199	0.196	0.216	0.203	0.203	0.202	0.204	0.195	0.199	0.198	0.204	0.789	0.812	0.796
Ethanol (f) .....	0.253	0.293	0.298	0.302	0.271	0.293	0.294	0.291	0.270	0.292	0.292	0.295	1.147	1.149	1.149
Geothermal .....	0.050	0.052	0.052	0.052	0.051	0.051	0.053	0.053	0.051	0.050	0.054	0.051	0.206	0.207	0.206
Hydroelectric Power (a) .....	0.605	0.580	0.535	0.562	0.674	0.624	0.581	0.512	0.634	0.725	0.594	0.548	2.283	2.390	2.501
Solar (b)(f) .....	0.290	0.461	0.458	0.310	0.378	0.572	0.559	0.379	0.450	0.706	0.707	0.497	1.519	1.889	2.360
Waste Biomass (c) .....	0.110	0.107	0.106	0.109	0.107	0.102	0.104	0.106	0.105	0.103	0.104	0.105	0.431	0.419	0.416
Wood Biomass .....	0.519	0.520	0.535	0.513	0.507	0.509	0.535	0.533	0.532	0.527	0.547	0.538	2.087	2.084	2.145
Wind .....	0.863	0.856	0.684	0.969	1.064	1.084	0.731	1.021	1.136	1.144	0.779	1.070	3.372	3.900	4.129
<b>Total Consumption .....</b>	<b>2.953</b>	<b>3.166</b>	<b>2.958</b>	<b>3.144</b>	<b>3.349</b>	<b>3.554</b>	<b>3.172</b>	<b>3.241</b>	<b>3.501</b>	<b>3.881</b>	<b>3.409</b>	<b>3.467</b>	<b>12.221</b>	<b>13.316</b>	<b>14.259</b>

(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 (&gt;1 MW) solar thermal and photovoltaic generators and small-scale (&lt;1 MW) distributed solar.

(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 (&lt;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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Renewable Energy Electric Generating Capacity (megawatts, end of period)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	6,130	6,110	6,081	6,087	6,083	6,084	6,020	5,994	5,991	6,027	6,027	6,009	<b>6,087</b>	5,994	6,009
Waste .....	3,680	3,660	3,646	3,652	3,649	3,649	3,585	3,560	3,557	3,592	3,592	3,590	<b>3,652</b>	3,560	3,590
Wood .....	2,450	2,450	2,435	2,435	2,435	2,435	2,435	2,435	2,435	2,435	2,435	2,419	<b>2,435</b>	2,435	2,419
Conventional Hydroelectric .....	<b>79,538</b>	<b>79,608</b>	<b>79,611</b>	<b>79,611</b>	<b>79,649</b>	<b>79,649</b>	<b>79,584</b>	<b>79,680</b>	<b>79,679</b>	<b>79,711</b>	<b>79,738</b>	<b>79,745</b>	<b>79,611</b>	<b>79,680</b>	<b>79,745</b>
Geothermal .....	2,523	2,523	2,523	2,523	2,523	2,540	2,578	2,578	2,603	2,603	2,603	2,603	<b>2,523</b>	2,578	2,603
Large-Scale Solar (b) .....	<b>50,533</b>	<b>52,435</b>	<b>55,700</b>	<b>61,009</b>	<b>63,175</b>	<b>65,236</b>	<b>67,014</b>	<b>75,959</b>	<b>79,521</b>	<b>83,980</b>	<b>89,292</b>	<b>106,071</b>	<b>61,009</b>	<b>75,959</b>	<b>106,071</b>
Wind .....	120,974	124,729	126,684	132,629	134,862	137,384	138,029	144,123	144,798	145,176	145,736	148,901	<b>132,629</b>	144,123	148,901
<b>Other Sectors (c)</b>															
Biomass .....	6,319	6,321	6,325	6,306	6,306	6,300	6,312	6,339	6,339	6,330	6,330	6,330	<b>6,306</b>	6,339	6,330
Waste .....	826	828	827	817	817	817	817	817	817	817	817	817	<b>817</b>	817	817
Wood .....	5,493	5,493	5,498	5,489	5,489	5,483	5,495	5,522	5,522	5,513	5,513	5,513	<b>5,489</b>	5,522	5,513
Conventional Hydroelectric .....	301	301	299	299	299	302	302	302	302	300	300	300	<b>299</b>	302	300
Large-Scale Solar (b) .....	477	479	519	541	559	569	571	575	580	589	634	634	<b>541</b>	575	634
Small-Scale Solar (d) .....	<b>28,846</b>	<b>30,325</b>	<b>31,515</b>	<b>32,972</b>	<b>34,720</b>	<b>36,197</b>	<b>37,935</b>	<b>40,025</b>	<b>42,216</b>	<b>44,530</b>	<b>46,973</b>	<b>49,556</b>	<b>32,972</b>	<b>40,025</b>	<b>49,556</b>
Residential Sector .....	<b>18,023</b>	<b>19,102</b>	<b>20,039</b>	<b>21,022</b>	<b>22,260</b>	<b>23,446</b>	<b>24,829</b>	<b>26,371</b>	<b>27,995</b>	<b>29,719</b>	<b>31,549</b>	<b>33,490</b>	<b>21,022</b>	<b>26,371</b>	<b>33,490</b>
Commercial Sector .....	<b>8,734</b>	<b>9,086</b>	<b>9,300</b>	<b>9,728</b>	<b>10,220</b>	<b>10,496</b>	<b>10,809</b>	<b>11,296</b>	<b>11,802</b>	<b>12,329</b>	<b>12,879</b>	<b>13,456</b>	<b>9,728</b>	<b>11,296</b>	<b>13,456</b>
Industrial Sector .....	<b>2,089</b>	<b>2,137</b>	<b>2,176</b>	<b>2,223</b>	<b>2,240</b>	<b>2,256</b>	<b>2,298</b>	<b>2,358</b>	<b>2,420</b>	<b>2,482</b>	<b>2,545</b>	<b>2,610</b>	<b>2,223</b>	<b>2,358</b>	<b>2,610</b>
Wind .....	122	122	122	125	125	125	125	125	125	125	125	125	<b>125</b>	125	125
<b>Renewable Electricity Generation (billion kilowatthours)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	7.2	6.8	7.2	6.7	6.7	6.5	7.2	6.3	6.6	6.3	6.8	6.3	<b>27.9</b>	26.7	26.0
Waste .....	4.0	3.9	3.8	3.8	3.5	3.6	3.7	3.6	3.6	3.7	3.7	3.6	<b>15.5</b>	14.4	14.5
Wood .....	3.2	2.8	3.4	2.9	3.2	3.0	3.5	2.7	3.0	2.7	3.2	2.7	<b>12.4</b>	12.3	11.5
Conventional Hydroelectric .....	<b>68.7</b>	<b>65.8</b>	<b>60.7</b>	<b>63.8</b>	<b>76.5</b>	<b>70.8</b>	<b>66.3</b>	<b>57.1</b>	<b>70.9</b>	<b>81.1</b>	<b>66.4</b>	<b>61.2</b>	<b>259.0</b>	<b>270.8</b>	<b>279.6</b>
Geothermal .....	3.8	3.9	4.0	4.0	3.9	3.8	4.1	4.0	3.9	3.8	4.2	3.9	<b>15.7</b>	15.8	15.8
Large-Scale Solar (b) .....	21.3	34.7	34.6	23.3	28.9	44.3	42.6	28.5	34.6	55.0	54.7	38.5	<b>113.9</b>	144.3	182.8
Wind .....	<b>97.0</b>	<b>96.1</b>	<b>76.8</b>	<b>108.8</b>	<b>119.5</b>	<b>121.7</b>	<b>82.1</b>	<b>114.7</b>	<b>127.6</b>	<b>128.4</b>	<b>87.5</b>	<b>120.1</b>	<b>378.6</b>	<b>437.9</b>	<b>463.7</b>
<b>Other Sectors (c)</b>															
Biomass .....	6.9	6.8	7.1	6.8	6.7	6.8	7.1	6.8	6.7	7.1	6.8	6.8	<b>27.6</b>	27.4	27.4
Waste .....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	<b>2.8</b>	2.8	2.8
Wood .....	6.2	6.1	6.4	6.1	5.9	6.1	6.4	6.1	5.9	6.1	6.4	6.1	<b>24.8</b>	24.5	24.5
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	<b>1.2</b>	1.2	1.2
Large-Scale Solar (b) .....	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	<b>0.8</b>	1.0	1.0
Small-Scale Solar (d) .....	9.8	14.7	14.5	10.0	12.0	17.7	17.8	12.4	14.3	21.8	22.2	15.5	<b>49.0</b>	59.8	73.8
Residential Sector .....	5.9	9.1	8.9	6.1	7.6	11.2	11.3	8.0	9.2	14.3	14.7	10.3	<b>30.1</b>	38.1	48.5
Commercial Sector .....	3.1	4.5	4.5	3.0	3.6	5.2	5.2	3.6	4.2	6.1	6.2	4.3	<b>15.1</b>	17.7	20.8
Industrial Sector .....	0.8	1.1	1.1	0.8	0.8	1.2	1.2	0.8	0.9	1.3	1.3	0.9	<b>3.8</b>	4.1	4.5
Wind .....	0.3	0.3	0.2	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<b>1.2</b>	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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Macroeconomic</b>															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR) .....	19,216	19,544	19,673	20,006	19,924	19,895	20,003	19,963	19,872	19,863	19,949	20,039	19,610	19,946	19,931
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR) .....	13,387	13,774	13,874	13,982	14,028	14,099	14,123	14,139	14,124	14,146	14,175	14,222	13,754	14,098	14,166
Real Private Fixed Investment (billion chained 2012 dollars - SAAR) .....	3,540	3,591	3,581	3,586	3,629	3,582	3,528	3,472	3,414	3,383	3,387	3,403	3,575	3,553	3,397
Business Inventory Change (billion chained 2012 dollars - SAAR) .....	-102	-159	-55	240	257	145	107	95	21	-26	26	55	-19	151	19
Real Government Expenditures (billion chained 2012 dollars - SAAR) .....	3,449	3,422	3,421	3,413	3,393	3,379	3,384	3,391	3,421	3,432	3,444	3,456	3,426	3,387	3,439
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR) .....	2,318	2,345	2,339	2,466	2,437	2,517	2,588	2,569	2,561	2,565	2,583	2,608	2,367	2,528	2,579
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR) .....	3,482	3,549	3,606	3,763	3,926	3,947	3,840	3,810	3,791	3,764	3,781	3,817	3,600	3,881	3,788
Real Disposable Personal Income (billion chained 2012 dollars - SAAR) .....	17,325	15,921	15,735	15,537	15,109	15,052	15,093	15,138	15,293	15,330	15,523	15,709	16,130	15,098	15,464
Non-Farm Employment (millions) .....	143.7	145.2	146.9	148.6	150.4	151.6	152.7	153.2	152.8	151.9	151.1	150.5	146.1	152.0	151.6
Civilian Unemployment Rate (percent) .....	6.2	5.9	5.1	4.2	3.8	3.6	3.6	3.7	4.0	4.7	5.3	5.8	5.4	3.7	5.0
Housing Starts (millions - SAAR) .....	1.58	1.59	1.57	1.68	1.72	1.65	1.48	1.41	1.26	1.23	1.21	1.22	1.61	1.56	1.23
<b>Industrial Production Indices (Index, 2017=100)</b>															
Total Industrial Production .....	98.1	99.7	100.5	101.7	102.9	104.2	104.9	105.2	104.4	103.8	104.1	104.6	100.0	104.3	104.2
Manufacturing .....	96.9	98.3	99.2	100.6	101.5	102.4	102.9	103.1	102.1	101.5	101.7	102.3	98.8	102.5	101.9
Food .....	104.5	103.3	102.0	103.5	105.5	105.1	104.7	103.7	103.5	103.5	103.7	104.1	103.3	104.7	103.7
Paper .....	95.0	96.0	96.0	95.2	96.4	97.3	96.5	95.5	95.4	95.0	94.7	94.7	95.5	96.4	94.9
Petroleum and Coal Products .....	86.0	92.3	93.5	96.0	94.2	94.0	95.3	95.2	95.1	94.7	94.5	94.3	92.0	94.7	94.6
Chemicals .....	94.3	101.1	101.2	102.6	102.4	103.2	104.2	104.0	104.6	104.6	104.4	104.9	99.8	103.4	104.6
Nonmetallic Mineral Products .....	97.8	96.0	97.3	99.1	102.9	103.4	104.6	103.2	102.1	101.2	101.1	101.3	97.5	103.5	101.4
Primary Metals .....	93.0	96.6	98.3	98.7	95.6	97.4	96.4	96.4	98.1	97.7	97.8	99.0	96.6	96.5	98.2
Coal-weighted Manufacturing (a) .....	91.1	94.9	95.5	96.6	96.2	96.8	96.9	96.4	96.9	96.4	96.2	96.7	94.5	96.6	96.5
Distillate-weighted Manufacturing (a) .....	100.9	102.2	102.7	104.2	105.7	106.1	106.3	105.3	104.7	104.0	103.8	104.2	102.5	105.8	104.2
Electricity-weighted Manufacturing (a) .....	93.1	96.4	96.5	97.6	98.0	98.7	98.7	98.2	98.5	98.2	98.2	98.7	95.9	98.4	98.4
Natural Gas-weighted Manufacturing (a) .....	88.8	94.6	94.1	95.2	95.2	95.5	95.4	94.9	95.3	95.0	94.7	95.1	93.1	95.3	95.0
<b>Price Indexes</b>															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00) .....	2.64	2.69	2.73	2.78	2.85	2.92	2.96	3.00	3.02	3.04	3.06	3.08	2.71	2.93	3.05
Producer Price Index: All Commodities (index, 1982=1.00) .....	2.10	2.24	2.33	2.42	2.53	2.73	2.70	2.63	2.57	2.51	2.50	2.50	2.27	2.65	2.52
Producer Price Index: Petroleum (index, 1982=1.00) .....	2.00	2.36	2.55	2.72	3.16	4.21	3.74	3.25	3.10	2.98	2.92	2.91	2.41	3.59	2.98
GDP Implicit Price Deflator (index, 2012=100) .....	116.2	118.0	119.8	121.8	124.2	126.9	128.1	129.7	131.0	131.9	132.8	133.7	118.9	127.2	132.4
<b>Miscellaneous</b>															
Vehicle Miles Traveled (b) (million miles/day) .....	7,928	9,125	9,368	8,934	8,373	9,164	9,270	8,963	8,435	9,264	9,412	9,055	8,843	8,945	9,044
Air Travel Capacity (Available ton-miles/day, thousands) .....	537	597	658	667	656	686	735	701	681	700	733	722	615	695	709
Aircraft Utilization (Revenue ton-miles/day, thousands) .....	245	340	372	376	356	419	408	378	365	407	409	385	334	390	392
Airline Ticket Price Index (index, 1982-1984=100) .....	198.4	243.3	218.5	210.0	225.6	328.7	288.0	279.7	246.5	303.2	285.1	270.1	217.5	280.5	276.2
Raw Steel Production (million short tons per day) .....	0.246	0.258	0.267	0.260	0.253	0.253	0.247	0.230	0.241	0.235	0.237	0.248	0.258	0.246	0.240
<b>Carbon Dioxide (CO2) Emissions (million metric tons)</b>															
Petroleum .....	521	562	571	580	562	564	577	579	553	566	572	577	2,234	2,282	2,267
Natural Gas .....	493	357	377	430	512	375	398	453	501	356	377	444	1,657	1,739	1,678
Coal .....	256	229	307	210	245	216	273	208	222	197	270	197	1,002	943	886
Total Energy (c) .....	1,272	1,150	1,259	1,223	1,322	1,158	1,252	1,243	1,279	1,121	1,221	1,220	4,904	4,975	4,842

(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 November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Real Gross State Product (Billion \$2012)</b>															
New England .....	985	1,009	1,018	1,033	1,032	1,024	1,029	1,027	1,022	1,021	1,026	1,030	1,011	1,028	1,025
Middle Atlantic .....	2,729	2,774	2,802	2,859	2,858	2,858	2,872	2,865	2,849	2,846	2,858	2,871	2,791	2,863	2,856
E. N. Central .....	2,498	2,542	2,547	2,588	2,596	2,583	2,589	2,582	2,571	2,568	2,577	2,586	2,544	2,588	2,575
W. N. Central .....	1,198	1,216	1,207	1,215	1,220	1,215	1,220	1,218	1,213	1,214	1,220	1,227	1,209	1,218	1,219
S. Atlantic .....	3,425	3,488	3,519	3,585	3,578	3,578	3,594	3,591	3,575	3,572	3,588	3,604	3,504	3,585	3,585
E. S. Central .....	852	862	865	879	884	883	887	884	879	877	879	882	865	884	879
W. S. Central .....	2,327	2,348	2,352	2,381	2,377	2,383	2,409	2,409	2,403	2,404	2,416	2,428	2,352	2,394	2,413
Mountain .....	1,298	1,317	1,330	1,361	1,359	1,354	1,362	1,359	1,353	1,353	1,361	1,369	1,327	1,359	1,359
Pacific .....	3,713	3,786	3,825	3,888	3,805	3,802	3,825	3,814	3,794	3,793	3,810	3,827	3,803	3,812	3,806
<b>Industrial Output, Manufacturing (Index, Year 2017=100)</b>															
New England .....	95.2	96.7	97.4	98.4	99.3	100.1	100.3	100.4	99.5	99.0	99.4	100.0	96.9	100.0	99.5
Middle Atlantic .....	93.0	94.2	94.7	95.8	96.6	97.4	97.3	97.6	96.5	95.8	96.1	96.5	94.4	97.2	96.2
E. N. Central .....	95.4	95.9	96.6	98.3	98.9	99.4	99.6	99.7	99.1	98.3	98.3	98.6	96.5	99.4	98.6
W. N. Central .....	98.3	99.3	100.0	100.7	102.0	102.6	103.1	103.1	102.1	101.6	102.0	102.6	99.6	102.7	102.1
S. Atlantic .....	99.3	100.4	101.3	102.6	103.4	104.6	105.3	105.4	104.2	103.4	103.5	104.0	100.9	104.7	103.8
E. S. Central .....	97.7	98.6	99.2	100.5	100.9	101.3	101.5	101.6	100.6	99.8	99.7	100.0	99.0	101.3	100.0
W. S. Central .....	98.5	100.0	100.6	102.1	103.5	105.0	106.1	106.5	105.4	105.0	105.4	106.1	100.3	105.3	105.5
Mountain .....	106.5	108.5	109.4	111.1	112.7	113.9	114.9	115.0	113.8	113.1	113.3	114.0	108.9	114.1	113.5
Pacific .....	94.1	95.7	96.0	97.0	97.8	98.7	99.0	99.4	98.5	98.1	98.5	99.3	95.7	98.7	98.6
<b>Real Personal Income (Billion \$2012)</b>															
New England .....	1,017	966	954	944	935	926	929	930	927	928	934	939	971	930	932
Middle Atlantic .....	2,634	2,472	2,448	2,408	2,385	2,378	2,384	2,380	2,379	2,382	2,394	2,405	2,491	2,382	2,390
E. N. Central .....	2,763	2,544	2,506	2,481	2,464	2,451	2,444	2,441	2,441	2,443	2,452	2,462	2,573	2,450	2,449
W. N. Central .....	1,276	1,195	1,173	1,158	1,156	1,154	1,154	1,152	1,155	1,158	1,162	1,167	1,201	1,154	1,161
S. Atlantic .....	3,772	3,500	3,472	3,473	3,436	3,426	3,440	3,435	3,439	3,444	3,462	3,479	3,554	3,434	3,456
E. S. Central .....	1,044	949	941	938	931	926	922	919	920	921	924	927	968	924	923
W. S. Central .....	2,242	2,083	2,067	2,072	2,056	2,062	2,071	2,068	2,072	2,077	2,090	2,104	2,116	2,064	2,086
Mountain .....	1,408	1,308	1,300	1,304	1,291	1,287	1,295	1,294	1,293	1,297	1,304	1,312	1,330	1,292	1,301
Pacific .....	3,296	3,110	3,096	3,047	2,985	2,969	2,980	3,024	2,973	2,979	2,993	3,005	3,137	2,989	2,988
<b>Households (Thousands)</b>															
New England .....	6,024	6,042	6,057	6,071	6,085	6,089	6,091	6,097	6,106	6,115	6,122	6,129	6,071	6,097	6,129
Middle Atlantic .....	16,327	16,354	16,389	16,418	16,449	16,457	16,460	16,475	16,501	16,525	16,546	16,565	16,418	16,475	16,565
E. N. Central .....	18,974	19,031	19,094	19,146	19,197	19,205	19,208	19,224	19,251	19,278	19,304	19,326	19,146	19,224	19,326
W. N. Central .....	8,668	8,702	8,735	8,766	8,796	8,813	8,827	8,841	8,860	8,879	8,897	8,914	8,766	8,841	8,914
S. Atlantic .....	26,140	26,277	26,400	26,538	26,673	26,761	26,837	26,917	27,012	27,100	27,184	27,267	26,538	26,917	27,267
E. S. Central .....	7,771	7,806	7,838	7,871	7,903	7,922	7,937	7,952	7,972	7,990	8,007	8,023	7,871	7,952	8,023
W. S. Central .....	15,249	15,331	15,412	15,498	15,582	15,639	15,688	15,737	15,794	15,850	15,904	15,954	15,498	15,737	15,954
Mountain .....	9,559	9,623	9,687	9,747	9,805	9,845	9,881	9,917	9,958	10,001	10,040	10,079	9,747	9,917	10,079
Pacific .....	18,898	18,934	18,977	19,024	19,078	19,097	19,109	19,123	19,150	19,177	19,202	19,226	19,024	19,123	19,226
<b>Total Non-farm Employment (Millions)</b>															
New England .....	7.1	7.1	7.2	7.3	7.4	7.4	7.5	7.5	7.5	7.4	7.4	7.4	7.2	7.4	7.4
Middle Atlantic .....	18.5	18.7	18.9	19.2	19.4	19.6	19.7	19.8	19.7	19.6	19.5	19.5	18.8	19.6	19.6
E. N. Central .....	21.1	21.2	21.5	21.6	21.8	21.9	22.0	22.1	22.1	21.9	21.8	21.7	21.4	22.0	21.9
W. N. Central .....	10.4	10.4	10.5	10.5	10.6	10.7	10.7	10.8	10.8	10.7	10.7	10.6	10.5	10.7	10.7
S. Atlantic .....	28.2	28.5	28.9	29.2	29.5	29.8	30.1	30.2	30.1	29.9	29.7	29.6	28.7	29.9	29.8
E. S. Central .....	8.1	8.1	8.2	8.3	8.4	8.4	8.4	8.5	8.4	8.4	8.3	8.3	8.2	8.4	8.4
W. S. Central .....	17.2	17.4	17.6	17.8	18.1	18.3	18.5	18.5	18.5	18.4	18.3	18.2	17.5	18.3	18.3
Mountain .....	10.8	11.0	11.2	11.3	11.4	11.5	11.6	11.6	11.6	11.5	11.5	11.4	11.1	11.5	11.5
Pacific .....	22.2	22.7	23.1	23.3	23.6	23.9	24.1	24.1	24.1	23.9	23.8	23.7	22.8	23.9	23.9

- = no data available

Notes: EIA completed modeling and analysis for this report on November 3, 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 - November 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
<b>Heating Degree Days</b>															
New England .....	3,013	779	84	1,920	3,139	788	114	2,144	3,194	875	138	2,213	<b>5,797</b>	6,184	6,420
Middle Atlantic .....	<b>2,820</b>	669	57	1,727	2,937	671	<b>72</b>	2,022	2,958	708	89	2,024	<b>5,272</b>	5,702	5,779
E. N. Central .....	<b>3,086</b>	<b>708</b>	<b>70</b>	<b>1,887</b>	<b>3,270</b>	<b>755</b>	<b>100</b>	2,294	3,174	742	123	2,267	<b>5,751</b>	6,420	6,306
W. N. Central .....	<b>3,228</b>	718	87	<b>2,026</b>	<b>3,483</b>	<b>792</b>	<b>112</b>	2,477	3,283	710	155	2,453	<b>6,059</b>	6,865	6,601
South Atlantic .....	1,346	212	<b>10</b>	798	1,340	189	13	1,022	1,413	198	13	976	<b>2,366</b>	2,564	2,600
E. S. Central .....	<b>1,790</b>	315	19	1,035	1,823	248	22	1,397	1,843	252	20	1,328	<b>3,160</b>	3,490	3,442
W. S. Central .....	1,297	122	1	497	1,347	58	2	810	1,152	77	5	821	<b>1,917</b>	2,216	2,056
Mountain .....	<b>2,307</b>	<b>663</b>	<b>110</b>	<b>1,636</b>	<b>2,299</b>	<b>737</b>	<b>85</b>	<b>1,847</b>	<b>2,242</b>	<b>709</b>	<b>154</b>	<b>1,873</b>	<b>4,716</b>	4,968	4,978
Pacific .....	1,564	484	78	1,206	1,392	605	48	1,175	1,566	611	95	1,232	<b>3,332</b>	3,221	3,504
U.S. Average .....	<b>2,108</b>	472	51	1,307	<b>2,147</b>	492	<b>54</b>	1,556	2,138	496	76	1,552	<b>3,938</b>	4,249	4,263
<b>Heating Degree Days, Prior 10-year Average</b>															
New England .....	3,133	855	107	2,100	3,100	852	<b>107</b>	2,103	3,151	859	106	2,110	<b>6,195</b>	6,164	6,226
Middle Atlantic .....	<b>2,912</b>	677	71	1,911	2,887	684	<b>71</b>	1,908	2,944	692	70	1,917	<b>5,572</b>	5,551	5,624
E. N. Central .....	<b>3,157</b>	<b>731</b>	<b>104</b>	<b>2,170</b>	<b>3,133</b>	<b>727</b>	<b>97</b>	<b>2,162</b>	<b>3,215</b>	<b>742</b>	<b>93</b>	<b>2,175</b>	<b>6,161</b>	6,119	6,226
W. N. Central .....	<b>3,248</b>	728	133	2,368	3,219	726	<b>125</b>	2,357	3,317	754	121	2,369	<b>6,477</b>	6,427	6,561
South Atlantic .....	1,395	181	11	916	1,380	187	11	905	1,401	190	10	908	<b>2,503</b>	2,483	2,509
E. S. Central .....	<b>1,771</b>	231	16	1,249	1,763	243	<b>15</b>	1,228	1,809	251	14	1,236	<b>3,267</b>	3,249	3,310
W. S. Central .....	1,140	86	3	786	1,145	93	3	754	1,190	96	3	764	<b>2,015</b>	1,995	2,051
Mountain .....	<b>2,188</b>	<b>704</b>	<b>135</b>	<b>1,850</b>	<b>2,181</b>	<b>685</b>	<b>132</b>	<b>1,817</b>	<b>2,201</b>	<b>701</b>	<b>129</b>	<b>1,824</b>	<b>4,877</b>	4,816	4,854
Pacific .....	<b>1,461</b>	553	81	1,147	1,455	523	<b>79</b>	1,137	1,439	523	75	1,137	<b>3,242</b>	3,193	3,174
U.S. Average .....	<b>2,112</b>	483	65	1,487	2,096	479	<b>62</b>	1,473	2,133	486	60	1,478	<b>4,147</b>	4,110	4,157
<b>Cooling Degree Days</b>															
New England .....	0	143	456	7	0	79	564	0	0	85	414	1	<b>606</b>	643	500
Middle Atlantic .....	0	182	626	23	0	153	682	0	0	151	536	4	<b>831</b>	835	692
E. N. Central .....	2	250	628	30	1	255	557	1	0	210	535	7	<b>910</b>	814	752
W. N. Central .....	8	312	747	24	3	305	733	4	3	260	671	10	<b>1,090</b>	1,045	944
South Atlantic .....	<b>155</b>	616	1,170	285	<b>155</b>	710	1,199	189	124	642	1,152	232	<b>2,226</b>	2,253	2,150
E. S. Central .....	<b>40</b>	432	1,016	126	28	599	<b>1,068</b>	19	27	507	1,039	64	<b>1,613</b>	1,714	1,637
W. S. Central .....	89	767	1,469	314	55	1,093	<b>1,666</b>	197	92	891	1,481	193	<b>2,640</b>	3,011	2,658
Mountain .....	<b>10</b>	529	963	68	17	471	<b>1,019</b>	64	18	417	908	73	<b>1,570</b>	1,571	1,415
Pacific .....	24	251	705	59	31	220	768	90	25	164	574	62	<b>1,040</b>	1,109	825
U.S. Average .....	<b>50</b>	410	902	127	46	465	<b>952</b>	84	44	399	847	93	<b>1,489</b>	1,547	1,383
<b>Cooling Degree Days, Prior 10-year Average</b>															
New England .....	0	80	474	1	0	87	471	2	0	87	479	2	<b>555</b>	561	569
Middle Atlantic .....	0	163	610	6	0	162	<b>608</b>	8	0	159	613	8	<b>779</b>	779	781
E. N. Central .....	3	234	572	7	3	238	<b>571</b>	9	1	234	561	9	<b>816</b>	821	805
W. N. Central .....	7	294	686	10	7	299	<b>681</b>	11	4	292	674	11	<b>997</b>	999	981
South Atlantic .....	<b>143</b>	679	1,194	260	<b>147</b>	668	<b>1,188</b>	269	144	675	1,193	269	<b>2,276</b>	2,272	2,281
E. S. Central .....	<b>42</b>	532	1,065	74	44	518	<b>1,057</b>	84	36	520	1,059	82	<b>1,713</b>	1,702	1,697
W. S. Central .....	<b>114</b>	881	1,568	210	<b>113</b>	853	<b>1,536</b>	224	101	861	1,548	225	<b>2,772</b>	2,725	2,735
Mountain .....	24	441	949	85	23	459	<b>945</b>	84	23	456	951	82	<b>1,499</b>	1,511	1,512
Pacific .....	31	193	648	86	31	208	665	86	32	214	676	87	<b>959</b>	989	1,008
U.S. Average .....	<b>52</b>	413	892	<b>104</b>	53	412	<b>889</b>	109	50	415	894	109	<b>1,461</b>	1,463	1,469

- = no data available

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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.

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](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>).