



Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The August *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. economic activity continues to rise after reaching multiyear lows in the second quarter of 2020 (2Q20). U.S. gross domestic product (GDP) declined by 3.5% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 6.6% in 2021 and by 5.0% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. Our forecast assumes continuing economic growth and increasing mobility. Any developments that would cause deviations from these assumptions would likely cause energy consumption and prices to deviate from our forecast.
- Brent crude oil spot prices averaged \$75 per barrel (b) in July, up \$2/b from June and up \$25/b from the end of 2020. Brent prices have been rising this year as result of steady draws on global oil inventories, which averaged 1.8 million barrels per day (b/d) during the first half of 2021 (1H21) and remained at almost 1.4 million b/d in July. We expect Brent prices will remain near current levels for the remainder of 2021, averaging \$72/b from August through November. However, in 2022, we expect that continuing growth in production from OPEC+ and accelerating growth in U.S. tight oil production—along with other supply growth—will outpace decelerating growth in global oil consumption and contribute to Brent prices declining to an average of \$66/b in 2022.
- We estimate that 98.8 million b/d of petroleum and liquid fuels were consumed globally in July, an increase of 6.0 million b/d from July 2020 but 3.4 million b/d less than in July 2019. We forecast that global consumption of petroleum and liquid fuels will average 97.6 million b/d for all of 2021, which is a 5.3 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.6 million b/d in 2022 to average 101.2 million b/d.
- U.S. gasoline consumption averaged 8.6 million b/d in 1H21, up from 8.3 million b/d in 2H20 but below the 9.3 million b/d in 2H19. Our latest estimates show that gasoline consumption in May through July was higher than we had previously expected. Growth in employment and increasing mobility have led to rising gasoline consumption so far in 2021. In this STEO, forecast U.S. gasoline consumption averages 8.8 million b/d in 2021, up from 8.0 million b/d in 2020. We expect the trend of rising employment and mobility

to continue into next year, and as a result, we forecast gasoline consumption to average almost 9.0 million b/d in 2022. However, our assumption that a relatively high share of the workforce will continue working from home next year compared with before the pandemic keeps our forecast gasoline consumption below the 2019 level of 9.3 million b/d.

- U.S. regular gasoline retail prices averaged \$3.14 per gallon (gal) in July, the highest monthly average price since October 2014. Recent gasoline price increases reflect rising crude oil prices and rising wholesale gasoline margins, amid relatively low gasoline inventories. We expect that prices will average \$3.12/gal in August before falling to \$2.82/gal, on average, in 4Q21. The expected drop in retail gasoline prices reflects our forecast that gasoline margins will decline from elevated levels, as is typical in the United States during the second half of the year.
- We forecast OPEC crude oil production will average 26.5 million b/d in 2021, up from 25.6 million b/d in 2020. OPEC crude oil production in the forecast rises from 25.0 million b/d in April to an average of 27.1 million b/d in 3Q21. Our expectation of rising OPEC production is primarily based on our assumption that OPEC will raise production through the end of 2021 in line with [targets it announced on July 18](#). We expect OPEC crude oil production will rise to an average of 28.7 million b/d in 2022
- EIA's most recent monthly data show U.S. crude oil production was 11.2 million b/d in May. We expect production to be relatively flat through October before it starts rising in November and December and throughout 2022. Forecast U.S. crude oil production for 2022 averages 11.8 million b/d, up from 11.1 million b/d in 2021.

Natural Gas

- In July, the natural gas spot price at Henry Hub averaged \$3.84 per million British thermal units (MMBtu), which is up from the June average of \$3.26/MMBtu. We expect the Henry Hub spot price will average \$3.71/MMBtu in 3Q21 and \$3.42/MMBtu for all of 2021, which is up from [the 2020 average of \\$2.03/MMBtu](#). Higher natural gas prices this year primarily reflect two factors: growth in liquefied natural gas (LNG) exports and rising domestic natural gas consumption for sectors other than electric power. In 2022, we expect the Henry Hub price will average \$3.08/MMBtu amid rising U.S. natural gas production.
- We expect that U.S. consumption of natural gas will average 82.5 billion cubic feet per day (Bcf/d) in 2021, down 1.0% from 2020. U.S. natural gas consumption declines in the forecast, in part, because electric power generators switch to coal from natural gas as a result of rising natural gas prices. In 2021, we expect residential and commercial natural gas consumption combined will rise by 1.2 Bcf/d from 2020 and industrial consumption will rise by 0.2 Bcf/d from 2020. Rising natural gas consumption in sectors other than

the electric power results from expanding economic activity and colder winter temperatures in 2021 compared with 2020. We expect U.S. natural gas consumption will average 83.8 Bcf/d in 2022.

- We estimate that U.S. natural gas inventories ended July 2021 at almost 2.8 trillion cubic feet (Tcf), which is 6% lower than the five-year (2016–20) average for this time of year. [More natural gas was withdrawn from storage during the winter of 2020–21](#) than the previous five-year average, largely as a result of the colder-than-average February temperatures that constrained natural gas production while it increased consumption. We forecast that inventories will end the 2021 injection season (end of October) at 3.6 Tcf, which would be 4% below the five-year average.
- We expect dry natural gas production will average 92.9 Bcf/d in the United States during 2H21—up from 91.4 Bcf/d in 1H21—and then rise to 94.9 Bcf/d in 2022, driven by natural gas and crude oil prices, which we expect to remain at levels that will support enough drilling to sustain production growth.

Electricity, coal, renewables, and emissions

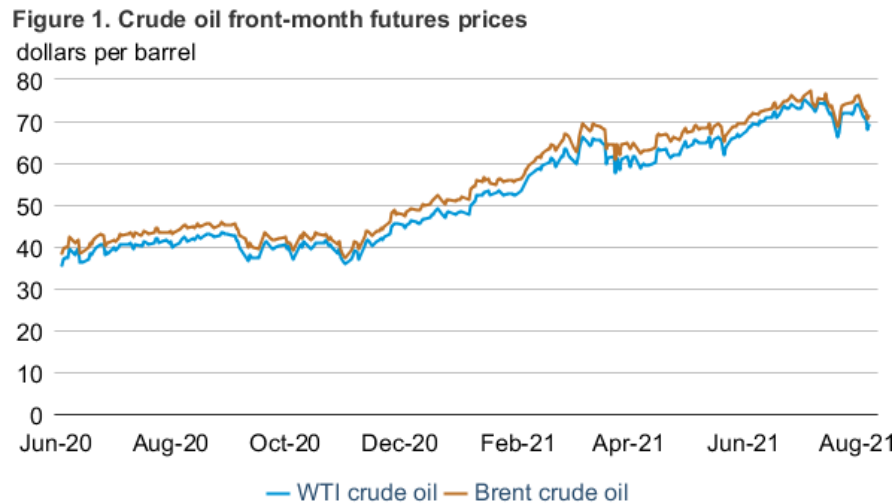
- We forecast that U.S. retail sales of electricity will increase by 2.7% in 2021 after falling by 3.9% in 2020. The largest forecast increase in electricity consumption occurs in the industrial sector, driven by rising levels of economic output. We forecast U.S. retail sales of electricity to the industrial sector will grow by 5.3% this year. Retail sales of electricity to the commercial sector also grow in the forecast, but they grow at the slightly slower pace of 2.2% in 2021 because some workers will continue working from home instead of in office buildings. We forecast U.S. residential electricity sales will grow by 1.5% in 2021 as a result of colder temperatures in 1Q21 compared with 1Q20 and because of hot temperatures in June.
- We expect the share of electric power generation produced by natural gas in the United States will average 36% in 2021 and 37% in 2022, down from 39% in 2020. The forecast share for natural gas as a generation fuel declines in response to our expectation of a higher delivered natural gas price for electricity generators, which we forecast will average \$4.46/MMBtu in 2021 compared with an average of \$2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of generation from coal rises from 20% in 2020 to 23% this year but falls to 21% next year. New additions of solar and wind generating capacity are offset somewhat by reduced generation from hydropower this year, resulting in the forecast share of all renewables in U.S. generation to average 20% in 2021, about the same as last year, before rising to nearly 23% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and to 19% in 2022 as a result of [retiring capacity](#) at some nuclear power plants.

- We forecast that planned additions to U.S. wind and solar generating capacity in 2021 and 2022 will increase electricity generation from those sources. We estimate that the U.S. electric power sector added 14.7 gigawatts (GW) of [new wind capacity in 2020](#). We expect 17.6 GW of new wind capacity will come online in 2021 and 6.3 GW in 2022. Utility-scale solar capacity rose by an estimated 10.6 GW in 2020. Our forecast for added utility-scale solar capacity is 16.2 GW in 2021 and 16.6 GW for 2022. We expect significant [solar capacity additions in Texas](#) during the forecast period. In addition, about 5 GW of small-scale solar capacity (systems less than 1 megawatt) will come online each year during 2021–22 in the STEO forecast.
- Coal production in our forecast totals 607 million short tons (MMst) in 2021, an increase of 13% over 2020. We expect total consumption of coal to be 33 MMst greater than primary coal supply in 2021, contributing to significant inventory draws. In 2022, we expect coal production to decline by 7 MMst (1%).
- We expect coal consumption for electricity generation to grow by 75 MMst (17%) in 2021 as a result of relatively high natural gas prices that make coal more competitive for dispatch in the electric power sector. Forecast electric power sector demand for coal then falls by 47 MMst (9%) in 2022. We expect demand for coal for other uses to rise by 5 MMst (13%) in 2021 and by 3 MMst (7%) in 2022. This increase is mostly for coking coal, which is used in steelmaking.
- We expect coal exports to total 90 MMst in 2021, a 21 MMst (30%) increase from 2020. In 2022, forecast coal exports rise an additional 16 MMst to 106 MMst. High global steel prices are driving these increases in coal exports, and trade tensions between China and Australia continue to support U.S. thermal coal exports.
- We estimate that U.S. energy-related carbon dioxide (CO₂) emissions [decreased by 11% in 2020](#) as a result of less energy consumption related to reduced economic activity and responses to COVID-19. For 2021, we forecast energy-related CO₂ emissions will increase about 7% from the 2020 level as economic activity increases and leads to rising energy use. We also expect energy-related CO₂ emissions to rise in 2022 but by a slower rate, 1%. We forecast that after declining by 19% in 2020, coal-related CO₂ emissions will rise by 17% in 2021 and then decrease by 7% in 2022. Short-term changes in energy-related CO₂ can be affected by temperature. A recent [STEO supplement](#) examines these dynamics.

Petroleum and natural gas markets review

Crude oil

Prices: The front month futures price for Brent crude oil settled at \$71.29 per barrel (b) on August 5, 2021, down \$4.55/b from \$75.84/b on July 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by \$6.14/b during the same period, settling at \$69.09/b on August 5 (**Figure 1**).



Sources: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

After several months of steadily increasing crude oil prices, price volatility increased in July when members of OPEC+ concluded their ministerial meeting on July 5 [without reaching an agreement](#) on future production cuts and adjustments to baseline production levels. On Sunday, July 18, the OPEC+ members met again and [announced](#) they had reached an agreement after concluding another round of discussion. They decided to [ease production cuts](#) by 400,000 barrels per day (b/d) each month, beginning in August 2021. The agreement also included adjustments to the baseline crude production levels of some OPEC+ members, including Saudi Arabia, Russia, and the United Arab Emirates, to take effect in May 2022, though more specific details of the implementation have not been announced. Rising cases of the [Delta variant](#) of the COVID-19 virus present an additional downside price risk because of potentially lower demand for petroleum, which add to the volatility. Potential increases in crude oil supply, combined with the risk of lower demand contributed to lower prices in late July and early August, with prices decreasing to their monthly lows of \$69/b for Brent and \$66/b for WTI on July 19, the first trading day after the OPEC+ deal was announced, and a \$5/b decrease compared with their closing price from the previous trading day.

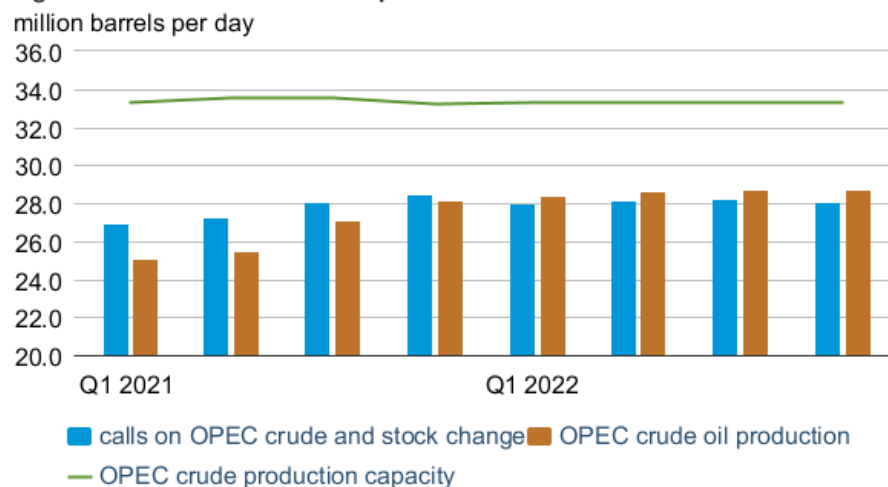
Our Brent crude oil price outlook for the 2021 average has increased to \$68.71/b, \$0.07/b (0.1%) lower than the July STEO, while the price forecast for 2022 is \$0.60/b (0.9%) lower at

\$66.04/b, based on concerns about future demand and lower crude oil prices in late July and early August. In our July STEO, we anticipated a larger increase in OPEC production levels than the organization announced, as well as some degree of new crude oil production in response to rising crude oil demand globally. In this month's STEO we have adjusted OPEC crude production in 2021 down by 300,000 b/d (0.9%) and production in 2022 up by 40,000 b/d (0.1%) in response to the final OPEC+ announcement, while global production has been reduced by 290,000 b/d (0.3%) in 2021 and by 20,000 b/d (less than 0.1%) in 2022.

Calls on OPEC and OPEC production: In the August STEO, we expect increased crude oil production by OPEC members is happening within the context of a broad trend of increasing global petroleum consumption. To estimate how much crude oil the global market will need from OPEC member states, we calculate the call on OPEC crude oil production by subtracting non-OPEC production of petroleum and other liquids and OPEC production of non-crude oil liquids from our forecast of global consumption of crude oil and other liquids. This metric assumes that petroleum production from non-OPEC countries is at its maximum level, leaving OPEC or available petroleum inventories to fill the gap between supply and demand. This metric does not account for spare production capacity from non-OPEC members of the OPEC+ agreement, most notably, Russia. Nonetheless, calls on OPEC can serve as one measure of whether OPEC crude oil production is less than or greater than global markets would otherwise demand. If calls on OPEC are greater than forecast OPEC crude oil production, it implies that the market will be short crude oil, and conversely, if calls on OPEC are less than expected OPEC crude oil production, it implies that the market will build crude oil inventories.

In the August STEO, we estimate that OPEC crude oil production will remain lower than calls on OPEC through the third quarter (3Q) and fourth quarter (4Q) of 2021 (**Figure 2**). In 3Q21, we estimate calls on OPEC will exceed OPEC production by 1.0 million b/d, and this difference will drop to 0.3 million b/d in 4Q21. However, beginning in 1Q22, we forecast OPEC crude oil production will outpace calls on OPEC production, contributing to increased crude oil inventories and lower crude oil prices. OPEC+ leaders are expected to reconvene in December 2021, when we expect some adjustments to their curtailment plan. Any significant changes in future OPEC+ production decisions would present noteworthy uncertainty for our forecast.

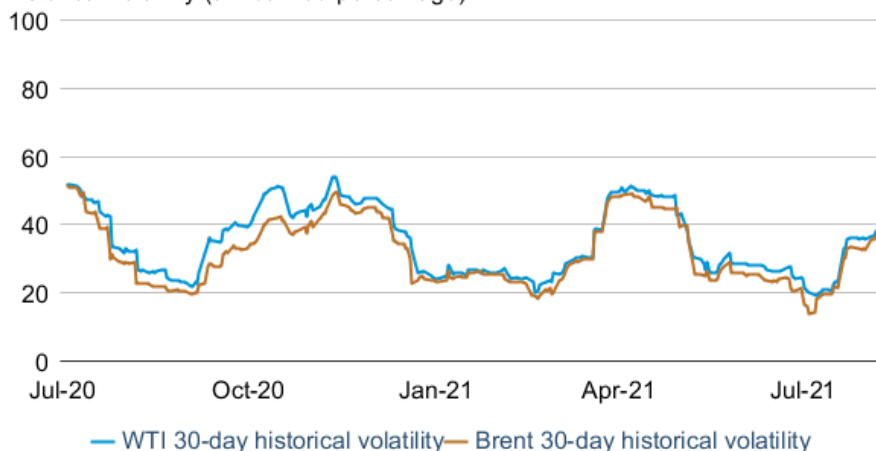
Figure 2. STEO OPEC crude oil production



Source: U.S. Energy Information Administration, Short-Term Energy Outlook
 Note: Calls on OPEC = total world consumption minus non-OPEC supply and OPEC other liquids production

Crude oil historical volatility: July’s OPEC+ announcements and heightened uncertainty in the COVID-19 outlook with rising cases of new viral variants have likely contributed to heightened uncertainty and price volatility. The 30-day historical volatility for WTI crude oil futures prices rose above 30% on July 19, and volatility for Brent crude oil followed suit the following day, on July 20. Both benchmarks had historical volatility less than 30% throughout June and most of May (**Figure 3**). As of August 5, WTI 30-day historical volatility was 38%, and Brent 30-day historical volatility was 36%, up 18 percentage points and 23 percentage points, respectively, compared with the beginning of July. The increasing volatility coincides with the substantial drop in crude oil prices on July 19, before they returned to the previous week’s levels by the end of the week. The drop in crude oil prices on August 2 contributed to additional volatility, as the rolling 30-day historical volatility for Brent crude oil moved higher than 35% and WTI increased to higher than 36% (its highest level since early May, 2021). So far, volatility remains below its 2021 peak in early April, when it was just over 51% for WTI and just under 49% for Brent. Volatility in early April was lower than the high volatility in early November 2020, at just under 54% for WTI and just over 49% for Brent.

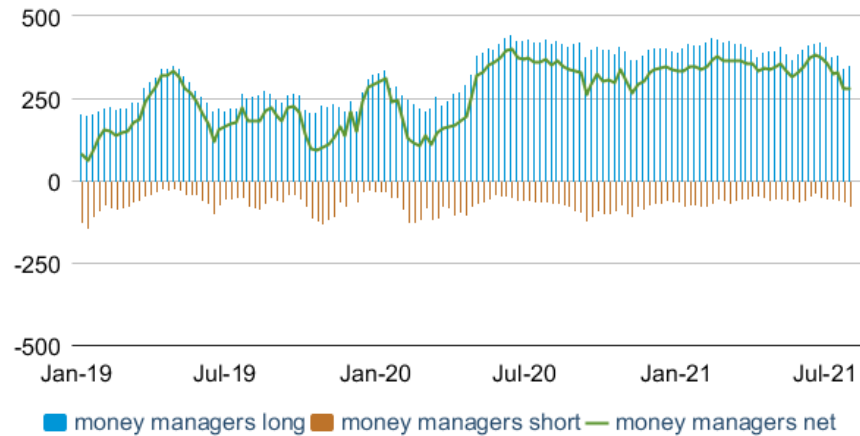
Figure 3. Crude oil historical volatility
historical volatility (annualized percentage)



 Graph by EIA, based on data from Bloomberg L.P.

Money Manager open interest in WTI futures: Some of the factors that contributed to price declines in late July may also be affecting long positions held by Money Managers, particularly the risk of lower demand as a result of increases in COVID-19 cases. On July 20, 2021, open interest long positions held by Money Managers in the WTI futures contract decreased to 344,000 contracts, their lowest level since April 2020 (**Figure 4**). 2020 and 2021 have seen a greater-than-average volume of Money Managers' long positions, according to the weekly Commitments of Traders [report](#) from the Commodity Futures Trading Commission (CFTC). Although open interest long positions held by Money Managers have been generally declining since late June, they remain elevated compared with contract open interest prior to the onset of the COVID-19 pandemic. For comparison, the average number of long positions during 2019 was 256,000. The recent decrease in long positions was matched by an increase in short positions to 76,000 contracts, the largest volume of short positions since February 2, 2021. Increased short positions and lower long positions both contributed to a decrease in net long open interest, which totaled 278,000 contracts on July 27, down from 383,000 contracts at the previous month's high on June 21.

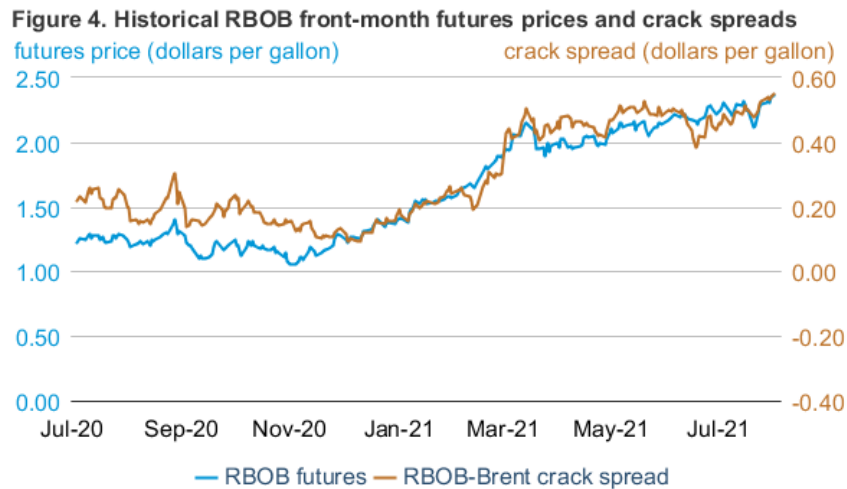
Figure 4. Money Manager open interest in WTI futures contracts
thousands of contracts



Graph by EIA, based on data from the CFTC Commitments of Traders Report

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at \$2.29 per gallon (gal) on August 5, up 3 cents/gal from July 1 (**Figure 5**). The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 13 cents/gal to settle at 60 cents/gal during the same period. The crack spread on July 30 of 55 cents/gal was the highest July crack spread since July 31, 2015.

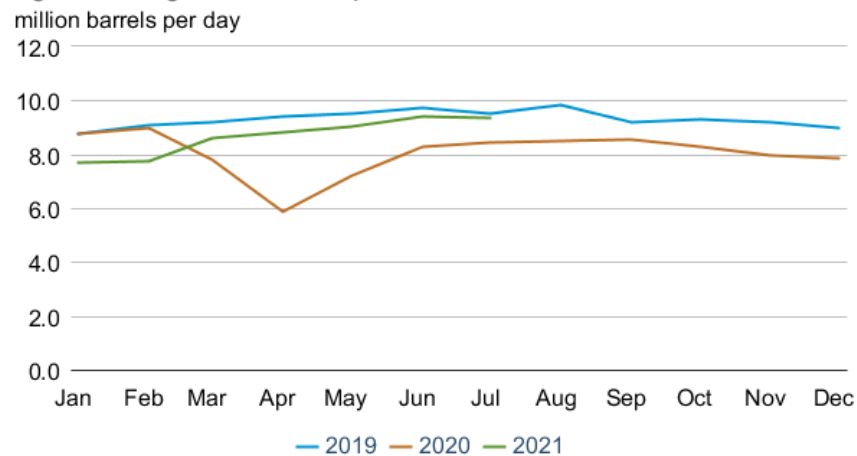


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

July’s high RBOB–Brent crack spread reflected increasing demand and decreasing inventories. We estimate U.S. gasoline consumption averaged 9.4 million barrels per day (b/d) in July, which is 0.9 million b/d (11%) higher than in July 2020, and only 0.2 million b/d (2%) lower than the

pre-COVID-19 July 2019 level. The increase in gasoline demand likely reflects typical seasonal factors such as increased summer driving demand, especially around the July 4th holiday weekend. For the week ending July 2, we reported in our [Weekly Petroleum Status Report](#) that gasoline product supplied was 10.0 million b/d, a record high in our data, which goes back to 1991. Product supplied is the volume of petroleum products delivered out of the [primary supply chain](#), rather than the actual amount of gasoline consumed by end users that week. An individual week's amount of product supplied could be affected by a number of factors, such as the timing of when import or export cargoes clear customs. Nevertheless, this record product supplied level likely indicates that driving demand was high in late June and early July. Although gasoline consumption remains below 2019 levels, the July 2021 estimate is the closest gasoline consumption has been to its corresponding 2019 level so far in 2021 (**Figure 6**). The relatively high consumption has contributed to gasoline stocks decreasing to 228.5 million barrels in July, the lowest July level since 2015. We forecast lower gasoline stocks between August and November, which will likely continue to support relatively high crack spreads.

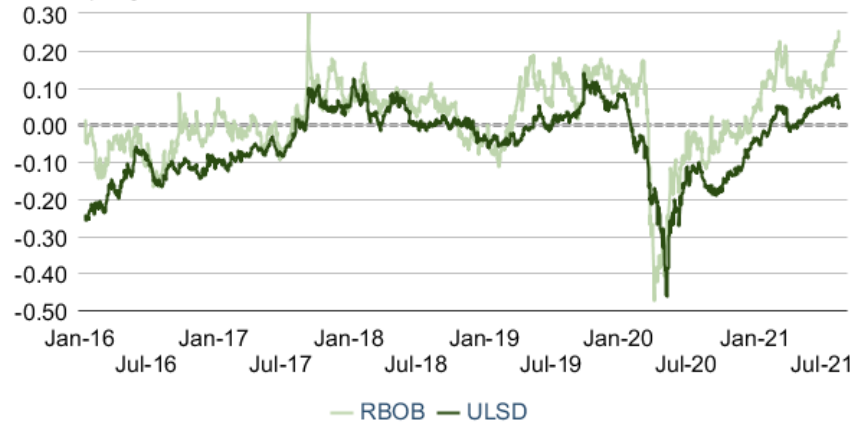
Figure 6. U.S. gasoline consumption



 Source: U.S. Energy Information Administration, Short-Term Energy Outlook

RBOB 1st to 13th contract spread: The RBOB 1st to 13th futures price spread settled at 25 cents/gal on August 5, the highest level of backwardation (when near-term contract prices are higher than farther-dated ones) since August 31, 2017, which was when [Hurricane Harvey disrupted U.S. Gulf Coast refineries](#). The 1st to 13th futures price spread for ULSD has also been increasing but is not at multiyear highs like the RBOB spread (**Figure 7**).

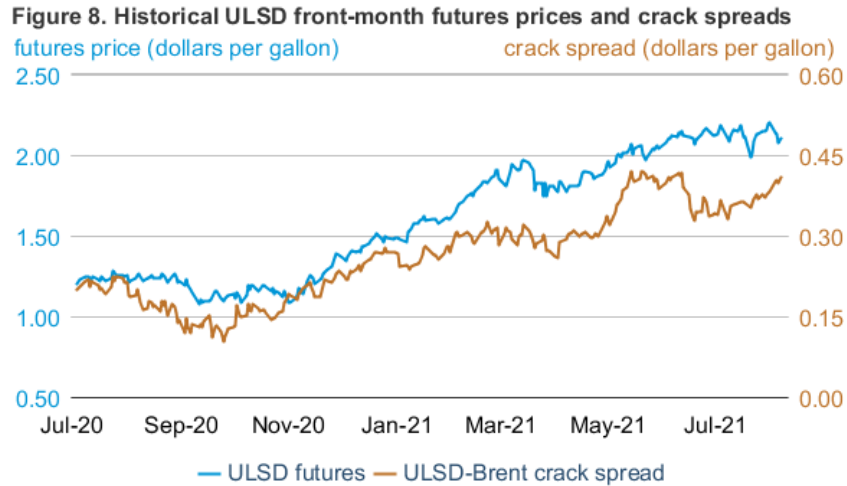
Figure 7. Petroleum product front-month to 13th month futures price spread
dollars per gallon



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB=reformulated blendstock for oxygenate blending, ULSD=ultra-low sulfur diesel

Recent inventory draws for gasoline have contributed to the high 1st to 13th futures price spread. We estimate that gasoline inventories in July were 228.5 million barrels, which is the lowest they have been since October 2020 and is 4% lower than the five-year (2016–2020) average for the month of July. Expectations of continued strong gasoline demand through August and lower gasoline production in the fall are contributing to our expectations of low gasoline stocks in the short term. Distillate stocks are also lower than average, but they have been relatively flat in the summer and we expect them to increase in August in advance of growth in demand in the fall and winter, when diesel-powered agricultural equipment is used to harvest crops and the winter heating season begins. The futures price spread is likely lower for distillate than gasoline because distillate stocks are relatively flat, whereas gasoline stocks have been decreasing due to high summer demand.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at \$2.11/gal on August 5, down 5 cent/gal from July 1 (Figure 8). The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 6 cents/gal, settling at 41 cents/gal during the same period.



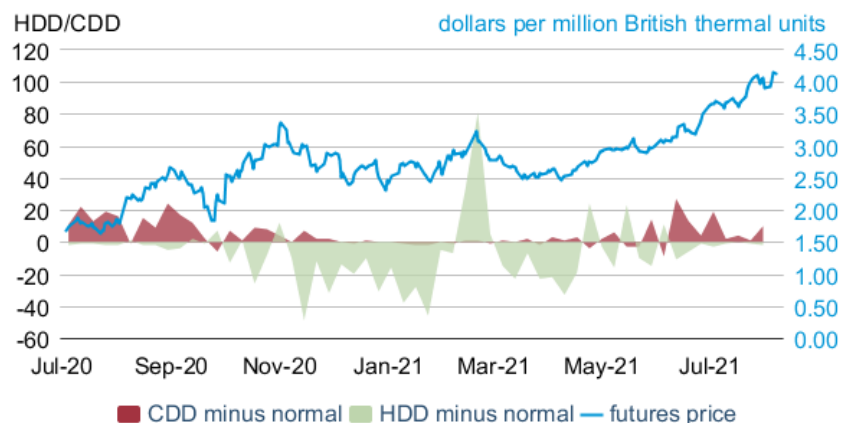
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
 Note: ULSD=ultra-low sulfur diesel

Seasonally low production has not kept up with distillate demand and has likely helped sustain the above-average ULSD–Brent crack spread. We estimate distillate production was 4.8 million b/d in July, which would be the lowest for that month since 2012. In contrast, our distillate consumption estimate of 3.8 million b/d is 2% higher than the five-year average. Several months of seasonally low production and relatively average demand has led to low distillate stocks. We estimate distillate stocks of 138.9 million barrels in July, which is 7% lower than the five-year average.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at \$4.14 per million British thermal units (MMBtu) on August 5, 2021, which was up 48 cents/MMBtu from July 1, 2021 (**Figure 9**). The average price for front-month natural gas futures contracts in July was \$3.82/MMBtu, the highest July average since 2014.

Figure 9. Natural gas front-month futures prices and actual minus historical average HDD and CDD



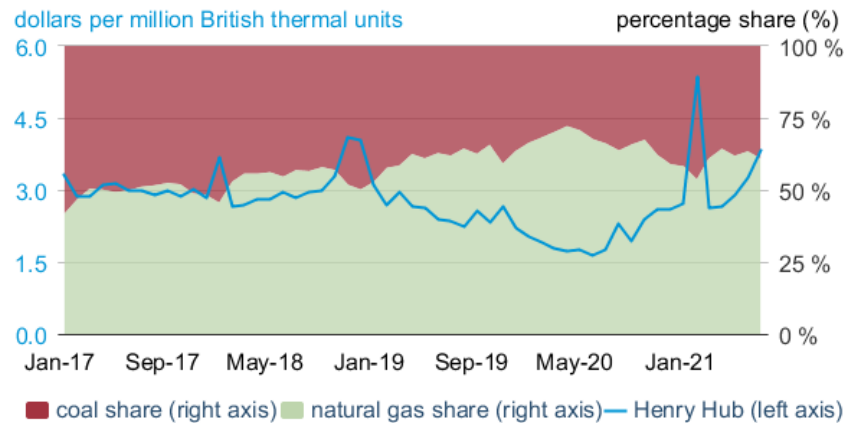
Sources: Graph by EIA, based on data from CME Group and NOAA, as compiled by Bloomberg L.P.
 Note: HDD=heating degree days, CDD=cooling degree days.

Henry Hub natural gas futures prices increased in July as cooling demand increased, especially in the western United States. We estimate that U.S. consumption of natural gas in July increased by 3.9 billion cubic feet per day (Bcf/d) from June to 75.8 Bcf/d, driven by an increase in consumption in the electric power sector. Cooling demand was particularly strong in the western United States (Pacific and Mountain regions) which had 684 cooling degree days in July, 9% more than the 10-year average. Regional prices in the West increased along with the demand increase. The price at PG&E Citygate in California increased 16% from June to July to \$5.16/MMBtu, a 107% increase over the July 2020 price, according to data from [Natural Gas Intelligence](#).

Natural gas exports (pipeline and LNG) also increased in July from 17.8 Bcf/d in June to 18.2 Bcf/d in July. At the same time, dry production of natural gas declined slightly from 92.7 Bcf/d in June to 92.5 Bcf/d in July, prompting an increase in the Henry Hub price. The 17.9% increase in the Henry Hub price from June to July is the largest month-on-month percentage change for June to July since 2012, when the price increased 20.3%.

Natural gas consumption amid high prices: The relative share of fossil-fuel electricity generation from natural gas was greater than coal in the eastern United States (United States excluding the [Pacific and Mountain regions](#)) in July despite relatively high natural gas prices (**Figure 10**). Typically, higher natural gas prices will prompt gas-to-coal switching for electricity generation. For example, in February–September 2018, when the Henry Hub price was less than \$3.00/MMBtu, natural gas made up an average of 56% of the share of fossil-fuel generation. In November and December of the same year, when the price increased to more than \$4.00/MMBtu, the natural gas share of fossil-fuel generation decreased to 51%.

Figure 10. Shares of thermal electricity generation in the eastern United States and Henry Hub spot price



Source: U.S. Energy Information Administration, Short-Term Energy Outlook
 Note: Eastern United States is the United States minus the Pacific and Mountain regions.

In the first half of 2020, natural gas made up a 69% share of fossil-fuel generation and Henry Hub prices averaged \$1.81/MMBtu. For the same period in 2021, natural gas made up a 60% share of fossil fuel generation, and Henry Hub prices averaged \$3.25/MMBtu. Since March 2021, the Henry Hub price has steadily increased, approaching \$4.00/MMBtu, yet the natural gas share of fossil-fuel generation has remained higher than 60%. Except for the February price spike as a result of extremely cold weather, July Henry Hub prices were at their highest this year. Natural gas made up a 61% share of fossil-fuel generation and coal made up 39%. This difference is partially because of a longer-term trend of [decreasing capacity for coal-fired electricity generation and increasing natural gas-fired capacity](#). Capacity for coal-fired electricity generation has decreased every year since 2011, and natural gas-fired capacity has increased every year since at least 2009.

Notable forecast changes

- We expect OPEC crude oil production to average 27.6 million barrels per day (b/d) in the second half of 2021 (2H21), about 0.6 million b/d lower compared with our previous forecast. Our forecast of lower OPEC crude oil production reflects the July 18 OPEC+ announcement that calls for participating countries to collectively increase supply by 0.4 million b/d per month from August to December 2021, a production increase that is lower than we previously anticipated. Forecast OPEC crude oil production in 2022 is about the same as our July forecast, with higher-than-expected output in the second half of the year offsetting lower forecast production in 1Q22, which is consistent with higher OPEC production baselines that were also announced on July 18.
- In our August STEO, we revised down our 2022 jet fuel consumption forecast by 80,000 b/d to 1.6 million b/d. The lower jet fuel forecast reflects a lower GDP forecast by IHS Markit. It also reflects our assumption that increases in jet fuel consumption will occur more slowly than we have previously forecast. The largest downward revision is for 2H22, when we forecast jet fuel consumption will average 1.7 million b/d, down from 1.8 million b/d in the July forecast.
- We forecast Henry Hub spot prices will average \$3.59 per million British thermal unit (MMBtu) in 2H21, an increase of 40 cents/MMBtu from last month's STEO. [High demand for electricity generation](#) because of record-high temperatures in June led to strong consumption of natural gas in the electric power sector, supporting higher prices into July and August. We expect Henry Hub spot prices to decline over the forecast period as temperatures return closer to historical averages, U.S. dry natural gas production increases, and growth in liquefied natural gas export growth slows.
- We have updated our modeling of electricity generation to better account for regional emissions restrictions and fuel contracts. These changes have the general effect of limiting future growth in coal-fired generation. As a result, the impact on forecast coal-fired generation in 2021 from our increased forecast for natural gas prices is generally offset by the effect of the new model constraints that limit growth in coal-fired generation. Thus, our forecast for U.S. coal and natural gas generation are relatively unchanged from last STEO.
- We corrected calculations for several of the industrial production indexes in tables 9a and 9b. Most of the changes were minor. For more information on these corrections [please contact us](#).

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Short-Term Energy Outlook Chart Gallery



August 10, 2021

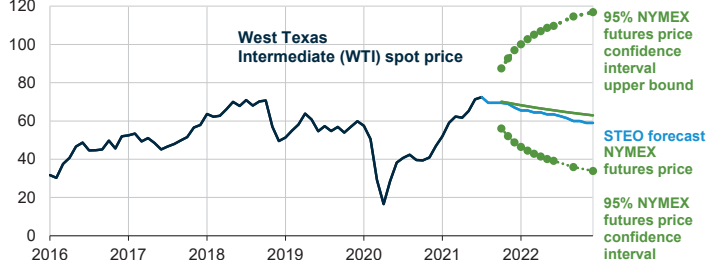


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West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals

dollars per barrel



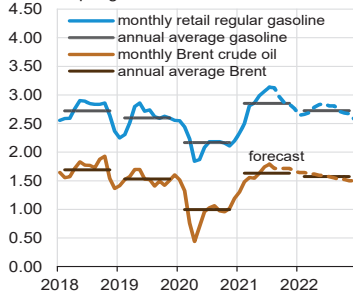
Note: Confidence interval derived from options market information for the five trading days ending Aug 5, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business



U.S. gasoline and crude oil prices

dollars per gallon

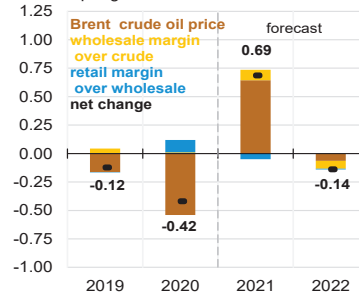


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business

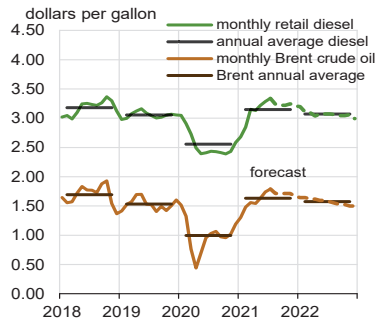


Components of annual gasoline price changes

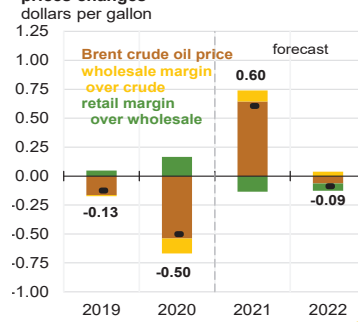
dollars per gallon



U.S. diesel and crude oil prices



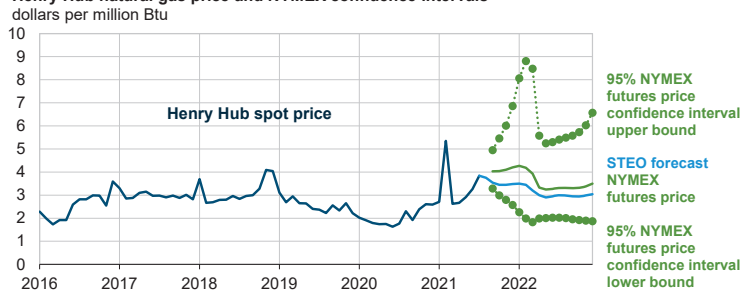
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business



Henry Hub natural gas price and NYMEX confidence intervals

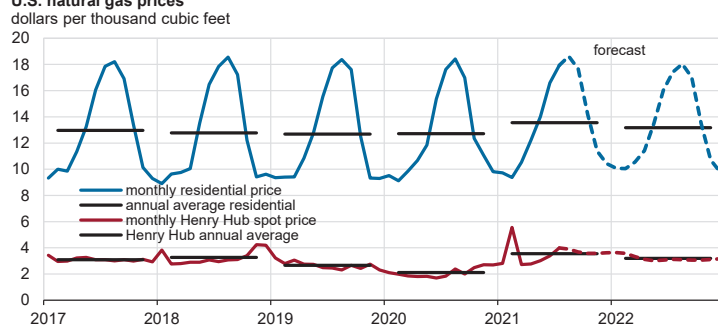


Note: Confidence interval derived from options market information for the five trading days ending Aug 5, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, CME Group, and Refinitiv an LSEG Business



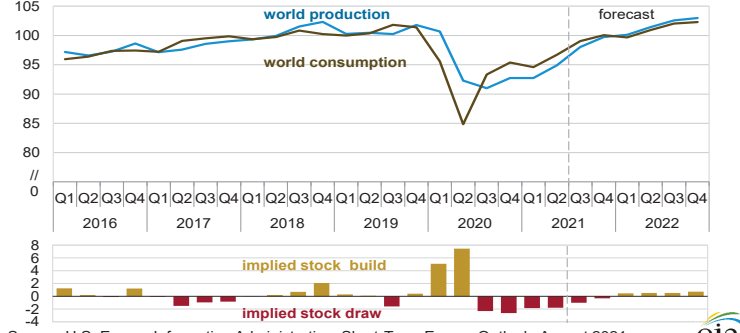
U.S. natural gas prices



Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021, and Refinitiv an LSEG Business



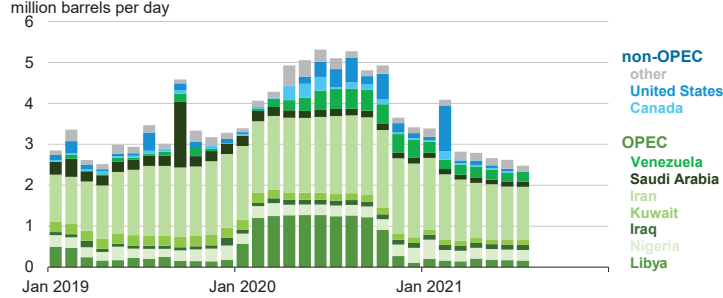
World liquid fuels production and consumption balance
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



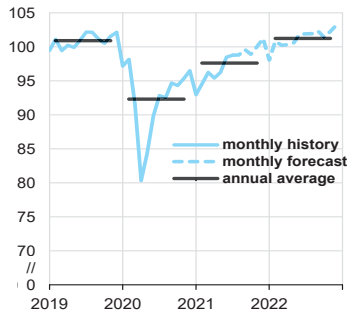
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day



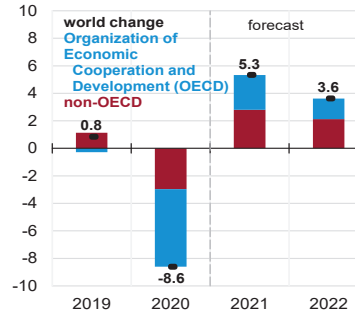
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



World liquid fuels consumption
million barrels per day



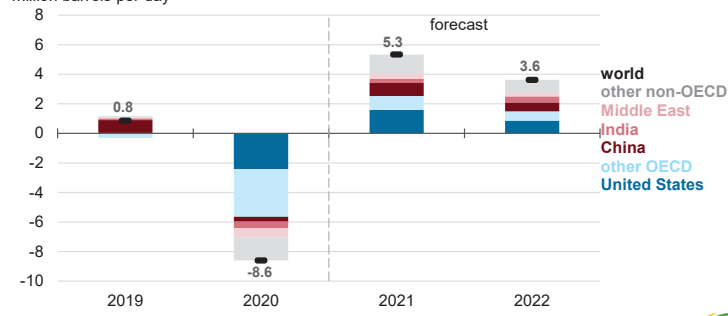
Components of annual change
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



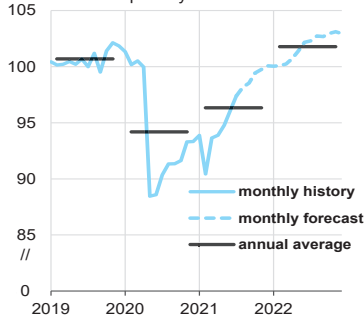
Annual change in world liquid fuels consumption
million barrels per day



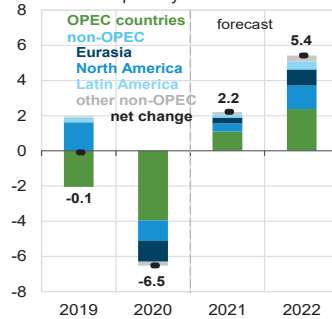
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



World crude oil and liquid fuels production
million barrels per day



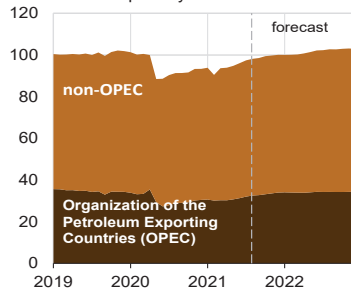
Components of annual change
million barrels per day



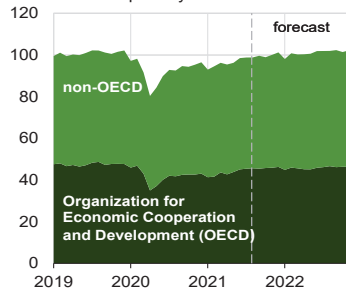
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



World liquid fuels production
million barrels per day



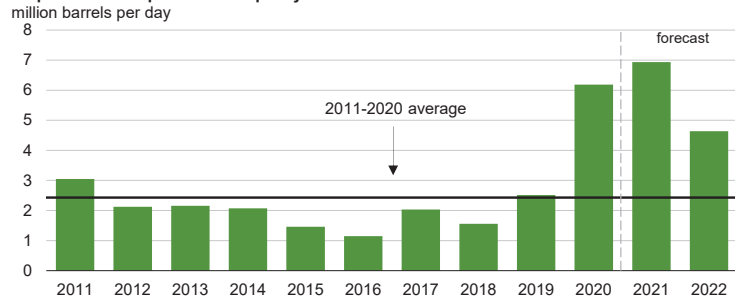
World liquid fuels consumption
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



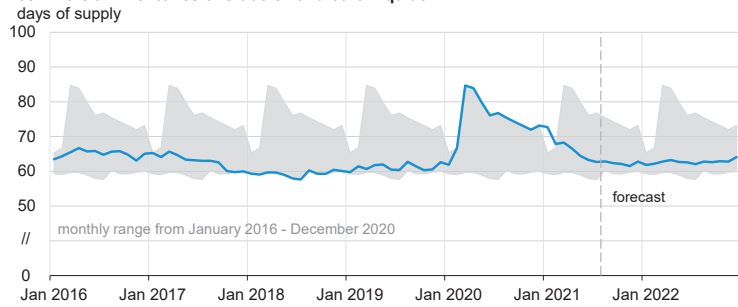
**Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity**



Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



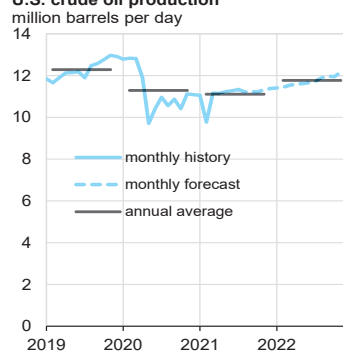
**Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids**



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

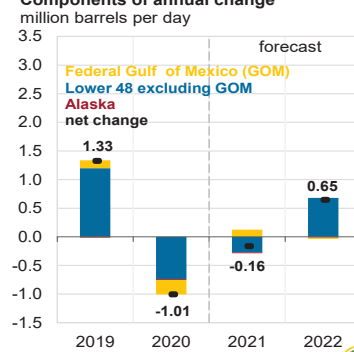


U.S. crude oil production

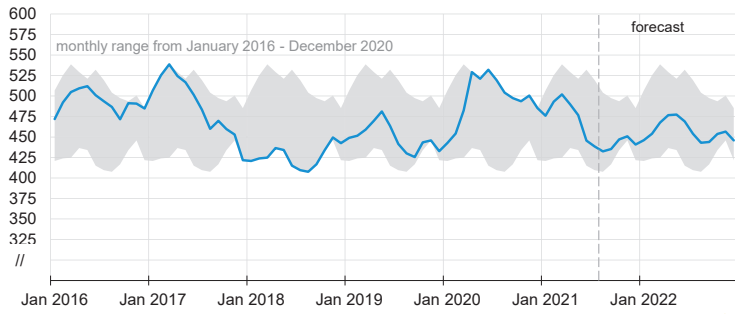


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

Components of annual change



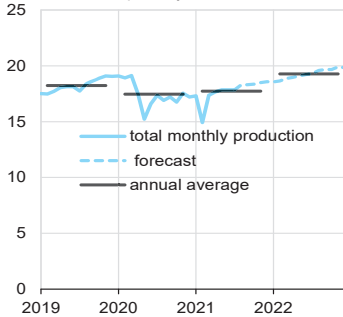
U.S. commercial crude oil inventories
million barrels



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

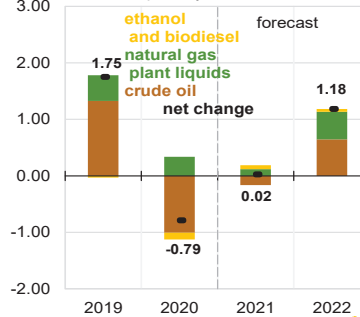


U.S. crude oil and liquid fuels production
million barrels per day

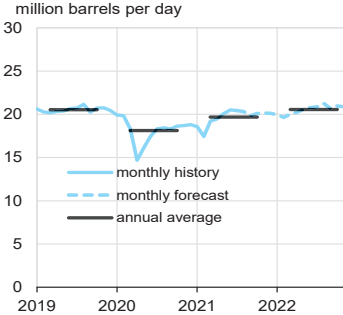


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

Components of annual change
million barrels per day

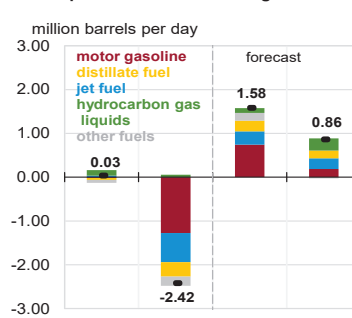


U.S. liquid fuels product supplied (consumption)
million barrels per day

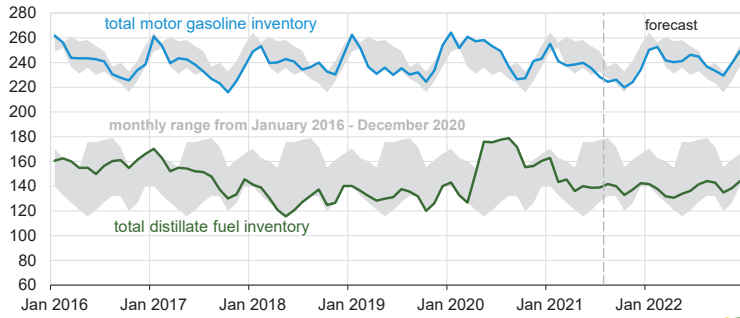


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021

Components of annual change
million barrels per day



U.S. gasoline and distillate inventories
million barrels

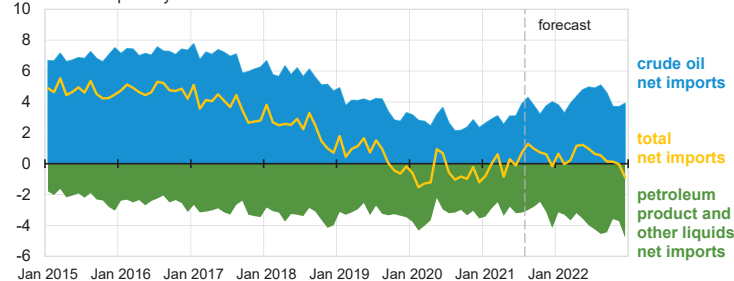


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



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

million barrels per day



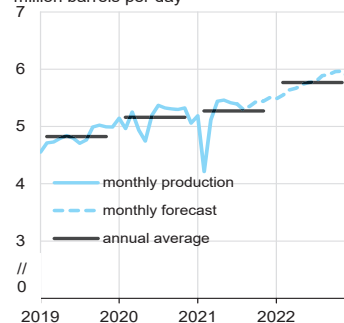
Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



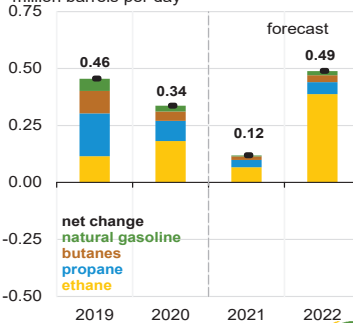
U.S. natural gas plant liquids production

million barrels per day



Components of annual change

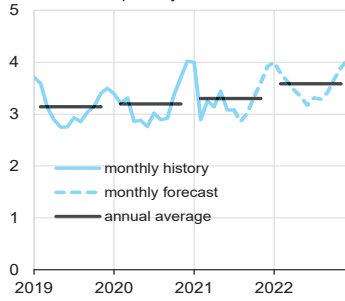
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



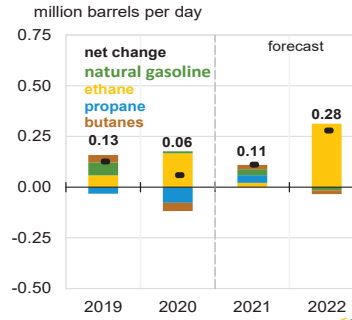
U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day



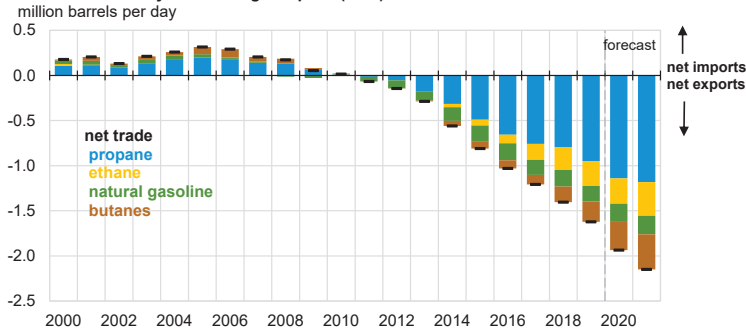
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



Components of annual change



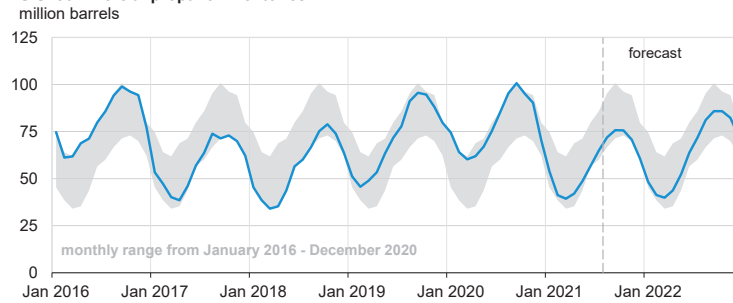
U.S. net trade of hydrocarbon gas liquids (HGL)



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. commercial propane inventories

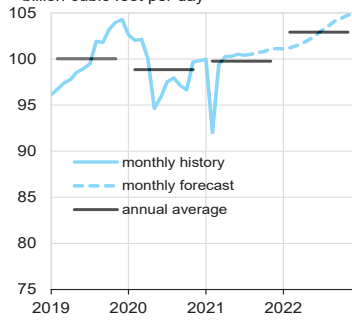


Note: Excludes propylene.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



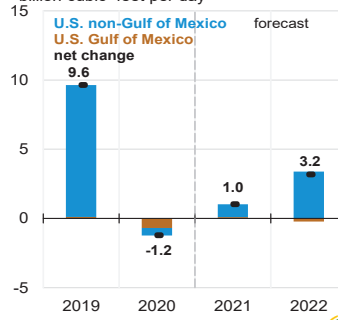
U.S. marketed natural gas production
billion cubic feet per day



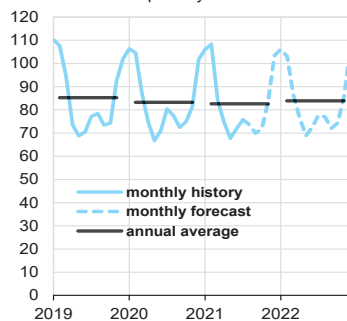
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



Components of annual change
billion cubic feet per day



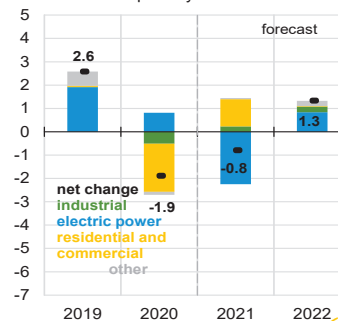
U.S. natural gas consumption
billion cubic feet per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



Components of annual change
billion cubic feet per day



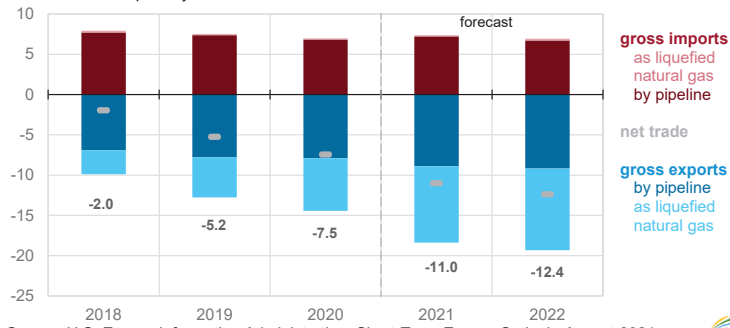
U.S. natural gas production, consumption, and net imports
billion cubic feet per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



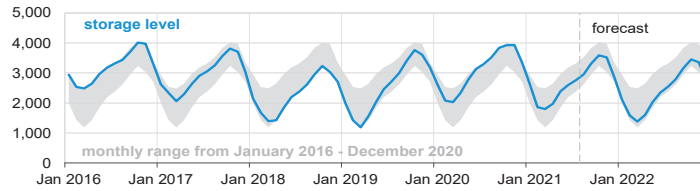
U.S. annual natural gas trade
billion cubic feet per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



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



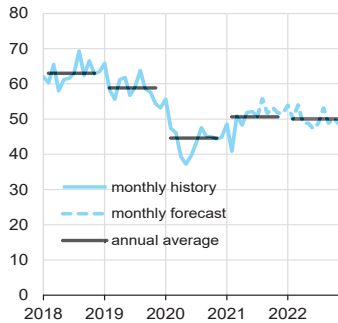
Percent deviation from 2016 - 2020 average



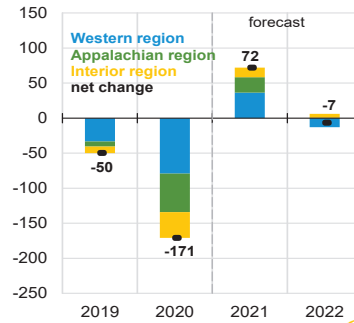
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. coal production
million short tons



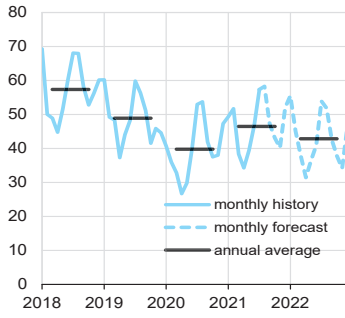
Components of annual change
million short tons



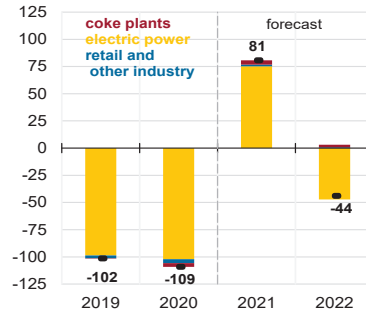
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. coal consumption
million short tons



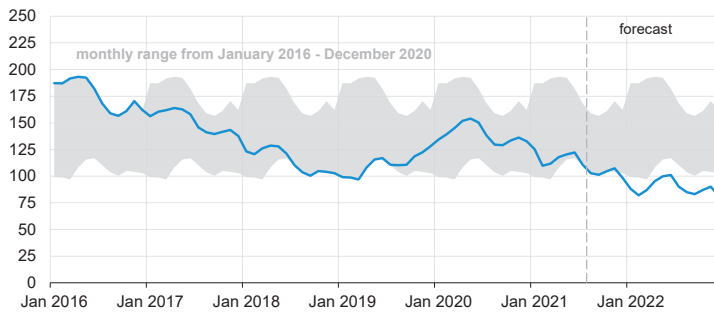
Components of annual change
million short tons



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



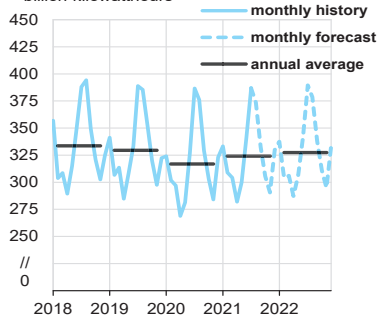
U.S. electric power coal inventories
million short tons



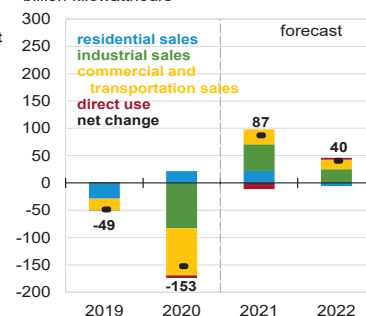
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. electricity consumption
billion kilowatthours



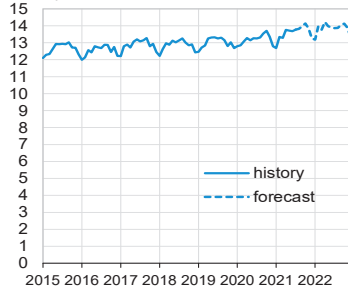
Components of annual change
billion kilowatthours



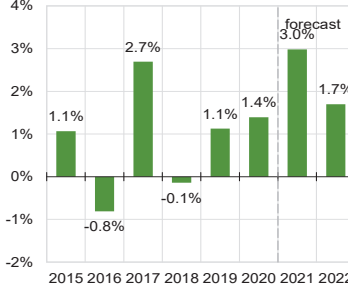
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. monthly nominal residential electricity price
cents per kilowatthour



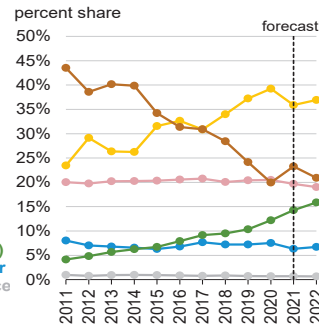
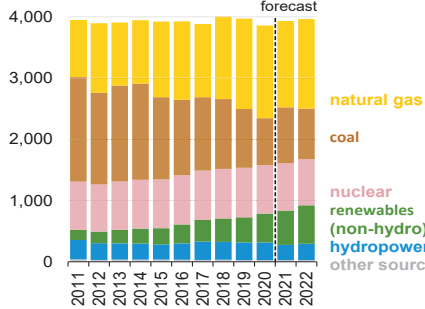
Annual growth in nominal residential electricity prices
percent



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



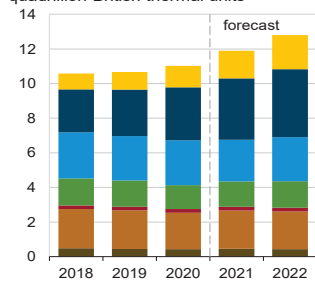
U.S. electricity generation by fuel, all sectors
billion kilowatthours



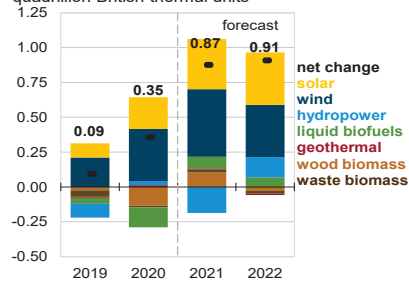
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. renewable energy supply
quadrillion British thermal units



Components of annual change
quadrillion British thermal units

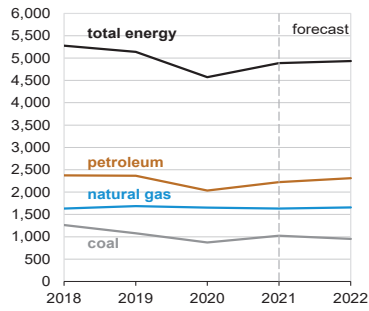


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

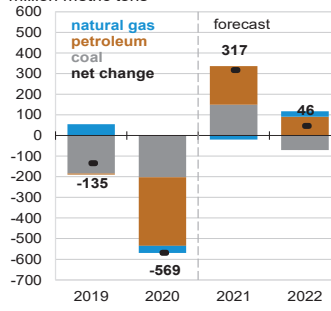
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



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



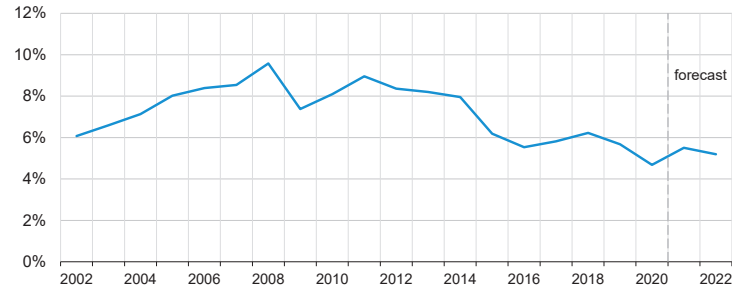
Components of annual change
million metric tons



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



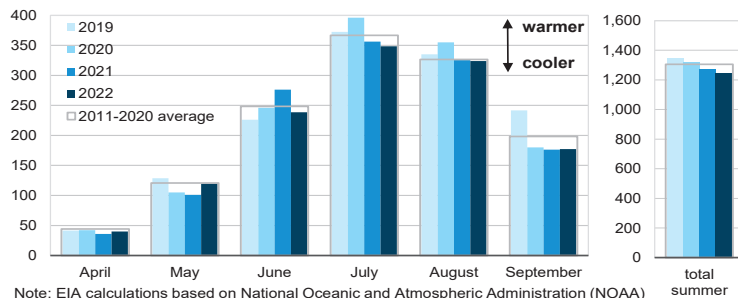
U.S. annual energy expenditures
share of gross domestic product



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. summer cooling degree days
population-weighted

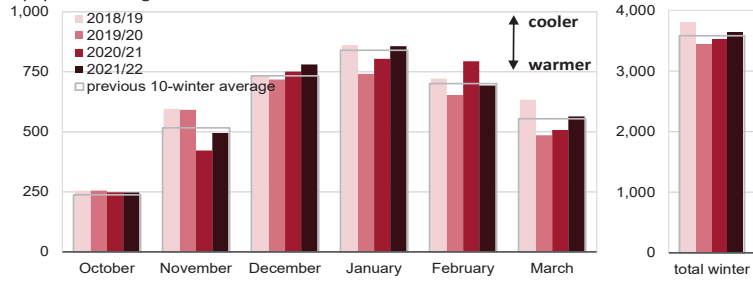


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. winter heating degree days
population-weighted

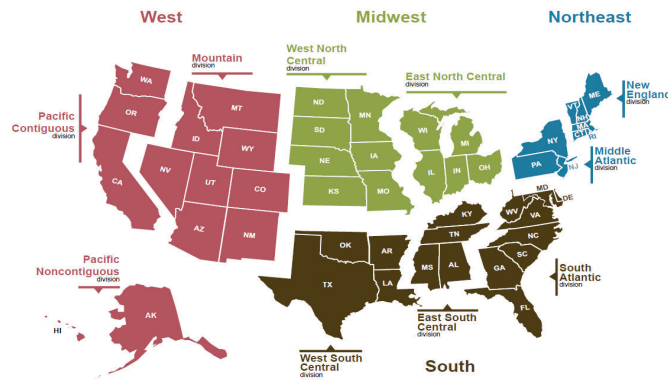


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2021



U.S. Census regions and divisions



Source: U.S. Energy Information Administration, Short-Term Energy Outlook



Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Energy Supply															
Crude Oil Production (a) (million barrels per day)	12.81	10.67	10.79	10.87	10.69	11.22	11.26	11.30	11.46	11.62	11.86	12.11	11.28	11.12	11.77
Dry Natural Gas Production (billion cubic feet per day)	94.79	89.68	89.83	91.15	90.29	92.49	92.67	93.11	93.34	94.15	95.51	96.47	91.35	92.15	94.88
Coal Production (million short tons)	149	116	136	134	140	152	158	157	158	145	151	147	535	607	601
Energy Consumption															
Liquid Fuels (million barrels per day)	19.33	16.08	18.36	18.71	18.45	20.02	20.18	20.12	19.88	20.55	20.93	20.85	18.12	19.70	20.56
Natural Gas (billion cubic feet per day)	99.31	70.84	76.83	86.08	99.17	71.43	73.15	86.33	98.42	72.58	75.67	88.66	83.25	82.46	83.78
Coal (b) (million short tons)	110	96	149	123	139	120	163	135	139	109	148	118	477	558	514
Electricity (billion kilowatt hours per day)	10.14	9.64	11.87	9.89	10.52	10.14	11.89	10.07	10.53	10.28	12.02	10.22	10.39	10.65	10.77
Renewables (c) (quadrillion Btu)	2.92	3.00	2.83	2.91	2.95	3.30	3.14	3.17	3.29	3.59	3.30	3.31	11.65	12.56	13.50
Total Energy Consumption (d) (quadrillion Btu)	25.10	20.63	23.42	23.79	25.04	22.97	24.19	24.63	25.44	23.31	24.54	24.95	92.94	96.83	98.24
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	45.34	27.96	40.89	42.50	58.09	66.19	70.51	68.45	65.13	63.82	61.32	59.33	39.17	65.93	62.37
Natural Gas Henry Hub Spot (dollars per million Btu)	1.91	1.71	2.00	2.53	3.56	2.94	3.71	3.46	3.38	2.95	2.98	2.99	2.03	3.42	3.08
Coal (dollars per million Btu)	1.93	1.91	1.93	1.92	1.91	1.88	1.89	1.86	1.89	1.88	1.84	1.82	1.92	1.89	1.86
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	19,011	17,303	18,597	18,794	19,086	19,456	19,810	20,197	20,388	20,569	20,703	20,829	18,426	19,637	20,622
Percent change from prior year	0.3	-9.0	-2.8	-2.4	0.4	12.4	6.5	7.5	6.8	5.7	4.5	3.1	-3.5	6.6	5.0
GDP Implicit Price Deflator (Index, 2012=100)	113.4	112.9	113.8	114.4	115.6	117.3	118.3	118.8	119.3	119.8	120.4	121.1	113.6	117.5	120.2
Percent change from prior year	1.7	0.6	1.1	1.3	2.0	4.0	3.9	3.8	3.1	2.1	1.8	1.9	1.2	3.4	2.3
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,061	16,630	15,851	15,541	17,530	16,154	15,768	15,743	15,815	15,961	16,079	16,146	15,771	16,299	16,001
Percent change from prior year	1.4	12.2	6.4	3.9	16.4	-2.9	-0.5	1.3	-9.8	-1.2	2.0	2.6	6.0	3.3	-1.8
Manufacturing Production Index (Index, 2017=100)	97.6	84.2	94.2	96.7	97.2	98.2	100.5	103.0	104.2	105.2	105.8	106.4	93.2	99.7	105.4
Percent change from prior year	-2.7	-15.3	-5.2	-2.4	-0.4	16.5	6.7	6.5	7.1	7.1	5.4	3.3	-6.4	7.0	5.7
Weather															
U.S. Heating Degree-Days	1,881	543	71	1,422	2,106	472	70	1,523	2,114	488	77	1,521	3,916	4,171	4,201
U.S. Cooling Degree-Days	70	393	931	121	49	413	858	95	46	398	850	97	1,514	1,415	1,390

(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 August 5, 2021.

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 IHS Markit 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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	45.34	27.96	40.89	42.50	58.09	66.19	<i>70.51</i>	<i>68.45</i>	<i>65.13</i>	<i>63.82</i>	<i>61.32</i>	<i>59.33</i>	39.17	<i>65.93</i>	<i>62.37</i>
Brent Spot Average	49.97	29.52	42.97	44.34	61.12	68.91	<i>73.07</i>	<i>71.29</i>	<i>68.63</i>	<i>67.32</i>	<i>64.98</i>	<i>63.33</i>	41.69	<i>68.71</i>	<i>66.04</i>
U.S. Imported Average	43.72	26.33	39.89	40.67	55.27	64.73	<i>68.48</i>	<i>66.41</i>	<i>62.88</i>	<i>61.56</i>	<i>58.88</i>	<i>56.83</i>	37.25	<i>64.32</i>	<i>60.01</i>
U.S. Refiner Average Acquisition Cost	47.48	26.75	40.79	42.09	57.12	65.94	<i>69.53</i>	<i>67.45</i>	<i>63.90</i>	<i>62.57</i>	<i>59.86</i>	<i>57.83</i>	39.72	<i>65.27</i>	<i>60.97</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	153	104	137	133	180	217	<i>224</i>	<i>202</i>	<i>190</i>	<i>202</i>	<i>198</i>	<i>182</i>	133	<i>207</i>	<i>193</i>
Diesel Fuel	160	97	124	133	178	205	<i>214</i>	<i>213</i>	<i>205</i>	<i>203</i>	<i>199</i>	<i>195</i>	129	<i>203</i>	<i>201</i>
Fuel Oil	160	87	113	121	162	183	<i>205</i>	<i>208</i>	<i>202</i>	<i>193</i>	<i>188</i>	<i>187</i>	125	<i>194</i>	<i>196</i>
Refiner Prices to End Users															
Jet Fuel	165	85	116	125	163	182	<i>195</i>	<i>202</i>	<i>200</i>	<i>200</i>	<i>196</i>	<i>193</i>	131	<i>187</i>	<i>197</i>
No. 6 Residual Fuel Oil (a)	176	93	116	119	162	174	<i>166</i>	<i>161</i>	<i>152</i>	<i>151</i>	<i>144</i>	<i>138</i>	125	<i>166</i>	<i>146</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	241	194	218	215	256	297	<i>308</i>	<i>282</i>	<i>267</i>	<i>282</i>	<i>278</i>	<i>264</i>	218	<i>287</i>	<i>273</i>
Gasoline All Grades (b)	251	203	227	224	265	306	<i>318</i>	<i>295</i>	<i>280</i>	<i>295</i>	<i>291</i>	<i>278</i>	227	<i>297</i>	<i>286</i>
On-highway Diesel Fuel	289	243	243	246	290	321	<i>327</i>	<i>323</i>	<i>313</i>	<i>306</i>	<i>306</i>	<i>303</i>	255	<i>316</i>	<i>307</i>
Heating Oil	280	200	214	230	272	283	<i>311</i>	<i>333</i>	<i>326</i>	<i>302</i>	<i>284</i>	<i>283</i>	244	<i>297</i>	<i>304</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	1.98	1.77	2.07	2.63	3.70	3.06	<i>3.85</i>	<i>3.59</i>	<i>3.52</i>	<i>3.07</i>	<i>3.09</i>	<i>3.11</i>	2.11	<i>3.55</i>	<i>3.20</i>
Henry Hub Spot (dollars per million Btu)	1.91	1.71	2.00	2.53	3.56	2.94	<i>3.71</i>	<i>3.46</i>	<i>3.38</i>	<i>2.95</i>	<i>2.98</i>	<i>2.99</i>	2.03	<i>3.42</i>	<i>3.08</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	3.52	2.85	2.88	3.77	5.72	4.06	<i>4.73</i>	<i>4.89</i>	<i>5.01</i>	<i>4.16</i>	<i>4.00</i>	<i>4.29</i>	3.29	<i>4.87</i>	<i>4.38</i>
Commercial Sector	7.13	7.63	8.49	7.53	7.56	8.74	<i>9.41</i>	<i>8.50</i>	<i>8.21</i>	<i>8.48</i>	<i>8.70</i>	<i>7.70</i>	7.48	<i>8.24</i>	<i>8.15</i>
Residential Sector	9.46	11.89	17.65	10.60	9.79	13.53	<i>18.05</i>	<i>11.30</i>	<i>10.19</i>	<i>12.86</i>	<i>17.46</i>	<i>10.64</i>	10.83	<i>11.36</i>	<i>11.23</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	1.93	1.91	1.93	1.92	1.91	1.88	<i>1.89</i>	<i>1.86</i>	<i>1.89</i>	<i>1.88</i>	<i>1.84</i>	<i>1.82</i>	1.92	<i>1.89</i>	<i>1.86</i>
Natural Gas	2.39	2.08	2.26	2.87	7.26	3.23	<i>3.88</i>	<i>3.81</i>	<i>3.94</i>	<i>3.10</i>	<i>3.08</i>	<i>3.27</i>	2.39	<i>4.46</i>	<i>3.31</i>
Residual Fuel Oil (c)	12.15	6.65	8.85	8.90	11.28	12.85	<i>13.09</i>	<i>12.92</i>	<i>12.94</i>	<i>13.29</i>	<i>12.34</i>	<i>11.82</i>	9.15	<i>12.50</i>	<i>12.59</i>
Distillate Fuel Oil	13.27	8.39	10.37	10.54	13.59	15.79	<i>16.51</i>	<i>16.49</i>	<i>16.05</i>	<i>15.79</i>	<i>15.45</i>	<i>15.20</i>	10.73	<i>15.36</i>	<i>15.67</i>
Retail Prices (cents per kilowatt-hour)															
Industrial Sector	6.38	6.63	7.08	6.53	7.15	6.88	<i>7.15</i>	<i>6.58</i>	<i>6.94</i>	<i>6.83</i>	<i>7.13</i>	<i>6.57</i>	6.66	<i>6.94</i>	<i>6.88</i>
Commercial Sector	10.33	10.63	10.97	10.62	11.11	11.06	<i>11.48</i>	<i>11.08</i>	<i>11.46</i>	<i>11.33</i>	<i>11.62</i>	<i>11.14</i>	10.65	<i>11.19</i>	<i>11.39</i>
Residential Sector	12.90	13.24	13.35	13.25	13.09	13.71	<i>13.84</i>	<i>13.70</i>	<i>13.61</i>	<i>14.01</i>	<i>13.92</i>	<i>13.73</i>	13.20	<i>13.59</i>	<i>13.82</i>

(a) Average for all sulfur contents.

(b) Average self-service cash price.

(c) Includes fuel oils No. 4, No. 5, No. 6, and topped crude.

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million barrels per day) (a)															
OECD	33.00	29.28	29.95	30.66	30.16	30.95	<i>31.56</i>	<i>31.93</i>	<i>32.17</i>	<i>32.47</i>	<i>32.84</i>	<i>33.36</i>	30.72	<i>31.16</i>	<i>32.71</i>
U.S. (50 States)	20.28	17.44	18.29	18.28	17.62	19.03	<i>19.00</i>	<i>19.11</i>	<i>19.35</i>	<i>19.78</i>	<i>20.23</i>	<i>20.53</i>	18.57	<i>18.69</i>	<i>19.98</i>
Canada	5.64	4.91	4.94	5.55	5.63	5.41	<i>5.63</i>	<i>5.78</i>	<i>5.81</i>	<i>5.78</i>	<i>5.81</i>	<i>5.83</i>	5.26	<i>5.61</i>	<i>5.81</i>
Mexico	2.00	1.94	1.91	1.90	1.93	1.95	<i>1.93</i>	<i>1.89</i>	<i>1.84</i>	<i>1.80</i>	<i>1.77</i>	<i>1.73</i>	1.94	<i>1.92</i>	<i>1.78</i>
Other OECD	5.08	4.99	4.81	4.93	4.98	4.56	<i>5.00</i>	<i>5.15</i>	<i>5.17</i>	<i>5.11</i>	<i>5.03</i>	<i>5.26</i>	4.95	<i>4.92</i>	<i>5.14</i>
Non-OECD	67.68	63.02	61.06	62.09	62.56	63.96	<i>66.47</i>	<i>67.82</i>	<i>67.96</i>	<i>68.96</i>	<i>69.73</i>	<i>69.64</i>	63.45	<i>65.22</i>	<i>69.08</i>
OPEC	33.50	30.72	28.65	30.00	30.37	30.78	<i>32.46</i>	<i>33.59</i>	<i>34.03</i>	<i>34.11</i>	<i>34.28</i>	<i>34.32</i>	30.71	<i>31.81</i>	<i>34.18</i>
Crude Oil Portion	28.28	25.65	23.63	24.88	25.08	25.51	<i>27.10</i>	<i>28.16</i>	<i>28.43</i>	<i>28.65</i>	<i>28.76</i>	<i>28.76</i>	25.60	<i>26.47</i>	<i>28.65</i>
Other Liquids (b)	5.22	5.07	5.02	5.12	5.29	5.28	<i>5.36</i>	<i>5.43</i>	<i>5.59</i>	<i>5.47</i>	<i>5.52</i>	<i>5.56</i>	5.11	<i>5.34</i>	<i>5.53</i>
Eurasia	14.73	13.18	12.72	13.13	13.38	13.63	<i>13.79</i>	<i>14.23</i>	<i>14.45</i>	<i>14.66</i>	<i>14.77</i>	<i>14.97</i>	13.44	<i>13.76</i>	<i>14.71</i>
China	4.96	4.91	4.95	4.90	5.05	5.09	<i>5.01</i>	<i>5.06</i>	<i>5.05</i>	<i>5.08</i>	<i>5.08</i>	<i>5.13</i>	4.93	<i>5.05</i>	<i>5.08</i>
Other Non-OECD	14.49	14.21	14.74	14.06	13.77	14.47	<i>15.21</i>	<i>14.94</i>	<i>14.43</i>	<i>15.11</i>	<i>15.60</i>	<i>15.23</i>	14.37	<i>14.60</i>	<i>15.10</i>
Total World Supply	100.69	92.30	91.01	92.75	92.72	94.92	<i>98.03</i>	<i>99.75</i>	<i>100.12</i>	<i>101.43</i>	<i>102.57</i>	<i>103.00</i>	94.17	<i>96.38</i>	<i>101.79</i>
Non-OPEC Supply	67.19	61.58	62.36	62.75	62.35	64.14	<i>65.57</i>	<i>66.15</i>	<i>66.10</i>	<i>67.32</i>	<i>68.29</i>	<i>68.69</i>	63.46	<i>64.57</i>	<i>67.61</i>
Consumption (million barrels per day) (c)															
OECD	45.26	37.39	42.12	42.79	42.24	43.89	<i>45.51</i>	<i>45.99</i>	<i>45.47</i>	<i>45.39</i>	<i>46.34</i>	<i>46.43</i>	41.89	<i>44.42</i>	<i>45.91</i>
U.S. (50 States)	19.33	16.08	18.36	18.71	18.45	20.02	<i>20.18</i>	<i>20.12</i>	<i>19.88</i>	<i>20.55</i>	<i>20.93</i>	<i>20.85</i>	18.12	<i>19.70</i>	<i>20.56</i>
U.S. Territories	0.17	0.15	0.16	0.17	0.20	0.18	<i>0.18</i>	<i>0.20</i>	<i>0.20</i>	<i>0.18</i>	<i>0.19</i>	<i>0.20</i>	0.16	<i>0.19</i>	<i>0.19</i>
Canada	2.33	1.88	2.16	2.05	2.03	2.06	<i>2.29</i>	<i>2.31</i>	<i>2.27</i>	<i>2.23</i>	<i>2.33</i>	<i>2.31</i>	2.10	<i>2.17</i>	<i>2.28</i>
Europe	13.33	11.00	12.87	12.50	11.88	12.72	<i>13.75</i>	<i>13.59</i>	<i>13.19</i>	<i>13.33</i>	<i>13.67</i>	<i>13.35</i>	12.43	<i>12.99</i>	<i>13.39</i>
Japan	3.69	2.89	3.03	3.50	3.69	2.96	<i>3.04</i>	<i>3.42</i>	<i>3.63</i>	<i>2.96</i>	<i>3.05</i>	<i>3.36</i>	3.27	<i>3.27</i>	<i>3.25</i>
Other OECD	6.41	5.41	5.55	5.87	5.99	5.95	<i>6.07</i>	<i>6.36</i>	<i>6.29</i>	<i>6.14</i>	<i>6.18</i>	<i>6.35</i>	5.81	<i>6.09</i>	<i>6.24</i>
Non-OECD	50.33	47.44	51.21	52.59	52.36	52.82	<i>53.55</i>	<i>54.07</i>	<i>54.20</i>	<i>55.54</i>	<i>55.71</i>	<i>55.86</i>	50.40	<i>53.21</i>	<i>55.34</i>
Eurasia	4.86	4.48	5.28	5.17	4.91	4.99	<i>5.39</i>	<i>5.24</i>	<i>5.04</i>	<i>5.13</i>	<i>5.53</i>	<i>5.39</i>	4.95	<i>5.14</i>	<i>5.27</i>
Europe	0.71	0.69	0.71	0.72	0.73	0.73	<i>0.74</i>	<i>0.75</i>	<i>0.74</i>	<i>0.75</i>	<i>0.76</i>	<i>0.76</i>	0.71	<i>0.74</i>	<i>0.75</i>
China	13.89	14.08	14.65	15.11	15.26	15.46	<i>15.17</i>	<i>15.39</i>	<i>15.81</i>	<i>16.06</i>	<i>15.77</i>	<i>16.05</i>	14.43	<i>15.32</i>	<i>15.92</i>
Other Asia	13.35	11.63	12.59	13.61	13.79	13.38	<i>13.30</i>	<i>13.99</i>	<i>14.39</i>	<i>14.60</i>	<i>14.20</i>	<i>14.63</i>	12.80	<i>13.62</i>	<i>14.45</i>
Other Non-OECD	17.53	16.55	17.98	17.99	17.67	18.26	<i>18.94</i>	<i>18.70</i>	<i>18.23</i>	<i>19.01</i>	<i>19.45</i>	<i>19.04</i>	17.51	<i>18.40</i>	<i>18.93</i>
Total World Consumption	95.59	84.84	93.33	95.38	94.60	96.71	<i>99.06</i>	<i>100.06</i>	<i>99.67</i>	<i>100.93</i>	<i>102.06</i>	<i>102.29</i>	92.30	<i>97.63</i>	<i>101.25</i>
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	-0.43	-1.68	0.49	0.89	0.48	0.49	<i>-0.15</i>	<i>0.46</i>	<i>0.01</i>	<i>-0.57</i>	<i>0.03</i>	<i>0.42</i>	-0.18	<i>0.32</i>	<i>-0.02</i>
Other OECD	-0.51	-1.16	0.04	0.69	0.76	0.16	<i>0.38</i>	<i>-0.05</i>	<i>-0.15</i>	<i>0.02</i>	<i>-0.17</i>	<i>-0.36</i>	-0.23	<i>0.31</i>	<i>-0.16</i>
Other Stock Draws and Balance	-4.17	-4.62	1.80	1.06	0.64	1.15	<i>0.80</i>	<i>-0.10</i>	<i>-0.32</i>	<i>0.05</i>	<i>-0.37</i>	<i>-0.78</i>	-1.47	<i>0.62</i>	<i>-0.36</i>
Total Stock Draw	-5.10	-7.46	2.32	2.63	1.87	1.80	<i>1.03</i>	<i>0.31</i>	<i>-0.45</i>	<i>-0.50</i>	<i>-0.51</i>	<i>-0.71</i>	-1.88	<i>1.25</i>	<i>-0.55</i>
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,321	1,453	1,422	1,344	1,302	1,274	<i>1,287</i>	<i>1,250</i>	<i>1,253</i>	<i>1,309</i>	<i>1,309</i>	<i>1,279</i>	1,344	<i>1,250</i>	<i>1,279</i>
OECD Commercial Inventory	2,964	3,201	3,167	3,026	2,916	2,873	<i>2,852</i>	<i>2,819</i>	<i>2,835</i>	<i>2,889</i>	<i>2,904</i>	<i>2,908</i>	3,026	<i>2,819</i>	<i>2,908</i>

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

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

 (c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly*,

DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

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

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

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	27.93	24.29	25.14	25.73	25.18	26.39	<i>26.56</i>	<i>26.78</i>	<i>27.00</i>	<i>27.36</i>	<i>27.80</i>	<i>28.10</i>	25.77	<i>26.23</i>	<i>27.57</i>
Canada	5.64	4.91	4.94	5.55	5.63	5.41	<i>5.63</i>	<i>5.78</i>	<i>5.81</i>	<i>5.78</i>	<i>5.81</i>	<i>5.83</i>	5.26	<i>5.61</i>	<i>5.81</i>
Mexico	2.00	1.94	1.91	1.90	1.93	1.95	<i>1.93</i>	<i>1.89</i>	<i>1.84</i>	<i>1.80</i>	<i>1.77</i>	<i>1.73</i>	1.94	<i>1.92</i>	<i>1.78</i>
United States	20.28	17.44	18.29	18.28	17.62	19.03	<i>19.00</i>	<i>19.11</i>	<i>19.35</i>	<i>19.78</i>	<i>20.23</i>	<i>20.53</i>	18.57	<i>18.69</i>	<i>19.98</i>
Central and South America	6.01	6.05	6.63	5.89	5.61	6.27	<i>6.93</i>	<i>6.63</i>	<i>6.11</i>	<i>6.83</i>	<i>7.35</i>	<i>7.02</i>	6.15	<i>6.37</i>	<i>6.83</i>
Argentina	0.69	0.60	0.64	0.62	0.63	0.66	<i>0.70</i>	<i>0.69</i>	<i>0.71</i>	<i>0.72</i>	<i>0.75</i>	<i>0.73</i>	0.64	<i>0.67</i>	<i>0.73</i>
Brazil	3.44	3.89	4.29	3.52	3.23	3.92	<i>4.48</i>	<i>4.15</i>	<i>3.54</i>	<i>4.37</i>	<i>4.76</i>	<i>4.29</i>	3.79	<i>3.95</i>	<i>4.24</i>
Colombia	0.90	0.78	0.77	0.79	0.77	0.75	<i>0.74</i>	<i>0.78</i>	<i>0.84</i>	<i>0.72</i>	<i>0.71</i>	<i>0.78</i>	0.81	<i>0.76</i>	<i>0.76</i>
Ecuador	0.54	0.36	0.52	0.51	0.51	0.50	<i>0.52</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	0.48	<i>0.51</i>	<i>0.53</i>
Other Central and S. America	0.45	0.42	0.41	0.45	0.47	0.44	<i>0.49</i>	<i>0.49</i>	<i>0.49</i>	<i>0.50</i>	<i>0.59</i>	<i>0.69</i>	0.43	<i>0.47</i>	<i>0.57</i>
Europe	4.44	4.35	4.16	4.29	4.35	3.94	<i>4.34</i>	<i>4.50</i>	<i>4.51</i>	<i>4.44</i>	<i>4.37</i>	<i>4.60</i>	4.31	<i>4.28</i>	<i>4.48</i>
Norway	2.05	2.00	1.96	2.02	2.11	1.91	<i>2.08</i>	<i>2.21</i>	<i>2.23</i>	<i>2.18</i>	<i>2.20</i>	<i>2.32</i>	2.01	<i>2.08</i>	<i>2.23</i>
United Kingdom	1.17	1.16	0.99	1.06	1.05	0.82	<i>1.06</i>	<i>1.07</i>	<i>1.07</i>	<i>1.06</i>	<i>0.95</i>	<i>1.05</i>	1.10	<i>1.00</i>	<i>1.03</i>
Eurasia	14.73	13.18	12.72	13.13	13.38	13.63	<i>13.79</i>	<i>14.23</i>	<i>14.45</i>	<i>14.66</i>	<i>14.77</i>	<i>14.97</i>	13.44	<i>13.76</i>	<i>14.71</i>
Azerbaijan	0.76	0.69	0.66	0.69	0.74	0.70	<i>0.70</i>	<i>0.76</i>	<i>0.79</i>	<i>0.78</i>	<i>0.75</i>	<i>0.78</i>	0.70	<i>0.72</i>	<i>0.78</i>
Kazakhstan	2.06	1.86	1.71	1.81	1.87	1.86	<i>1.86</i>	<i>1.95</i>	<i>1.99</i>	<i>1.99</i>	<i>1.95</i>	<i>2.00</i>	1.86	<i>1.88</i>	<i>1.98</i>
Russia	11.54	10.25	9.97	10.26	10.43	10.72	<i>10.86</i>	<i>11.14</i>	<i>11.30</i>	<i>11.51</i>	<i>11.69</i>	<i>11.80</i>	10.50	<i>10.79</i>	<i>11.57</i>
Turkmenistan	0.25	0.25	0.25	0.25	0.24	0.24	<i>0.24</i>	<i>0.24</i>	<i>0.23</i>	<i>0.23</i>	<i>0.23</i>	<i>0.23</i>	0.25	<i>0.24</i>	<i>0.23</i>
Other Eurasia	0.12	0.12	0.12	0.12	0.10	0.11	<i>0.12</i>	<i>0.14</i>	<i>0.15</i>	<i>0.16</i>	<i>0.16</i>	<i>0.15</i>	0.12	<i>0.12</i>	<i>0.16</i>
Middle East	3.16	3.13	3.09	3.13	3.15	3.17	<i>3.19</i>	<i>3.22</i>	<i>3.26</i>	<i>3.26</i>	<i>3.26</i>	<i>3.25</i>	3.13	<i>3.18</i>	<i>3.26</i>
Oman	1.01	0.95	0.92	0.95	0.96	0.97	<i>0.99</i>	<i>1.02</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	0.96	<i>0.98</i>	<i>1.03</i>
Qatar	1.84	1.87	1.88	1.88	1.89	1.91	<i>1.92</i>	<i>1.92</i>	<i>1.94</i>	<i>1.94</i>	<i>1.94</i>	<i>1.94</i>	1.87	<i>1.91</i>	<i>1.94</i>
Asia and Oceania	9.44	9.15	9.21	9.17	9.28	9.33	<i>9.33</i>	<i>9.37</i>	<i>9.36</i>	<i>9.36</i>	<i>9.34</i>	<i>9.35</i>	9.24	<i>9.33</i>	<i>9.35</i>
Australia	0.49	0.50	0.50	0.49	0.47	0.47	<i>0.51</i>	<i>0.51</i>	<i>0.51</i>	<i>0.51</i>	<i>0.51</i>	<i>0.50</i>	0.49	<i>0.49</i>	<i>0.51</i>
China	4.96	4.91	4.95	4.90	5.05	5.09	<i>5.01</i>	<i>5.06</i>	<i>5.05</i>	<i>5.08</i>	<i>5.08</i>	<i>5.13</i>	4.93	<i>5.05</i>	<i>5.08</i>
India	0.96	0.90	0.92	0.92	0.92	0.91	<i>0.92</i>	<i>0.91</i>	<i>0.91</i>	<i>0.90</i>	<i>0.90</i>	<i>0.89</i>	0.92	<i>0.91</i>	<i>0.90</i>
Indonesia	0.91	0.89	0.87	0.88	0.84	0.87	<i>0.88</i>	<i>0.87</i>	<i>0.87</i>	<i>0.86</i>	<i>0.85</i>	<i>0.84</i>	0.89	<i>0.86</i>	<i>0.85</i>
Malaysia	0.71	0.60	0.63	0.64	0.65	0.62	<i>0.64</i>	<i>0.65</i>	<i>0.64</i>	<i>0.63</i>	<i>0.62</i>	<i>0.61</i>	0.65	<i>0.64</i>	<i>0.63</i>
Vietnam	0.25	0.24	0.23	0.23	0.23	0.23	<i>0.23</i>	<i>0.22</i>	<i>0.22</i>	<i>0.22</i>	<i>0.21</i>	<i>0.21</i>	0.23	<i>0.23</i>	<i>0.22</i>
Africa	1.48	1.44	1.42	1.40	1.41	1.40	<i>1.42</i>	<i>1.43</i>	<i>1.40</i>	<i>1.40</i>	<i>1.39</i>	<i>1.39</i>	1.43	<i>1.41</i>	<i>1.39</i>
Egypt	0.62	0.61	0.60	0.58	0.58	0.61	<i>0.64</i>	<i>0.64</i>	<i>0.61</i>	<i>0.61</i>	<i>0.61</i>	<i>0.61</i>	0.60	<i>0.62</i>	<i>0.61</i>
South Sudan	0.15	0.15	0.17	0.17	0.16	0.16	<i>0.17</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	0.16	<i>0.17</i>	<i>0.18</i>
Total non-OPEC liquids	67.19	61.58	62.36	62.75	62.35	64.14	<i>65.57</i>	<i>66.15</i>	<i>66.10</i>	<i>67.32</i>	<i>68.29</i>	<i>68.69</i>	63.46	<i>64.57</i>	<i>67.61</i>
OPEC non-crude liquids	5.22	5.07	5.02	5.12	5.29	5.28	<i>5.36</i>	<i>5.43</i>	<i>5.59</i>	<i>5.47</i>	<i>5.52</i>	<i>5.56</i>	5.11	<i>5.34</i>	<i>5.53</i>
Non-OPEC + OPEC non-crude	72.41	66.65	67.38	67.87	67.64	69.41	<i>70.94</i>	<i>71.59</i>	<i>71.69</i>	<i>72.79</i>	<i>73.81</i>	<i>74.24</i>	68.57	<i>69.91</i>	<i>73.14</i>
Unplanned non-OPEC Production Outages	0.18	0.92	0.72	0.55	0.68	0.32	-	-	-	-	-	-	0.59	-	-

- = 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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Crude Oil															
Algeria	1.02	0.90	0.84	0.86	0.87	0.88	-	-	-	-	-	-	0.90	-	-
Angola	1.35	1.27	1.19	1.13	1.11	1.08	-	-	-	-	-	-	1.23	-	-
Congo (Brazzaville)	0.29	0.29	0.28	0.26	0.28	0.27	-	-	-	-	-	-	0.28	-	-
Equatorial Guinea	0.13	0.12	0.11	0.11	0.11	0.12	-	-	-	-	-	-	0.11	-	-
Gabon	0.19	0.18	0.15	0.17	0.16	0.17	-	-	-	-	-	-	0.17	-	-
Iran	2.02	1.97	1.90	1.95	2.18	2.47	-	-	-	-	-	-	1.96	-	-
Iraq	4.56	4.16	3.70	3.84	3.94	3.98	-	-	-	-	-	-	4.06	-	-
Kuwait	2.77	2.48	2.25	2.30	2.33	2.36	-	-	-	-	-	-	2.45	-	-
Libya	0.35	0.08	0.11	0.92	1.18	1.16	-	-	-	-	-	-	0.36	-	-
Nigeria	1.72	1.55	1.44	1.44	1.31	1.32	-	-	-	-	-	-	1.54	-	-
Saudi Arabia	9.80	9.28	8.77	9.01	8.49	8.53	-	-	-	-	-	-	9.21	-	-
United Arab Emirates	3.30	2.88	2.55	2.50	2.61	2.65	-	-	-	-	-	-	2.81	-	-
Venezuela	0.77	0.50	0.35	0.40	0.52	0.53	-	-	-	-	-	-	0.50	-	-
OPEC Total	28.28	25.65	23.63	24.88	25.08	25.51	27.10	28.16	28.43	28.65	28.76	28.76	25.60	26.47	28.65
Other Liquids (a)	5.22	5.07	5.02	5.12	5.29	5.28	<i>5.36</i>	<i>5.43</i>	<i>5.59</i>	<i>5.47</i>	<i>5.52</i>	<i>5.56</i>	5.11	<i>5.34</i>	<i>5.53</i>
Total OPEC Supply	33.50	30.72	28.65	30.00	30.37	30.78	<i>32.46</i>	<i>33.59</i>	<i>34.03</i>	<i>34.11</i>	<i>34.28</i>	<i>34.32</i>	30.71	<i>31.81</i>	<i>34.18</i>
Crude Oil Production Capacity															
Middle East	25.61	26.02	26.06	26.22	26.55	26.85	26.98	27.28	27.38	27.39	27.39	27.39	25.98	26.92	27.39
Other	5.82	5.60	5.48	6.33	6.73	6.71	6.57	5.95	5.88	5.90	5.91	5.91	5.81	6.49	5.90
OPEC Total	31.43	31.63	31.54	32.56	33.28	33.56	33.55	33.23	33.27	33.28	33.30	33.31	31.79	33.40	33.29
Surplus Crude Oil Production Capacity															
Middle East	3.15	5.27	6.90	6.62	7.00	6.87	5.60	4.99	4.76	4.57	4.47	4.47	5.49	6.11	4.57
Other	0.00	0.71	1.02	1.06	1.19	1.18	0.85	0.08	0.07	0.07	0.07	0.07	0.70	0.83	0.07
OPEC Total	3.15	5.98	7.92	7.68	8.19	8.06	6.45	5.07	4.83	4.64	4.54	4.55	6.19	6.93	4.64
Unplanned OPEC Production Outages	3.72	4.18	4.35	3.45	2.73	2.38	-	-	-	-	-	-	3.92	-	-

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				2020	2021	2022
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	23.64	19.44	22.12	22.45	22.21	23.90	<i>24.36</i>	<i>24.33</i>	<i>23.98</i>	<i>24.63</i>	<i>25.10</i>	<i>25.01</i>	21.91	<i>23.70</i>	<i>24.68</i>
Canada	2.33	1.88	2.16	2.05	2.03	2.06	<i>2.29</i>	<i>2.31</i>	<i>2.27</i>	<i>2.23</i>	<i>2.33</i>	<i>2.31</i>	2.10	<i>2.17</i>	<i>2.28</i>
Mexico	1.97	1.48	1.59	1.68	1.72	1.80	<i>1.88</i>	<i>1.89</i>	<i>1.82</i>	<i>1.84</i>	<i>1.83</i>	<i>1.85</i>	1.68	<i>1.82</i>	<i>1.84</i>
United States	19.33	16.08	18.36	18.71	18.45	20.02	<i>20.18</i>	<i>20.12</i>	<i>19.88</i>	<i>20.55</i>	<i>20.93</i>	<i>20.85</i>	18.12	<i>19.70</i>	<i>20.56</i>
Central and South America	6.14	5.61	6.04	6.32	6.19	6.33	<i>6.56</i>	<i>6.60</i>	<i>6.40</i>	<i>6.57</i>	<i>6.72</i>	<i>6.73</i>	6.03	<i>6.42</i>	<i>6.61</i>
Brazil	2.89	2.67	2.97	3.06	2.97	3.08	<i>3.22</i>	<i>3.23</i>	<i>3.06</i>	<i>3.16</i>	<i>3.27</i>	<i>3.28</i>	2.90	<i>3.13</i>	<i>3.19</i>
Europe	14.04	11.69	13.58	13.22	12.61	13.45	<i>14.50</i>	<i>14.33</i>	<i>13.93</i>	<i>14.07</i>	<i>14.43</i>	<i>14.12</i>	13.13	<i>13.73</i>	<i>14.14</i>
Eurasia	4.86	4.48	5.28	5.17	4.91	4.99	<i>5.39</i>	<i>5.24</i>	<i>5.04</i>	<i>5.13</i>	<i>5.53</i>	<i>5.39</i>	4.95	<i>5.14</i>	<i>5.27</i>
Russia	3.65	3.33	4.04	3.92	3.70	3.81	<i>4.14</i>	<i>3.98</i>	<i>3.80</i>	<i>3.91</i>	<i>4.25</i>	<i>4.10</i>	3.74	<i>3.91</i>	<i>4.02</i>
Middle East	7.91	7.43	8.44	8.06	7.81	8.22	<i>8.82</i>	<i>8.31</i>	<i>8.04</i>	<i>8.62</i>	<i>9.02</i>	<i>8.38</i>	7.96	<i>8.29</i>	<i>8.52</i>
Asia and Oceania	34.84	32.13	33.79	35.87	36.55	35.48	<i>35.18</i>	<i>36.78</i>	<i>37.80</i>	<i>37.42</i>	<i>36.85</i>	<i>38.06</i>	34.16	<i>36.00</i>	<i>37.53</i>
China	13.89	14.08	14.65	15.11	15.26	15.46	<i>15.17</i>	<i>15.39</i>	<i>15.81</i>	<i>16.06</i>	<i>15.77</i>	<i>16.05</i>	14.43	<i>15.32</i>	<i>15.92</i>
Japan	3.69	2.89	3.03	3.50	3.69	2.96	<i>3.04</i>	<i>3.42</i>	<i>3.63</i>	<i>2.96</i>	<i>3.05</i>	<i>3.36</i>	3.27	<i>3.27</i>	<i>3.25</i>
India	4.83	3.76	4.17	4.93	5.00	4.45	<i>4.50</i>	<i>4.89</i>	<i>5.16</i>	<i>5.23</i>	<i>4.88</i>	<i>5.19</i>	4.42	<i>4.71</i>	<i>5.11</i>
Africa	4.18	4.05	4.07	4.29	4.33	4.35	<i>4.25</i>	<i>4.47</i>	<i>4.48</i>	<i>4.49</i>	<i>4.41</i>	<i>4.60</i>	4.15	<i>4.35</i>	<i>4.50</i>
Total OECD Liquid Fuels Consumption	45.26	37.39	42.12	42.79	42.24	43.89	<i>45.51</i>	<i>45.99</i>	<i>45.47</i>	<i>45.39</i>	<i>46.34</i>	<i>46.43</i>	41.89	<i>44.42</i>	<i>45.91</i>
Total non-OECD Liquid Fuels Consumption	50.33	47.44	51.21	52.59	52.36	52.82	<i>53.55</i>	<i>54.07</i>	<i>54.20</i>	<i>55.54</i>	<i>55.71</i>	<i>55.86</i>	50.40	<i>53.21</i>	<i>55.34</i>
Total World Liquid Fuels Consumption	95.59	84.84	93.33	95.38	94.60	96.71	<i>99.06</i>	<i>100.06</i>	<i>99.67</i>	<i>100.93</i>	<i>102.06</i>	<i>102.29</i>	92.30	<i>97.63</i>	<i>101.25</i>
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	110.3	107.6	112.4	113.5	115.9	117.2	<i>118.6</i>	<i>119.6</i>	<i>122.5</i>	<i>123.2</i>	<i>123.8</i>	<i>124.3</i>	111.0	<i>117.8</i>	<i>123.5</i>
Percent change from prior year	-3.4	-6.1	-2.4	-1.7	5.1	8.9	<i>5.5</i>	<i>5.4</i>	<i>5.7</i>	<i>5.1</i>	<i>4.4</i>	<i>4.0</i>	-3.4	<i>6.2</i>	<i>4.8</i>
OECD Index, 2015 = 100	103.6	109.5	114.0	116.0	116.0	123.5	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	103.6	<i>109.5</i>	<i>114.0</i>
Percent change from prior year	-4.8	5.7	4.1	4.1	4.1	4.1	<i>4.1</i>	<i>4.1</i>	<i>4.1</i>	<i>4.1</i>	<i>4.1</i>	<i>4.1</i>	-4.8	<i>5.7</i>	<i>4.1</i>
Non-OECD Index, 2015 = 100	116.0	123.5	130.0	130.0	130.0	130.0	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	<i>130.0</i>	116.0	<i>123.5</i>	<i>130.0</i>
Percent change from prior year	-2.3	6.4	5.3	5.3	5.3	5.3	<i>5.3</i>	<i>5.3</i>	<i>5.3</i>	<i>5.3</i>	<i>5.3</i>	<i>5.3</i>	-2.3	<i>6.4</i>	<i>5.3</i>
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	111.7	115.9	111.5	108.3	106.8	106.3	<i>107.3</i>	<i>107.7</i>	<i>108.0</i>	<i>108.1</i>	<i>108.0</i>	<i>107.9</i>	111.9	<i>107.0</i>	<i>108.0</i>
Percent change from prior year	2.8	5.8	0.9	-1.9	-4.4	-8.3	<i>-3.8</i>	<i>-0.5</i>	<i>1.2</i>	<i>1.7</i>	<i>0.7</i>	<i>0.2</i>	1.9	<i>-4.3</i>	<i>0.9</i>

(a) GDP values for the individual countries in the indexes are converted to U.S. dollars at purchasing power parity and then summed to create values for the world, OECD, and non-OECD. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

(b) Data source is the Board of Governors of the U.S. Federal Reserve System Nominal Broad Trade-Weighted Dollar Index. An increase in the index indicates an appreciation of the U.S. dollar against a basket of currencies and a decrease in the index indicates a depreciation of the U.S. dollar against a basket of currencies. Historical and forecast data are from Oxford Economics, and quarterly values are reindexed to 2015 Q1 by EIA.

- = no data available

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

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
 U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
HGL Production															
Natural Gas Processing Plants															
Ethane	1.93	1.92	2.14	2.06	1.87	2.17	2.06	2.21	2.33	2.45	2.50	2.57	2.01	2.08	2.47
Propane	1.72	1.61	1.68	1.70	1.62	1.74	1.74	1.74	1.73	1.74	1.78	1.79	1.68	1.71	1.76
Butanes	0.91	0.86	0.90	0.89	0.85	0.92	0.93	0.92	0.92	0.93	0.95	0.95	0.89	0.91	0.94
Natural Gasoline (Pentanes Plus)	0.56	0.57	0.62	0.58	0.53	0.60	0.62	0.59	0.57	0.60	0.63	0.61	0.58	0.59	0.60
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01
Propane	0.29	0.24	0.27	0.27	0.25	0.30	0.31	0.31	0.30	0.30	0.32	0.31	0.26	0.29	0.31
Propylene (refinery-grade)	0.25	0.26	0.26	0.29	0.27	0.30	0.28	0.28	0.28	0.29	0.28	0.28	0.26	0.28	0.28
Butanes/Butylenes	-0.08	0.18	0.13	-0.19	-0.09	0.24	0.20	-0.19	-0.08	0.26	0.19	-0.19	0.01	0.04	0.05
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
HGL Net Imports															
Ethane	-0.30	-0.28	-0.27	-0.28	-0.35	-0.40	-0.38	-0.38	-0.43	-0.45	-0.45	-0.46	-0.28	-0.37	-0.45
Propane/Propylene	-1.12	-1.08	-1.08	-1.29	-1.11	-1.22	-1.23	-1.17	-1.12	-1.18	-1.28	-1.20	-1.14	-1.18	-1.19
Butanes/Butylenes	-0.30	-0.31	-0.36	-0.33	-0.35	-0.42	-0.42	-0.37	-0.38	-0.42	-0.42	-0.38	-0.32	-0.39	-0.40
Natural Gasoline (Pentanes Plus)	-0.27	-0.19	-0.16	-0.14	-0.22	-0.21	-0.21	-0.19	-0.20	-0.18	-0.19	-0.17	-0.19	-0.21	-0.19
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.46	0.25	0.32	0.47	0.39	0.28	0.31	0.48	0.39	0.29	0.33	0.50	0.37	0.37	0.38
Natural Gasoline (Pentanes Plus)	0.15	0.10	0.15	0.13	0.14	0.16	0.17	0.16	0.17	0.18	0.18	0.18	0.13	0.16	0.18
HGL Consumption															
Ethane/Ethylene	1.70	1.65	1.66	1.81	1.54	1.82	1.67	1.86	1.99	2.01	2.05	2.10	1.70	1.72	2.04
Propane	1.09	0.59	0.58	0.99	1.09	0.61	0.60	1.02	1.13	0.59	0.56	1.04	0.81	0.83	0.83
Propylene (refinery-grade)	0.26	0.27	0.27	0.30	0.29	0.32	0.29	0.29	0.30	0.30	0.30	0.30	0.28	0.30	0.30
Butanes/Butylenes	0.17	0.20	0.17	0.24	0.22	0.25	0.20	0.20	0.18	0.22	0.20	0.20	0.20	0.22	0.20
Natural Gasoline (Pentanes Plus)	0.09	0.13	0.26	0.35	0.26	0.22	0.23	0.24	0.21	0.21	0.23	0.24	0.21	0.24	0.22
HGL Inventories (million barrels)															
Ethane	52.6	49.5	62.5	74.9	65.8	67.2	65.4	66.3	58.2	57.5	56.6	59.5	59.9	66.2	57.9
Propane	60.3	75.3	100.7	70.4	39.3	56.8	75.7	60.7	39.8	63.6	85.8	72.4	70.4	60.7	72.4
Propylene (at refineries only)	1.4	1.5	1.5	1.5	1.1	1.2	1.7	1.7	1.6	1.8	2.0	1.9	1.5	1.7	1.9
Butanes/Butylenes	43.6	69.3	86.0	54.7	37.2	56.7	74.4	45.6	35.7	60.1	77.8	48.7	54.7	45.6	48.7
Natural Gasoline (Pentanes Plus)	24.0	35.7	38.6	32.9	22.8	22.4	22.1	20.9	18.4	19.6	20.5	19.8	32.9	20.9	19.8
Refinery and Blender Net Inputs															
Crude Oil	15.77	13.16	14.03	13.90	13.81	15.65	15.68	15.10	15.11	16.57	17.25	16.13	14.21	15.06	16.27
Hydrocarbon Gas Liquids	0.61	0.35	0.47	0.60	0.53	0.44	0.48	0.65	0.55	0.47	0.51	0.69	0.51	0.52	0.55
Other Hydrocarbons/Oxygenates	1.12	0.95	1.11	1.08	1.05	1.18	1.19	1.15	1.12	1.21	1.21	1.18	1.06	1.14	1.18
Unfinished Oils	0.05	0.23	0.44	0.20	-0.08	0.28	0.39	0.37	0.09	0.28	0.31	0.27	0.23	0.24	0.24
Motor Gasoline Blend Components	0.41	0.48	0.85	0.46	0.71	0.93	0.77	0.26	0.56	0.81	0.65	0.30	0.55	0.67	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	17.97	15.17	16.90	16.23	16.01	18.47	18.51	17.53	17.44	19.33	19.93	18.57	16.57	17.64	18.82
Refinery Processing Gain	1.02	0.82	0.94	0.92	0.84	1.03	1.07	1.04	1.06	1.09	1.15	1.13	0.92	1.00	1.11
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.47	0.69	0.67	0.36	0.44	0.85	0.79	0.40	0.50	0.86	0.80	0.41	0.55	0.62	0.64
Finished Motor Gasoline	9.30	7.52	9.14	8.98	8.74	9.85	9.78	9.52	9.29	9.91	10.08	9.79	8.74	9.48	9.77
Jet Fuel	1.63	0.62	0.83	1.00	1.10	1.31	1.43	1.37	1.50	1.62	1.71	1.57	1.02	1.30	1.60
Distillate Fuel	4.95	4.83	4.72	4.46	4.29	4.77	4.71	4.62	4.61	5.15	5.46	5.22	4.74	4.60	5.11
Residual Fuel	0.23	0.18	0.19	0.15	0.19	0.20	0.25	0.21	0.26	0.29	0.30	0.23	0.19	0.21	0.27
Other Oils (a)	2.41	2.14	2.28	2.19	2.09	2.53	2.61	2.44	2.33	2.60	2.74	2.49	2.26	2.42	2.54
Total Refinery and Blender Net Production	18.99	15.99	17.84	17.15	16.86	19.51	19.58	18.57	18.50	20.42	21.08	19.70	17.49	18.63	19.93
Refinery Distillation Inputs	16.36	13.65	14.55	14.32	14.25	16.16	16.14	15.51	15.47	16.76	17.44	16.41	14.72	15.52	16.52
Refinery Operable Distillation Capacity	18.98	18.75	18.55	18.39	18.11	18.13	18.13	18.13	18.13	18.13	18.13	18.13	18.66	18.12	18.13
Refinery Distillation Utilization Factor	0.86	0.73	0.78	0.78	0.79	0.89	0.89	0.86	0.85	0.92	0.96	0.91	0.79	0.86	0.91

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

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Prices (cents per gallon)															
Refiner Wholesale Price	153	104	137	133	180	217	224	202	190	202	198	182	133	207	193
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	236	191	211	212	252	287	296	277	260	270	271	255	214	279	264
PADD 2	226	179	207	202	247	288	296	266	244	269	263	245	204	275	256
PADD 3	210	162	186	183	228	268	274	251	239	250	246	230	187	257	241
PADD 4	247	201	233	221	247	311	345	293	271	287	287	268	226	300	279
PADD 5	311	258	283	278	312	366	379	349	343	356	344	347	284	353	347
U.S. Average	241	194	218	215	256	297	308	282	267	282	278	264	218	287	273
Gasoline All Grades Including Taxes	251	203	227	224	265	306	318	295	280	295	291	278	227	297	286
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	71.0	73.0	61.6	68.5	65.1	69.0	58.6	59.7	65.3	68.1	63.3	68.9	68.5	59.7	68.9
PADD 2	60.2	52.6	46.2	50.9	50.7	51.0	49.5	50.0	53.4	52.2	50.4	51.0	50.9	50.0	51.0
PADD 3	84.8	90.5	79.7	83.7	81.9	80.5	81.1	85.4	85.1	88.7	82.8	89.6	83.7	85.4	89.6
PADD 4	9.2	7.7	7.6	8.7	8.6	6.0	7.0	7.9	7.9	7.9	7.4	8.1	8.7	7.9	8.1
PADD 5	35.6	29.4	31.5	31.4	31.4	28.9	29.8	31.2	30.1	29.5	29.4	31.7	31.4	31.2	31.7
U.S. Total	260.8	253.3	226.5	243.2	237.6	235.5	226.1	234.2	241.7	246.4	233.3	249.4	243.2	234.2	249.4
Finished Gasoline Inventories															
U.S. Total	22.6	23.5	22.4	25.3	20.3	20.5	22.2	24.4	24.1	23.9	23.1	26.2	25.3	24.4	26.2
Gasoline Blending Components Inventories															
U.S. Total	238.3	229.8	204.1	217.9	217.4	215.0	203.9	209.8	217.6	222.5	210.3	223.2	217.9	209.8	223.2

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (billion cubic feet per day)															
Total Marketed Production	102.27	96.83	97.55	98.70	97.31	100.36	<i>100.53</i>	<i>101.00</i>	<i>101.26</i>	<i>102.14</i>	<i>103.61</i>	<i>104.65</i>	98.83	<i>99.81</i>	<i>102.92</i>
Alaska	0.96	0.88	0.88	0.98	1.02	0.90	<i>0.74</i>	<i>0.88</i>	<i>0.92</i>	<i>0.81</i>	<i>0.73</i>	<i>0.87</i>	0.92	<i>0.88</i>	<i>0.83</i>
Federal GOM (a)	2.72	2.22	1.72	1.73	2.27	2.23	<i>2.19</i>	<i>2.09</i>	<i>2.09</i>	<i>2.01</i>	<i>1.90</i>	<i>1.87</i>	2.09	<i>2.19</i>	<i>1.97</i>
Lower 48 States (excl GOM)	98.58	93.74	94.95	95.99	94.03	97.23	<i>97.61</i>	<i>98.03</i>	<i>98.25</i>	<i>99.32</i>	<i>100.98</i>	<i>101.91</i>	95.81	<i>96.74</i>	<i>100.12</i>
Total Dry Gas Production	94.79	89.68	89.83	91.15	90.29	92.49	<i>92.67</i>	<i>93.11</i>	<i>93.34</i>	<i>94.15</i>	<i>95.51</i>	<i>96.47</i>	91.35	<i>92.15</i>	<i>94.88</i>
LNG Gross Imports	0.24	0.12	0.09	0.09	0.15	0.08	<i>0.18</i>	<i>0.20</i>	<i>0.32</i>	<i>0.18</i>	<i>0.18</i>	<i>0.20</i>	0.13	<i>0.15</i>	<i>0.22</i>
LNG Gross Exports	7.92	5.52	3.91	8.78	9.27	9.84	<i>8.99</i>	<i>9.83</i>	<i>10.47</i>	<i>9.73</i>	<i>9.41</i>	<i>11.00</i>	6.53	<i>9.48</i>	<i>10.15</i>
Pipeline Gross Imports	7.60	6.08	6.39	7.27	8.68	6.67	<i>6.71</i>	<i>6.84</i>	<i>7.38</i>	<i>6.36</i>	<i>6.38</i>	<i>6.71</i>	6.84	<i>7.22</i>	<i>6.71</i>
Pipeline Gross Exports	8.15	7.17	8.09	8.21	8.31	8.50	<i>9.27</i>	<i>9.47</i>	<i>9.31</i>	<i>8.65</i>	<i>9.37</i>	<i>9.37</i>	7.91	<i>8.89</i>	<i>9.18</i>
Supplemental Gaseous Fuels	0.19	0.17	0.15	0.18	0.18	0.15	<i>0.17</i>	<i>0.17</i>	<i>0.17</i>	<i>0.17</i>	<i>0.18</i>	<i>0.18</i>	0.17	<i>0.17</i>	<i>0.17</i>
Net Inventory Withdrawals	12.74	-12.24	-7.68	5.36	17.19	-8.67	<i>-7.83</i>	<i>4.89</i>	<i>16.51</i>	<i>-10.64</i>	<i>-8.90</i>	<i>4.82</i>	-0.46	<i>1.34</i>	<i>0.39</i>
Total Supply	99.50	71.12	76.78	87.06	98.90	72.38	<i>73.65</i>	<i>85.89</i>	<i>97.95</i>	<i>71.85</i>	<i>74.56</i>	<i>88.00</i>	83.61	<i>82.65</i>	<i>83.04</i>
Balancing Item (b)	-0.19	-0.28	0.05	-0.98	0.27	-0.96	<i>-0.50</i>	<i>0.43</i>	<i>0.48</i>	<i>0.73</i>	<i>1.11</i>	<i>0.66</i>	-0.35	<i>-0.19</i>	<i>0.75</i>
Total Primary Supply	99.31	70.84	76.83	86.08	99.17	71.43	<i>73.15</i>	<i>86.33</i>	<i>98.42</i>	<i>72.58</i>	<i>75.67</i>	<i>88.66</i>	83.25	<i>82.46</i>	<i>83.78</i>
Consumption (billion cubic feet per day)															
Residential	22.83	8.20	3.82	16.00	25.59	7.36	<i>3.66</i>	<i>16.83</i>	<i>25.08</i>	<i>7.96</i>	<i>3.61</i>	<i>16.88</i>	12.70	<i>13.31</i>	<i>13.33</i>
Commercial	13.93	5.82	4.36	10.31	14.81	6.23	<i>4.75</i>	<i>10.93</i>	<i>14.91</i>	<i>6.25</i>	<i>4.70</i>	<i>10.84</i>	8.60	<i>9.16</i>	<i>9.15</i>
Industrial	24.65	20.62	21.15	23.83	24.05	21.67	<i>21.21</i>	<i>24.27</i>	<i>24.61</i>	<i>22.08</i>	<i>21.52</i>	<i>23.96</i>	22.56	<i>22.80</i>	<i>23.04</i>
Electric Power (c)	29.55	29.05	40.10	28.19	26.65	28.78	<i>36.08</i>	<i>26.40</i>	<i>25.51</i>	<i>28.76</i>	<i>38.13</i>	<i>28.80</i>	31.74	<i>29.49</i>	<i>30.33</i>
Lease and Plant Fuel	5.17	4.90	4.93	4.99	4.92	5.07	<i>5.08</i>	<i>5.11</i>	<i>5.12</i>	<i>5.16</i>	<i>5.24</i>	<i>5.29</i>	5.00	<i>5.05</i>	<i>5.20</i>
Pipeline and Distribution Use	3.02	2.15	2.33	2.61	3.01	2.17	<i>2.22</i>	<i>2.65</i>	<i>3.04</i>	<i>2.21</i>	<i>2.30</i>	<i>2.72</i>	2.53	<i>2.51</i>	<i>2.57</i>
Vehicle Use	0.16	0.10	0.13	0.13	0.14	0.15	<i>0.15</i>	<i>0.15</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	0.13	<i>0.15</i>	<i>0.16</i>
Total Consumption	99.31	70.84	76.83	86.08	99.17	71.43	<i>73.15</i>	<i>86.33</i>	<i>98.42</i>	<i>72.58</i>	<i>75.67</i>	<i>88.66</i>	83.25	<i>82.46</i>	<i>83.78</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	2,029	3,133	3,840	3,341	1,801	2,595	<i>3,315</i>	<i>2,865</i>	<i>1,379</i>	<i>2,347</i>	<i>3,166</i>	<i>2,722</i>	3,341	<i>2,865</i>	<i>2,722</i>
East Region (d)	385	655	890	763	313	519	<i>815</i>	<i>649</i>	<i>148</i>	<i>419</i>	<i>672</i>	<i>472</i>	763	<i>649</i>	<i>472</i>
Midwest Region (d)	471	747	1,053	918	395	634	<i>971</i>	<i>809</i>	<i>250</i>	<i>512</i>	<i>879</i>	<i>745</i>	918	<i>809</i>	<i>745</i>
South Central Region (d)	857	1,221	1,313	1,155	760	995	<i>1,038</i>	<i>990</i>	<i>684</i>	<i>938</i>	<i>1,023</i>	<i>956</i>	1,155	<i>990</i>	<i>956</i>
Mountain Region (d)	92	177	235	195	113	176	<i>196</i>	<i>153</i>	<i>99</i>	<i>153</i>	<i>221</i>	<i>203</i>	195	<i>153</i>	<i>203</i>
Pacific Region (d)	200	308	318	282	197	245	<i>267</i>	<i>236</i>	<i>170</i>	<i>297</i>	<i>342</i>	<i>318</i>	282	<i>236</i>	<i>318</i>
Alaska	23	25	31	28	23	26	<i>28</i>	<i>28</i>	<i>28</i>	<i>28</i>	<i>28</i>	<i>28</i>	28	<i>28</i>	<i>28</i>

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

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

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

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

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Wholesale/Spot															
Henry Hub Spot Price	1.98	1.77	2.07	2.63	3.70	3.06	3.85	3.59	3.52	3.07	3.09	3.11	2.11	3.55	3.20
Residential Retail															
New England	13.77	14.50	18.28	14.64	14.78	16.01	18.31	14.10	13.58	14.35	17.09	13.09	14.47	14.99	13.78
Middle Atlantic	10.77	11.85	17.85	11.77	10.41	13.30	17.53	11.50	10.38	12.52	17.11	11.15	11.76	11.54	11.38
E. N. Central	6.99	9.50	18.15	8.02	7.41	12.07	17.74	9.23	8.32	11.07	16.56	8.24	8.39	9.12	9.18
W. N. Central	6.85	9.89	17.26	8.66	7.59	11.32	17.75	9.84	8.51	11.24	17.14	9.11	8.48	9.23	9.55
S. Atlantic	12.12	15.52	24.15	14.20	12.10	17.58	23.64	13.29	11.77	16.70	22.71	12.51	14.23	13.99	13.46
E. S. Central	9.69	13.34	20.85	10.63	9.53	14.47	22.27	13.96	10.92	15.24	22.14	13.29	11.15	11.71	12.98
W. S. Central	8.52	14.22	20.83	11.67	9.32	14.80	20.87	12.24	9.32	14.72	20.39	11.43	11.40	11.86	11.66
Mountain	7.55	9.37	12.60	8.15	7.90	10.49	14.56	9.20	8.55	10.12	13.76	8.55	8.43	9.08	9.19
Pacific	13.41	14.47	14.50	13.70	14.28	15.01	15.28	14.05	14.10	14.67	15.32	14.21	13.82	14.46	14.38
U.S. Average	9.46	11.89	17.65	10.60	9.79	13.53	18.05	11.30	10.19	12.86	17.46	10.64	10.83	11.36	11.23
Commercial Retail															
New England	9.93	10.40	10.99	10.06	10.38	10.92	11.28	10.70	10.93	10.83	10.36	10.07	10.16	10.64	10.58
Middle Atlantic	7.91	7.00	6.78	7.53	7.87	7.95	7.40	7.92	8.22	7.89	7.30	7.70	7.50	7.84	7.89
E. N. Central	5.75	6.73	8.79	6.21	6.12	8.44	9.99	7.77	7.38	7.99	8.77	6.53	6.28	7.26	7.30
W. N. Central	5.43	6.53	8.12	6.55	6.38	7.62	9.40	7.81	7.53	7.83	8.89	6.97	6.14	7.22	7.49
S. Atlantic	8.51	9.21	9.55	8.88	8.79	9.70	10.35	9.43	8.99	9.55	9.61	8.47	8.87	9.32	9.00
E. S. Central	8.38	9.20	10.10	8.69	8.43	9.80	10.78	9.62	8.88	9.67	10.06	8.82	8.78	9.24	9.10
W. S. Central	5.99	7.18	8.13	7.46	7.01	8.23	9.32	8.58	7.60	7.89	8.13	7.30	6.92	7.96	7.64
Mountain	6.09	6.85	7.42	6.45	6.50	7.83	9.03	7.91	7.57	7.78	8.45	7.19	6.46	7.40	7.57
Pacific	9.58	9.30	9.59	9.70	10.50	10.30	10.54	9.87	9.68	9.40	9.71	9.25	9.57	10.28	9.50
U.S. Average	7.13	7.63	8.49	7.53	7.56	8.74	9.41	8.50	8.21	8.48	8.70	7.70	7.48	8.24	8.15
Industrial Retail															
New England	8.15	7.41	6.16	7.67	8.58	7.93	7.10	8.26	8.67	7.91	6.77	7.68	7.54	8.07	7.91
Middle Atlantic	7.43	6.76	7.00	7.61	7.70	7.47	7.78	8.00	8.35	7.86	7.59	7.92	7.28	7.77	8.05
E. N. Central	4.84	5.10	4.15	5.10	5.39	7.77	6.69	6.24	6.34	5.87	5.61	5.51	4.86	6.17	5.92
W. N. Central	3.97	3.30	3.15	4.13	5.20	4.37	4.99	5.50	5.60	4.68	4.43	4.86	3.68	5.05	4.94
S. Atlantic	4.15	3.70	3.72	4.56	5.05	4.71	5.53	5.71	5.72	4.87	4.70	4.91	4.06	5.25	5.09
E. S. Central	3.92	3.24	3.23	4.04	4.64	4.23	5.13	5.42	5.39	4.61	4.30	4.60	3.65	4.84	4.76
W. S. Central	2.19	1.92	2.19	2.89	5.75	3.20	4.09	3.84	3.71	3.26	3.27	3.28	2.31	4.15	3.38
Mountain	4.40	4.59	4.67	4.91	5.00	5.53	6.36	6.36	6.26	5.84	5.83	5.56	4.64	5.72	5.89
Pacific	7.46	6.28	6.18	7.23	8.30	7.13	7.39	7.49	7.44	6.78	6.89	6.86	6.86	7.58	7.01
U.S. Average	3.52	2.85	2.88	3.77	5.72	4.06	4.73	4.89	5.01	4.16	4.00	4.29	3.29	4.87	4.38

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Supply (million short tons)															
Production	149.2	116.2	135.9	134.1	140.3	152.3	158.1	156.7	157.9	144.8	150.7	147.1	535.3	607.4	600.6
Appalachia	39.8	29.5	33.9	35.5	40.8	38.1	40.7	41.0	43.1	41.9	37.7	38.5	138.7	160.6	161.1
Interior	25.8	20.0	23.2	21.8	25.0	25.3	27.0	27.3	28.7	26.9	27.5	27.1	90.7	104.5	110.2
Western	83.6	66.7	78.8	76.8	74.5	88.9	90.4	88.4	86.2	76.0	85.6	81.5	305.9	342.2	329.3
Primary Inventory Withdrawals	0.5	1.3	2.0	-0.9	0.3	1.7	2.4	-1.9	-1.2	-2.1	-0.9	-5.3	2.8	2.5	-9.4
Imports	1.3	1.1	1.3	1.3	1.1	1.5	1.4	1.2	0.9	0.9	1.1	1.1	5.1	5.2	4.1
Exports	20.0	14.8	15.3	19.1	20.7	21.3	21.9	25.9	32.3	22.3	22.4	28.6	69.1	89.7	105.6
Metallurgical Coal	11.7	9.0	10.2	11.3	10.3	10.6	13.0	13.9	17.6	13.1	14.6	15.8	42.1	47.9	61.1
Steam Coal	8.3	5.8	5.1	7.8	10.4	10.6	8.8	12.0	14.7	9.1	7.9	12.8	27.0	41.8	44.5
Total Primary Supply	131.0	103.9	123.9	115.4	121.0	134.3	139.9	130.1	125.4	121.4	128.6	114.4	474.2	525.3	489.7
Secondary Inventory Withdrawals	-16.6	-5.0	21.5	-3.3	21.3	-11.9	20.9	3.2	11.4	-14.4	17.9	2.0	-3.5	33.5	16.8
Waste Coal (a)	1.9	1.5	2.0	2.3	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	7.7	8.0	7.4
Total Supply	116.3	100.3	147.3	114.4	144.3	124.4	162.9	135.3	138.6	108.8	148.3	118.2	478.4	566.9	513.9
Consumption (million short tons)															
Coke Plants	4.3	3.5	3.2	3.5	4.4	5.1	4.3	4.6	6.1	5.1	4.6	5.1	14.4	18.4	20.9
Electric Power Sector (b)	97.9	87.2	139.3	112.1	128.1	108.5	151.6	123.4	125.1	96.7	136.7	105.9	436.5	511.7	464.5
Retail and Other Industry	7.4	5.7	6.1	7.2	6.8	6.9	6.9	7.3	7.3	7.0	7.0	7.2	26.4	27.9	28.5
Residential and Commercial	0.3	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	0.8	0.7
Other Industrial	7.1	5.6	5.9	7.0	6.6	6.7	6.8	7.0	7.2	6.9	6.8	7.0	25.6	27.1	27.8
Total Consumption	109.5	96.4	148.6	122.8	139.4	120.5	162.9	135.3	138.6	108.8	148.3	118.2	477.3	558.0	513.9
Discrepancy (c)	6.8	3.9	-1.2	-8.4	5.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8.9	0.0
End-of-period Inventories (million short tons)															
Primary Inventories (d)	30.8	29.5	27.5	28.5	28.1	26.4	24.0	25.9	27.2	29.2	30.1	35.4	28.5	25.9	35.4
Secondary Inventories	150.6	155.6	134.2	137.5	116.1	128.0	107.1	103.9	92.6	107.0	89.1	87.1	137.5	103.9	87.1
Electric Power Sector	145.2	150.4	129.1	132.7	111.8	122.3	101.3	98.3	87.1	101.2	83.2	81.4	132.7	98.3	81.4
Retail and General Industry	3.0	3.0	2.9	2.8	2.6	3.6	3.6	3.4	3.7	3.5	3.5	3.3	2.8	3.4	3.3
Coke Plants	2.1	2.0	2.0	1.7	1.5	2.0	2.1	2.0	1.7	2.1	2.3	2.2	1.7	2.0	2.2
Commercial & Institutional	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.37	6.37	6.37	6.37	6.32	6.32	6.32	6.32	6.30	6.30	6.30	6.30	6.37	6.32	6.30
Total Raw Steel Production															
(Million short tons per day)	0.268	0.174	0.197	0.224	0.246	0.258	0.282	0.325	0.320	0.280	0.276	0.286	0.216	0.278	0.290
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	1.93	1.91	1.93	1.92	1.91	1.88	1.89	1.86	1.89	1.88	1.84	1.82	1.92	1.89	1.86

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electricity Supply (billion kilowatthours)															
Electricity Generation	966	933	1,148	962	989	977	1,134	970	981	990	1,149	984	4,009	4,070	4,104
Electric Power Sector (a)	925	896	1,109	923	952	941	1,098	935	945	955	1,110	947	3,853	3,926	3,957
Industrial Sector (b)	38	34	36	36	34	33	32	32	32	32	35	34	143	131	134
Commercial Sector (b)	3	3	4	3	3	3	4	3	3	3	4	3	13	13	13
Net Imports	10	11	15	12	11	11	13	10	12	13	15	11	47	46	50
Total Supply	976	944	1,163	973	999	988	1,148	981	992	1,003	1,164	995	4,056	4,116	4,154
Losses and Unaccounted for (c)	53	67	71	63	53	65	54	55	45	67	57	55	254	227	225
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	887	844	1,057	876	914	891	1,062	895	916	904	1,072	907	3,664	3,762	3,799
Residential Sector	340	334	453	334	379	327	439	339	366	327	441	344	1,462	1,484	1,478
Commercial Sector	314	293	360	309	305	319	365	315	311	325	368	318	1,276	1,303	1,321
Industrial Sector	231	216	242	231	229	243	256	240	238	251	261	243	920	968	993
Transportation Sector	2	1	2	2	2	1	2	2	2	2	2	2	7	6	6
Direct Use (d)	36	33	35	34	33	32	32	31	32	31	34	33	138	127	131
Total Consumption	923	877	1,092	910	947	923	1,094	926	948	936	1,106	940	3,802	3,889	3,929
Average residential electricity usage per customer (kWh)	2,496	2,451	3,326	2,451	2,743	2,371	3,177	2,452	2,619	2,339	3,155	2,463	10,723	10,744	10,576
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	145.2	150.4	129.1	132.7	111.8	122.3	101.3	98.3	87.1	101.2	83.2	81.4	132.7	98.3	81.4
Residual Fuel (mmb)	8.3	8.5	8.2	8.3	8.0	7.9	8.2	8.5	7.9	7.9	7.9	8.3	8.3	8.5	8.3
Distillate Fuel (mmb)	16.5	16.5	17.0	16.8	15.9	15.6	15.6	15.9	15.7	15.6	15.6	15.9	16.8	15.9	15.9
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	1.93	1.91	1.93	1.92	1.91	1.88	1.89	1.86	1.89	1.88	1.84	1.82	1.92	1.89	1.86
Natural Gas	2.39	2.08	2.26	2.87	7.26	3.23	3.88	3.81	3.94	3.10	3.08	3.27	2.39	4.46	3.31
Residual Fuel Oil	12.15	6.65	8.85	8.90	11.28	12.85	13.09	12.92	12.94	13.29	12.34	11.82	9.15	12.50	12.59
Distillate Fuel Oil	13.27	8.39	10.37	10.54	13.59	15.79	16.51	16.49	16.05	15.79	15.45	15.20	10.73	15.36	15.67
Retail Prices (cents per kilowatthour)															
Residential Sector	12.90	13.24	13.35	13.25	13.09	13.71	13.84	13.70	13.61	14.01	13.92	13.73	13.20	13.59	13.82
Commercial Sector	10.33	10.63	10.97	10.62	11.11	11.06	11.48	11.08	11.46	11.33	11.62	11.14	10.65	11.19	11.39
Industrial Sector	6.38	6.63	7.08	6.53	7.15	6.88	7.15	6.58	6.94	6.83	7.13	6.57	6.66	6.94	6.88
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	23.41	24.03	34.12	26.41	616.34	39.74	26.67	21.96	26.23	27.17	27.85	25.59	26.99	176.17	26.71
CAISO SP15 zone	28.64	19.21	61.94	42.80	44.74	36.90	59.70	42.20	40.60	41.53	44.09	36.14	38.15	45.88	40.59
ISO-NE Internal hub	24.61	20.25	27.20	34.03	55.26	33.67	40.85	42.80	54.02	33.47	34.44	38.44	26.52	43.15	40.09
NYISO Hudson Valley zone	21.82	18.13	24.38	27.05	44.74	31.85	39.67	35.30	40.08	32.51	33.71	31.40	22.85	37.89	34.42
PJM Western hub	22.47	20.79	28.24	26.44	35.09	33.71	38.23	33.87	34.70	31.68	35.84	32.35	24.49	35.22	33.64
Midcontinent ISO Illinois hub	24.43	23.00	29.35	24.94	44.97	33.82	38.00	33.00	32.95	31.64	35.14	31.53	25.43	37.45	32.81
SPP ISO South hub	20.06	19.54	26.27	24.34	250.31	30.86	37.90	29.02	28.79	28.10	33.77	28.32	22.55	87.02	29.74
SERC index, Into Southern	23.58	18.23	23.47	25.21	41.10	32.93	35.18	31.60	31.10	29.94	32.60	29.26	22.62	35.20	30.72
FRCC index, Florida Reliability	26.24	18.53	23.75	25.39	27.73	32.17	35.37	31.37	31.24	29.22	29.20	28.94	23.48	31.66	29.65
Northwest index, Mid-Columbia	22.77	14.49	33.56	31.00	34.56	51.51	69.07	38.64	38.33	36.60	39.49	34.63	25.46	48.44	37.26
Southwest index, Palo Verde	22.07	19.60	80.81	36.10	41.72	46.57	60.79	34.79	34.42	34.64	36.58	31.88	39.64	45.97	34.38

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.

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

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

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

Historical data sources:

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

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7b. U.S. Regional Electricity Retail Sales (billion kilowatthours)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	11.7	10.9	14.6	11.0	12.9	10.8	13.8	11.2	12.5	10.4	13.3	11.1	48.2	48.7	47.2
Middle Atlantic	32.2	30.6	43.5	30.9	36.1	29.8	41.4	31.6	37.0	29.8	39.6	31.7	137.1	138.8	138.1
E. N. Central	46.4	43.7	56.5	43.4	50.2	42.7	54.4	44.9	48.4	41.6	53.5	45.5	190.0	192.2	189.0
W. N. Central	27.6	23.7	30.0	24.5	29.9	23.7	29.9	26.0	31.7	24.6	31.6	27.5	105.8	109.5	115.3
S. Atlantic	84.3	86.3	114.7	85.3	95.2	85.6	111.6	85.7	91.4	85.4	111.6	87.0	370.6	378.1	375.3
E. S. Central	29.0	26.0	37.2	26.6	33.8	25.4	37.0	27.4	32.6	25.9	37.7	27.8	118.8	123.5	124.0
W. S. Central	48.8	52.9	76.4	48.5	56.8	49.7	73.0	49.5	51.5	51.9	78.2	51.2	226.5	229.0	232.8
Mountain	22.5	25.7	36.2	24.0	23.7	26.2	34.0	23.9	23.0	24.7	33.8	24.1	108.4	107.8	105.6
Pacific contiguous	36.7	33.2	43.0	38.6	39.0	32.5	42.6	37.3	37.0	31.4	40.4	37.1	151.5	151.4	146.0
AK and HI	1.3	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.3	1.1	1.2	1.3	4.9	4.9	4.9
Total	340.3	334.1	453.4	334.1	378.9	327.5	438.9	338.7	366.1	326.9	441.0	344.3	1,462.0	1,484.0	1,478.3
Commercial Sector															
New England	12.3	10.6	13.2	11.4	11.7	11.3	12.8	11.4	11.7	11.2	12.7	11.4	47.5	47.3	47.0
Middle Atlantic	35.9	31.0	38.9	33.2	34.6	33.5	39.3	34.3	35.8	34.4	39.5	34.9	138.9	141.8	144.6
E. N. Central	43.1	38.3	47.3	41.0	41.7	41.6	47.3	42.0	42.6	42.1	47.4	42.2	169.7	172.6	174.3
W. N. Central	24.7	21.6	26.3	23.4	24.0	24.0	27.3	24.3	24.9	24.5	28.0	24.8	96.0	99.6	102.1
S. Atlantic	72.0	70.0	85.7	72.4	70.8	76.6	86.1	72.5	71.7	77.8	86.9	73.2	300.2	306.0	309.6
E. S. Central	20.7	19.4	25.3	20.4	20.9	21.7	25.9	20.8	21.2	22.3	26.3	21.0	85.8	89.3	90.8
W. S. Central	44.3	44.6	55.0	45.4	42.4	50.1	56.6	47.2	43.1	51.9	58.0	47.8	189.4	196.3	200.8
Mountain	22.4	22.1	27.4	22.8	21.9	24.5	27.3	23.1	22.4	24.4	27.4	23.3	94.7	96.9	97.6
Pacific contiguous	37.0	33.9	39.8	37.6	35.2	34.5	40.9	37.8	35.9	35.0	40.4	37.7	148.3	148.4	149.0
AK and HI	1.4	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.4	5.2	5.3	5.5
Total	313.7	292.7	360.3	308.9	304.6	319.1	364.9	314.8	310.6	324.9	368.0	317.7	1,275.7	1,303.5	1,321.2
Industrial Sector															
New England	3.7	3.5	3.9	3.7	3.8	3.9	4.0	3.8	3.8	4.0	4.0	3.7	14.8	15.5	15.5
Middle Atlantic	18.0	16.2	18.6	17.6	17.6	17.9	19.2	18.0	18.2	18.4	19.6	18.4	70.4	72.8	74.6
E. N. Central	44.0	37.7	44.5	42.5	44.8	45.7	47.5	44.2	47.3	47.3	48.5	44.8	168.7	182.2	187.9
W. N. Central	21.7	20.3	23.2	22.1	23.0	23.8	25.6	23.5	24.6	25.1	26.3	24.0	87.3	95.9	99.9
S. Atlantic	32.8	31.0	34.2	33.6	33.4	34.5	35.7	34.4	34.5	35.3	36.3	34.8	131.7	138.0	141.0
E. S. Central	23.3	21.4	23.4	22.9	23.8	24.5	25.0	23.7	24.7	25.0	25.2	23.7	91.1	97.0	98.5
W. S. Central	46.6	44.9	47.9	48.7	44.1	49.8	52.0	51.4	45.7	51.9	53.6	52.9	188.1	197.3	204.1
Mountain	20.1	20.3	22.6	19.9	19.2	21.1	22.7	19.9	19.3	21.3	23.0	20.2	82.9	82.9	83.9
Pacific contiguous	19.2	19.7	22.1	19.0	18.1	20.9	23.4	19.5	18.5	21.4	23.7	19.6	80.1	81.9	83.1
AK and HI	1.2	1.0	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	4.5	4.6	4.6
Total	230.7	216.0	241.6	231.2	228.8	243.3	256.4	239.6	237.7	250.8	261.3	243.2	919.5	968.1	993.0
Total All Sectors (a)															
New England	27.8	25.1	31.9	26.3	28.5	26.2	30.8	26.4	28.2	25.6	30.2	26.3	111.0	111.9	110.2
Middle Atlantic	86.9	78.5	101.8	82.5	89.2	82.0	100.7	84.8	91.8	83.4	99.5	85.7	349.7	356.6	360.5
E. N. Central	133.7	119.7	148.4	127.0	136.9	130.1	149.4	131.1	138.4	131.1	149.6	132.6	528.8	547.5	551.7
W. N. Central	74.0	65.7	79.5	70.0	77.0	71.5	82.7	73.9	81.1	74.1	85.9	76.3	289.2	305.1	317.4
S. Atlantic	189.5	187.6	235.0	191.6	199.7	196.9	233.7	192.9	197.9	198.8	235.1	195.3	803.7	823.2	827.0
E. S. Central	73.0	66.8	85.9	69.9	78.5	71.6	87.9	72.0	78.4	73.2	89.1	72.4	295.7	309.9	313.2
W. S. Central	139.8	142.4	179.4	142.7	143.3	149.7	181.7	148.1	140.3	155.7	189.8	152.0	604.2	622.7	637.9
Mountain	65.0	68.2	86.3	66.7	64.8	71.9	84.1	66.9	64.7	70.5	84.3	67.7	286.2	287.8	287.2
Pacific contiguous	93.1	87.0	105.1	95.4	92.5	88.1	107.1	94.7	91.6	87.9	104.7	94.6	380.6	382.3	378.8
AK and HI	3.8	3.4	3.6	3.8	3.6	3.6	3.7	3.9	3.7	3.7	3.8	3.9	14.6	14.8	15.0
Total	886.6	844.3	1,056.9	875.9	914.0	891.4	1,061.7	894.7	916.1	904.1	1,071.9	906.8	3,663.7	3,761.8	3,798.8

(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 August 5, 2021.

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 Retail Electricity Prices (Cents per Kilowatthour)

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Residential Sector															
New England	21.76	21.32	20.95	20.80	21.38	20.30	21.07	22.13	23.39	22.42	23.11	23.87	21.20	21.22	23.21
Middle Atlantic	15.47	15.96	16.18	15.98	15.62	16.15	16.74	16.74	16.22	16.50	16.92	16.74	15.92	16.32	16.60
E. N. Central	13.14	13.75	13.33	13.75	13.38	14.25	13.76	14.11	13.87	14.67	14.04	14.28	13.48	13.85	14.20
W. N. Central	10.98	12.59	12.88	11.46	10.88	12.73	13.61	11.73	10.66	12.28	13.00	11.36	11.99	12.23	11.82
S. Atlantic	11.79	11.80	12.05	11.83	11.66	12.38	12.52	12.30	12.32	12.90	12.86	12.34	11.88	12.22	12.62
E. S. Central	11.24	11.56	11.28	11.41	11.18	12.24	11.82	11.84	11.64	12.45	11.86	11.84	11.36	11.73	11.92
W. S. Central	11.04	11.42	11.29	11.37	11.85	11.77	12.04	12.12	12.41	11.48	11.47	11.72	11.29	11.95	11.73
Mountain	11.42	12.08	12.19	11.64	11.53	12.18	12.41	11.91	11.85	12.47	12.57	11.99	11.88	12.05	12.26
Pacific	15.69	16.18	17.77	16.79	16.76	17.62	17.97	16.77	17.00	18.47	18.77	17.27	16.67	17.29	17.88
U.S. Average	12.90	13.24	13.35	13.25	13.09	13.71	13.84	13.70	13.61	14.01	13.92	13.73	13.20	13.59	13.82
Commercial Sector															
New England	16.24	15.67	15.98	15.67	16.28	15.46	16.46	16.48	17.28	16.41	17.25	17.03	15.90	16.18	17.00
Middle Atlantic	11.69	12.53	13.21	12.41	12.48	13.26	13.81	13.04	12.91	13.54	13.82	12.93	12.47	13.17	13.31
E. N. Central	9.95	10.37	10.19	10.29	10.40	10.74	10.60	10.75	10.73	10.92	10.67	10.75	10.19	10.62	10.76
W. N. Central	9.07	10.12	10.33	9.12	9.10	10.16	11.15	9.58	8.90	9.58	10.45	9.16	9.66	10.04	9.55
S. Atlantic	9.23	9.02	9.09	9.20	9.29	9.15	9.41	9.70	9.73	9.34	9.41	9.58	9.13	9.38	9.51
E. S. Central	10.75	10.83	10.60	10.67	10.96	11.23	11.15	11.18	11.30	11.37	11.22	11.24	10.70	11.13	11.28
W. S. Central	7.84	7.87	7.89	7.98	11.28	8.98	8.30	7.98	11.20	9.29	8.73	8.27	7.90	9.04	9.30
Mountain	9.00	9.82	10.09	9.31	9.11	9.77	10.24	9.45	9.23	9.88	10.25	9.40	9.58	9.68	9.72
Pacific	13.50	14.79	17.20	15.05	14.53	16.05	18.25	15.88	15.40	17.10	19.12	16.56	15.18	16.25	17.10
U.S. Average	10.33	10.63	10.97	10.62	11.11	11.06	11.48	11.08	11.46	11.33	11.62	11.14	10.65	11.19	11.39
Industrial Sector															
New England	12.29	12.22	12.41	12.12	13.49	12.35	12.58	12.43	13.89	12.66	12.81	12.58	12.26	12.70	12.98
Middle Atlantic	6.36	6.35	6.41	6.28	6.50	6.40	6.42	6.28	6.35	6.23	6.23	6.10	6.35	6.40	6.22
E. N. Central	6.51	6.78	6.75	6.62	6.92	6.89	6.90	6.78	6.92	6.91	6.91	6.80	6.66	6.87	6.89
W. N. Central	6.94	7.32	7.89	6.62	6.97	7.22	8.01	6.75	6.91	7.28	8.10	6.84	7.20	7.25	7.30
S. Atlantic	5.98	6.09	6.50	6.09	6.24	6.37	6.74	6.21	6.28	6.32	6.64	6.16	6.17	6.39	6.35
E. S. Central	5.45	5.51	5.70	5.52	5.75	5.82	5.85	5.59	5.69	5.78	5.81	5.55	5.54	5.76	5.71
W. S. Central	5.05	4.98	5.21	5.03	7.60	5.38	4.95	4.84	6.52	5.10	4.90	4.75	5.07	5.62	5.28
Mountain	5.73	6.15	6.91	5.94	6.23	6.55	6.99	5.99	6.26	6.57	6.95	6.01	6.21	6.46	6.47
Pacific	8.97	10.33	12.38	10.95	9.64	10.99	12.73	11.30	9.94	11.31	13.00	11.63	10.71	11.26	11.56
U.S. Average	6.38	6.63	7.08	6.53	7.15	6.88	7.15	6.58	6.94	6.83	7.13	6.57	6.66	6.94	6.88
All Sectors (a)															
New England	18.02	17.61	17.79	17.27	18.19	16.96	17.98	18.26	19.49	18.23	19.21	19.25	17.68	17.86	19.07
Middle Atlantic	11.98	12.58	13.23	12.42	12.56	12.80	13.59	12.97	12.94	12.98	13.56	12.88	12.58	13.00	13.10
E. N. Central	9.92	10.47	10.36	10.24	10.35	10.53	10.57	10.56	10.52	10.66	10.65	10.62	10.24	10.50	10.62
W. N. Central	9.15	10.15	10.58	9.15	9.16	10.03	11.07	9.43	8.98	9.70	10.67	9.23	9.77	9.95	9.66
S. Atlantic	9.80	9.82	10.16	9.82	9.91	10.07	10.49	10.23	10.32	10.33	10.62	10.19	9.91	10.19	10.38
E. S. Central	9.25	9.41	9.56	9.26	9.48	9.74	9.92	9.59	9.68	9.85	9.96	9.61	9.38	9.69	9.78
W. S. Central	8.03	8.28	8.63	8.12	10.37	8.71	8.84	8.28	10.12	8.63	8.78	8.21	8.29	9.03	8.90
Mountain	8.83	9.58	10.14	9.14	9.15	9.70	10.24	9.29	9.27	9.78	10.28	9.31	9.48	9.64	9.70
Pacific	13.41	14.30	16.41	14.92	14.50	15.42	16.92	15.28	14.94	16.17	17.59	15.80	14.82	15.58	16.17
U.S. Average	10.29	10.63	11.11	10.54	10.94	10.89	11.41	10.87	11.14	11.05	11.47	10.90	10.66	11.04	11.16

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
United States															
Natural Gas	354.7	342.6	474.2	340.7	318.2	340.4	428.6	321.5	307.6	343.2	455.6	353.8	1,512.2	1,408.8	1,460.2
Coal	170.3	151.2	248.2	198.6	230.3	192.8	272.0	218.9	226.4	171.2	243.4	186.3	768.2	914.0	827.3
Nuclear	204.1	190.7	204.1	191.0	198.5	185.6	202.7	186.3	187.1	185.1	197.1	184.2	789.9	773.0	753.4
Renewable Energy Sources:	190.1	206.5	176.9	187.0	198.0	217.2	190.7	202.7	217.2	250.4	210.1	216.8	760.6	808.7	894.6
Conventional Hydropower	75.0	81.3	70.6	63.0	69.3	65.8	57.9	55.3	66.5	78.4	63.7	58.2	289.9	248.4	266.9
Wind	87.4	87.1	67.5	94.7	96.3	102.0	80.7	111.0	111.3	113.8	87.9	118.4	336.7	390.0	431.3
Solar (a)	16.7	27.3	27.6	18.5	21.4	37.0	36.8	24.0	28.4	46.8	45.6	29.3	90.1	119.2	150.1
Biomass	7.1	6.7	7.0	6.7	7.0	7.8	10.8	8.2	7.0	7.5	8.5	7.0	27.5	33.8	30.0
Geothermal	3.9	4.2	4.2	4.2	3.9	4.6	4.6	4.2	3.9	3.9	4.4	4.0	16.5	17.3	16.2
Pumped Storage Hydropower	-1.0	-1.2	-2.0	-1.2	-1.1	-1.5	-2.5	-1.2	-1.0	-1.4	-2.4	-1.1	-5.3	-6.2	-5.8
Petroleum (b)	4.0	3.9	4.5	4.0	5.2	4.0	4.4	4.1	5.0	4.1	4.0	4.1	16.5	17.7	17.2
Other Gases	1.0	0.4	0.8	0.9	0.7	0.6	0.6	0.8	0.7	0.5	0.7	0.8	3.1	2.8	2.7
Other Nonrenewable Fuels (c)	1.9	1.8	1.9	1.9	1.9	1.7	1.6	1.8	1.8	1.8	1.7	1.9	7.5	7.0	7.1
Total Generation	925.2	896.1	1,108.5	922.9	951.8	941.0	1,098.1	934.9	944.9	954.9	1,110.3	946.7	3,852.8	3,925.7	3,956.8
New England (ISO-NE)															
Natural Gas	10.8	10.0	16.1	10.8	12.1	11.2	16.7	12.7	9.7	12.2	17.4	11.3	47.7	52.7	50.6
Coal	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.1	0.5	0.0	0.0	0.1	0.2	0.6	0.6
Nuclear	7.3	4.9	7.3	6.1	7.1	7.1	7.2	5.6	7.0	6.2	7.2	7.2	25.6	27.0	27.7
Conventional hydropower	2.2	2.1	1.8	1.7	1.9	1.7	1.2	1.8	2.0	2.3	1.3	1.8	7.8	6.6	7.4
Nonhydro renewables (d)	2.6	2.7	2.4	2.6	2.8	2.8	2.7	3.3	3.3	3.1	2.8	3.3	10.3	11.5	12.5
Other energy sources (e)	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.4	0.3	0.3	0.2	0.4	1.4	1.3	1.2
Total generation	23.2	20.1	28.0	21.7	24.7	23.2	28.1	23.7	22.9	24.1	29.0	24.1	92.9	99.7	100.0
Net energy for load (f)	27.9	25.2	32.3	27.6	29.3	26.9	31.6	28.1	29.3	27.2	31.8	28.3	113.0	116.0	116.6
New York (NYISO)															
Natural Gas	12.4	11.4	20.6	12.8	12.8	14.4	21.9	15.2	15.3	15.3	21.6	16.0	57.1	64.3	68.1
Coal	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Nuclear	10.7	9.2	9.0	9.6	9.3	7.7	7.2	6.8	6.5	7.0	6.7	7.0	38.5	31.0	27.3
Conventional hydropower	8.0	8.0	7.8	7.6	7.3	7.1	7.0	7.2	7.0	7.0	7.0	7.1	31.4	28.7	28.1
Nonhydro renewables (d)	2.0	1.9	1.7	2.1	1.9	2.0	1.8	2.2	2.0	2.2	2.1	2.6	7.6	7.9	8.9
Other energy sources (e)	0.2	0.1	0.1	0.2	0.4	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.6	0.8	0.7
Total generation	33.4	30.6	39.2	32.2	31.7	31.3	38.0	31.5	31.2	31.6	37.4	32.9	135.4	132.6	133.1
Net energy for load (f)	35.3	32.4	42.9	34.7	36.6	34.8	42.8	36.2	37.1	35.9	42.7	36.7	145.3	150.4	152.5
Mid-Atlantic (PJM)															
Natural Gas	78.4	69.9	97.6	69.9	72.5	72.3	90.0	75.9	81.6	84.0	102.5	89.1	315.8	310.6	357.2
Coal	33.7	29.7	46.8	38.1	50.5	34.8	47.6	37.3	46.7	27.1	40.6	31.1	148.3	170.2	145.6
Nuclear	68.9	67.1	70.9	68.9	68.4	64.7	71.5	62.3	59.0	59.2	62.9	57.7	275.7	266.9	238.8
Conventional hydropower	3.1	2.9	2.1	1.9	2.7	2.3	1.6	2.1	2.6	2.7	1.6	2.1	9.9	8.7	9.1
Nonhydro renewables (d)	10.4	10.2	7.5	10.9	11.1	11.3	9.0	12.3	12.3	12.6	9.6	13.0	39.1	43.7	47.6
Other energy sources (e)	0.6	0.5	0.4	0.7	1.0	0.4	0.0	0.8	1.2	0.5	0.1	0.9	2.2	2.3	2.7
Total generation	195.1	180.2	225.3	190.5	206.2	185.7	219.6	190.8	203.5	186.1	217.3	194.0	791.1	802.4	800.9
Net energy for load (f)	182.5	163.5	209.3	177.0	194.4	178.1	206.8	180.9	194.0	177.8	206.1	183.6	732.4	760.2	761.5
Southeast (SERC)															
Natural Gas	61.9	59.1	74.7	58.5	57.6	56.5	66.1	55.3	57.1	56.8	71.4	61.3	254.2	235.4	246.6
Coal	23.8	22.1	44.4	28.0	36.3	34.0	46.0	35.5	36.2	33.2	46.0	32.5	118.3	151.7	147.9
Nuclear	53.0	50.5	54.1	52.5	53.8	51.0	55.5	52.0	52.5	55.2	58.4	54.9	210.1	212.3	221.0
Conventional hydropower	11.1	10.2	8.8	8.6	9.8	8.4	7.0	7.9	10.2	7.6	6.7	7.8	38.7	32.9	32.2
Nonhydro renewables (d)	3.4	5.0	5.0	3.9	4.0	6.1	6.0	4.5	4.6	7.5	7.6	5.4	17.4	20.6	25.1
Other energy sources (e)	-0.1	-0.3	-0.6	-0.2	0.0	-0.4	-0.8	-0.2	0.0	-0.4	-0.7	-0.2	-1.1	-1.4	-1.3
Total generation	153.1	146.7	186.5	151.3	161.4	155.5	179.8	155.0	160.5	159.8	189.5	161.7	637.6	651.6	671.5
Net energy for load (f)	157.4	152.5	186.1	153.7	163.1	153.9	179.2	153.4	159.7	159.7	186.9	158.3	649.7	649.6	664.6
Florida (FRCC)															
Natural Gas	40.0	45.7	52.8	41.0	34.5	42.4	44.6	34.3	32.1	43.7	47.8	37.7	179.5	155.9	161.2
Coal	2.1	3.5	5.7	4.6	4.7	5.1	5.8	4.9	4.3	6.9	5.0	3.2	15.9	20.5	19.4
Nuclear	7.3	7.6	7.6	7.0	7.8	7.2	7.9	6.9	7.9	7.3	8.1	7.1	29.4	29.8	30.4
Conventional hydropower	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Nonhydro renewables (d)	1.8	2.4	2.3	1.9	2.4	3.4	4.7	3.0	3.3	3.9	3.8	2.8	8.4	13.4	13.8
Other energy sources (e)	0.9	0.8	0.9	0.7	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.6	3.3	3.0	3.0
Total generation	52.1	60.0	69.3	55.2	50.3	58.9	63.9	49.7	48.3	62.7	65.6	51.4	236.7	222.8	228.0
Net energy for load (f)	50.2	54.3	72.0	56.3	50.6	52.6	65.7	51.9	47.7	58.5	67.0	52.6	232.8	220.8	225.8

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Midwest (MISO)															
Natural Gas	43.9	43.2	53.4	37.7	34.5	38.8	44.8	29.4	30.9	42.4	53.6	38.7	178.3	147.4	165.6
Coal	51.0	41.1	68.5	57.8	69.7	58.7	80.4	67.5	71.3	55.4	70.6	55.1	218.4	276.3	252.4
Nuclear	26.6	22.9	24.4	21.2	23.6	22.6	22.8	24.0	23.8	22.2	23.7	23.0	95.1	93.0	92.6
Conventional hydropower	3.1	3.2	2.8	2.7	2.8	2.8	2.4	2.2	2.4	2.8	2.3	2.1	11.8	10.2	9.7
Nonhydro renewables (d)	20.8	20.1	16.2	24.2	24.3	25.1	19.4	27.9	26.0	26.9	20.6	29.0	81.3	96.7	102.5
Other energy sources (e)	1.4	1.3	1.3	1.2	1.8	1.3	0.9	1.2	1.8	1.4	1.1	1.3	5.2	5.2	5.6
Total generation	146.9	131.8	166.6	144.8	156.7	149.2	170.7	152.2	156.1	151.2	171.9	149.3	590.0	628.8	628.5
Net energy for load (f)	153.0	141.5	174.4	149.8	159.0	154.4	177.0	157.0	157.6	158.0	179.1	158.5	618.7	647.4	653.2
Central (Southwest Power Pool)															
Natural Gas	17.5	16.3	24.2	13.7	12.4	13.6	18.8	12.6	11.5	13.8	21.7	14.0	71.6	57.4	60.9
Coal	17.0	15.7	26.7	19.8	21.8	18.7	29.3	18.9	22.9	17.1	28.2	19.8	79.2	88.6	88.1
Nuclear	4.4	4.4	4.2	3.8	4.1	2.8	4.4	4.4	4.3	4.4	4.1	2.5	16.8	15.8	15.3
Conventional hydropower	5.9	6.0	5.1	4.8	5.3	4.8	4.3	3.3	3.6	4.3	4.0	3.2	21.8	17.7	15.0
Nonhydro renewables (d)	20.3	21.4	16.7	22.2	22.8	24.8	20.4	26.5	25.6	27.4	22.9	29.0	80.6	94.4	104.9
Other energy sources (e)	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.5	0.6	0.4
Total generation	65.2	63.9	77.0	64.4	66.7	64.8	77.2	65.9	68.0	67.1	80.9	68.6	270.5	274.6	284.6
Net energy for load (f)	62.8	63.7	74.7	60.9	64.7	63.2	74.2	61.3	65.2	65.2	77.9	63.9	262.1	263.5	272.3
Texas (ERCOT)															
Natural Gas	37.2	42.1	59.3	36.0	33.0	39.9	51.4	28.6	23.1	29.9	45.6	25.2	174.6	152.9	123.8
Coal	13.1	15.8	20.3	17.9	16.3	17.0	23.7	20.6	16.4	17.7	22.5	17.1	67.2	77.7	73.7
Nuclear	10.4	9.7	11.0	10.3	10.5	9.9	10.3	9.5	10.7	9.9	10.6	10.8	41.4	40.1	42.0
Conventional hydropower	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.1	1.1	0.8	0.7
Nonhydro renewables (d)	22.6	24.8	20.8	24.4	25.2	29.7	27.8	31.8	35.5	40.0	34.2	35.3	92.6	114.6	145.0
Other energy sources (e)	0.4	0.3	0.4	0.4	0.2	0.3	0.4	0.4	0.2	0.3	0.4	0.4	1.5	1.3	1.3
Total generation	84.1	93.1	112.1	89.1	85.6	97.1	113.7	91.0	86.0	98.1	113.4	88.9	378.4	387.4	386.4
Net energy for load (f)	84.1	93.1	112.1	89.1	85.6	97.1	113.7	91.0	86.0	98.1	113.4	88.9	378.4	387.4	386.4
Northwest															
Natural Gas	23.7	17.1	27.3	21.6	20.9	19.8	25.7	18.0	14.2	14.3	25.2	18.3	89.6	84.3	72.1
Coal	22.3	16.1	24.5	23.2	22.5	17.2	26.3	23.9	20.9	8.3	20.6	20.1	86.1	90.0	70.0
Nuclear	2.4	2.0	2.4	2.5	2.5	1.2	2.5	2.4	2.4	2.4	2.4	2.4	9.4	8.6	9.7
Conventional hydropower	35.0	38.7	32.4	29.9	34.3	31.3	27.5	27.2	33.0	41.2	30.9	28.2	136.0	120.3	133.5
Nonhydro renewables (d)	13.9	14.2	12.6	14.9	15.3	16.6	14.0	16.5	16.8	17.0	14.1	18.0	55.6	62.4	66.0
Other energy sources (e)	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.6	0.8	0.6
Total generation	97.5	88.3	99.4	92.2	95.6	86.4	96.1	88.2	87.6	83.5	93.4	87.3	377.4	366.4	351.8
Net energy for load (f)	89.9	81.7	93.6	87.7	88.9	86.1	95.9	89.0	88.3	84.4	94.7	89.4	353.0	359.9	356.7
Southwest															
Natural Gas	11.8	14.7	20.4	14.8	11.0	16.3	21.4	15.8	9.9	15.9	22.2	15.0	61.7	64.4	63.0
Coal	5.3	5.3	8.8	6.6	5.9	5.6	10.1	7.2	5.0	3.7	7.1	4.3	25.9	28.7	20.0
Nuclear	8.3	7.6	8.7	7.0	8.5	7.2	8.6	7.7	8.4	7.5	8.6	7.5	31.6	31.8	32.1
Conventional hydropower	2.7	4.0	3.7	2.5	2.5	3.3	3.4	2.3	2.7	4.0	3.9	2.6	12.8	11.6	13.2
Nonhydro renewables (d)	2.5	3.1	2.5	2.3	3.0	4.2	4.3	3.7	4.9	5.9	5.7	5.0	10.5	15.2	21.5
Other energy sources (e)	0.0	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.2	0.4	0.2
Total generation	30.5	34.8	44.2	33.1	30.8	36.8	47.9	36.6	31.0	36.9	47.6	34.4	142.7	152.1	149.9
Net energy for load (f)	19.8	25.3	32.7	21.3	19.2	25.5	32.3	22.2	20.3	25.4	32.4	22.1	99.2	99.2	100.2
California															
Natural Gas	16.7	12.6	27.0	23.6	16.6	14.9	26.7	23.1	21.4	14.4	26.0	26.5	79.9	81.3	88.2
Coal	1.4	1.2	2.1	2.0	1.8	1.3	2.3	2.6	1.9	1.3	2.3	2.3	6.7	7.9	7.8
Nuclear	4.8	4.9	4.5	2.1	2.9	4.2	4.8	4.7	4.6	3.8	4.4	4.0	16.3	16.6	16.7
Conventional hydropower	3.1	5.6	5.4	2.7	2.0	3.3	3.0	0.7	2.3	6.0	5.5	2.6	16.8	9.1	16.4
Nonhydro renewables (d)	14.3	18.9	18.1	14.4	15.5	25.1	22.3	15.3	15.9	25.0	22.5	14.7	65.8	78.1	78.1
Other energy sources (e)	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	-0.1	0.1	0.1	0.2	0.2	0.2
Total generation	40.3	43.3	57.3	44.9	38.7	48.8	59.4	46.4	46.0	50.4	60.7	50.3	185.8	193.2	207.4
Net energy for load (f)	58.6	59.4	74.6	61.1	57.0	60.4	75.1	60.0	56.0	61.2	74.6	60.5	253.7	252.6	252.2

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Electric Power Sector															
Geothermal	0.035	0.037	0.037	0.038	0.035	0.041	<i>0.041</i>	<i>0.038</i>	<i>0.035</i>	<i>0.034</i>	<i>0.039</i>	<i>0.036</i>	0.147	<i>0.154</i>	<i>0.144</i>
Hydroelectric Power (a)	0.668	0.724	0.629	0.561	0.617	0.619	<i>0.599</i>	<i>0.559</i>	<i>0.691</i>	<i>0.694</i>	<i>0.597</i>	<i>0.556</i>	2.581	<i>2.394</i>	<i>2.538</i>
Solar (b)	0.152	0.248	0.252	0.168	0.195	0.337	<i>0.335</i>	<i>0.218</i>	<i>0.259</i>	<i>0.426</i>	<i>0.416</i>	<i>0.266</i>	0.820	<i>1.085</i>	<i>1.367</i>
Waste Biomass (c)	0.063	0.058	0.059	0.059	0.059	0.065	<i>0.072</i>	<i>0.063</i>	<i>0.055</i>	<i>0.061</i>	<i>0.065</i>	<i>0.058</i>	0.238	<i>0.258</i>	<i>0.238</i>
Wood Biomass	0.049	0.043	0.048	0.046	0.050	0.056	<i>0.097</i>	<i>0.065</i>	<i>0.054</i>	<i>0.056</i>	<i>0.068</i>	<i>0.050</i>	0.185	<i>0.267</i>	<i>0.228</i>
Wind	0.796	0.793	0.615	0.862	0.877	0.929	<i>0.734</i>	<i>1.010</i>	<i>1.013</i>	<i>1.036</i>	<i>0.800</i>	<i>1.078</i>	3.065	<i>3.551</i>	<i>3.926</i>
Subtotal	1.761	1.904	1.639	1.733	1.833	2.046	<i>1.877</i>	<i>1.953</i>	<i>2.107</i>	<i>2.307</i>	<i>1.984</i>	<i>2.043</i>	7.037	<i>7.709</i>	<i>8.441</i>
Industrial Sector															
Biofuel Losses and Co-products (d)	0.197	0.135	0.179	0.188	0.169	0.191	<i>0.196</i>	<i>0.190</i>	<i>0.185</i>	<i>0.195</i>	<i>0.199</i>	<i>0.198</i>	0.698	<i>0.746</i>	<i>0.775</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Hydroelectric Power (a)	0.003	0.002	0.002	0.002	0.002	0.002	<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	0.009	<i>0.009</i>	<i>0.009</i>
Solar (b)	0.007	0.010	0.010	0.007	0.007	0.011	<i>0.011</i>	<i>0.008</i>	<i>0.008</i>	<i>0.012</i>	<i>0.012</i>	<i>0.009</i>	0.033	<i>0.037</i>	<i>0.041</i>
Waste Biomass (c)	0.041	0.039	0.036	0.041	0.041	0.039	<i>0.038</i>	<i>0.040</i>	<i>0.040</i>	<i>0.039</i>	<i>0.038</i>	<i>0.040</i>	0.156	<i>0.158</i>	<i>0.158</i>
Wood Biomass	0.349	0.340	0.336	0.352	0.338	0.348	<i>0.358</i>	<i>0.359</i>	<i>0.348</i>	<i>0.346</i>	<i>0.358</i>	<i>0.361</i>	1.376	<i>1.402</i>	<i>1.413</i>
Subtotal	0.594	0.520	0.558	0.588	0.555	0.586	<i>0.599</i>	<i>0.597</i>	<i>0.580</i>	<i>0.588</i>	<i>0.603</i>	<i>0.606</i>	2.261	<i>2.337</i>	<i>2.377</i>
Commercial Sector															
Geothermal	0.006	0.006	0.006	0.006	0.006	0.006	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	0.024	<i>0.023</i>	<i>0.023</i>
Solar (b)	0.025	0.037	0.037	0.025	0.029	0.043	<i>0.044</i>	<i>0.031</i>	<i>0.035</i>	<i>0.051</i>	<i>0.051</i>	<i>0.035</i>	0.123	<i>0.147</i>	<i>0.172</i>
Waste Biomass (c)	0.010	0.008	0.009	0.009	0.009	0.008	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	0.036	<i>0.035</i>	<i>0.035</i>
Wood Biomass	0.021	0.021	0.021	0.021	0.020	0.020	<i>0.021</i>	<i>0.021</i>	<i>0.020</i>	<i>0.020</i>	<i>0.021</i>	<i>0.021</i>	0.083	<i>0.082</i>	<i>0.082</i>
Subtotal	0.068	0.077	0.078	0.067	0.070	0.085	<i>0.086</i>	<i>0.072</i>	<i>0.076</i>	<i>0.092</i>	<i>0.093</i>	<i>0.077</i>	0.290	<i>0.313</i>	<i>0.339</i>
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	0.040	<i>0.040</i>	<i>0.040</i>
Solar (e)	0.058	0.086	0.086	0.061	0.066	0.102	<i>0.104</i>	<i>0.073</i>	<i>0.079</i>	<i>0.120</i>	<i>0.120</i>	<i>0.083</i>	0.291	<i>0.345</i>	<i>0.403</i>
Wood Biomass	0.114	0.114	0.115	0.115	0.112	0.114	<i>0.115</i>	<i>0.115</i>	<i>0.112</i>	<i>0.114</i>	<i>0.115</i>	<i>0.115</i>	0.458	<i>0.456</i>	<i>0.456</i>
Subtotal	0.181	0.210	0.211	0.186	0.188	0.226	<i>0.229</i>	<i>0.198</i>	<i>0.201</i>	<i>0.243</i>	<i>0.245</i>	<i>0.208</i>	0.788	<i>0.840</i>	<i>0.898</i>
Transportation Sector															
Biomass-based Diesel (f)	0.061	0.064	0.073	0.076	0.057	0.069	<i>0.064</i>	<i>0.075</i>	<i>0.075</i>	<i>0.078</i>	<i>0.083</i>	<i>0.091</i>	0.275	<i>0.266</i>	<i>0.327</i>
Ethanol (f)	0.257	0.220	0.267	0.258	0.244	0.288	<i>0.284</i>	<i>0.273</i>	<i>0.255</i>	<i>0.287</i>	<i>0.290</i>	<i>0.282</i>	1.002	<i>1.089</i>	<i>1.114</i>
Subtotal	0.318	0.284	0.340	0.334	0.301	0.357	<i>0.349</i>	<i>0.349</i>	<i>0.329</i>	<i>0.365</i>	<i>0.373</i>	<i>0.373</i>	1.277	<i>1.355</i>	<i>1.441</i>
All Sectors Total															
Biomass-based Diesel (f)	0.061	0.064	0.073	0.076	0.057	0.069	<i>0.064</i>	<i>0.075</i>	<i>0.075</i>	<i>0.078</i>	<i>0.083</i>	<i>0.091</i>	0.275	<i>0.266</i>	<i>0.327</i>
Biofuel Losses and Co-products (d)	0.197	0.135	0.179	0.188	0.169	0.191	<i>0.196</i>	<i>0.190</i>	<i>0.185</i>	<i>0.195</i>	<i>0.199</i>	<i>0.198</i>	0.698	<i>0.746</i>	<i>0.775</i>
Ethanol (f)	0.267	0.228	0.278	0.268	0.254	0.299	<i>0.295</i>	<i>0.284</i>	<i>0.265</i>	<i>0.298</i>	<i>0.301</i>	<i>0.293</i>	1.041	<i>1.131</i>	<i>1.157</i>
Geothermal	0.052	0.054	0.054	0.055	0.051	0.058	<i>0.058</i>	<i>0.054</i>	<i>0.052</i>	<i>0.051</i>	<i>0.056</i>	<i>0.052</i>	0.214	<i>0.221</i>	<i>0.211</i>
Hydroelectric Power (a)	0.671	0.727	0.632	0.563	0.620	0.621	<i>0.602</i>	<i>0.562</i>	<i>0.694</i>	<i>0.697</i>	<i>0.600</i>	<i>0.558</i>	2.592	<i>2.405</i>	<i>2.549</i>
Solar (b)(e)	0.238	0.374	0.377	0.257	0.292	0.490	<i>0.494</i>	<i>0.329</i>	<i>0.381</i>	<i>0.609</i>	<i>0.599</i>	<i>0.393</i>	1.246	<i>1.606</i>	<i>1.982</i>
Waste Biomass (c)	0.113	0.105	0.104	0.108	0.108	0.112	<i>0.119</i>	<i>0.112</i>	<i>0.104</i>	<i>0.109</i>	<i>0.112</i>	<i>0.107</i>	0.430	<i>0.452</i>	<i>0.431</i>
Wood Biomass	0.532	0.517	0.519	0.533	0.520	0.537	<i>0.590</i>	<i>0.559</i>	<i>0.535</i>	<i>0.536</i>	<i>0.562</i>	<i>0.546</i>	2.101	<i>2.207</i>	<i>2.178</i>
Wind	0.796	0.793	0.615	0.862	0.877	0.929	<i>0.734</i>	<i>1.010</i>	<i>1.013</i>	<i>1.036</i>	<i>0.800</i>	<i>1.078</i>	3.065	<i>3.551</i>	<i>3.926</i>
Total Consumption	2.923	2.995	2.826	2.907	2.947	3.299	<i>3.141</i>	<i>3.168</i>	<i>3.294</i>	<i>3.595</i>	<i>3.299</i>	<i>3.308</i>	11.652	<i>12.555</i>	<i>13.496</i>

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

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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*

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	6,600	6,598	6,549	6,548	6,538	6,393	6,397	6,438	6,441	6,443	6,443	6,443	6,548	6,438	6,443
Waste	3,927	3,925	3,852	3,850	3,841	3,839	3,843	3,884	3,887	3,889	3,889	3,889	3,850	3,884	3,889
Wood	2,673	2,673	2,697	2,697	2,697	2,554	2,554	2,554	2,554	2,554	2,554	2,554	2,697	2,554	2,554
Conventional Hydroelectric	79,488	79,482	79,629	79,631	79,632	79,695	79,706	79,723	79,755	79,770	79,811	79,814	79,631	79,723	79,814
Geothermal	2,502	2,520	2,520	2,520	2,520	2,520	2,520	2,562	2,562	2,562	2,562	2,562	2,520	2,562	2,562
Large-Scale Solar (b)	39,107	41,199	43,000	47,596	50,264	52,759	56,810	63,802	65,720	70,595	72,791	80,427	47,596	63,802	80,427
Wind	106,143	107,637	109,164	118,132	121,018	124,835	128,523	135,721	136,430	138,172	138,882	141,988	118,132	135,721	141,988
Other Sectors (c)															
Biomass	6,384	6,385	6,381	6,393	6,371	6,379	6,359	6,359	6,359	6,359	6,351	6,351	6,393	6,359	6,351
Waste	781	782	778	789	787	790	790	790	790	790	790	790	789	790	790
Wood	5,603	5,603	5,603	5,603	5,584	5,589	5,569	5,569	5,569	5,569	5,561	5,561	5,603	5,569	5,561
Conventional Hydroelectric	289	289	289	289	289	289	284	287	287	287	287	287	289	287	287
Large-Scale Solar (b)	442	469	474	481	484	487	509	552	555	555	555	555	481	552	555
Small-Scale Solar (d)	24,355	25,255	26,264	27,724	28,888	30,244	31,638	33,011	34,379	35,699	36,999	38,348	27,724	33,011	38,348
Residential Sector	15,071	15,689	16,373	17,238	18,076	19,014	19,942	20,852	21,740	22,599	23,423	24,276	17,238	20,852	24,276
Commercial Sector	7,425	7,642	7,910	8,430	8,725	9,092	9,495	9,895	10,310	10,708	11,121	11,552	8,430	9,895	11,552
Industrial Sector	1,859	1,924	1,981	2,056	2,088	2,138	2,202	2,265	2,329	2,392	2,455	2,520	2,056	2,265	2,520
Wind	113	339	348	348	348	348	348	348	348	348	348	348	348	348	348
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	7.1	6.7	7.0	6.7	7.0	7.8	10.8	8.2	7.0	7.5	8.5	7.0	27.5	33.8	30.0
Waste	4.1	4.0	4.0	3.9	4.0	4.4	4.8	4.2	3.7	4.1	4.4	3.9	16.1	17.4	16.1
Wood	3.0	2.7	3.0	2.7	3.1	3.4	5.9	4.0	3.3	3.4	4.1	3.1	11.4	16.4	14.0
Conventional Hydroelectric	75.0	81.3	70.6	63.0	69.3	65.8	57.9	55.3	66.5	78.4	63.7	58.2	289.9	248.4	266.9
Geothermal	3.9	4.2	4.2	4.2	3.9	4.6	4.6	4.2	3.9	3.9	4.4	4.0	16.5	17.3	16.2
Large-Scale Solar (b)	16.7	27.3	27.6	18.5	21.4	37.0	36.8	24.0	28.4	46.8	45.6	29.3	90.1	119.2	150.1
Wind	87.4	87.1	67.5	94.7	96.3	102.0	80.7	111.0	111.3	113.8	87.9	118.4	336.7	390.0	431.3
Other Sectors (c)															
Biomass	7.4	7.1	7.0	7.1	7.0	6.8	7.0	7.1	7.0	6.8	7.0	7.1	28.6	27.9	27.9
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	2.7	2.7	2.7
Wood	6.7	6.4	6.4	6.4	6.3	6.2	6.4	6.4	6.3	6.2	6.4	6.4	25.8	25.2	25.2
Conventional Hydroelectric	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.2	1.2	1.2
Large-Scale Solar (b)	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.8	0.9	0.9
Small-Scale Solar (d)	8.4	12.4	12.3	8.7	9.8	14.8	15.0	10.5	11.8	17.6	17.7	12.2	41.7	50.1	59.3
Residential Sector	5.0	7.5	7.5	5.4	5.9	9.1	9.3	6.5	7.2	11.0	11.0	7.6	25.4	30.9	36.8
Commercial Sector	2.7	3.8	3.8	2.6	3.1	4.5	4.6	3.2	3.7	5.3	5.4	3.7	12.9	15.3	18.1
Industrial Sector	0.7	1.0	1.0	0.7	0.8	1.1	1.2	0.8	0.9	1.3	1.3	0.9	3.5	3.9	4.4
Wind	0.1	0.1	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.8	1.0	0.9

(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 August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	19,011	17,303	18,597	18,794	19,086	19,456	19,810	20,197	20,388	20,569	20,703	20,829	18,426	19,637	20,622
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	13,118	11,860	12,925	12,999	13,353	13,712	13,765	13,936	14,077	14,228	14,364	14,487	12,726	13,692	14,289
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	3,375	3,096	3,315	3,459	3,559	3,564	3,628	3,681	3,707	3,730	3,753	3,781	3,311	3,608	3,743
Business Inventory Change (billion chained 2012 dollars - SAAR)	-52	-298	-1	60	-92	-104	120	247	253	255	236	214	-73	43	240
Real Government Expenditures (billion chained 2012 dollars - SAAR)	3,348	3,369	3,327	3,320	3,367	3,398	3,430	3,445	3,454	3,452	3,442	3,438	3,341	3,410	3,446
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	2,495	1,927	2,167	2,279	2,266	2,320	2,359	2,423	2,483	2,532	2,576	2,618	2,217	2,342	2,552
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	3,283	2,702	3,186	3,400	3,479	3,523	3,577	3,593	3,641	3,681	3,726	3,770	3,143	3,543	3,704
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	15,061	16,630	15,851	15,541	17,530	16,154	15,768	15,743	15,815	15,961	16,079	16,146	15,771	16,299	16,001
Non-Farm Employment (millions)	151.9	133.7	140.9	142.6	143.4	145.0	147.3	149.0	150.1	151.1	152.1	152.9	142.3	146.2	151.6
Civilian Unemployment Rate (percent)	3.8	13.1	8.8	6.8	6.2	5.9	5.5	4.9	4.6	4.3	4.0	3.8	8.1	5.6	4.2
Housing Starts (millions - SAAR)	1.49	1.09	1.44	1.58	1.60	1.57	1.60	1.52	1.47	1.44	1.41	1.40	1.40	1.57	1.43
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	100.0	87.1	95.5	97.4	98.2	99.6	102.0	103.9	105.0	105.8	106.3	106.9	95.0	100.9	106.0
Manufacturing	97.6	84.2	94.2	96.7	97.2	98.2	100.5	103.0	104.2	105.2	105.8	106.4	93.2	99.7	105.4
Food	101.8	93.8	98.0	100.1	101.2	100.5	100.9	101.4	101.7	102.0	102.5	102.9	98.4	101.0	102.3
Paper	99.5	91.5	90.7	94.9	94.0	93.9	94.8	95.5	96.1	96.7	97.1	97.3	94.2	94.5	96.8
Petroleum and Coal Products	98.0	77.3	84.0	86.7	90.6	96.0	97.4	98.4	98.9	99.2	99.4	99.4	86.5	95.6	99.2
Chemicals	95.0	89.9	92.5	94.7	91.3	96.7	99.3	100.7	101.8	102.9	103.5	103.9	93.0	97.0	103.0
Nonmetallic Mineral Products	99.7	88.1	94.6	98.4	97.1	93.6	95.7	96.8	97.3	97.5	97.6	97.8	95.2	95.8	97.6
Primary Metals	95.9	72.9	83.3	90.3	92.3	97.2	98.2	98.8	99.2	99.8	100.1	99.9	85.6	96.6	99.8
Coal-weighted Manufacturing (a)	97.1	86.7	93.0	96.6	93.9	95.3	97.6	99.1	100.0	100.7	101.2	101.6	93.3	96.5	100.9
Distillate-weighted Manufacturing (a)	97.0	84.4	92.0	95.7	94.3	95.7	97.7	98.8	99.5	100.1	100.3	100.4	92.3	96.6	100.1
Electricity-weighted Manufacturing (a)	97.1	83.4	91.6	95.4	94.3	96.7	98.8	100.1	101.1	102.0	102.5	102.8	91.9	97.5	102.1
Natural Gas-weighted Manufacturing (a)	95.5	84.1	89.7	93.7	90.2	94.6	97.0	98.0	98.8	99.6	100.1	100.3	90.8	95.0	99.7
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.59	2.56	2.59	2.61	2.63	2.69	2.71	2.73	2.73	2.75	2.76	2.78	2.59	2.69	2.75
Producer Price Index: All Commodities (index, 1982=1.00)	1.97	1.88	1.94	1.99	2.10	2.19	2.20	2.17	2.15	2.15	2.14	2.13	1.94	2.17	2.14
Producer Price Index: Petroleum (index, 1982=1.00)	1.71	1.05	1.47	1.50	1.89	2.18	2.23	2.12	2.02	2.06	2.02	1.92	1.43	2.10	2.00
GDP Implicit Price Deflator (index, 2012=100)	113.4	112.9	113.8	114.4	115.6	117.3	118.3	118.8	119.3	119.8	120.4	121.1	113.6	117.5	120.2
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	7,762	6,880	8,262	8,009	7,679	8,881	9,035	8,748	8,163	9,199	9,322	9,008	7,730	8,590	8,926
Air Travel Capacity (Available ton-miles/day, thousands)	630	363	478	537	537	623	649	664	647	690	689	650	502	619	669
Aircraft Utilization (Revenue ton-miles/day, thousands)	328	152	208	238	245	311	351	381	404	452	451	409	231	322	429
Airline Ticket Price Index (index, 1982-1984=100)	250.8	203.7	200.6	215.1	198.4	243.3	228.2	226.9	229.6	253.7	250.7	266.4	217.5	224.2	250.1
Raw Steel Production (million short tons per day)	0.268	0.174	0.197	0.224	0.246	0.258	0.282	0.325	0.320	0.280	0.276	0.286	0.216	0.278	0.290
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	553	442	518	522	516	559	576	570	556	577	592	588	2,035	2,222	2,313
Natural Gas	490	349	383	429	485	352	365	431	481	358	377	442	1,651	1,632	1,658
Coal	201	177	271	224	255	222	298	248	256	202	274	221	873	1,023	952
Total Energy (c)	1,247	971	1,174	1,178	1,259	1,136	1,241	1,252	1,295	1,139	1,245	1,254	4,571	4,887	4,933

(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 August 5, 2021.

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 IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Real Gross State Product (Billion \$2012)															
New England	982	891	959	971	986	1,005	1,022	1,041	1,050	1,059	1,066	1,072	951	1,014	1,062
Middle Atlantic	2,745	2,459	2,641	2,667	2,708	2,763	2,814	2,869	2,899	2,929	2,953	2,970	2,628	2,789	2,938
E. N. Central	2,476	2,241	2,432	2,454	2,494	2,527	2,570	2,619	2,639	2,661	2,675	2,689	2,401	2,552	2,666
W. N. Central	1,175	1,072	1,156	1,172	1,191	1,210	1,229	1,251	1,260	1,269	1,276	1,282	1,144	1,220	1,272
S. Atlantic	3,352	3,080	3,302	3,334	3,388	3,445	3,504	3,568	3,600	3,630	3,651	3,673	3,267	3,476	3,639
E. S. Central	819	734	801	812	825	838	851	866	873	879	884	889	791	845	881
W. S. Central	2,293	2,101	2,243	2,279	2,304	2,354	2,396	2,447	2,474	2,498	2,518	2,536	2,229	2,375	2,506
Mountain	1,270	1,165	1,252	1,266	1,291	1,317	1,341	1,366	1,379	1,391	1,399	1,408	1,238	1,329	1,394
Pacific	3,729	3,399	3,645	3,676	3,732	3,827	3,909	3,993	4,035	4,072	4,098	4,127	3,612	3,865	4,083
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	96.1	82.6	91.6	94.6	94.9	90.6	92.7	94.8	95.8	96.6	97.0	97.4	91.3	93.3	96.7
Middle Atlantic	95.0	79.2	89.9	92.5	92.8	89.0	91.3	93.7	94.8	95.8	96.4	96.9	89.2	91.7	96.0
E. N. Central	95.9	79.0	91.8	94.4	94.9	97.0	99.2	102.0	103.5	104.7	105.5	106.3	90.3	98.3	105.0
W. N. Central	98.0	86.0	94.7	97.1	97.9	98.0	100.1	102.6	103.5	104.2	104.9	105.4	94.0	99.7	104.5
S. Atlantic	98.6	85.8	95.2	98.4	98.7	103.2	105.7	108.3	109.5	110.5	111.1	111.5	94.5	104.0	110.6
E. S. Central	96.6	79.9	93.6	96.7	97.7	103.3	105.6	108.1	109.1	110.0	110.7	111.3	91.7	103.7	110.3
W. S. Central	100.2	88.9	95.7	97.9	98.7	93.3	95.6	98.3	99.7	100.9	101.6	102.2	95.7	96.5	101.1
Mountain	102.8	92.2	101.3	104.0	105.1	112.1	114.5	117.1	118.2	119.2	119.8	120.4	100.1	112.2	119.4
Pacific	96.4	84.0	91.6	93.3	93.3	94.1	96.4	98.8	100.2	101.6	102.4	103.2	91.3	95.6	101.9
Real Personal Income (Billion \$2012)															
New England	892	978	929	922	1,008	947	931	931	935	943	950	954	930	954	945
Middle Atlantic	2,314	2,522	2,430	2,340	2,589	2,420	2,376	2,365	2,375	2,398	2,416	2,425	2,402	2,437	2,404
E. N. Central	2,457	2,700	2,580	2,535	2,864	2,631	2,571	2,570	2,582	2,604	2,622	2,634	2,568	2,659	2,610
W. N. Central	1,159	1,260	1,180	1,192	1,328	1,241	1,214	1,217	1,219	1,229	1,237	1,240	1,198	1,250	1,231
S. Atlantic	3,267	3,507	3,411	3,363	3,755	3,495	3,433	3,428	3,448	3,479	3,506	3,526	3,387	3,528	3,490
E. S. Central	911	991	938	934	1,070	986	962	961	964	971	977	980	943	994	973
W. S. Central	2,038	2,202	2,101	2,069	2,338	2,165	2,110	2,132	2,144	2,168	2,188	2,202	2,102	2,186	2,176
Mountain	1,211	1,317	1,257	1,253	1,406	1,309	1,282	1,282	1,289	1,301	1,311	1,318	1,260	1,320	1,304
Pacific	2,833	3,036	2,977	2,955	3,214	3,030	2,984	2,980	2,994	3,022	3,046	3,061	2,950	3,052	3,031
Households (Thousands)															
New England	5,896	5,855	5,961	5,954	5,955	5,958	5,965	5,978	5,991	6,003	6,015	6,026	5,954	5,978	6,026
Middle Atlantic	16,157	16,042	16,343	16,333	16,341	16,353	16,379	16,418	16,452	16,485	16,516	16,549	16,333	16,418	16,549
E. N. Central	18,873	18,757	19,104	19,077	19,084	19,100	19,132	19,183	19,228	19,259	19,289	19,322	19,077	19,183	19,322
W. N. Central	8,651	8,606	8,770	8,771	8,783	8,796	8,815	8,843	8,868	8,894	8,920	8,941	8,771	8,843	8,941
S. Atlantic	25,667	25,560	26,072	26,111	26,170	26,235	26,325	26,442	26,550	26,660	26,765	26,865	26,111	26,442	26,865
E. S. Central	7,662	7,625	7,772	7,776	7,787	7,799	7,820	7,847	7,872	7,897	7,922	7,943	7,776	7,847	7,943
W. S. Central	14,881	14,825	15,125	15,153	15,189	15,228	15,284	15,354	15,421	15,486	15,551	15,610	15,153	15,354	15,610
Mountain	9,461	9,436	9,641	9,670	9,708	9,747	9,794	9,852	9,905	9,955	10,005	10,049	9,670	9,852	10,049
Pacific	18,795	18,691	19,041	19,043	19,051	19,063	19,095	19,146	19,196	19,239	19,283	19,317	19,043	19,146	19,317
Total Non-farm Employment (Millions)															
New England	7.6	6.4	6.8	6.9	7.0	7.1	7.2	7.3	7.3	7.4	7.4	7.5	6.9	7.1	7.4
Middle Atlantic	20.1	16.7	17.9	18.2	18.3	18.5	18.9	19.1	19.3	19.5	19.7	19.8	18.2	18.7	19.6
E. N. Central	22.3	19.3	20.7	20.8	20.9	21.1	21.4	21.6	21.8	21.9	22.1	22.2	20.8	21.3	22.0
W. N. Central	10.8	9.7	10.2	10.2	10.3	10.4	10.5	10.6	10.7	10.7	10.8	10.8	10.2	10.5	10.8
S. Atlantic	29.3	26.2	27.4	27.8	27.9	28.1	28.5	28.8	29.0	29.2	29.4	29.6	27.7	28.3	29.3
E. S. Central	8.3	7.5	7.9	8.0	8.0	8.1	8.2	8.2	8.3	8.3	8.3	8.4	7.9	8.1	8.3
W. S. Central	17.9	16.2	16.7	17.0	17.1	17.3	17.6	17.8	17.9	18.0	18.1	18.2	17.0	17.4	18.0
Mountain	11.2	10.0	10.5	10.6	10.7	10.9	11.0	11.2	11.2	11.3	11.4	11.4	10.6	11.0	11.3
Pacific	24.0	20.9	21.6	21.9	21.9	22.4	22.9	23.2	23.4	23.6	23.8	23.9	22.1	22.6	23.7

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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 - August 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
Heating Degree Days															
New England	2,731	970	115	1,994	3,007	777	136	2,122	3,120	867	141	2,132	5,809	6,042	6,260
Middle Atlantic	2,471	837	85	1,830	2,818	666	78	1,952	2,909	695	90	1,961	5,222	5,514	5,656
E. N. Central	2,785	847	126	2,099	3,086	709	121	2,244	3,161	738	134	2,259	5,857	6,160	6,291
W. N. Central	3,038	800	167	2,314	3,228	719	144	2,446	3,253	709	165	2,456	6,319	6,538	6,584
South Atlantic	1,111	254	17	879	1,346	211	12	938	1,375	195	13	936	2,261	2,507	2,519
E. S. Central	1,480	337	20	1,224	1,792	314	21	1,298	1,809	252	21	1,298	3,061	3,425	3,380
W. S. Central	970	102	8	738	1,299	121	5	788	1,150	83	4	787	1,818	2,213	2,025
Mountain	2,220	676	127	1,780	2,303	666	131	1,839	2,228	696	143	1,836	4,804	4,939	4,903
Pacific	1,536	527	64	1,080	1,555	483	83	1,232	1,547	577	86	1,210	3,207	3,353	3,419
U.S. Average	1,881	543	71	1,422	2,106	472	70	1,523	2,114	488	77	1,521	3,916	4,171	4,201
Heating Degree Days, Prior 10-year Average															
New England	3,152	822	105	2,127	3,133	855	107	2,099	3,099	852	113	2,123	6,207	6,194	6,187
Middle Atlantic	2,948	644	69	1,944	2,913	678	71	1,911	2,887	684	74	1,931	5,606	5,573	5,576
E. N. Central	3,198	698	102	2,197	3,157	731	105	2,170	3,133	728	102	2,198	6,195	6,162	6,160
W. N. Central	3,288	703	132	2,380	3,248	728	133	2,368	3,219	726	131	2,398	6,502	6,477	6,474
South Atlantic	1,461	169	10	953	1,395	181	11	916	1,380	187	11	919	2,593	2,503	2,497
E. S. Central	1,849	214	15	1,277	1,771	231	16	1,249	1,763	243	15	1,254	3,356	3,267	3,275
W. S. Central	1,199	83	3	794	1,140	86	3	786	1,145	93	3	784	2,078	2,015	2,025
Mountain	2,198	721	136	1,850	2,188	704	135	1,850	2,180	686	134	1,838	4,905	4,877	4,838
Pacific	1,456	580	85	1,162	1,461	553	80	1,146	1,454	523	79	1,138	3,283	3,241	3,194
U.S. Average	2,153	473	64	1,512	2,112	483	65	1,487	2,095	479	64	1,494	4,202	4,147	4,133
Cooling Degree Days															
New England	0	103	545	0	0	148	409	3	0	82	398	2	648	559	481
Middle Atlantic	0	156	683	4	0	185	587	5	0	150	527	5	844	777	682
E. N. Central	2	218	606	2	2	252	551	7	0	212	520	6	828	812	738
W. N. Central	6	295	662	3	8	311	665	10	3	261	658	9	966	994	931
South Atlantic	194	618	1,228	299	151	625	1,161	241	133	651	1,162	247	2,339	2,178	2,193
E. S. Central	74	425	1,062	81	41	436	1,019	64	29	508	1,040	66	1,641	1,560	1,643
W. S. Central	173	838	1,500	210	89	768	1,427	200	90	868	1,504	202	2,720	2,483	2,664
Mountain	10	460	1,074	116	10	528	939	76	18	426	932	77	1,660	1,554	1,452
Pacific	25	196	716	127	24	254	636	60	27	171	595	61	1,065	975	854
U.S. Average	70	393	931	121	49	413	858	95	46	398	850	97	1,514	1,415	1,390
Cooling Degree Days, Prior 10-year Average															
New England	0	83	471	1	0	81	474	1	0	88	467	1	554	556	556
Middle Atlantic	0	170	609	6	0	163	610	6	0	162	604	7	786	779	773
E. N. Central	3	240	579	8	3	234	572	7	3	238	563	7	829	816	811
W. N. Central	7	296	696	11	7	294	686	10	7	299	673	10	1,010	997	989
South Atlantic	127	695	1,201	247	143	679	1,194	260	147	669	1,188	265	2,270	2,276	2,268
E. S. Central	36	557	1,082	72	42	532	1,065	74	44	518	1,058	77	1,747	1,714	1,697
W. S. Central	100	892	1,576	207	114	880	1,567	210	113	852	1,531	212	2,775	2,771	2,708
Mountain	24	430	934	80	24	441	948	85	23	458	943	85	1,468	1,498	1,509
Pacific	31	185	624	78	31	193	647	86	31	208	657	86	919	958	982
U.S. Average	47	419	891	99	52	413	892	104	53	413	884	105	1,455	1,461	1,455

- = no data available

Notes: EIA completed modeling and analysis for this report on August 5, 2021.

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

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

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

Regions refer to U.S. Census divisions. See "Census division" in EIA's Energy Glossary (<http://www.eia.gov/tools/glossary/>) for a list of states in each region.

Historical data: Latest data available from U.S. Department of Commerce, National Oceanic and Atmospheric Association (NOAA).

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

Appendix to the August 2021 Short-Term Energy Outlook

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

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

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

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	June 2021	July 2021	Jun 2021 – July 2021 Average	Jun 2020 – July 2020 Average	2018 - 2020 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	96.1	97.4	96.8	89.5	98.5
Global Petroleum and Other Liquids Consumption (b)	98.5	98.8	98.6	91.4	97.7
Biofuels Production (c)	3.1	3.2	3.1	3.0	2.7
Biofuels Consumption (c)	2.6	2.6	2.6	2.6	2.6
Iran Liquid Fuels Production	3.6	3.6	3.6	2.9	3.6
Iran Liquid Fuels Consumption	1.8	1.8	1.8	1.7	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	89.5	90.7	90.1	83.6	92.2
Consumption (d)	94.1	94.4	94.2	87.1	93.4
Production minus Consumption	-4.7	-3.7	-4.2	-3.5	-1.1
World Inventory Net Withdrawals Including Iran	2.4	1.4	1.9	1.9	-0.8
Estimated OECD Inventory Level (e) (million barrels)	2,873	2,860	2,866	3,204	2,942
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	7.6	6.9	7.2	8.8	3.4

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

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

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

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

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

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

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

Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item			June 2021 – July	June 2020 - July	2018 - 2020
	June 2021	July 2021	2021 Average	2020 Average	Average
Brent Front Month Futures Price (\$ per barrel)	73.41	74.29	73.84	42.00	59.69
WTI Front Month Futures Price (\$ per barrel)	71.35	72.43	71.88	39.54	53.76
Dubai Front Month Futures Price (\$ per barrel)	71.75	72.83	72.28	42.75	59.01
Brent 1st - 13th Month Futures Spread (\$ per barrel)	5.83	6.43	6.12	16.08	1.01
WTI 1st - 13th Month Futures Spread (\$ per barrel)	6.92	7.61	7.26	11.09	0.57
RBOB Front Month Futures Price (\$ per gallon)	2.21	2.27	2.24	1.22	1.61
Heating Oil Front Month Futures Price (\$ per gallon)	2.12	2.13	2.12	1.19	1.76
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.46	0.50	0.48	0.22	0.19
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.37	0.36	0.37	0.19	0.34

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

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

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

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