Independent Statistics & Analysis
U.S. Energy Information Administration

November 2021

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The November *Short-Term Energy Outlook* (STEO) remains subject to heightened levels of uncertainty related to the ongoing recovery from the COVID-19 pandemic. U.S. gross domestic product (GDP) declined by 3.4% in 2020 from 2019 levels. This STEO assumes U.S. GDP will grow by 5.4% in 2021 and by 4.2% in 2022. The U.S. macroeconomic assumptions in this outlook are based on forecasts by IHS Markit. In addition to uncertainty about macroeconomic conditions, the evolving effects of consumer behavior on energy demand because of the pandemic present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast results from the production decisions of OPEC+ along with the rate at which U.S. oil and natural gas producers increase drilling at forecast price levels.

- Brent crude oil spot prices averaged $84 per barrel (b) in October, up $9/b from September and up $43/b from October 2020. Crude oil prices have risen over the past year as result of steady draws on global oil inventories, which averaged 1.9 million barrels per day (b/d) during the first three quarters of 2021. In addition to sustained inventory draws, prices increased after OPEC+ announced in early October—and reaffirmed on November 4—that the group would keep current production targets unchanged. We expect Brent prices will remain near current levels for the rest of 2021, averaging $82/b in the fourth quarter of 2021. In 2022, we expect that growth in production from OPEC+, U.S. tight oil, and other non-OPEC countries will outpace slowing growth in global oil consumption and contribute to Brent prices declining from current levels to an annual average of $72/b.

- We estimate that 98.9 million b/d of petroleum and liquid fuels was consumed globally in October, an increase of 4.5 million b/d from October 2020 but 1.9 million b/d less than in October 2019. We revised up our forecast for consumption of petroleum and liquid fuels for the fourth quarter of 2021, partially as a result of fuel switching from natural gas to petroleum in the electric power sector in parts of Asia and Europe. This fuel switching is a result of increases in natural gas prices in Asia and Europe. We forecast that global consumption of petroleum and liquid fuels will average 97.5 million b/d for all of 2021, which is a 5.1 million b/d increase from 2020. We forecast that global consumption of petroleum and liquid fuels will increase by 3.3 million b/d in 2022.

Note: EIA completed modeling and analysis for this report on Thursday November 4, 2021

- U.S. regular gasoline retail prices averaged $3.29 per gallon (gal) in October, up 12 cents/gal from September, and $1.13/gal higher than in October 2020. The October price was the highest monthly average since September 2014. We forecast that retail gasoline prices will average $3.32/gal in November before falling to $3.16/gal in December, which are 16 cents/gal and 11 cents/gal higher than our previous forecast, respectively.

- U.S. crude oil production averaged an estimated 11.4 million b/d in October, up from 10.7 million b/d in September as a result of production increases following disruptions from Hurricane Ida. We forecast production will rise to 11.6 million b/d in December. We forecast annual production will average 11.1 million b/d in 2021, increasing to 11.9 million b/d in 2022 as tight oil production rises in the United States. Growth will come largely as a result of onshore operators increasing rig counts, which we expect will offset production decline rates.

Natural Gas

- In October, the natural gas spot price at Henry Hub averaged $5.51 per million British thermal units (MMBtu), which was up from the September average of $5.16/MMBtu and up from an average of $3.25/MMBtu in the first half of 2021. The rising natural gas prices in recent months reflect U.S. natural gas inventory levels that are below the five-year (2016–20) average. Despite high prices demand for natural gas for electric power generation has remained relatively high, which along with strong global demand for U.S. liquefied natural gas (LNG) has limited downward natural gas price pressures.

- The Henry Hub spot price will average $5.53/MMBtu from November through February in our forecast and then generally decline through 2022, averaging $3.93/MMBtu for the year amid rising U.S. natural gas production and slowing growth in LNG exports. We forecast that U.S. inventory draws will be similar to the five-year average this winter, and we expect that factor, along with rising U.S. natural gas exports and relatively flat production through March, will keep U.S. natural gas prices near recent levels before downward price pressures emerge. Because of uncertainty around seasonal demand, we expect natural gas prices to remain volatile over the coming months with winter temperatures to be a key driver of demand and prices.

- We estimate that U.S. LNG exports averaged 9.8 billion cubic feet per day (Bcf/d) in October 2021, up 0.3 Bcf/d from September, supported by large prices differences between Henry Hub prices in the United States and spot prices in Europe and Asia. LNG exports resumed from Cove Point LNG in late October after that facility's annual maintenance was completed. In our forecast LNG exports average 9.8 Bcf/d for all of 2021, up 50% from 2020. We expect that LNG exports will increase this winter, averaging 11.0 Bcf/d from November through March. We expect high levels of LNG

exports to continue into 2022, averaging 11.5 Bcf/d for the year, up 17% from 2021. The forecast reflects our assumption that global natural gas demand remains high and several new natural liquefaction trains—the sixth train at Sabine Pass LNG and the first trains at the new LNG export facility, Calcasieu Pass LNG—enter service.

- U.S. natural gas inventories ended October 2021 at more than 3.6 trillion cubic feet (Tcf), 3% less than the five-year average for this time of year. Injections into storage this summer were below the previous five-year average, largely as a result of more electricity consumption in June because of hot weather and increased exports, even as domestic natural gas production has remained flat. However, in recent weeks, storage levels have moved closer to average levels as injections outpaced the five-year average in September and October. We expect natural gas inventories to fall by 2.1 Tcf this winter, ending March at 1.6 Tcf, which would be 4% less than the 2017–21 average for that time of year.

- We estimate dry natural gas production averaged 94.9 Bcf/d in the United States in October (up from 94.5 Bcf/d in September) and 91.9 Bcf/d in in the first half of 2021. Production in the forecast rises to an average of 95.2 Bcf/d during the rest of this winter (November–March) and averages 96.7 Bcf/d during 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

- The share of electricity generation produced by natural gas in the United States averages 36% in 2021 and 35% in 2022 in our forecast, down from 39% in 2020. In 2021, our 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 $5.12/MMBtu compared with $2.39/MMBtu in 2020. As a result of the higher expected natural gas prices, the forecast share of electricity generation from coal rises from 20% in 2020 to about 23% in 2021 and 22% in 2022. For renewable energy sources, 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. electricity generation to average 20% in 2021, about the same as last year, before rising to 22% in 2022. The nuclear share of U.S. electricity generation declines from 21% in 2020 to 20% in 2021 and 2022.

- We expect coal consumption in the electric power sector to rise by 80 million short tons (MMst), or 18%, in 2021. The increase in the electric power sector's use of coal reflects higher natural gas prices this year compared with last year. However, electricity generation from coal-fired power plants has not increased as much in response to rising natural gas prices as it has in the past or by as much as our models had forecast earlier this year. The lower price responsiveness of coal for electricity

generation, which is likely the result of constraints on coal supply and low coal stocks, is contributing to upward pressure on natural gas prices.

- U.S. coal exports in our forecast rise by 20 MMst (29%) in 2021. Higher U.S. exports reflect rising global demand for coal amid high natural gas prices. We expect exports to remain relatively unchanged in 2022, when a 3 MMst increase in metallurgical coal exports is partly offset by a 2 MMst decline in steam coal exports. U.S. coal production growth has not kept pace with rising domestic demand for steam coal in the electric power sector and export growth, leading to a draw down in coal inventories held by the electric power sector.

- Planned additions to U.S. wind and solar capacity in 2021 and 2022 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14.6 gigawatts (GW) of new wind capacity in 2020. We expect 17.0 GW of new wind capacity will come online in 2021 and 6.9 GW in 2022. Utility-scale solar capacity rose by an estimated 10.5 GW in 2020. Our forecast for added utility-scale solar capacity is 15.7 GW for 2021 and 18.2 GW for 2022. We expect significant solar capacity additions in Texas during the forecast period. In addition, we project that after increasing by 4.5 GW to 27.7 GW in 2020, small-scale solar capacity (systems less than 1 megawatt) will grow by 5.8 GW in 2021 and by 7.8 GW in 2022.

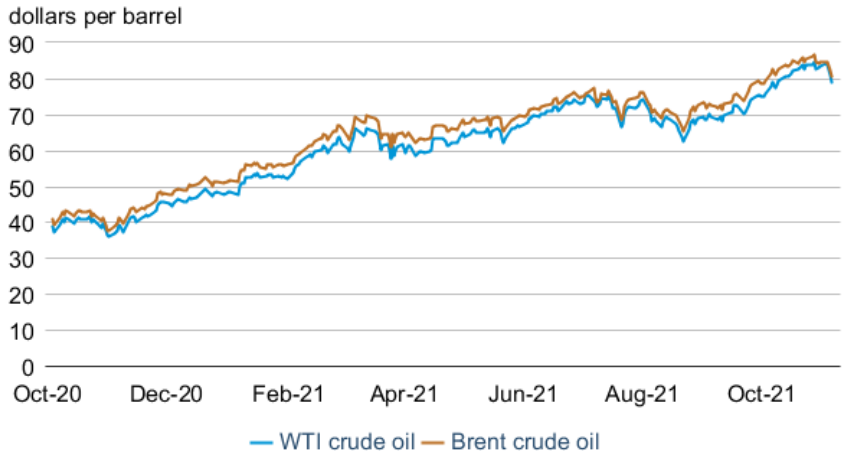
- U.S. energy-related carbon dioxide (CO_2) emissions decreased by 11% in 2020 as a result of less energy consumption due to reduced economic activity and to end user responses to COVID-19. For 2021, we forecast energy-related CO_2 emissions will increase about 7% from the 2020 level as economic activity increases and leads to rising energy use. We expect a 1% increase in energy-related CO_2 emissions in 2022. We forecast that after declining by 19% in 2020, coal-related CO_2 emissions will rise by 18% in 2021 and then fall by 5% in 2022.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $80.54 per barrel (b) on November 4, 2021, up $1.26/b from $79.28/b on October 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $2.93/b during the same period, settling at $78.81/b on November 4 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices

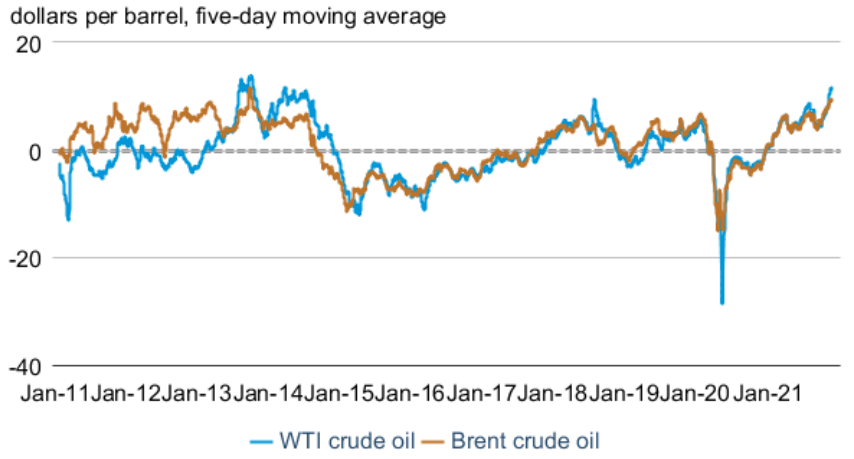


Source: Graph by EIA, based on CME Group and Intercontinental Exchange, compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The front-month Brent crude oil price averaged $84/b in October, an increase of $9/b from September, and the WTI price averaged $81/b, an increase of $10/b from September. Without adjusting for inflation, these prices were the highest monthly average nominal prices since October 2014. Restraints on global production and expectations of higher demand this winter continue to contribute to upward price pressures. Trade press has indicated increased purchases of oil and petroleum products from electric generators in parts of Asia and Europe that may switch fuels from natural gas to oil in the winter. Furthermore, several countries, such as Thailand, Israel, Australia, and the United States, eased international border and travel restrictions in early November, which could support more fuel demand for air travel in some locations this winter.

Differences in prices between crude oil contracts for delivery in the near term compared with contracts for delivery further into the future indicate market expectations that stock draws will moderate in the future. Crude oil stock levels, among other factors, affect the relationship between near-term and longer-term futures prices. Because crude oil stocks are currently low globally and in the United States, both Brent and WTI are backwardated (when near-month prices are higher than longer-dated ones) **(Figure 2)**.

Figure 2. Crude oil front-month to 13th month futures price spread



Source: Graph by EIA, based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg
Note: WTI=West Texas Intermediate

The five-day moving average of the spread between prices for the 1st month futures contract and 13th month contract for Brent increased to $9.04/b on November 4 (up from $7.05/b on October 1), and on November 2 was at its highest spread since September 13, 2013. The 1st-13th spread for WTI increased to $11.20/b on November 4 (from $6.78/b on October 1), and on November 2 was at its highest spread since September 20, 2013. We estimate total U.S. crude oil stocks ended October at 435.4 million barrels, the lowest October level since 2018 and 6.2% below the five-year (2016–2020) average for the month. Crude oil inventories are especially low in Cushing, Oklahoma, the delivery point for the WTI crude oil futures contract. In the week ending October 29, crude oil inventories in Cushing were 24.0 million barrels, meaning Cushing's storage capacity utilization was only about 31%. We forecast global stock builds starting in the spring of 2022, which likely will reduce some of the tightness in the market that may be contributing to high front-month prices.

During the past decade, similarly high levels of backwardation in Brent and WTI crude oil have typically only occurred during periods of large, unplanned supply disruptions. This year, however, the significant decline in inventories and resulting backwardation are the result of a strong increase in oil demand as well as restrained crude oil production levels among OPEC+ members. At its early October meeting—and reaffirmed at its November 4 meeting, OPEC+ committed to maintaining its scheduled crude oil production increase of 400,000 barrels per day (b/d) in December rather than increase production by more in response to high crude oil prices and increasing demand.

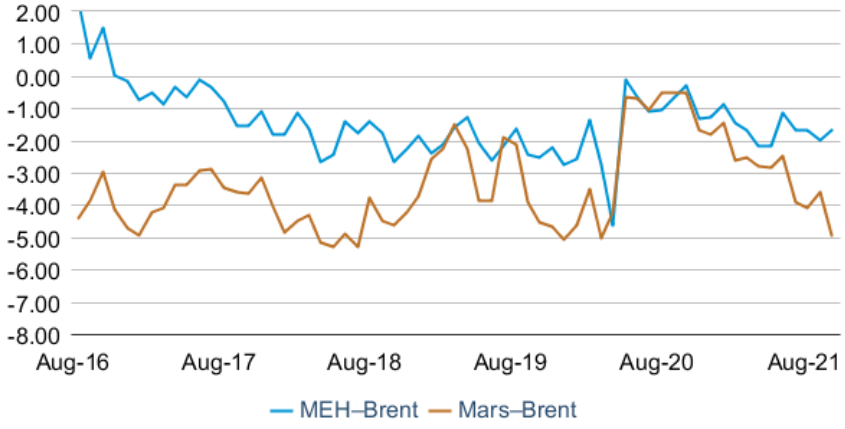
We estimate that world crude oil consumption has exceeded crude oil production for five consecutive quarters going back to the third quarter of 2020. During this period, total petroleum stocks among countries in the Organization for Economic Cooperation and Development (OECD) fell by 424 million barrels—from 9% above the five-year average in June 2020 to 7% below the five-year average at the end of September 2021. We forecast global crude oil demand will

exceed global supply through the end of the year, contribute to some additional stocks draws, and keep the Brent crude oil price above $80/b through December. However, we forecast that global oil stocks will begin building in 2022, driven by rising production from OPEC+ and the United States, along with slowing growth in global oil demand. We expect this shift will put downward pressure on the Brent price, which averages $72/b for 2022 in our forecast.

***Crude oil price spreads*:** The price for crude oils with high levels of sulfur declined relative to those with lower levels, as a result of both rising crude oil exports from OPEC and high natural gas prices that may be affecting the costs of certain refinery operations, among other factors. OPEC has been increasing production and exports during the second half of 2021. Crude oil production from many OPEC countries tend be a sour grade. The increase in OPEC exports has added to global supplies of sour crude oils. Additionally, sour crude oils must first be treated with hydrogen to meet low-sulfur fuel specifications and to avoid damage to refinery units. Because natural gas is used in hydrogen production, the recently high global natural gas prices have contributed to higher refinery feedstock costs, particularly in Europe and Asia. When the cost of natural gas increases, sour crude oils become more costly to run. Higher treatment costs of sour crude oil have likely made them less economic for refiners as global natural gas prices have increased, contributing to higher demand for sweeter crude (lower sulfur) oils such as Magellan East Houston (MEH) and lower demand for more sour crude oils, such as Mars.

These factors are likely reducing the price of certain grades of crude oil that require more processing to be converted to finished petroleum products. For example, Mars crude oil, which is produced in the Federal Offshore Gulf of Mexico and has a sulfur content of 1.93%, decreased in price in October relative to light sweet crude oils such as MEH and Brent, which both have sulfur contents of 0.45%. The Mars–Brent spread widened to an average of -$4.93b in October, from -$3.58/b in September. In comparison, MEH crude oil prices narrowed slightly relative to Brent in October **(Figure 3)**.

Figure 3. Crude oil differentials to Brent

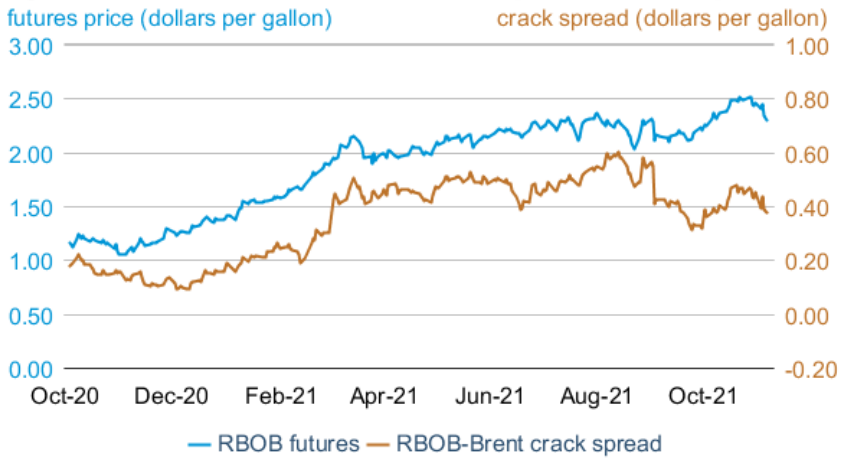


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

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 November 4, up 4 cents/gal from October 1 **(Figure 4)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 1 cent/gal to settle at 37 cents/gal during the same period. The average RBOB–Brent crack spread in October was 43 cents/gal, up from 38 cents/gal in September.

Figure 4. Historical RBOB front-month futures prices and crack spreads



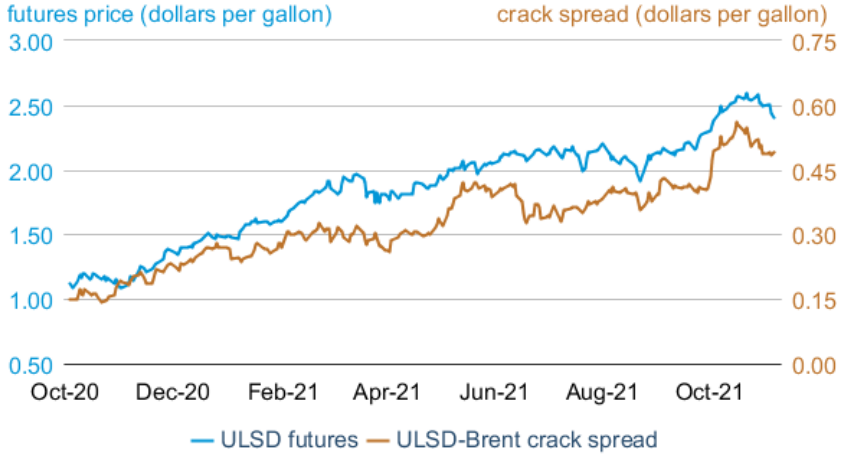
Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

In October, rising crude oil prices contributed to the highest gasoline prices (in nominal prices) since September 2014. Crude oil prices are the primary driver of the higher gasoline price, but the gasoline crack spread also increased in October compared with September, reaching a high of 48 cents/gal on October 18, before it decreased near the end of the month. Rapidly increasing crude oil prices typically reduce product crack spreads, but low inventories are supporting crack spreads. Gasoline inventory draws were relatively large in September, which likely reflects a combination of less refinery production throughout 2021 than in recent years and higher gasoline demand compared with earlier in 2021. We estimate total U.S. gasoline inventories fell by 11.4 million barrels in October compared with September, which was a larger inventory draw than the five-year average and has also resulted in inventory levels near the five-year low.

We estimate U.S. gasoline consumption in October 2021 increased to 9.2 million b/d, higher than levels seen in August and September. Typically, gasoline consumption decreases substantially from August to October, declining by 5% over that period in both 2018 and 2019 and declining by 2% over that period in 2020. We forecast gasoline consumption will decrease to less than 9.0 million b/d in November and remain below that level until May 2022.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.41/gal on November 4, up 2 cents/gal from October 1 **(Figure 5)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased 1 cent/gal during the same period and settled at 49 cents/gal on November 4. The ULSD–Brent crack spread averaged 52 cents/gal in October.

Figure 5. Historical ULSD front-month futures prices and crack spreads



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

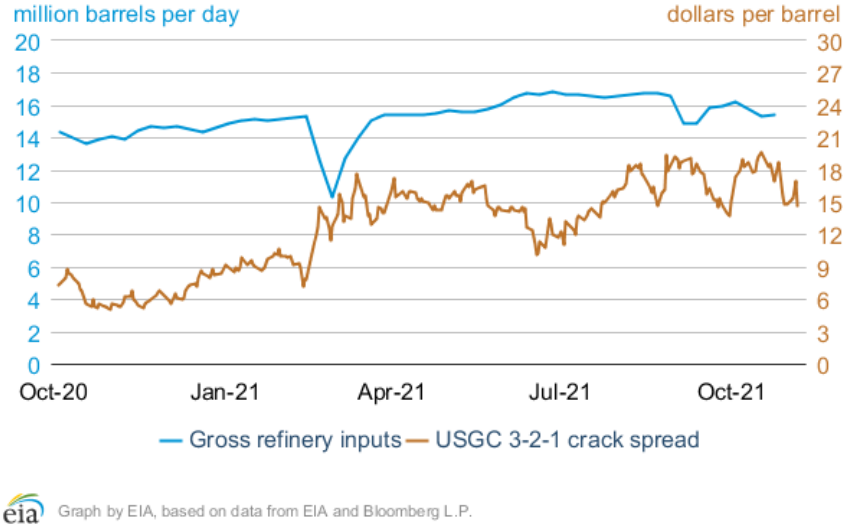
The distillate futures price rose to its highest level (in nominal prices) since October 2014, reaching $2.59/gal on October 20, before declining several cents toward the end of October, reflecting recent movements in crude oil prices. Distillate crack spreads remained elevated in October due to low refinery production, which has contributed to inventory levels near the five-year low. The ULSD crack spread only accounts for the price of crude oil inputs; it does not consider other inputs or operational costs associated with ULSD production. In particular, hydrogen produced at natural gas plants is an important secondary input for ULSD production at many refineries. Higher natural gas prices may be contributing to increased crack spreads, as well as increased refinery costs that may prevent ULSD producers from achieving higher margins.

We estimate U.S. distillate consumption at 4.0 million b/d in October, about the same level compared with September. However, distillate consumption typically increases from September to October. Agricultural use in the peak of the harvest season likely drove this increase in distillate consumption. The rising consumption was likely offset by a mild October in the Northeast that may have reduced some home heating oil consumption there. In addition, a shortage of truck drivers may have limited diesel consumption as well, despite high demand for trucking and rail volumes to respond to supply chain backlogs at U.S. ports. Based on our *Weekly Petroleum Status Report* (WPSR), we estimate four-week average exports as of October 29 were 1.0 million b/d. If confirmed in monthly data, this average for exports would be the lowest level for October since 2014 and would continue the trend of exports lower than the five-year

average in every month since August 2020. This low level of exports contributed to the lowest distillate inventory withdrawals for October since 2009.

Crack spreads and refinery runs: Higher gasoline and distillate crack spreads associated with lower inventories have resulted in sharp increases in estimated overall refining margins during seasonal refinery maintenance **(Figure 6).** Rising gasoline demand contributed to increased gross refinery inputs (runs) in the United States throughout the summer, and runs remained above 16 million b/d from May through August, according to our *Petroleum Supply Monthly* (PSM). September and October are typically the time for seasonal refinery maintenance, and U.S. Gulf Coast refinery operations were reduced because of inclement weather from hurricanes and tropical storms during late August and early September. During this period, the U.S. Gulf Coast 3-2-1 crack spread, which serves as a measure of refinery profitability (by subtracting the prices of two-thirds of a barrel of gasoline and one-third of a barrel of diesel from the price of a barrel of WTI crude oil), increased from $11/b at the start of July to more than $19/b in late August and again in mid-October.

Figure 6. U.S. Refinery runs and 3-2-1 crack spread



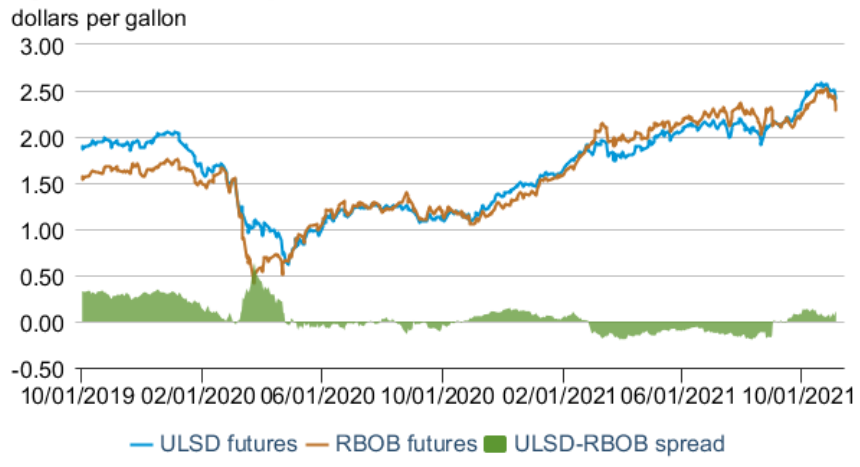
Graph by EIA, based on data from EIA and Bloomberg L.P.

Refinery runs also decreased in early October because of seasonal maintenance, and lower than average product inventories resulted in another increase in the crack spread, which reached $19.63/b on October 15, setting a new high for 2021. Although refinery maintenance often occurs in the fall, higher gasoline demand compared with earlier this year and lower relative inventories of both gasoline and distillate appear to be contributing to a tighter market in 2021.

ULSD-RBOB spread: Relatively higher RBOB prices in the summer months typically indicate higher gasoline demand in the summer and more expensive summer-grade gasoline. Lower gasoline demand in the fall and winter and the lower price of winter-grade gasoline, combined with higher diesel demand from the agricultural and home heating sectors, typically contribute to relatively higher ULSD prices from September through the end of the year. ULSD front-month

futures prices were lower than RBOB prices on a monthly-average basis from March through August of 2021, but traded at a premium to RBOB prices during September and October **(Figure 7)**. We calculate the ULSD-RBOB spread by subtracting the price of ULSD from the price of RBOB.

Figure 7. ULSD-RBOB spread



Source: Graph by EIA, based on data compiled by Bloomberg L.P.
Note: ULSD = ultra low sulfur diesel, RBOB is the petroleum component of gasoline

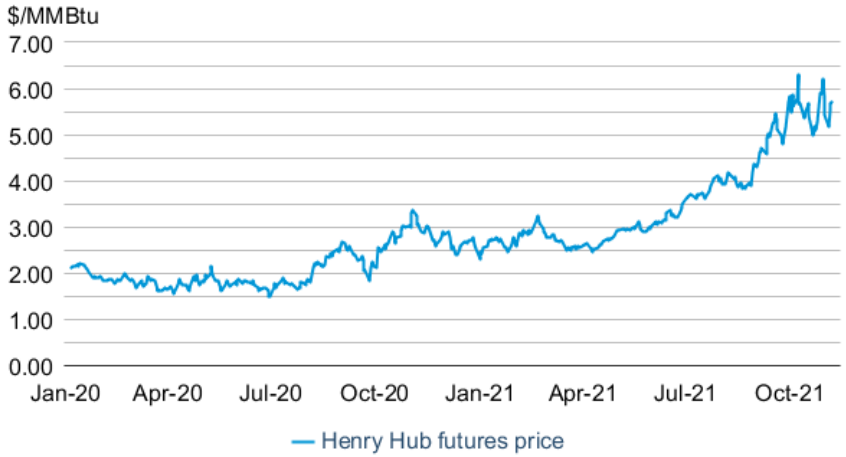
From March to August, RBOB traded on average 13 cents/gal higher than ULSD. During the past five years, the fuels have typically traded at roughly equal prices over that period. The relatively high RBOB prices likely reflected high summer gasoline exports and higher prices for renewable identification numbers (RINS)—which affect gasoline prices more than ULSD prices — over the summer. In addition, low jet fuel demand resulted in refineries reducing jet fuel production and shifting some of that production to ULSD, limiting upward pressure on ULSD prices.

In September, ULSD prices increased relative to RBOB prices and traded at a premium of 4 cents/gal to RBOB, the first monthly average premium since February 2021. However, the spread remained 9 cents/gal below the five-year average in October because some of the trends in 2021 that have contributed to higher relative gasoline prices still persist.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $5.72 per million British thermal units (MMBtu) on November 4, 2021, which was up $0.10/MMBtu from October 1, 2021 **(Figure 8)**. The average closing price for front-month natural gas futures contracts in October was $5.57/MMBtu, the highest October monthly average in real terms since October 2009.

Figure 8. Historical nominal front-month U.S. natural gas prices



eia CME Group, as compiled by Bloomberg L.P.

Despite mild weather that contributed to larger-than-average inventory builds, monthly average natural gas prices increased in October. Although builds were larger-than-average, inventories remain below the five-year (2016–20) average level, a condition which has contributed to rising natural gas prices in recent months. Relatively low inventory levels have been partly driven by demand for natural gas in the electric power sector that remained high because of limited ability for utilities to switch to coal for electric power generation. Consumption of natural gas in the United States tends to decline during September and October because temperatures are typically mild, resulting in low demand for both air conditioning and space heating. Consumption of natural gas was 71.8 billion cubic feet per day (Bcf/d) in October, down from an average of 75.0 Bcf/d in the third quarter. The decreased consumption was primarily driven by a decrease in natural gas-fired electric power generation, falling from 37.9 Bcf/d in the third quarter to 29.5 Bcf/d in October. However, natural gas use for power generation in October was 1.9 Bcf/d higher than we had forecast in last month's STEO. Higher-than-expected natural gas use in the electric power sector reflects limited natural gas-to-coal switching capabilities across the country, several planned nuclear outages in October, and lower-than-forecast electricity generation from wind.

As the weather gets colder, natural gas consumption typically shifts from the electric power sector to the residential and commercial sectors. Consumption in these sectors typically begins to increase in October due to colder temperatures, which results in increased natural gas consumption by buildings for space heating. However, because of milder temperatures this year, the residential and commercial sectors combined consumed 12.2 Bcf/d in October, which is 1.8 Bcf/d less than the five-year average. The United States as whole had 186 heating degree days (HDDs) in October, 52 fewer days than the October 2011–20 average of 238 HDDs.

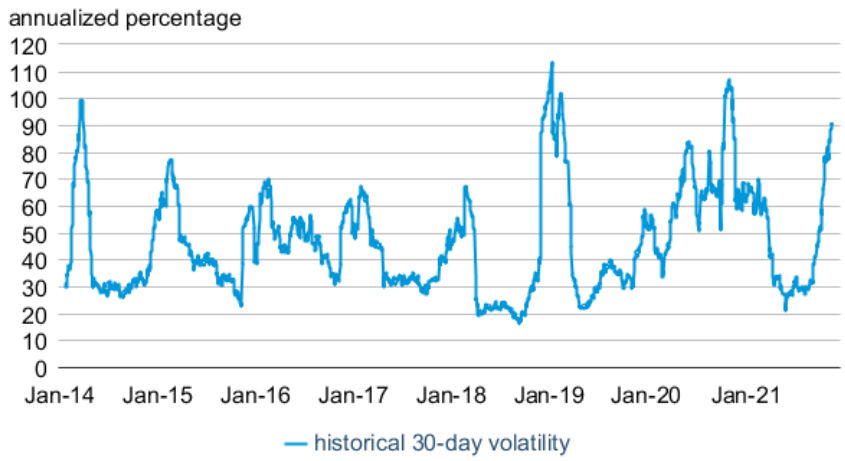
Despite higher-than-expected consumption in the electric power sector, lower-than-average consumption in the residential and commercial sectors during October contributed to natural

gas storage injections outpacing the five-year average. We estimate that U.S. working natural gas inventories increased by 343 billion cubic feet (Bcf) during October, which is 34% more than the five-year average build from September to October. This build resulted in inventories ending October at 3,646 Bcf, which is 3% below the five-year average. This level is a decrease in the deficit to the five-year average compared with September, which ended the month at 6% below the five-year average. Until October, inventories had built at a slower rate than the five-year average for much of the storage injection season that typically begins in April and ends in late October or early November. Low inventory levels have been a contributor to higher prices in recent months. Higher-than-average storage injections in October likely limited upward pressure on natural gas prices toward the end of the month.

The spread between international and domestic prices remained high in October, and contributed to continued strong demand for U.S. liquefied natural gas (LNG) cargoes. U.S. LNG exports averaged 9.8 Bcf/d in October, or approximately 103% of total LNG export capacity. LNG production capacity at U.S. LNG export terminals can be optimized to run at peak (maximum) rates in periods of high demand, above the nameplate (baseload) capacity that LNG export facilities were designed to operate under normal conditions.

Historical volatility: Volatility of U.S. natural gas futures prices has risen substantially in the past two months **(Figure 9)**. Historical volatility measures the magnitude of daily changes in closing prices for a commodity during a given time in the past. Based on rolling front-month contracts, the 30-day historical volatility of U.S. natural gas futures prices was 29.8% for April through August of this year. In September, volatility rose to 49.4%, compared with the 2015–2019 September average of 30.6%. In October, volatility rose to 78.3%, compared with the 2015–2019 October average of 32.7%. In October, daily front-month natural gas futures contract intraday prices ranged as high as $6.47/MMBtu on October 6 and as low as $4.83/MMBtu on October 19. The historical volatility of the natural gas futures price at the Henry Hub in October has corresponded with high volatility at international pricing hubs in Europe and Asia.

Figure 9. Natural gas historical volatility

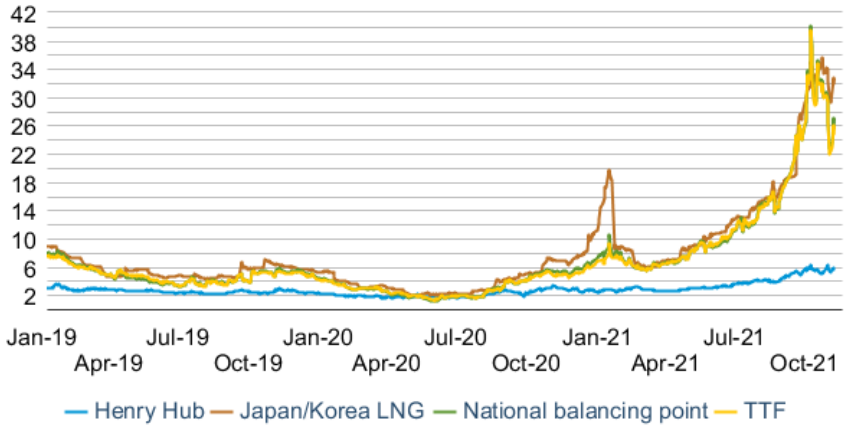


Source: Graph by EIA, based on data from Bloomberg L.P.

International natural gas prices: International LNG spot and forward prices reached record highs in the first week of October. Prices reached $35/MMBtu in northern Asia and nearly $40/MMBtu in Europe in the first week of October **(Figure 10),** according to pricing data by Bloomberg Finance, L.P. Prices in Asia were up nearly twentyfold—and prices in Europe up nearly thirty fold—from record lows during the summer of 2020, when economic responses to the COVID-19 pandemic significantly reduced global energy consumption. Several factors contributed to significant increases in global spot natural gas prices this year, including:

- Large increases in natural gas demand in Asia and Latin America
- Low natural gas storage inventories in Europe following a cold winter and a hot summer
- Reduced global LNG supply because of planned and unplanned outages at LNG export facilities in several countries

Figure 10. International natural gas prices



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

Significant growth in natural gas demand in response to economic recovery from the COVID-19 pandemic in Asia, led by China, contributed to increased demand for global spot LNG supplies, in addition to LNG imports supplied under long-term contracts. A shortage of coal supplies in China, higher LNG demand by the electric power and industrial sectors in Japan, and lower output by nuclear power plants in South Korea all contributed to a significant increase in LNG imports into Asia. In addition, natural gas storage inventories in Europe remained relatively low in October, compared with historical averages. At the end of October, natural gas inventories in Europe were 77% full, compared with 95% last year at this time and the 91% five-year average, according to data from Gas Infrastructure Europe's (GIE) Aggregated Gas Storage Inventory (AGSI+).

Recent price declines in Northeast Asia and Western Europe suggest concerns about natural gas supply during the winter have eased to some extent. Natural gas delivered from Europe's LNG import terminals, which between April and September 2021 had been at its lowest level since 2018, started to increase in October, averaging 6.6 Bcf/d, 2% higher than in October 2020, according to data from the GIE's Aggregated LNG Storage Inventory (ALSI). LNG inventories in key Asian LNG-consuming countries have also been gradually filling up, with Japan's LNG stocks reaching five-year high in October.

The difference in natural gas prices in Asia and Europe compared with the Henry Hub price, even after including acquisition and delivery costs to U.S. terminals, remains high. U.S. LNG exports indexed off natural gas futures at the Henry Hub are cost-competitive on the international market. U.S. LNG export capacity utilization was above 100% in September and October, and we expect it to remain at high levels this winter, even with additional liquefaction capacity set to come online in the next few months.

Our forecast assumes total U.S. LNG export capacity will continue to increase between December 2021 and late 2022 as a result of:

- Optimizing operations at Cheniere's Sabine Pass and Corpus Christi terminals, adding up to 0.7 Bcf/d of additional capacity (the Federal Energy Regulatory Commission (FERC) granted Cheniere approval to increase output by up to 11%)
- Completing Train 6 at Sabine Pass LNG, which is expected to be online in December 2021
- Commissioning of 10 mid-scale liquefaction units at a new facility, Calcasieu Pass, in Louisiana, starting in December 2021 and continuing through 2022

We forecast LNG exports will average 11.1 Bcf/d from December 2021 to February 2022, which would be the highest level of U.S. LNG exports on record.

Notable forecast changes

- U.S. crude oil production in the forecast averages 11.9 million b/d for 2022. This forecast is 0.2 million b/d (1.4%) higher than in the October STEO. The higher forecast is the result of our increased expectations for crude oil production in both the Permian Basin and Federal Offshore Gulf of Mexico (GOM). We raised our expectation of production in the Permian Basin as a result of higher expected drilling productivity. We raised our expectation of GOM production because we now expect some projects to come online sooner than previously forecast.

Short-Term Energy Outlook
Chart Gallery

November 9, 2021

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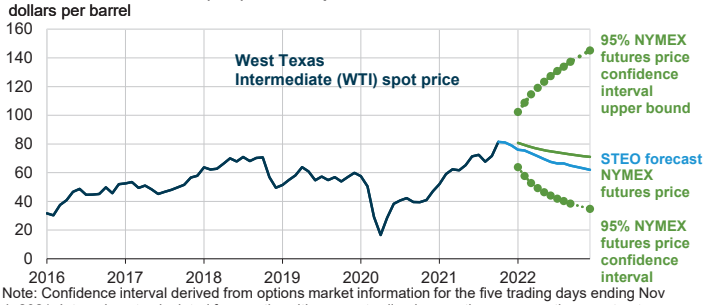
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel

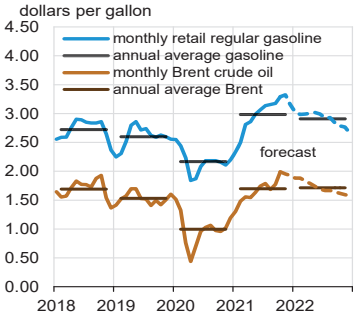


Note: Confidence interval derived from options market information for the five trading days ending Nov 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

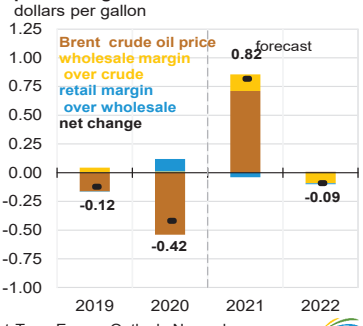
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

eia

U.S. gasoline and crude oil prices
dollars per gallon



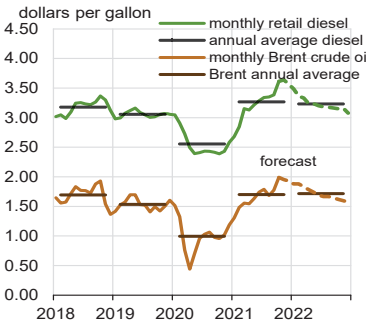
Components of annual gasoline price changes
dollars per gallon



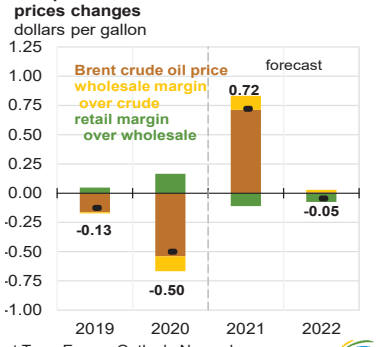
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, and Refinitiv an LSEG Business

eia

U.S. diesel and crude oil prices

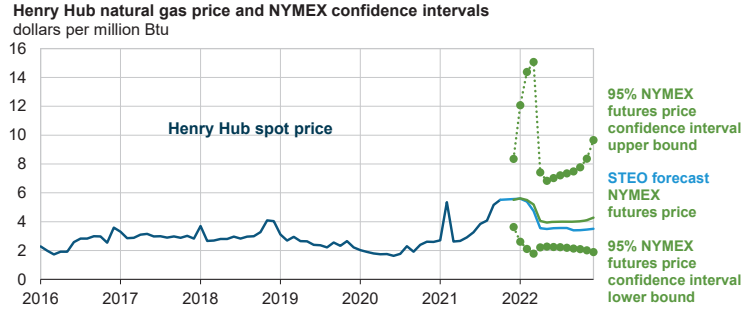


Components of annual diesel prices changes



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

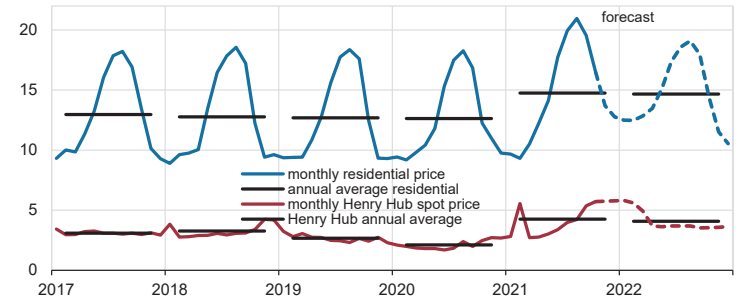
Henry Hub natural gas price and NYMEX confidence intervals



Note: Confidence interval derived from options market information for the five trading days ending Nov 4, 2021. Intervals not calculated for months with sparse trading in near-the-money options contracts.

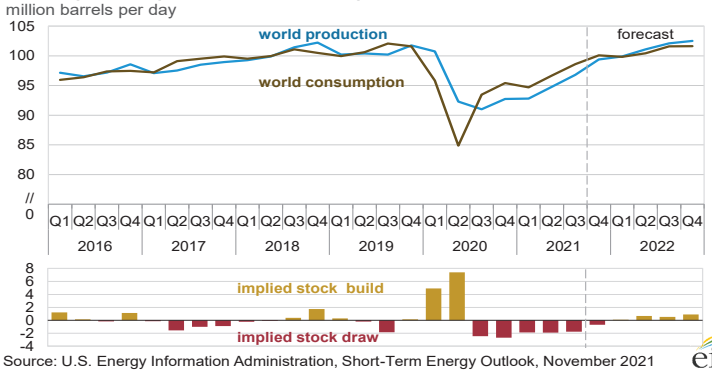
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, CME Group, and Refinitiv an LSEG Business

U.S. natural gas prices



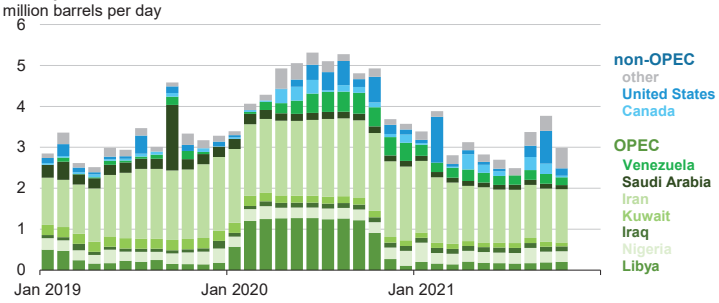
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



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

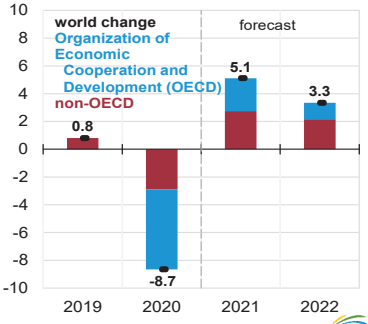
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day



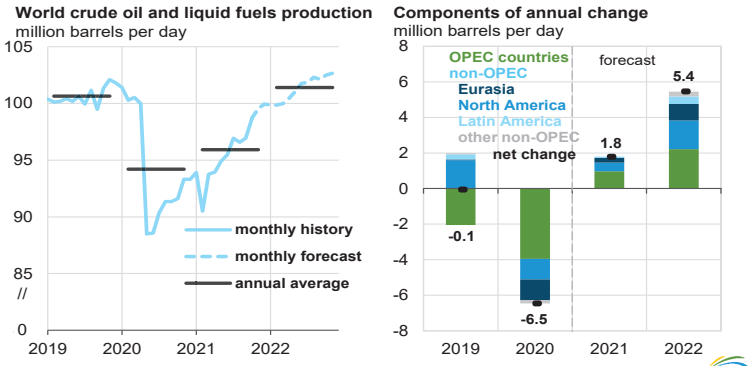
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

World liquid fuels consumption
million barrels per day

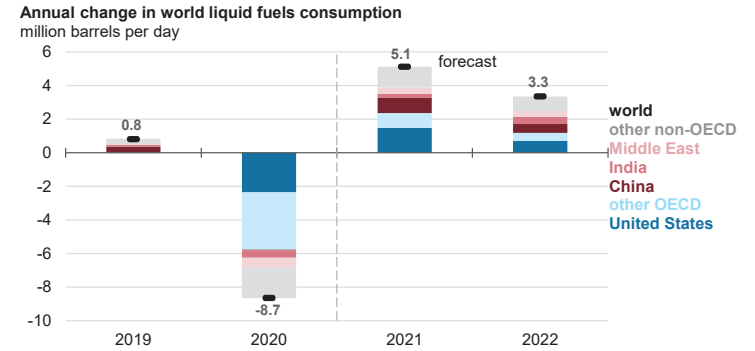
Components of annual change
million barrels per day



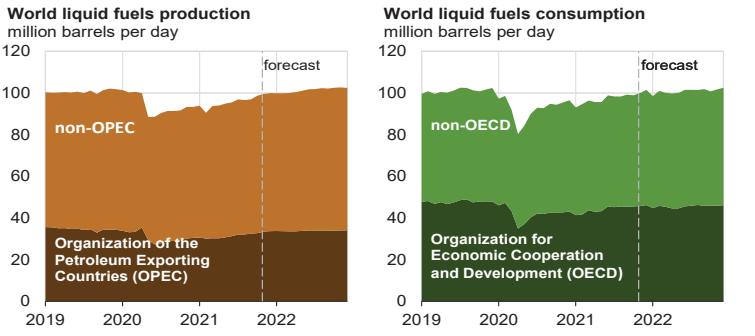
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



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

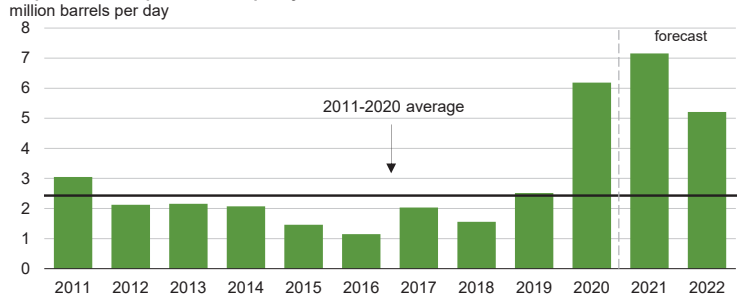


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021



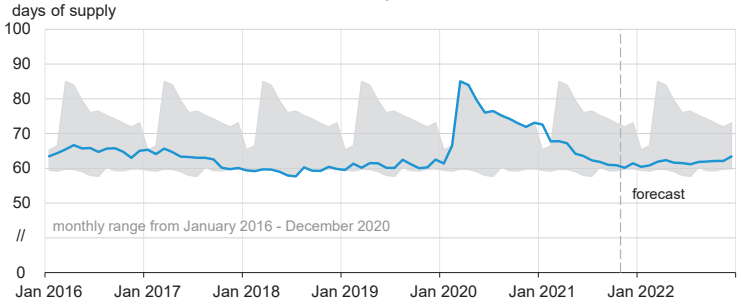
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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



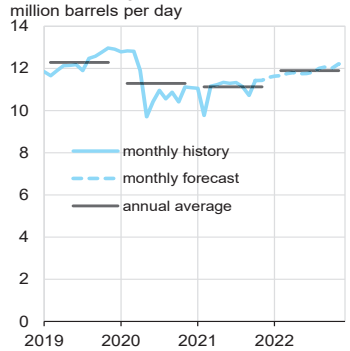
Note: Black line represents 2011-2020 average (2.4 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

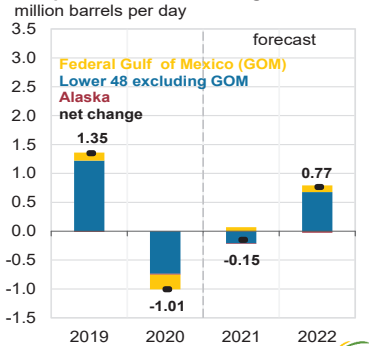


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. crude oil production
million barrels per day



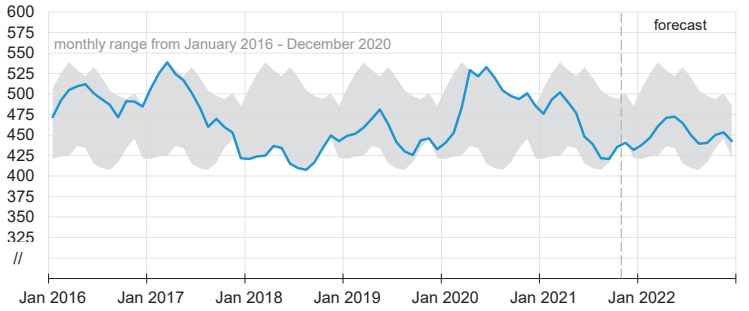
Components of annual change
million barrels per day



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

U.S. commercial crude oil inventories

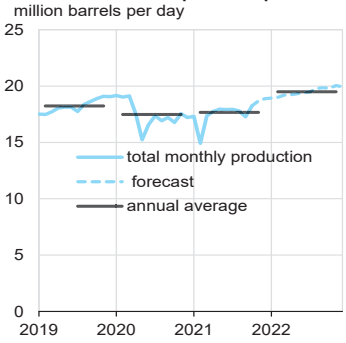
million barrels



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

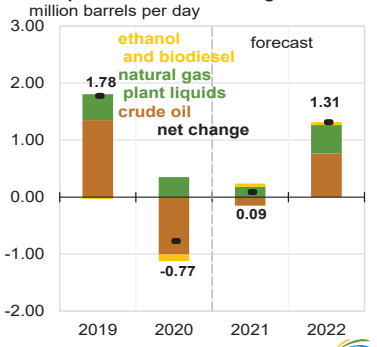
U.S. crude oil and liquid fuels production

million barrels per day



Components of annual change

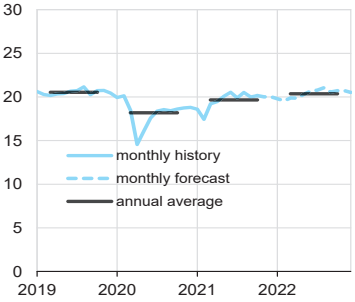
million barrels per day



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

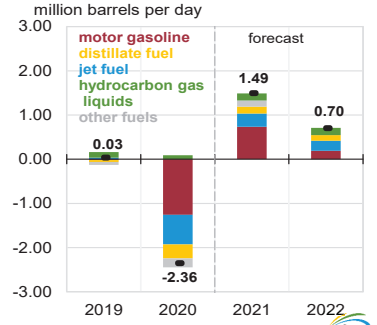
U.S. liquid fuels product supplied (consumption)

million barrels per day



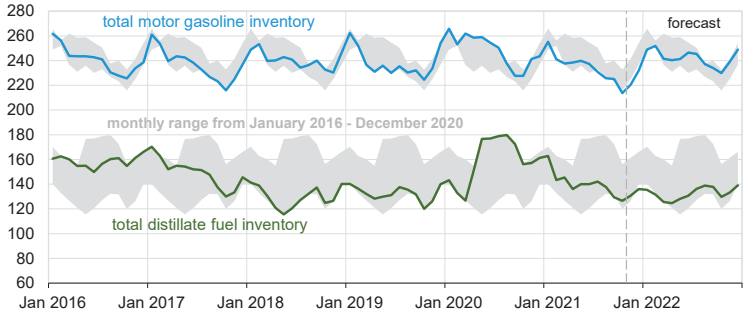
Components of annual change

million barrels per day



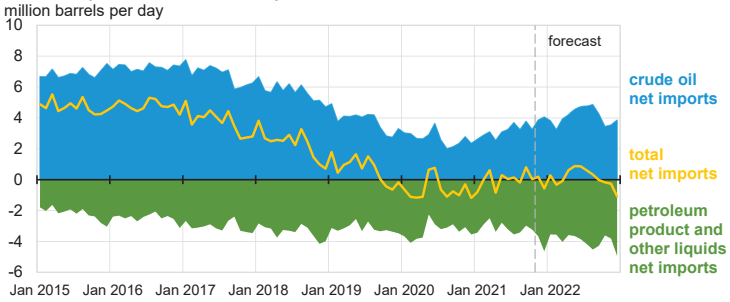
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. gasoline and distillate inventories
million barrels



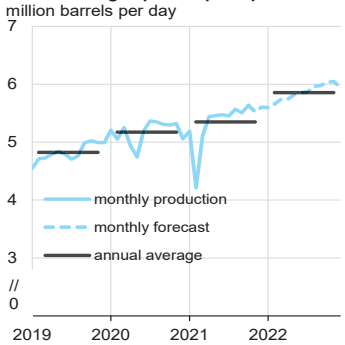
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

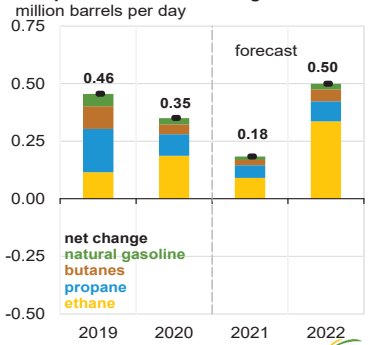


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. natural gas plant liquids production
million barrels per day

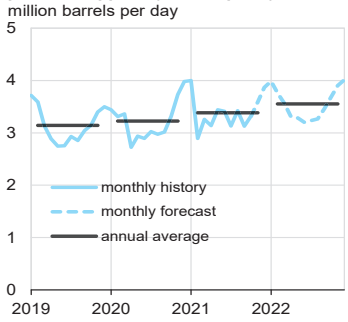


Components of annual change
million barrels per day

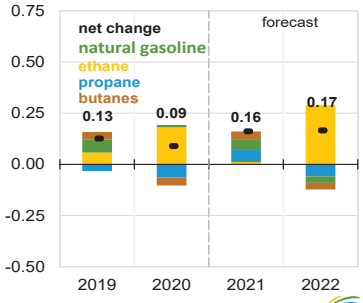


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

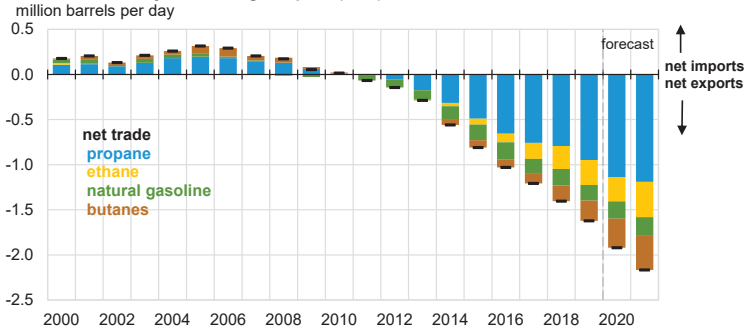


Components of annual change
million barrels per day



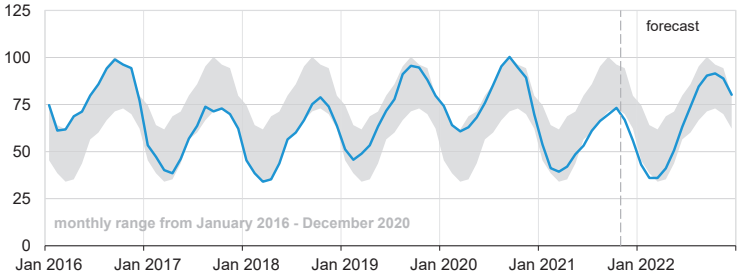
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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



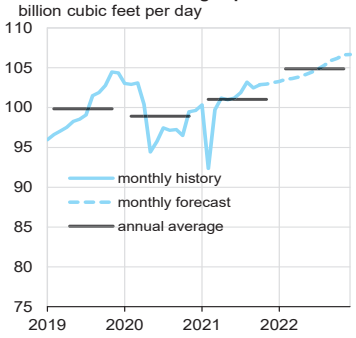
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. commercial propane inventories
million barrels

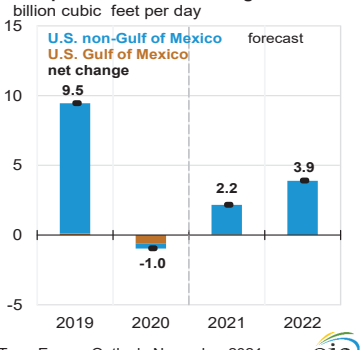


Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

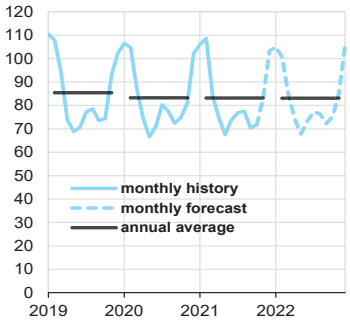


Components of annual change
billion cubic feet per day

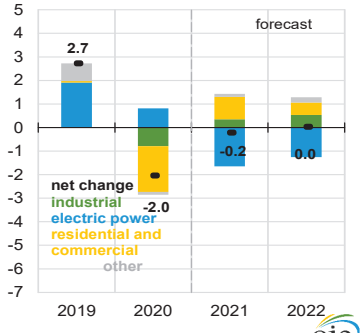


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

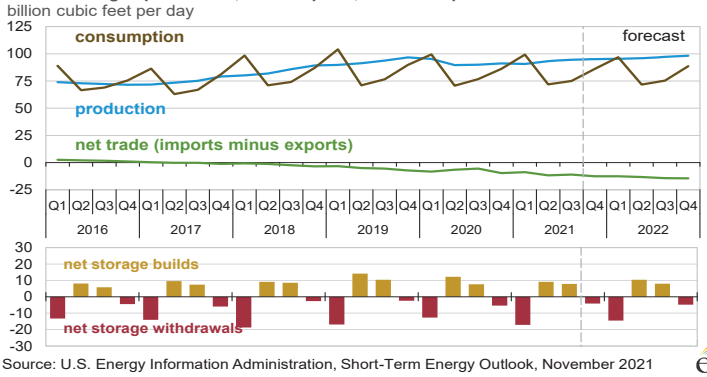


Components of annual change
billion cubic feet per day



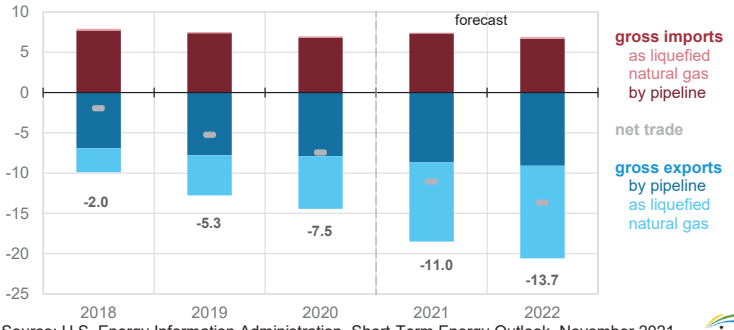
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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



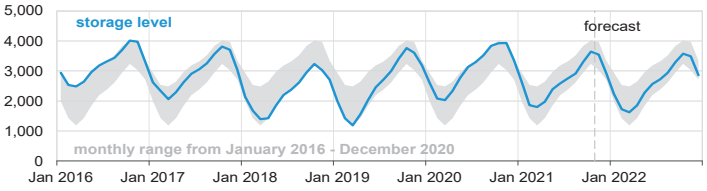
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

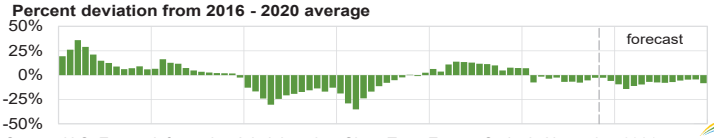


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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

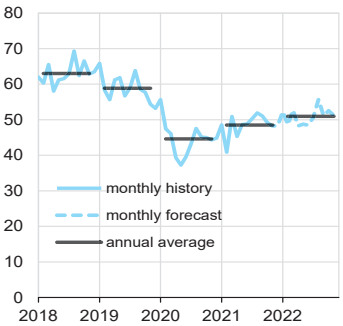


Percent deviation from 2016 - 2020 average

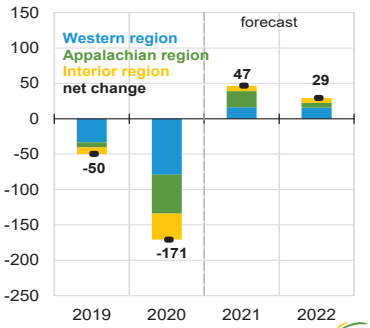


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. coal production
million short tons

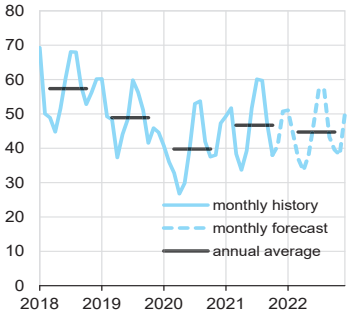


Components of annual change
million short tons

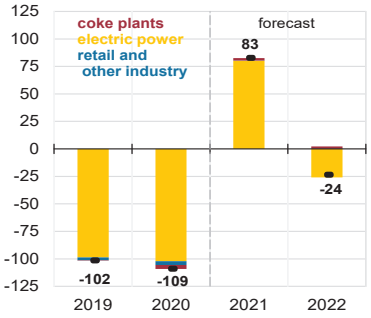


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. coal consumption
million short tons

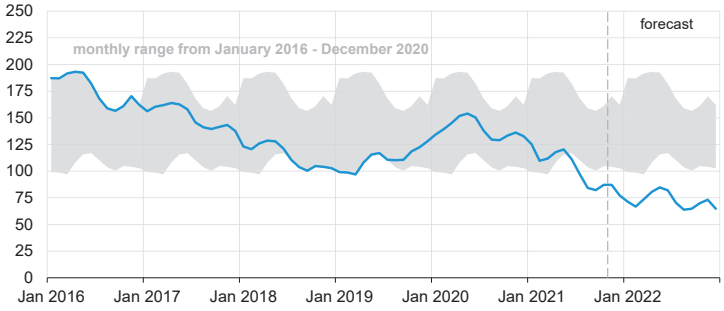


Components of annual change
million short tons



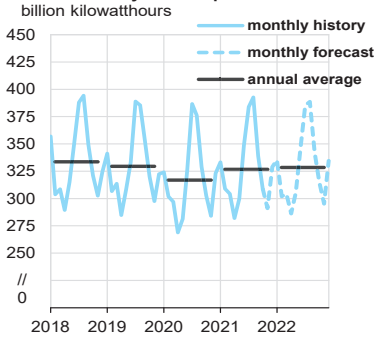
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. electric power coal inventories
million short tons

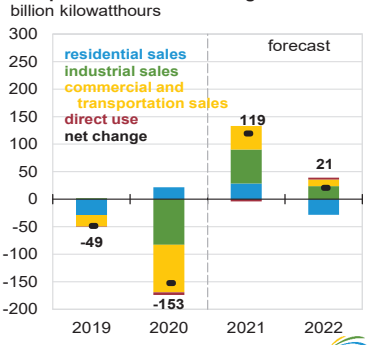


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. electricity consumption
billion kilowatthours



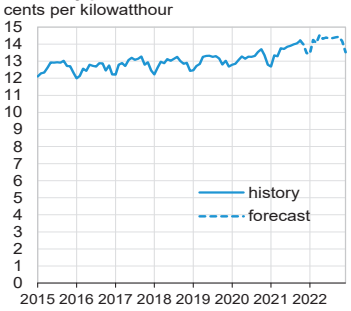
Components of annual change
billion kilowatthours



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

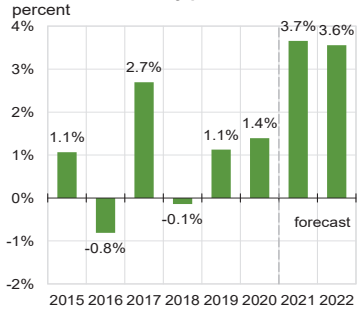
U.S. monthly nominal residential electricity price

cents per kilowatthour



Annual growth in nominal residential electricity prices

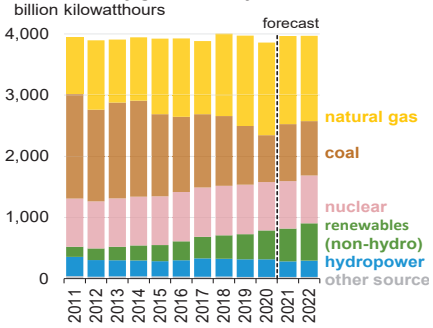
percent



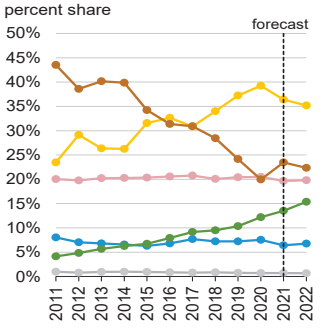
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

U.S. electricity generation by source, all sectors

billion kilowatthours



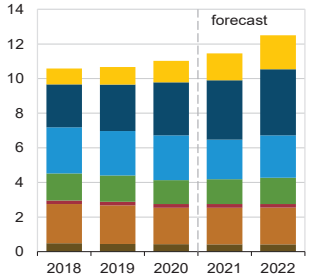
percent share



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

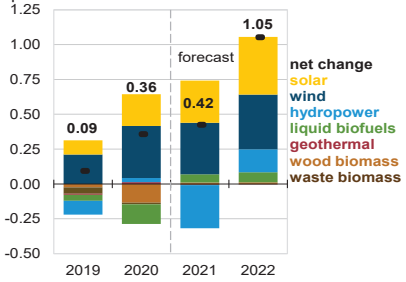
U.S. renewable energy supply

quadrillion British thermal units



Components of annual change

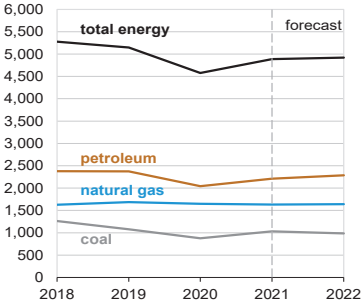
quadrillion British thermal units



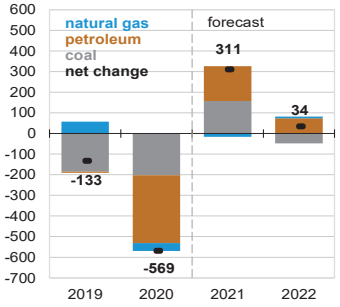
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

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

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

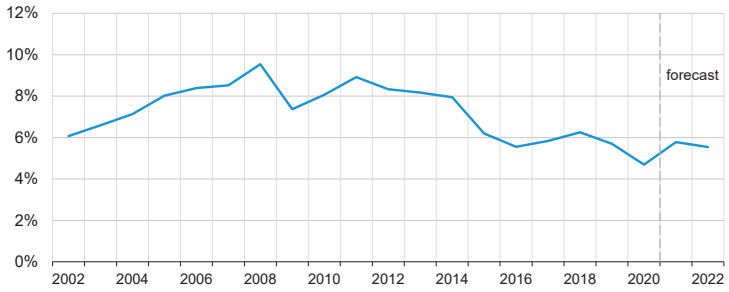


Components of annual change
million metric tons



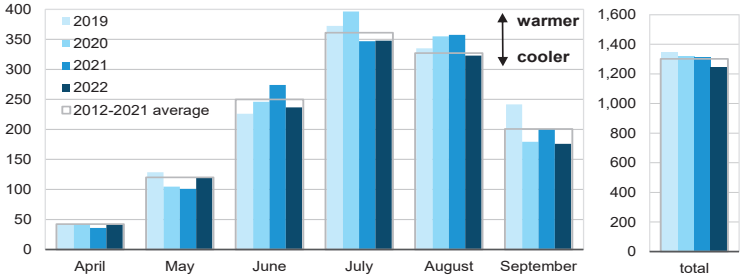
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2021

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



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

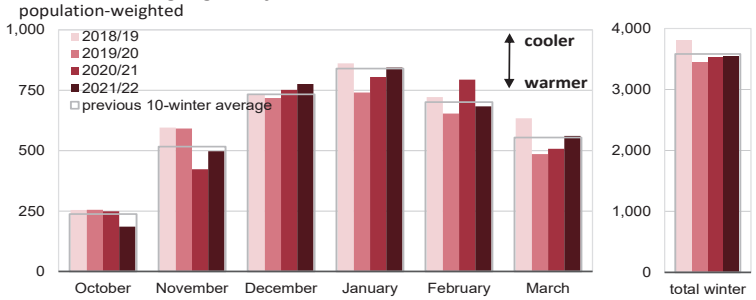
U.S. summer cooling degree days
population-weighted



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, November 2021

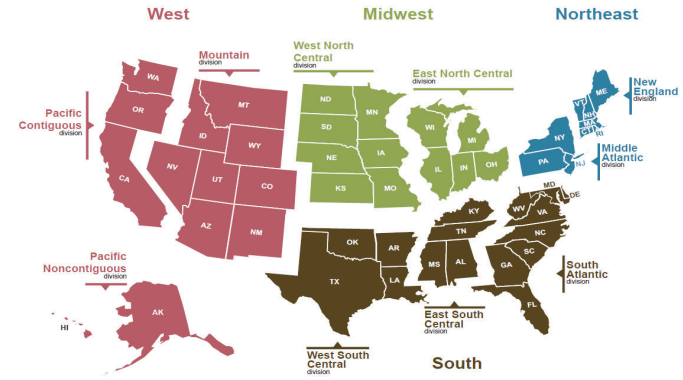
U.S. winter heating degree days
population-weighted



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, November 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 - November 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**	**11.28**	**11.07**	*11.47*	*11.69*	*11.77*	*11.97*	*12.16*	**11.28**	*11.13*	*11.90*
Dry Natural Gas Production															
(billion cubic feet per day)	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.52**	*94.94*	*95.41*	*96.00*	*97.12*	*98.18*	**91.49**	*93.34*	*96.69*
Coal Production															
(million short tons)	**149**	**116**	**136**	**134**	**140**	**143**	**153**	*146*	*154*	*145*	*157*	*155*	**535**	*582*	*611*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Natural Gas															
(billion cubic feet per day)	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
Coal (b)															
(million short tons)	**110**	**96**	**149**	**123**	**139**	**125**	**167**	*129*	*132*	*119*	*158*	*128*	**477**	*560*	*536*
Electricity															
(billion kilowatt hours per day)	**10.14**	**9.64**	**11.87**	**9.89**	**10.52**	**10.22**	**12.13**	*10.09*	*10.47*	*10.32*	*12.13*	*10.27*	**10.39**	*10.74*	*10.80*
Renewables (c)															
(quadrillion Btu)	**2.93**	**3.00**	**2.83**	**2.91**	**2.95**	**3.16**	**2.91**	*3.09*	*3.23*	*3.51*	*3.18*	*3.27*	**11.66**	*12.12*	*13.19*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.21**	**20.63**	**23.47**	**23.82**	**25.05**	**23.16**	**24.19**	*24.47*	*25.16*	*23.29*	*24.59*	*25.09*	**93.13**	*96.88*	*98.13*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**45.34**	**27.96**	**40.89**	**42.50**	**58.09**	**66.19**	**70.61**	*80.45*	*74.92*	*69.44*	*66.01*	*62.98*	**39.17**	*69.02*	*68.28*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.54*	*5.24*	*3.53*	*3.51*	*3.45*	**2.03**	*4.10*	*3.93*
Coal															
(dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,430**	*19,661*	*19,880*	*20,101*	*20,300*	*20,463*	**18,385**	*19,379*	*20,186*
Percent change from prior year	**0.6**	**-9.1**	**-2.9**	**-2.3**	**0.5**	**12.2**	**4.7**	*4.8*	*4.3*	*3.8*	*4.5*	*4.1*	**-3.4**	*5.4*	*4.2*
GDP Implicit Price Deflator															
(Index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.1**	*120.2*	*120.9*	*121.5*	*122.1*	*122.7*	**113.7**	*118.2*	*121.8*
Percent change from prior year	**1.7**	**0.7**	**1.3**	**1.5**	**2.1**	**4.1**	**4.5**	*4.9*	*4.4*	*3.4*	*2.5*	*2.1*	**1.3**	*3.9*	*3.1*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,544**	*15,237*	*15,179*	*15,335*	*15,495*	*15,596*	**15,677**	*15,935*	*15,401*
Percent change from prior year	**1.6**	**12.5**	**6.9**	**4.0**	**15.1**	**-4.7**	**-1.5**	*-1.3*	*-11.8*	*-2.6*	*-0.3*	*2.4*	**6.2**	*1.6*	*-3.4*
Manufacturing Production Index															
(Index, 2017=100)	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.1**	*101.2*	*102.2*	*103.8*	*105.6*	*107.0*	**93.2**	*99.3*	*104.6*
Percent change from prior year	**-2.7**	**-15.3**	**-5.2**	**-2.4**	**-0.2**	**17.2**	**6.3**	*4.7*	*5.0*	*5.2*	*5.5*	*5.7*	**-6.4**	*6.6*	*5.3*
Weather															
U.S. Heating Degree-Days	**1,880**	**543**	**71**	**1,424**	**2,107**	**472**	**51**	*1,460*	*2,089*	*494*	*77*	*1,539*	**3,917**	*4,089*	*4,199*
U.S. Cooling Degree-Days	**70**	**393**	**931**	**120**	**49**	**411**	**905**	*118*	*48*	*398*	*847*	*93*	**1,513**	*1,482*	*1,385*

(a) Includes lease condensate.

(b) Total consumption includes Independent Power Producer (IPP) consumption.

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.
EIA does not estimate or project end-use consumption of non-marketed renewable energy.

(d) The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations of gross energy consumption in EIA's Monthly Energy Review (MER).
Consequently, the historical data may not precisely match those published in the MER or the Annual Energy Review (AER).

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**70.61**	*80.45*	*74.92*	*69.44*	*66.01*	*62.98*	**39.17**	*69.02*	*68.28*
Brent Spot Average	**49.97**	**29.52**	**42.97**	**44.34**	**61.12**	**68.91**	**73.45**	*82.14*	*78.26*	*72.94*	*69.67*	*66.98*	**41.69**	*71.59*	*71.91*
U.S. Imported Average	**43.75**	**26.24**	**39.87**	**40.69**	**55.27**	**64.80**	**68.70**	*78.41*	*72.69*	*67.17*	*63.55*	*60.46*	**37.22**	*67.71*	*65.87*
U.S. Refiner Average Acquisition Cost	**47.48**	**26.76**	**40.79**	**42.09**	**57.12**	**66.11**	**70.41**	*79.45*	*73.73*	*68.20*	*64.53*	*61.47*	**39.73**	*68.66*	*66.83*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**153**	**104**	**137**	**133**	**180**	**216**	**231**	*242*	*222*	*218*	*210*	*191*	**133**	*219*	*210*
Diesel Fuel	**160**	**97**	**124**	**133**	**178**	**204**	**218**	*246*	*229*	*217*	*210*	*204*	**129**	*212*	*215*
Fuel Oil	**160**	**87**	**113**	**121**	**162**	**180**	**197**	*227*	*218*	*199*	*188*	*191*	**125**	*202*	*202*
Refiner Prices to End Users															
Jet Fuel	**165**	**85**	**116**	**125**	**163**	**182**	**200**	*236*	*225*	*215*	*208*	*203*	**131**	*198*	*212*
No. 6 Residual Fuel Oil (a)	**177**	**93**	**116**	**119**	**162**	**181**	**188**	*186*	*177*	*167*	*155*	*148*	**126**	*180*	*161*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*326*	*300*	*300*	*290*	*274*	**218**	*300*	*291*
Gasoline All Grades (b)	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*336*	*312*	*313*	*303*	*288*	**227**	*310*	*304*
On-highway Diesel Fuel	**289**	**243**	**243**	**247**	**290**	**321**	**336**	*361*	*339*	*323*	*317*	*313*	**256**	*328*	*323*
Heating Oil	**280**	**200**	**214**	**230**	**272**	**283**	**297**	*340*	*334*	*307*	*284*	*286*	**244**	*298*	*310*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**1.98**	**1.77**	**2.07**	**2.63**	**3.70**	**3.06**	**4.53**	*5.75*	*5.45*	*3.67*	*3.64*	*3.59*	**2.11**	*4.26*	*4.09*
Henry Hub Spot (dollars per million Btu)	**1.91**	**1.71**	**2.00**	**2.53**	**3.56**	**2.94**	**4.36**	*5.54*	*5.24*	*3.53*	*3.51*	*3.45*	**2.03**	*4.10*	*3.93*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.79*	*6.98*	*5.07*	*4.64*	*4.80*	**3.32**	*5.47*	*5.41*
Commercial Sector	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.02**	*9.72*	*9.88*	*9.97*	*9.70*	*8.42*	**7.49**	*8.69*	*9.41*
Residential Sector	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.16**	*13.52*	*12.58*	*14.72*	*18.53*	*11.46*	**10.76**	*12.20*	*12.95*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.49**	*5.94*	*5.86*	*3.76*	*3.69*	*3.82*	**2.39**	*5.12*	*4.20*
Residual Fuel Oil (c)	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.69**	*13.99*	*14.55*	*14.55*	*13.13*	*12.53*	**9.15**	*12.98*	*13.67*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.21**	*18.73*	*17.87*	*16.89*	*16.28*	*15.91*	**10.73**	*15.64*	*16.81*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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	**33.05**	**29.27**	**29.95**	**30.66**	**30.18**	**30.88**	**31.15**	*32.22*	*32.54*	*32.65*	*32.93*	*33.44*	**30.73**	*31.11*	*32.89*
U.S. (50 States)	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.87**	*19.44*	*19.69*	*19.96*	*20.34*	*20.60*	**18.58**	*18.75*	*20.15*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.40**	**5.52**	*5.80*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.59*	*5.84*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.93*	*1.88*
Other OECD	**5.08**	**4.99**	**4.81**	**4.93**	**5.00**	**4.47**	**4.86**	*5.06*	*5.07*	*4.98*	*4.89*	*5.15*	**4.95**	*4.85*	*5.02*
Non-OECD	**67.70**	**63.03**	**61.06**	**62.08**	**62.62**	**63.90**	**65.67**	*67.18*	*67.37*	*68.45*	*69.17*	*69.09*	**63.46**	*64.86*	*68.53*
OPEC	**33.50**	**30.72**	**28.65**	**30.00**	**30.36**	**30.76**	**32.23**	*33.32*	*33.70*	*33.84*	*34.01*	*34.05*	**30.71**	*31.68*	*33.90*
Crude Oil Portion	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.87**	*27.88*	*28.10*	*28.38*	*28.49*	*28.49*	**25.60**	*26.34*	*28.37*
Other Liquids (b)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Eurasia	**14.72**	**13.17**	**12.70**	**13.12**	**13.38**	**13.62**	**13.59**	*14.19*	*14.42*	*14.59*	*14.72*	*14.89*	**13.42**	*13.70*	*14.66*
China	**4.97**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.09**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
Other Non-OECD	**14.51**	**14.22**	**14.75**	**14.04**	**13.82**	**14.43**	**14.75**	*14.60*	*14.20*	*14.92*	*15.35*	*15.02*	**14.38**	*14.41*	*14.88*
Total World Supply	**100.74**	**92.30**	**91.01**	**92.74**	**92.80**	**94.78**	**96.82**	*99.40*	*99.90*	*101.09*	*102.10*	*102.53*	**94.19**	*95.97*	*101.42*
Non-OPEC Supply	**67.24**	**61.58**	**62.36**	**62.74**	**62.44**	**64.01**	**64.58**	*66.08*	*66.21*	*67.25*	*68.09*	*68.48*	**63.48**	*64.29*	*67.52*
Consumption (million barrels per day) (c)															
OECD	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.94**	**45.40**	*45.85*	*45.31*	*44.95*	*46.01*	*45.97*	**42.02**	*44.38*	*45.56*
U.S. (50 States)	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
U.S. Territories	**0.17**	**0.15**	**0.16**	**0.17**	**0.20**	**0.18**	**0.18**	*0.20*	*0.20*	*0.18*	*0.19*	*0.20*	**0.16**	*0.19*	*0.19*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.42**	*2.42*	*2.37*	*2.32*	*2.42*	*2.40*	**2.19**	*2.28*	*2.38*
Europe	**13.34**	**11.01**	**12.88**	**12.51**	**11.90**	**12.57**	**13.68**	*13.56*	*13.20*	*13.22*	*13.51*	*13.16*	**12.43**	*12.94*	*13.27*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.43*	*3.66*	*2.98*	*3.07*	*3.39*	**3.33**	*3.33*	*3.27*
Other OECD	**6.30**	**5.34**	**5.47**	**5.77**	**5.89**	**5.91**	**5.90**	*6.17*	*6.13*	*5.97*	*6.01*	*6.17*	**5.72**	*5.97*	*6.07*
Non-OECD	**50.33**	**47.44**	**51.21**	**52.59**	**52.39**	**52.75**	**53.20**	*54.25*	*54.52*	*55.48*	*55.58*	*55.67*	**50.40**	*53.15*	*55.32*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.96**	**5.04**	**5.44**	*5.26*	*5.09*	*5.16*	*5.56*	*5.41*	**4.95**	*5.18*	*5.31*
Europe	**0.71**	**0.69**	**0.71**	**0.72**	**0.73**	**0.74**	**0.74**	*0.75*	*0.75*	*0.75*	*0.75*	*0.76*	**0.71**	*0.74*	*0.75*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.30**	**15.51**	**15.02**	*15.49*	*15.81*	*15.98*	*15.69*	*15.96*	**14.43**	*15.33*	*15.86*
Other Asia	**13.35**	**11.63**	**12.59**	**13.61**	**13.76**	**13.24**	**13.13**	*13.94*	*14.34*	*14.46*	*14.04*	*14.43*	**12.80**	*13.52*	*14.31*
Other Non-OECD	**17.53**	**16.55**	**17.98**	**17.99**	**17.64**	**18.22**	**18.86**	*18.81*	*18.54*	*19.13*	*19.55*	*19.11*	**17.51**	*18.39*	*19.08*
Total World Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.68**	**96.69**	**98.59**	*100.10*	*99.83*	*100.43*	*101.59*	*101.64*	**92.42**	*97.53*	*100.88*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**-0.49**	**-1.67**	**0.53**	**0.91**	**0.47**	**0.51**	**0.40**	*0.45*	*-0.12*	*-0.69*	*-0.07*	*0.40*	**-0.18**	*0.46*	*-0.12*
Other OECD	**-0.51**	**-1.16**	**0.04**	**0.69**	**0.77**	**0.13**	**0.62**	*0.08*	*0.02*	*0.01*	*-0.14*	*-0.40*	**-0.23**	*0.40*	*-0.13*
Other Stock Draws and Balance	**-3.92**	**-4.58**	**1.90**	**1.09**	**0.65**	**1.28**	**0.76**	*0.18*	*0.03*	*0.01*	*-0.30*	*-0.88*	**-1.36**	*0.71*	*-0.29*
Total Stock Draw	**-4.91**	**-7.40**	**2.46**	**2.69**	**1.88**	**1.92**	**1.78**	*0.70*	*-0.07*	*-0.67*	*-0.51*	*-0.89*	**-1.77**	*1.57*	*-0.54*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,327**	**1,458**	**1,423**	**1,343**	**1,302**	**1,271**	**1,238**	*1,214*	*1,225*	*1,288*	*1,294*	*1,267*	**1,343**	*1,214*	*1,267*
OECD Commercial Inventory	**2,970**	**3,206**	**3,168**	**3,025**	**2,914**	**2,873**	**2,782**	*2,751*	*2,760*	*2,822*	*2,841*	*2,851*	**3,025**	*2,751*	*2,851*

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

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

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

- = no data available

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

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

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 2021

	2020				2021				2022				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**27.97**	**24.28**	**25.14**	**25.73**	**25.18**	**26.40**	**26.29**	*27.16*	*27.46*	*27.66*	*28.04*	*28.28*	**25.78**	*26.26*	*27.87*
Canada	**5.64**	**4.90**	**4.94**	**5.54**	**5.63**	**5.40**	**5.52**	*5.80*	*5.84*	*5.81*	*5.83*	*5.86*	**5.26**	*5.59*	*5.84*
Mexico	**2.00**	**1.94**	**1.91**	**1.90**	**1.93**	**1.95**	**1.91**	*1.91*	*1.94*	*1.90*	*1.86*	*1.83*	**1.94**	*1.93*	*1.88*
United States	**20.33**	**17.44**	**18.29**	**18.29**	**17.62**	**19.05**	**18.87**	*19.44*	*19.69*	*19.96*	*20.34*	*20.60*	**18.58**	*18.75*	*20.15*
Central and South America	**6.01**	**6.05**	**6.63**	**5.89**	**5.61**	**6.27**	**6.68**	*6.40*	*5.97*	*6.73*	*7.19*	*6.87*	**6.15**	*6.24*	*6.69*
Argentina	**0.69**	**0.60**	**0.64**	**0.62**	**0.63**	**0.67**	**0.70**	*0.69*	*0.71*	*0.72*	*0.75*	*0.73*	**0.64**	*0.67*	*0.73*
Brazil	**3.44**	**3.89**	**4.29**	**3.52**	**3.23**	**3.91**	**4.25**	*3.94*	*3.44*	*4.27*	*4.63*	*4.20*	**3.79**	*3.84*	*4.14*
Colombia	**0.90**	**0.78**	**0.77**	**0.79**	**0.77**	**0.74**	**0.76**	*0.78*	*0.80*	*0.72*	*0.73*	*0.78*	**0.81**	*0.76*	*0.76*
Ecuador	**0.54**	**0.36**	**0.52**	**0.51**	**0.51**	**0.50**	**0.50**	*0.52*	*0.53*	*0.53*	*0.53*	*0.53*	**0.48**	*0.51*	*0.53*
Other Central and S. America	**0.45**	**0.42**	**0.41**	**0.45**	**0.47**	**0.45**	**0.48**	*0.47*	*0.49*	*0.49*	*0.55*	*0.64*	**0.43**	*0.47*	*0.54*
Europe	**4.44**	**4.35**	**4.16**	**4.30**	**4.38**	**3.89**	**4.22**	*4.44*	*4.45*	*4.36*	*4.26*	*4.53*	**4.31**	*4.23*	*4.40*
Norway	**2.05**	**2.00**	**1.96**	**2.02**	**2.11**	**1.90**	**2.06**	*2.19*	*2.20*	*2.14*	*2.13*	*2.30*	**2.01**	*2.07*	*2.19*
United Kingdom	**1.17**	**1.16**	**0.99**	**1.06**	**1.07**	**0.82**	**0.96**	*1.03*	*1.05*	*1.03*	*0.92*	*1.03*	**1.10**	*0.97*	*1.01*
Eurasia	**14.72**	**13.17**	**12.70**	**13.12**	**13.38**	**13.62**	**13.59**	*14.19*	*14.42*	*14.59*	*14.72*	*14.89*	**13.42**	*13.70*	*14.66*
Azerbaijan	**0.77**	**0.69**	**0.66**	**0.69**	**0.75**	**0.70**	**0.71**	*0.72*	*0.75*	*0.75*	*0.75*	*0.74*	**0.70**	*0.72*	*0.75*
Kazakhstan	**2.06**	**1.86**	**1.71**	**1.81**	**1.87**	**1.86**	**1.72**	*1.90*	*1.96*	*1.96*	*1.92*	*1.98*	**1.86**	*1.84*	*1.96*
Russia	**11.54**	**10.25**	**9.97**	**10.26**	**10.43**	**10.72**	**10.81**	*11.21*	*11.34*	*11.51*	*11.69*	*11.80*	**10.50**	*10.79*	*11.58*
Turkmenistan	**0.25**	**0.25**	**0.25**	**0.25**	**0.24**	**0.24**	**0.24**	*0.24*	*0.23*	*0.23*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Other Eurasia	**0.11**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	**0.11**	*0.12*	*0.14*	*0.14*	*0.14*	*0.14*	**0.11**	*0.11*	*0.14*
Middle East	**3.16**	**3.13**	**3.09**	**3.13**	**3.16**	**3.19**	**3.20**	*3.24*	*3.26*	*3.26*	*3.25*	*3.25*	**3.13**	*3.19*	*3.25*
Oman	**1.01**	**0.95**	**0.92**	**0.95**	**0.96**	**0.97**	**0.98**	*1.03*	*1.04*	*1.04*	*1.04*	*1.04*	**0.96**	*0.99*	*1.04*
Qatar	**1.84**	**1.87**	**1.88**	**1.88**	**1.89**	**1.91**	**1.92**	*1.92*	*1.94*	*1.94*	*1.94*	*1.94*	**1.87**	*1.91*	*1.94*
Asia and Oceania	**9.46**	**9.17**	**9.22**	**9.17**	**9.32**	**9.24**	**9.26**	*9.28*	*9.31*	*9.31*	*9.30*	*9.32*	**9.25**	*9.27*	*9.31*
Australia	**0.49**	**0.50**	**0.50**	**0.49**	**0.47**	**0.42**	**0.49**	*0.47*	*0.47*	*0.47*	*0.47*	*0.46*	**0.49**	*0.46*	*0.47*
China	**4.97**	**4.92**	**4.96**	**4.91**	**5.05**	**5.09**	**5.09**	*5.07*	*5.06*	*5.09*	*5.09*	*5.14*	**4.94**	*5.07*	*5.09*
India	**0.95**	**0.89**	**0.92**	**0.91**	**0.92**	**0.92**	**0.93**	*0.93*	*0.94*	*0.92*	*0.93*	*0.92*	**0.92**	*0.93*	*0.93*
Indonesia	**0.92**	**0.90**	**0.88**	**0.89**	**0.88**	**0.86**	**0.86**	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	**0.90**	*0.86*	*0.84*
Malaysia	**0.73**	**0.62**	**0.64**	**0.65**	**0.66**	**0.63**	**0.58**	*0.59*	*0.63*	*0.62*	*0.61*	*0.61*	**0.66**	*0.61*	*0.62*
Vietnam	**0.23**	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	**0.20**	*0.21*	*0.20*	*0.20*	*0.20*	*0.19*	**0.22**	*0.21*	*0.20*
Africa	**1.48**	**1.44**	**1.42**	**1.40**	**1.41**	**1.41**	**1.33**	*1.38*	*1.34*	*1.34*	*1.34*	*1.34*	**1.43**	*1.38*	*1.34*
Egypt	**0.62**	**0.61**	**0.60**	**0.58**	**0.59**	**0.60**	**0.59**	*0.61*	*0.56*	*0.56*	*0.56*	*0.56*	**0.60**	*0.59*	*0.56*
South Sudan	**0.15**	**0.15**	**0.17**	**0.17**	**0.16**	**0.16**	**0.15**	*0.17*	*0.18*	*0.18*	*0.18*	*0.18*	**0.16**	*0.16*	*0.18*
Total non-OPEC liquids	**67.24**	**61.58**	**62.36**	**62.74**	**62.44**	**64.01**	**64.58**	*66.08*	*66.21*	*67.25*	*68.09*	*68.48*	**63.48**	*64.29*	*67.52*
OPEC non-crude liquids	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Non-OPEC + OPEC non-crude	**72.47**	**66.65**	**67.39**	**67.86**	**67.72**	**69.28**	**69.94**	*71.51*	*71.80*	*72.72*	*73.61*	*74.04*	**68.59**	*69.63*	*73.05*
Unplanned non-OPEC Production Outages	**0.18**	**0.92**	**0.72**	**0.62**	**0.61**	**0.50**	**0.83**	-	-	-	-	-	**0.61**	-	-

- = no data available

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

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**0.92**	-	-	-	-	-	**0.90**	-	-
Angola	**1.35**	**1.27**	**1.19**	**1.13**	**1.11**	**1.08**	**1.11**	-	-	-	-	-	**1.23**	-	-
Congo (Brazzaville)	**0.29**	**0.29**	**0.28**	**0.26**	**0.28**	**0.27**	**0.26**	-	-	-	-	-	**0.28**	-	-
Equatorial Guinea	**0.13**	**0.12**	**0.11**	**0.11**	**0.11**	**0.10**	**0.10**	-	-	-	-	-	**0.11**	-	-
Gabon	**0.19**	**0.18**	**0.15**	**0.17**	**0.16**	**0.17**	**0.18**	-	-	-	-	-	**0.17**	-	-
Iran	**2.02**	**1.97**	**1.90**	**1.95**	**2.18**	**2.47**	**2.50**	-	-	-	-	-	**1.96**	-	-
Iraq	**4.56**	**4.16**	**3.70**	**3.84**	**3.94**	**3.98**	**4.07**	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.77**	**2.48**	**2.25**	**2.30**	**2.33**	**2.36**	**2.45**	-	-	-	-	-	**2.45**	-	-
Libya	**0.35**	**0.08**	**0.11**	**0.92**	**1.18**	**1.16**	**1.18**	-	-	-	-	-	**0.36**	-	-
Nigeria	**1.72**	**1.55**	**1.44**	**1.44**	**1.31**	**1.32**	**1.28**	-	-	-	-	-	**1.54**	-	-
Saudi Arabia	**9.80**	**9.28**	**8.77**	**9.01**	**8.49**	**8.53**	**9.55**	-	-	-	-	-	**9.21**	-	-
United Arab Emirates	**3.30**	**2.88**	**2.55**	**2.50**	**2.61**	**2.65**	**2.76**	-	-	-	-	-	**2.81**	-	-
Venezuela	**0.77**	**0.50**	**0.35**	**0.40**	**0.52**	**0.53**	**0.53**	-	-	-	-	-	**0.50**	-	-
OPEC Total	**28.28**	**25.65**	**23.63**	**24.88**	**25.08**	**25.49**	**26.87**	*27.88*	*28.10*	*28.38*	*28.49*	*28.49*	**25.60**	*26.34*	*28.37*
Other Liquids (a)	**5.22**	**5.07**	**5.02**	**5.12**	**5.29**	**5.27**	**5.36**	*5.43*	*5.59*	*5.47*	*5.52*	*5.56*	**5.11**	*5.34*	*5.53*
Total OPEC Supply	**33.50**	**30.72**	**28.65**	**30.00**	**30.36**	**30.76**	**32.23**	*33.32*	*33.70*	*33.84*	*34.01*	*34.05*	**30.71**	*31.68*	*33.90*
Crude Oil Production Capacity															
Middle East	**25.61**	**26.02**	**26.06**	**26.22**	**26.55**	**26.85**	**26.88**	*26.88*	*26.98*	*27.09*	*27.19*	*27.19*	**25.98**	*26.79*	*27.11*
Other	**5.82**	**5.60**	**5.48**	**6.33**	**6.73**	**6.71**	**6.73**	*6.65*	*6.54*	*6.47*	*6.44*	*6.41*	**5.81**	*6.70*	*6.47*
OPEC Total	**31.43**	**31.63**	**31.54**	**32.56**	**33.28**	**33.56**	**33.61**	*33.53*	*33.52*	*33.56*	*33.63*	*33.61*	**31.79**	*33.50*	*33.58*
Surplus Crude Oil Production Capacity															
Middle East	**3.15**	**5.27**	**6.90**	**6.62**	**7.00**	**6.87**	**5.56**	*4.87*	*4.81*	*4.62*	*4.62*	*4.62*	**5.49**	*6.07*	*4.67*
Other	**0.00**	**0.71**	**1.02**	**1.06**	**1.20**	**1.20**	**1.18**	*0.78*	*0.61*	*0.56*	*0.52*	*0.49*	**0.70**	*1.09*	*0.55*
OPEC Total	**3.15**	**5.98**	**7.92**	**7.68**	**8.20**	**8.07**	**6.74**	*5.65*	*5.42*	*5.18*	*5.14*	*5.11*	**6.19**	*7.16*	*5.21*
Unplanned OPEC Production Outages	**3.72**	**4.18**	**4.35**	**3.45**	**2.73**	**2.38**	**2.37**	-	-	-	-	-	**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 November 4, 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 - November 2021

	2020				2021				2022						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2020	2021	2022
North America	**23.77**	**19.44**	**22.21**	**22.44**	**22.20**	**23.83**	**24.25**	*24.26*	*23.79*	*24.28*	*24.90*	*24.73*	**21.97**	*23.64*	*24.43*
Canada	**2.42**	**1.97**	**2.25**	**2.14**	**2.12**	**2.16**	**2.42**	*2.42*	*2.37*	*2.32*	*2.42*	*2.40*	**2.19**	*2.28*	*2.38*
Mexico	**1.85**	**1.40**	**1.50**	**1.58**	**1.62**	**1.63**	**1.69**	*1.76*	*1.66*	*1.68*	*1.67*	*1.67*	**1.58**	*1.67*	*1.67*
United States	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Central and South America	**6.13**	**5.60**	**6.03**	**6.31**	**6.12**	**6.27**	**6.50**	*6.59*	*6.44*	*6.53*	*6.66*	*6.67*	**6.02**	*6.37*	*6.57*
Brazil	**2.89**	**2.67**	**2.97**	**3.06**	**2.89**	**3.01**	**3.14**	*3.22*	*3.06*	*3.07*	*3.17*	*3.17*	**2.90**	*3.07*	*3.12*
Europe	**14.04**	**11.70**	**13.59**	**13.23**	**12.63**	**13.31**	**14.43**	*14.31*	*13.95*	*13.97*	*14.27*	*13.92*	**13.14**	*13.68*	*14.03*
Eurasia	**4.86**	**4.48**	**5.28**	**5.17**	**4.96**	**5.04**	**5.44**	*5.26*	*5.09*	*5.16*	*5.56*	*5.41*	**4.95**	*5.18*	*5.31*
Russia	**3.65**	**3.33**	**4.04**	**3.92**	**3.73**	**3.84**	**4.17**	*3.98*	*3.83*	*3.93*	*4.26*	*4.10*	**3.74**	*3.93*	*4.03*
Middle East	**7.90**	**7.43**	**8.43**	**8.05**	**7.82**	**8.23**	**8.79**	*8.41*	*8.27*	*8.76*	*9.15*	*8.50*	**7.95**	*8.32*	*8.67*
Asia and Oceania	**34.95**	**32.20**	**33.86**	**35.94**	**36.62**	**35.67**	**34.93**	*36.80*	*37.79*	*37.22*	*36.63*	*37.80*	**34.24**	*36.00*	*37.36*
China	**13.89**	**14.08**	**14.65**	**15.11**	**15.30**	**15.51**	**15.02**	*15.49*	*15.81*	*15.98*	*15.69*	*15.96*	**14.43**	*15.33*	*15.86*
Japan	**3.78**	**2.93**	**3.06**	**3.53**	**3.73**	**3.08**	**3.08**	*3.43*	*3.66*	*2.98*	*3.07*	*3.39*	**3.33**	*3.33*	*3.27*
India	**4.83**	**3.76**	**4.17**	**4.93**	**5.00**	**4.37**	**4.45**	*4.86*	*5.15*	*5.21*	*4.86*	*5.16*	**4.42**	*4.67*	*5.09*
Africa	**4.18**	**4.05**	**4.07**	**4.29**	**4.33**	**4.35**	**4.26**	*4.47*	*4.50*	*4.51*	*4.43*	*4.62*	**4.15**	*4.35*	*4.52*
Total OECD Liquid Fuels Consumption	**45.50**	**37.45**	**42.27**	**42.84**	**42.30**	**43.94**	**45.40**	*45.85*	*45.31*	*44.95*	*46.01*	*45.97*	**42.02**	*44.38*	*45.56*
Total non-OECD Liquid Fuels Consumption	**50.33**	**47.44**	**51.21**	**52.59**	**52.39**	**52.75**	**53.20**	*54.25*	*54.52*	*55.48*	*55.58*	*55.67*	**50.40**	*53.15*	*55.32*
Total World Liquid Fuels Consumption	**95.83**	**84.90**	**93.47**	**95.43**	**94.68**	**96.69**	**98.59**	*100.10*	*99.83*	*100.43*	*101.59*	*101.64*	**92.42**	*97.53*	*100.88*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**112.7**	**105.4**	**113.1**	**115.3**	**116.2**	**117.3**	**118.4**	*120.0*	*121.6*	*123.0*	*124.2*	*125.4*	**111.6**	*118.0*	*123.5*
Percent change from prior year	**-1.3**	**-8.7**	**-2.5**	**-0.7**	**3.2**	**11.3**	**4.7**	*4.1*	*4.6*	*4.8*	*4.9*	*4.5*	**-3.3**	*5.7*	*4.7*
OECD Index, 2015 = 100													**103.8**	*109.1*	*113.5*
Percent change from prior year													**-4.7**	*5.1*	*4.1*
Non-OECD Index, 2015 = 100													**116.1**	*123.2*	*129.5*
Percent change from prior year													**-2.2**	*6.1*	*5.1*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**111.7**	**115.9**	**111.5**	**108.3**	**106.8**	**106.3**	**107.7**	*109.5*	*109.6*	*109.4*	*109.2*	*108.8*	**111.9**	*107.6*	*109.3*
Percent change from prior year	**2.8**	**5.8**	**0.9**	**-1.9**	**-4.4**	**-8.3**	**-3.4**	*1.1*	*2.7*	*3.0*	*1.3*	*-0.6*	**1.9**	*-3.8*	*1.6*

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

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

- = no data available

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

Notes: EIA completed modeling and analysis for this report on November 4, 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 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - November 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)															
Crude Oil Supply															
Domestic Production (a)	**12.81**	**10.67**	**10.79**	**10.87**	**10.69**	**11.28**	**11.07**	*11.47*	*11.69*	*11.77*	*11.97*	*12.16*	**11.28**	*11.13*	*11.90*
Alaska	**0.48**	**0.41**	**0.44**	**0.46**	**0.46**	**0.44**	**0.41**	*0.45*	*0.43*	*0.38*	*0.41*	*0.44*	**0.45**	*0.44*	*0.41*
Federal Gulf of Mexico (b)	**1.99**	**1.66**	**1.43**	**1.50**	**1.80**	**1.79**	**1.49**	*1.77*	*1.84*	*1.81*	*1.82*	*1.85*	**1.64**	*1.71*	*1.83*
Lower 48 States (excl GOM)	**10.35**	**8.60**	**8.92**	**8.91**	**8.44**	**9.05**	**9.17**	*9.25*	*9.42*	*9.59*	*9.74*	*9.87*	**9.19**	*8.98*	*9.66*
Crude Oil Net Imports (c)	**2.89**	**3.06**	**2.24**	**2.50**	**2.87**	**2.96**	**3.57**	*3.73*	*3.68*	*4.49*	*4.63*	*3.62*	**2.67**	*3.29*	*4.11*
SPR Net Withdrawals	**0.00**	**-0.23**	**0.15**	**0.04**	**0.00**	**0.18**	**0.04**	*0.19*	*0.00*	*0.00*	*0.00*	*0.10*	**-0.01**	*0.10*	*0.03*
Commercial Inventory Net Withdrawals	**-0.56**	**-0.54**	**0.38**	**0.13**	**-0.18**	**0.59**	**0.29**	*-0.12*	*-0.32*	*-0.04*	*0.26*	*-0.02*	**-0.14**	*0.15*	*-0.03*
Crude Oil Adjustment (d)	**0.63**	**0.20**	**0.46**	**0.36**	**0.42**	**0.63**	**0.61**	*0.30*	*0.22*	*0.22*	*0.23*	*0.16*	**0.41**	*0.49*	*0.21*
Total Crude Oil Input to Refineries	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.58**	*15.57*	*15.26*	*16.44*	*17.09*	*16.02*	**14.21**	*15.16*	*16.21*
Other Supply															
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.98**	*1.05*	*1.06*	*1.05*	*1.09*	*1.09*	**0.92**	*0.96*	*1.07*
Natural Gas Plant Liquids Production	**5.17**	**4.96**	**5.34**	**5.22**	**4.86**	**5.46**	**5.51**	*5.59*	*5.67*	*5.81*	*5.94*	*6.01*	**5.17**	*5.36*	*5.86*
Renewables and Oxygenate Production (e)	**1.11**	**0.81**	**1.03**	**1.07**	**1.03**	**1.13**	**1.09**	*1.12*	*1.07*	*1.11*	*1.13*	*1.12*	**1.01**	*1.09*	*1.11*
Fuel Ethanol Production	**1.02**	**0.70**	**0.92**	**0.97**	**0.90**	**0.99**	**0.96**	*1.01*	*0.97*	*1.00*	*1.02*	*1.01*	**0.91**	*0.97*	*1.00*
Petroleum Products Adjustment (f)	**0.22**	**0.19**	**0.20**	**0.19**	**0.19**	**0.22**	**0.22**	*0.21*	*0.20*	*0.22*	*0.22*	*0.22*	**0.20**	*0.21*	*0.22*
Product Net Imports (c)	**-3.86**	**-2.96**	**-3.07**	**-3.33**	**-2.94**	**-3.13**	**-3.32**	*-3.85*	*-3.72*	*-3.70*	*-4.32*	*-4.13*	**-3.30**	*-3.31*	*-3.97*
Hydrocarbon Gas Liquids	**-1.95**	**-1.84**	**-1.83**	**-2.06**	**-2.02**	**-2.23**	**-2.17**	*-2.24*	*-2.28*	*-2.34*	*-2.39*	*-2.26*	**-1.92**	*-2.17*	*-2.32*
Unfinished Oils	**0.37**	**0.23**	**0.35**	**0.18**	**0.14**	**0.25**	**0.29**	*0.28*	*0.21*	*0.26*	*0.30*	*0.20*	**0.29**	*0.24*	*0.24*
Other HC/Oxygenates	**-0.09**	**-0.04**	**-0.04**	**-0.04**	**-0.08**	**-0.04**	**-0.07**	*-0.08*	*-0.06*	*-0.04*	*-0.04*	*-0.04*	**-0.05**	*-0.07*	*-0.04*
Motor Gasoline Blend Comp.	**0.40**	**0.37**	**0.49**	**0.44**	**0.55**	**0.79**	**0.63**	*0.14*	*0.55*	*0.77*	*0.43*	*0.21*	**0.42**	*0.53*	*0.49*
Finished Motor Gasoline	**-0.71**	**-0.41**	**-0.58**	**-0.76**	**-0.66**	**-0.66**	**-0.66**	*-0.76*	*-0.93*	*-0.65*	*-0.66*	*-0.81*	**-0.62**	*-0.69*	*-0.76*
Jet Fuel	**-0.07**	**0.09**	**0.12**	**0.08**	**0.03**	**0.09**	**0.09**	*0.07*	*-0.06*	*-0.04*	*0.02*	*0.07*	**0.05**	*0.07*	*0.00*
Distillate Fuel Oil	**-1.14**	**-0.86**	**-1.16**	**-0.72**	**-0.49**	**-0.90**	**-0.97**	*-0.71*	*-0.62*	*-1.04*	*-1.27*	*-0.93*	**-0.97**	*-0.77*	*-0.97*
Residual Fuel Oil	**-0.02**	**-0.01**	**0.05**	**0.05**	**0.08**	**0.05**	**0.08**	*0.10*	*-0.02*	*0.00*	*-0.04*	*0.04*	**0.02**	*0.08*	*-0.01*
Other Oils (g)	**-0.64**	**-0.49**	**-0.48**	**-0.48**	**-0.49**	**-0.49**	**-0.54**	*-0.65*	*-0.50*	*-0.59*	*-0.67*	*-0.61*	**-0.52**	*-0.54*	*-0.59*
Product Inventory Net Withdrawals	**0.06**	**-0.90**	**0.00**	**0.73**	**0.65**	**-0.26**	**0.07**	*0.38*	*0.20*	*-0.65*	*-0.33*	*0.32*	**-0.02**	*0.21*	*-0.12*
Total Supply	**19.50**	**16.07**	**18.45**	**18.72**	**18.43**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.67*	*20.37*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.37**	**2.85**	**3.01**	**3.68**	**3.40**	**3.33**	**3.23**	*3.59*	*3.77*	*3.26*	*3.32*	*3.87*	**3.23**	*3.39*	*3.55*
Unfinished Oils	**0.18**	**0.12**	**0.03**	**0.03**	**0.05**	**0.03**	**-0.05**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.00*	*0.00*
Motor Gasoline	**8.51**	**7.12**	**8.51**	**8.06**	**8.00**	**9.07**	**9.17**	*8.88*	*8.40*	*9.23*	*9.41*	*8.85*	**8.05**	*8.78*	*8.97*
Fuel Ethanol blended into Motor Gasoline	**0.85**	**0.73**	**0.87**	**0.85**	**0.82**	**0.93**	**0.94**	*0.92*	*0.85*	*0.94*	*0.95*	*0.92*	**0.82**	*0.90*	*0.92*
Jet Fuel	**1.56**	**0.69**	**0.97**	**1.09**	**1.13**	**1.34**	**1.52**	*1.51*	*1.46*	*1.57*	*1.70*	*1.68*	**1.08**	*1.38*	*1.60*
Distillate Fuel Oil	**4.02**	**3.49**	**3.70**	**3.94**	**3.97**	**3.93**	**3.85**	*4.01*	*4.14*	*4.01*	*3.97*	*4.14*	**3.79**	*3.94*	*4.07*
Residual Fuel Oil	**0.17**	**0.11**	**0.32**	**0.22**	**0.26**	**0.25**	**0.32**	*0.29*	*0.23*	*0.21*	*0.26*	*0.26*	**0.21**	*0.28*	*0.24*
Other Oils (g)	**1.69**	**1.68**	**1.92**	**1.71**	**1.63**	**2.08**	**2.10**	*1.79*	*1.75*	*2.00*	*2.14*	*1.86*	**1.75**	*1.90*	*1.94*
Total Consumption	**19.50**	**16.07**	**18.45**	**18.72**	**18.45**	**20.03**	**20.14**	*20.07*	*19.75*	*20.27*	*20.81*	*20.65*	**18.19**	*19.68*	*20.37*
Total Petroleum and Other Liquids Net Imports	**-0.97**	**0.11**	**-0.83**	**-0.84**	**-0.07**	**-0.16**	**0.25**	*-0.12*	*-0.04*	*0.79*	*0.31*	*-0.51*	**-0.63**	*-0.03*	*0.14*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**483.3**	**532.7**	**497.7**	**485.5**	**501.9**	**448.0**	**420.9**	*431.8*	*461.0*	*464.5*	*440.4*	*442.6*	**485.5**	*431.8*	*442.6*
Hydrocarbon Gas Liquids	**182.9**	**235.7**	**298.7**	**228.2**	**168.6**	**195.8**	**228.8**	*183.7*	*144.5*	*197.0*	*242.7*	*204.1*	**228.2**	*183.7*	*204.1*
Unfinished Oils	**101.9**	**92.5**	**81.4**	**77.6**	**93.3**	**93.0**	**89.0**	*82.8*	*93.3*	*91.1*	*90.0*	*83.1*	**77.6**	*82.8*	*83.1*
Other HC/Oxygenates	**33.4**	**25.4**	**24.6**	**29.7**	**29.1**	**27.5**	**25.2**	*26.1*	*28.2*	*27.0*	*26.7*	*27.0*	**29.7**	*26.1*	*27.0*
Total Motor Gasoline	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*231.9*	*241.4*	*246.5*	*233.9*	*248.8*	**243.4**	*231.9*	*248.8*
Finished Motor Gasoline	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.2*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.2*	*26.1*
Motor Gasoline Blend Comp.	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*207.7*	*217.3*	*222.5*	*210.7*	*222.7*	**218.0**	*207.7*	*222.7*
Jet Fuel	**39.9**	**41.6**	**40.1**	**38.6**	**39.0**	**44.7**	**41.3**	*37.7*	*37.7*	*39.0*	*41.7*	*38.8*	**38.6**	*37.7*	*38.8*
Distillate Fuel Oil	**126.8**	**176.9**	**172.5**	**161.2**	**145.5**	**140.1**	**129.3**	*136.0*	*125.6*	*130.6*	*137.8*	*139.1*	**161.2**	*136.0*	*139.1*
Residual Fuel Oil	**34.8**	**39.5**	**32.1**	**30.2**	**30.9**	**31.1**	**28.2**	*30.6*	*31.0*	*32.0*	*30.2*	*31.6*	**30.2**	*30.6*	*31.6*
Other Oils (g)	**61.9**	**59.0**	**48.3**	**49.1**	**55.8**	**54.1**	**50.1**	*53.4*	*62.4*	*60.1*	*50.8*	*52.2*	**49.1**	*53.4*	*52.2*
Total Commercial Inventory	**1326.7**	**1457.7**	**1423.2**	**1343.3**	**1301.7**	**1271.5**	**1237.9**	*1214.1*	*1225.2*	*1287.8*	*1294.3*	*1267.1*	**1343.3**	*1214.1*	*1267.1*
Crude Oil in SPR	**635.0**	**656.0**	**642.2**	**638.1**	**637.8**	**621.3**	**617.8**	*600.6*	*600.6*	*600.6*	*600.6*	*591.0*	**638.1**	*600.6*	*591.0*

(a) Includes lease condensate.

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

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

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

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

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

(g) For net imports and inventories “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; for consumption “Other Oils” also includes renewable fuels except fuel ethanol.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on November 4, 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; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)

U.S. Energy Information Administration | Short-Term Energy Outlook - November 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	**1.95**	**1.92**	**2.14**	**2.05**	**1.87**	**2.19**	**2.16**	*2.21*	*2.29*	*2.43*	*2.49*	*2.56*	**2.02**	*2.11*	*2.44*
Propane	**1.74**	**1.61**	**1.68**	**1.70**	**1.62**	**1.74**	**1.78**	*1.81*	*1.82*	*1.80*	*1.83*	*1.85*	**1.68**	*1.74*	*1.82*
Butanes	**0.92**	**0.86**	**0.90**	**0.89**	**0.85**	**0.92**	**0.93**	*0.96*	*0.96*	*0.96*	*0.97*	*0.98*	**0.89**	*0.92*	*0.97*
Natural Gasoline (Pentanes Plus)	**0.57**	**0.57**	**0.62**	**0.58**	**0.53**	**0.61**	**0.64**	*0.61*	*0.60*	*0.62*	*0.65*	*0.62*	**0.58**	*0.60*	*0.62*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	*0.01*	*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**	**0.29**	**0.27**	*0.32*	*0.32*	*0.31*	*0.32*	*0.31*	**0.26**	*0.29*	*0.31*
Propylene (refinery-grade)	**0.25**	**0.26**	**0.26**	**0.29**	**0.27**	**0.31**	**0.29**	*0.28*	*0.28*	*0.29*	*0.28*	*0.28*	**0.26**	*0.29*	*0.28*
Butanes/Butylenes	**-0.08**	**0.18**	**0.13**	**-0.19**	**-0.09**	**0.24**	**0.18**	*-0.19*	*-0.08*	*0.26*	*0.19*	*-0.19*	**0.01**	*0.04*	*0.04*
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**	**-0.24**	**-0.26**	**-0.27**	**-0.35**	**-0.39**	**-0.40**	*-0.42*	*-0.43*	*-0.45*	*-0.45*	*-0.46*	**-0.27**	*-0.39*	*-0.45*
Propane/Propylene	**-1.08**	**-1.09**	**-1.06**	**-1.31**	**-1.11**	**-1.23**	**-1.17**	*-1.26*	*-1.23*	*-1.26*	*-1.30*	*-1.22*	**-1.14**	*-1.19*	*-1.25*
Butanes/Butylenes	**-0.30**	**-0.31**	**-0.34**	**-0.34**	**-0.35**	**-0.40**	**-0.42**	*-0.37*	*-0.41*	*-0.44*	*-0.44*	*-0.39*	**-0.32**	*-0.39*	*-0.42*
Natural Gasoline (Pentanes Plus)	**-0.27**	**-0.19**	**-0.16**	**-0.14**	**-0.22**	**-0.21**	**-0.18**	*-0.19*	*-0.21*	*-0.19*	*-0.20*	*-0.18*	**-0.19**	*-0.20*	*-0.20*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.46**	**0.25**	**0.32**	**0.47**	**0.39**	**0.29**	**0.31**	*0.50*	*0.39*	*0.29*	*0.33*	*0.51*	**0.38**	*0.37*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.10**	**0.15**	**0.13**	**0.14**	**0.14**	**0.16**	*0.16*	*0.16*	*0.18*	*0.18*	*0.18*	**0.13**	*0.15*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.71**	**1.68**	**1.67**	**1.81**	**1.54**	**1.83**	**1.73**	*1.82*	*1.94*	*1.99*	*2.05*	*2.09*	**1.72**	*1.73*	*2.02*
Propane	**1.14**	**0.58**	**0.61**	**0.97**	**1.09**	**0.65**	**0.69**	*1.01*	*1.11*	*0.53*	*0.54*	*1.04*	**0.82**	*0.86*	*0.80*
Propylene (refinery-grade)	**0.27**	**0.27**	**0.27**	**0.30**	**0.29**	**0.32**	**0.30**	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*	**0.28**	*0.30*	*0.30*
Butanes/Butylenes	**0.17**	**0.20**	**0.19**	**0.23**	**0.22**	**0.29**	**0.23**	*0.21*	*0.19*	*0.22*	*0.20*	*0.20*	**0.20**	*0.24*	*0.20*
Natural Gasoline (Pentanes Plus)	**0.09**	**0.13**	**0.26**	**0.36**	**0.26**	**0.24**	**0.29**	*0.26*	*0.23*	*0.21*	*0.23*	*0.24*	**0.21**	*0.26*	*0.23*
HGL Inventories (million barrels)															
Ethane	**53.2**	**50.6**	**62.5**	**74.8**	**65.8**	**67.4**	**65.9**	*68.9*	*60.6*	*59.2*	*58.0*	*60.6*	**60.3**	*67.0*	*59.6*
Propane	**60.8**	**75.8**	**100.3**	**69.9**	**39.3**	**53.2**	**69.7**	*55.9*	*36.1*	*63.2*	*90.4*	*80.2*	**69.9**	*55.9*	*80.2*
Propylene (at refineries only)	**1.5**	**1.5**	**1.5**	**1.5**	**1.1**	**1.2**	**1.1**	*1.4*	*1.4*	*1.7*	*1.9*	*1.8*	**1.5**	*1.4*	*1.8*
Butanes/Butylenes	**44.1**	**69.9**	**86.0**	**54.6**	**37.2**	**53.9**	**67.7**	*39.3*	*29.3*	*53.6*	*71.3*	*42.2*	**54.6**	*39.3*	*42.2*
Natural Gasoline (Pentanes Plus)	**24.4**	**36.0**	**38.7**	**32.6**	**22.8**	**22.3**	**22.2**	*21.0*	*18.5*	*19.7*	*20.5*	*19.8*	**32.6**	*21.0*	*19.8*
Refinery and Blender Net Inputs															
Crude Oil	**15.77**	**13.16**	**14.02**	**13.90**	**13.81**	**15.65**	**15.58**	*15.57*	*15.26*	*16.44*	*17.09*	*16.02*	**14.21**	*15.16*	*16.21*
Hydrocarbon Gas Liquids	**0.61**	**0.35**	**0.47**	**0.60**	**0.53**	**0.43**	**0.47**	*0.66*	*0.56*	*0.47*	*0.51*	*0.69*	**0.51**	*0.52*	*0.56*
Other Hydrocarbons/Oxygenates	**1.12**	**0.95**	**1.11**	**1.08**	**1.05**	**1.19**	**1.19**	*1.22*	*1.18*	*1.28*	*1.31*	*1.27*	**1.06**	*1.16*	*1.26*
Unfinished Oils	**0.06**	**0.22**	**0.45**	**0.19**	**-0.08**	**0.22**	**0.39**	*0.35*	*0.09*	*0.28*	*0.31*	*0.27*	**0.23**	*0.22*	*0.24*
Motor Gasoline Blend Components	**0.41**	**0.49**	**0.85**	**0.46**	**0.71**	**0.92**	**0.78**	*0.22*	*0.56*	*0.81*	*0.65*	*0.30*	**0.55**	*0.66*	*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	**17.98**	**15.16**	**16.90**	**16.22**	**16.01**	**18.41**	**18.41**	*18.01*	*17.65*	*19.27*	*19.87*	*18.55*	**16.57**	*17.72*	*18.84*
Refinery Processing Gain	**1.02**	**0.82**	**0.93**	**0.92**	**0.84**	**0.97**	**0.98**	*1.05*	*1.06*	*1.05*	*1.09*	*1.09*	**0.92**	*0.96*	*1.07*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.47**	**0.69**	**0.67**	**0.36**	**0.44**	**0.85**	**0.74**	*0.42*	*0.52*	*0.86*	*0.80*	*0.41*	**0.55**	*0.61*	*0.65*
Finished Motor Gasoline	**9.31**	**7.53**	**9.14**	**8.98**	**8.74**	**9.82**	**9.82**	*9.75*	*9.41*	*9.94*	*10.13*	*9.87*	**8.74**	*9.54*	*9.84*
Jet Fuel	**1.63**	**0.62**	**0.83**	**1.00**	**1.10**	**1.32**	**1.40**	*1.41*	*1.53*	*1.62*	*1.71*	*1.57*	**1.02**	*1.31*	*1.61*
Distillate Fuel	**4.95**	**4.83**	**4.72**	**4.45**	**4.29**	**4.77**	**4.70**	*4.79*	*4.64*	*5.11*	*5.32*	*5.09*	**4.74**	*4.64*	*5.04*
Residual Fuel	**0.24**	**0.17**	**0.19**	**0.15**	**0.19**	**0.20**	**0.22**	*0.21*	*0.26*	*0.22*	*0.28*	*0.23*	**0.19**	*0.21*	*0.25*
Other Oils (a)	**2.41**	**2.14**	**2.28**	**2.19**	**2.09**	**2.42**	**2.52**	*2.48*	*2.35*	*2.57*	*2.71*	*2.48*	**2.26**	*2.38*	*2.53*
Total Refinery and Blender Net Production	**19.00**	**15.98**	**17.84**	**17.14**	**16.86**	**19.38**	**19.39**	*19.06*	*18.71*	*20.32*	*20.96*	*19.64*	**17.49**	*18.68*	*19.91*
Refinery Distillation Inputs	**16.37**	**13.65**	**14.56**	**14.32**	**14.25**	**16.17**	**16.19**	*15.96*	*15.60*	*16.65*	*17.30*	*16.31*	**14.72**	*15.65*	*16.47*
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**	*0.88*	*0.86*	*0.92*	*0.95*	*0.90*	**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 November 4, 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 - November 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**	**216**	**231**	*242*	*222*	*218*	*210*	*191*	**133**	*219*	*210*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**236**	**191**	**211**	**212**	**252**	**287**	**304**	*321*	*293*	*289*	*283*	*265*	**214**	*292*	*282*
PADD 2	**226**	**179**	**207**	**202**	**247**	**288**	**304**	*308*	*277*	*287*	*275*	*254*	**204**	*288*	*273*
PADD 3	**210**	**162**	**186**	**183**	**228**	**267**	**282**	*294*	*271*	*268*	*258*	*240*	**187**	*270*	*259*
PADD 4	**247**	**200**	**233**	**221**	**247**	**311**	**360**	*345*	*307*	*308*	*299*	*278*	**226**	*317*	*298*
PADD 5	**311**	**258**	**283**	**278**	**312**	**366**	**391**	*395*	*377*	*376*	*356*	*356*	**284**	*368*	*366*
U.S. Average	**241**	**194**	**218**	**215**	**256**	**297**	**316**	*326*	*300*	*300*	*290*	*274*	**218**	*300*	*291*
Gasoline All Grades Including Taxes	**251**	**203**	**227**	**224**	**265**	**306**	**325**	*336*	*312*	*313*	*303*	*288*	**227**	*310*	*304*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**71.0**	**73.1**	**61.8**	**68.5**	**65.1**	**69.9**	**57.8**	*58.2*	*64.9*	*68.1*	*63.1*	*68.4*	**68.5**	*58.2*	*68.4*
PADD 2	**60.2**	**52.7**	**46.2**	**50.9**	**50.7**	**50.6**	**47.2**	*48.8*	*53.1*	*52.1*	*50.1*	*50.4*	**50.9**	*48.8*	*50.4*
PADD 3	**85.8**	**91.3**	**80.4**	**84.0**	**81.9**	**81.6**	**82.0**	*85.8*	*85.4*	*88.9*	*83.7*	*90.0*	**84.0**	*85.8*	*90.0*
PADD 4	**9.2**	**7.7**	**7.6**	**8.7**	**8.6**	**6.2**	**7.8**	*8.0*	*7.9*	*7.9*	*7.5*	*8.2*	**8.7**	*8.0*	*8.2*
PADD 5	**35.6**	**29.7**	**31.5**	**31.4**	**31.4**	**29.0**	**30.2**	*31.1*	*30.0*	*29.5*	*29.5*	*31.8*	**31.4**	*31.1*	*31.8*
U.S. Total	**261.8**	**254.5**	**227.6**	**243.4**	**237.6**	**237.2**	**225.1**	*231.9*	*241.4*	*246.5*	*233.9*	*248.8*	**243.4**	*231.9*	*248.8*
Finished Gasoline Inventories															
U.S. Total	**22.6**	**23.5**	**22.5**	**25.4**	**20.3**	**18.6**	**17.6**	*24.2*	*24.1*	*23.9*	*23.1*	*26.1*	**25.4**	*24.2*	*26.1*
Gasoline Blending Components Inventories															
U.S. Total	**239.2**	**231.0**	**205.0**	**218.0**	**217.4**	**218.6**	**207.5**	*207.7*	*217.3*	*222.5*	*210.7*	*222.7*	**218.0**	*207.7*	*222.7*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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	**103.02**	**96.83**	**97.29**	**98.53**	**97.65**	**101.12**	**102.51**	*102.98*	*103.49*	*104.13*	*105.34*	*106.49*	**98.91**	*101.09*	*104.87*
Alaska	**0.96**	**0.88**	**0.88**	**0.98**	**1.02**	**0.95**	**0.87**	*0.91*	*0.92*	*0.77*	*0.73*	*0.88*	**0.92**	*0.94*	*0.83*
Federal GOM (a)	**2.80**	**2.28**	**1.75**	**1.81**	**2.26**	**2.25**	**1.94**	*2.31*	*2.33*	*2.25*	*2.14*	*2.10*	**2.16**	*2.19*	*2.20*
Lower 48 States (excl GOM)	**99.25**	**93.68**	**94.67**	**95.75**	**94.37**	**97.92**	**99.70**	*99.76*	*100.25*	*101.11*	*102.47*	*103.51*	**95.83**	*97.96*	*101.84*
Total Dry Gas Production	**95.29**	**89.57**	**89.99**	**91.14**	**90.62**	**93.20**	**94.52**	*94.94*	*95.41*	*96.00*	*97.12*	*98.18*	**91.49**	*93.34*	*96.69*
LNG Gross Imports	**0.24**	**0.12**	**0.09**	**0.09**	**0.15**	**0.02**	**0.05**	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.13**	*0.10*	*0.22*
LNG Gross Exports	**7.92**	**5.52**	**3.91**	**8.78**	**9.27**	**9.81**	**9.62**	*10.50*	*11.14*	*11.26*	*11.55*	*12.01*	**6.53**	*9.81*	*11.49*
Pipeline Gross Imports	**7.60**	**6.08**	**6.39**	**7.27**	**8.68**	**6.81**	**7.10**	*6.80*	*7.35*	*6.36*	*6.38*	*6.72*	**6.84**	*7.34*	*6.70*
Pipeline Gross Exports	**8.15**	**7.17**	**8.09**	**8.21**	**8.31**	**8.67**	**8.62**	*9.13*	*9.14*	*8.56*	*9.33*	*9.35*	**7.91**	*8.68*	*9.09*
Supplemental Gaseous Fuels	**0.18**	**0.17**	**0.17**	**0.17**	**0.18**	**0.15**	**0.15**	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	**0.17**	*0.16*	*0.17*
Net Inventory Withdrawals	**12.74**	**-12.24**	**-7.68**	**5.36**	**17.19**	**-9.12**	**-7.83**	*4.11*	*14.46*	*-10.33*	*-7.98*	*4.80*	**-0.46**	*1.03*	*0.19*
Total Supply	**99.98**	**71.00**	**76.96**	**87.05**	**99.23**	**72.57**	**75.75**	*86.59*	*97.43*	*72.56*	*74.99*	*88.71*	**83.74**	*83.48*	*83.38*
Balancing Item (b)	**-0.55**	**-0.29**	**-0.20**	**-0.93**	**0.06**	**-0.63**	**-0.74**	*-0.48*	*-0.65*	*-0.87*	*0.38*	*-0.14*	**-0.49**	*-0.45*	*-0.32*
Total Primary Supply	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
Consumption (billion cubic feet per day)															
Residential	**22.95**	**8.25**	**3.84**	**16.10**	**25.67**	**7.51**	**3.46**	*16.38*	*24.56*	*7.83*	*3.84*	*17.43*	**12.77**	*13.20*	*13.37*
Commercial	**14.04**	**5.85**	**4.39**	**10.40**	**14.87**	**6.24**	**4.69**	*11.01*	*14.62*	*6.66*	*5.16*	*11.81*	**8.66**	*9.18*	*9.54*
Industrial	**24.31**	**20.32**	**20.92**	**23.53**	**23.81**	**21.49**	**21.26**	*23.94*	*24.32*	*22.33*	*21.55*	*24.46*	**22.27**	*22.62*	*23.16*
Electric Power (c)	**29.55**	**29.05**	**40.10**	**28.19**	**26.65**	**29.14**	**37.86**	*26.63*	*24.72*	*27.16*	*36.91*	*26.44*	**31.74**	*30.09*	*28.83*
Lease and Plant Fuel	**5.14**	**4.83**	**4.85**	**4.91**	**4.87**	**5.04**	**5.11**	*5.13*	*5.16*	*5.19*	*5.25*	*5.31*	**4.93**	*5.04*	*5.23*
Pipeline and Distribution Use	**3.31**	**2.32**	**2.53**	**2.85**	**3.28**	**2.38**	**2.48**	*2.87*	*3.24*	*2.37*	*2.49*	*2.95*	**2.75**	*2.75*	*2.76*
Vehicle Use	**0.13**	**0.10**	**0.13**	**0.13**	**0.14**	**0.15**	**0.15**	*0.15*	*0.16*	*0.16*	*0.16*	*0.16*	**0.13**	*0.15*	*0.16*
Total Consumption	**99.44**	**70.72**	**76.76**	**86.12**	**99.29**	**71.94**	**75.01**	*86.11*	*96.77*	*71.69*	*75.37*	*88.57*	**83.25**	*83.03*	*83.06*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**2,029**	**3,133**	**3,840**	**3,341**	**1,801**	**2,583**	**3,303**	*2,925*	*1,623*	*2,563*	*3,297*	*2,856*	**3,341**	*2,925*	*2,856*
East Region (d)	**385**	**655**	**890**	**763**	**313**	**515**	**806**	*675*	*234*	*487*	*702*	*510*	**763**	*675*	*510*
Midwest Region (d)	**471**	**747**	**1,053**	**918**	**395**	**630**	**966**	*817*	*335*	*569*	*913*	*802*	**918**	*817*	*802*
South Central Region (d)	**857**	**1,221**	**1,313**	**1,155**	**760**	**991**	**1,048**	*1,044*	*782*	*1,047*	*1,102*	*1,004*	**1,155**	*1,044*	*1,004*
Mountain Region (d)	**92**	**177**	**235**	**195**	**113**	**175**	**205**	*156*	*97*	*150*	*219*	*201*	**195**	*156*	*201*
Pacific Region (d)	**200**	**308**	**318**	**282**	**197**	**246**	**247**	*202*	*144*	*279*	*330*	*307*	**282**	*202*	*307*
Alaska	**23**	**25**	**31**	**28**	**23**	**27**	**31**	*31*	*31*	*31*	*31*	*31*	**28**	*31*	*31*

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

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

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

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

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**4.53**	*5.75*	*5.45*	*3.67*	*3.64*	*3.59*	**2.11**	*4.26*	*4.09*
Residential Retail															
New England	**14.05**	**14.74**	**18.47**	**14.90**	**14.66**	**16.24**	**20.39**	*16.36*	*15.83*	*16.30*	*18.39*	*13.99*	**14.73**	*15.74*	*15.52*
Middle Atlantic	**10.77**	**11.84**	**17.83**	**11.77**	**10.43**	**13.49**	**19.70**	*13.84*	*12.69*	*14.23*	*18.03*	*11.76*	**11.76**	*12.32*	*13.01*
E. N. Central	**6.99**	**9.47**	**18.18**	**8.02**	**7.41**	**12.69**	**21.91**	*12.42*	*11.05*	*13.11*	*17.89*	*9.21*	**8.38**	*10.19*	*11.12*
W. N. Central	**7.22**	**10.02**	**17.42**	**8.67**	**7.49**	**11.66**	**19.96**	*11.83*	*10.59*	*13.22*	*18.43*	*10.04*	**8.69**	*9.84*	*11.20*
S. Atlantic	**11.86**	**15.14**	**23.48**	**13.82**	**11.95**	**18.04**	**26.89**	*15.87*	*14.22*	*18.72*	*23.93*	*13.31*	**13.88**	*14.89*	*15.28*
E. S. Central	**9.67**	**13.22**	**20.81**	**10.61**	**9.35**	**14.78**	**23.25**	*15.89*	*13.16*	*17.42*	*23.13*	*13.94*	**11.13**	*11.94*	*14.86*
W. S. Central	**8.48**	**14.16**	**20.70**	**11.55**	**9.23**	**15.86**	**23.17**	*14.29*	*11.72*	*16.89*	*21.39*	*11.96*	**11.32**	*12.55*	*13.41*
Mountain	**7.53**	**9.35**	**12.50**	**8.09**	**7.90**	**10.64**	**15.38**	*10.21*	*10.00*	*11.73*	*14.86*	*9.25*	**8.40**	*9.48*	*10.39*
Pacific	**13.10**	**13.44**	**14.16**	**13.39**	**14.20**	**15.01**	**15.88**	*15.15*	*15.61*	*16.01*	*16.21*	*14.86*	**13.38**	*14.82*	*15.52*
U.S. Average	**9.44**	**11.74**	**17.50**	**10.53**	**9.75**	**13.87**	**20.16**	*13.52*	*12.58*	*14.72*	*18.53*	*11.46*	**10.76**	*12.20*	*12.95*
Commercial Retail															
New England	**10.06**	**10.49**	**11.04**	**10.20**	**10.39**	**11.13**	**12.20**	*12.16*	*12.69*	*12.35*	*11.33*	*10.75*	**10.27**	*11.23*	*11.88*
Middle Atlantic	**7.87**	**7.01**	**6.73**	**7.44**	**7.92**	**8.00**	**8.01**	*9.16*	*9.78*	*9.24*	*8.29*	*8.46*	**7.45**	*8.32*	*9.09*
E. N. Central	**5.73**	**6.56**	**8.77**	**6.19**	**6.11**	**8.60**	**10.65**	*8.90*	*9.08*	*9.63*	*9.78*	*7.25*	**6.23**	*7.66*	*8.61*
W. N. Central	**5.97**	**6.59**	**8.20**	**6.56**	**6.32**	**7.71**	**9.83**	*9.18*	*9.36*	*9.28*	*9.75*	*7.58*	**6.41**	*7.64*	*8.80*
S. Atlantic	**8.51**	**9.21**	**9.54**	**8.86**	**8.69**	**9.84**	**10.30**	*10.60*	*10.80*	*11.10*	*10.61*	*9.17*	**8.86**	*9.64*	*10.33*
E. S. Central	**8.36**	**9.18**	**10.23**	**8.67**	**8.33**	**9.90**	**11.97**	*11.31*	*10.86*	*11.31*	*11.06*	*9.50*	**8.79**	*9.85*	*10.50*
W. S. Central	**6.02**	**7.20**	**8.13**	**7.45**	**6.91**	**8.58**	**9.96**	*9.92*	*9.51*	*9.61*	*9.16*	*7.97*	**6.93**	*8.43*	*9.05*
Mountain	**6.07**	**6.68**	**7.38**	**6.38**	**6.50**	**7.76**	**9.28**	*8.63*	*8.67*	*9.00*	*9.46*	*7.99*	**6.40**	*7.64*	*8.59*
Pacific	**9.48**	**9.37**	**9.52**	**9.63**	**10.46**	**10.31**	**11.36**	*10.96*	*11.16*	*10.80*	*10.77*	*10.04*	**9.51**	*10.72*	*10.68*
U.S. Average	**7.18**	**7.61**	**8.47**	**7.51**	**7.54**	**8.85**	**10.02**	*9.72*	*9.88*	*9.97*	*9.70*	*8.42*	**7.49**	*8.69*	*9.41*
Industrial Retail															
New England	**8.18**	**7.43**	**6.17**	**7.73**	**8.59**	**8.08**	**7.77**	*9.58*	*10.54*	*9.48*	*7.74*	*8.36*	**7.56**	*8.67*	*9.24*
Middle Atlantic	**7.40**	**6.84**	**7.49**	**7.78**	**7.66**	**7.36**	**7.77**	*9.32*	*10.12*	*9.17*	*8.31*	*8.42*	**7.40**	*8.17*	*9.31*
E. N. Central	**4.85**	**4.52**	**4.15**	**5.12**	**5.43**	**8.14**	**8.70**	*8.38*	*8.48*	*7.21*	*6.33*	*6.05*	**4.77**	*7.16*	*7.28*
W. N. Central	**4.01**	**3.32**	**3.15**	**4.15**	**5.13**	**4.34**	**5.27**	*7.06*	*7.56*	*5.87*	*5.14*	*5.38*	**3.71**	*5.51*	*6.06*
S. Atlantic	**4.20**	**3.73**	**3.76**	**4.65**	**5.12**	**4.75**	**6.05**	*7.59*	*7.81*	*5.91*	*5.33*	*5.43*	**4.11**	*5.86*	*6.19*
E. S. Central	**4.03**	**3.34**	**3.37**	**4.15**	**4.72**	**4.28**	**5.36**	*7.27*	*7.48*	*5.65*	*4.94*	*5.12*	**3.76**	*5.40*	*5.86*
W. S. Central	**2.20**	**1.94**	**2.20**	**2.91**	**5.75**	**3.20**	**4.45**	*5.97*	*5.74*	*4.01*	*3.84*	*3.73*	**2.33**	*4.87*	*4.33*
Mountain	**4.36**	**4.54**	**4.57**	**4.85**	**4.98**	**5.28**	**6.67**	*7.33*	*7.64*	*7.10*	*6.83*	*6.35*	**4.58**	*5.99*	*7.00*
Pacific	**7.31**	**6.27**	**6.05**	**7.06**	**8.28**	**7.24**	**7.80**	*8.47*	*9.04*	*8.15*	*7.78*	*7.50*	**6.74**	*8.05*	*8.14*
U.S. Average	**3.56**	**2.87**	**2.90**	**3.81**	**5.73**	**4.09**	**5.11**	*6.79*	*6.98*	*5.07*	*4.64*	*4.80*	**3.32**	*5.47*	*5.41*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**142.7**	**153.3**	*145.6*	*153.6*	*145.4*	*157.4*	*154.9*	**535.3**	*582.0*	*611.4*
Appalachia	**39.8**	**29.5**	**33.9**	**35.5**	**40.8**	**39.5**	**40.1**	*41.0*	*43.7*	*42.9*	*40.2*	*41.3*	**138.7**	*161.4*	*168.1*
Interior	**25.8**	**20.0**	**23.2**	**21.8**	**25.0**	**23.3**	**25.7**	*24.4*	*25.7*	*24.9*	*27.1*	*27.5*	**90.7**	*98.4*	*105.2*
Western	**83.6**	**66.7**	**78.8**	**76.8**	**74.5**	**80.0**	**87.5**	*80.2*	*84.3*	*77.6*	*90.1*	*86.1*	**305.9**	*322.2*	*338.1*
Primary Inventory Withdrawals	**0.5**	**1.3**	**4.0**	**1.9**	**-4.5**	**2.1**	**2.7**	*-2.0*	*-1.3*	*-2.1*	*-0.8*	*-5.2*	**7.7**	*-1.7*	*-9.3*
Imports	**1.3**	**1.1**	**1.3**	**1.3**	**1.1**	**1.5**	**1.3**	*1.1*	*0.9*	*0.9*	*1.1*	*1.1*	**5.1**	*5.0*	*4.0*
Exports	**20.0**	**14.8**	**15.3**	**19.1**	**20.7**	**22.1**	**22.5**	*23.7*	*27.1*	*18.3*	*19.1*	*25.2*	**69.1**	*89.1*	*89.7*
Metallurgical Coal	**11.7**	**9.0**	**10.2**	**11.3**	**10.3**	**11.7**	**12.5**	*13.9*	*14.6*	*10.7*	*12.2*	*13.6*	**42.1**	*48.4*	*51.1*
Steam Coal	**8.3**	**5.8**	**5.1**	**7.8**	**10.4**	**10.4**	**10.0**	*9.9*	*12.5*	*7.6*	*6.9*	*11.6*	**27.0**	*40.7*	*38.6*
Total Primary Supply	**131.0**	**103.9**	**125.9**	**118.3**	**116.2**	**124.2**	**134.8**	*121.0*	*126.2*	*125.9*	*138.7*	*125.7*	**479.0**	*496.2*	*516.4*
Secondary Inventory Withdrawals	**-16.6**	**-5.1**	**21.5**	**-3.3**	**21.3**	**0.2**	**27.8**	*5.3*	*3.9*	*-8.7*	*17.2*	*0.2*	**-3.5**	*54.7*	*12.6*
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**	**149.3**	**117.3**	**139.5**	**126.5**	**164.6**	*128.3*	*131.9*	*119.0*	*157.7*	*127.7*	**483.2**	*558.8*	*536.4*
Consumption (million short tons)															
Coke Plants	**4.3**	**3.5**	**3.2**	**3.5**	**4.4**	**4.5**	**3.8**	*4.0*	*5.3*	*4.5*	*4.2*	*4.7*	**14.4**	*16.7*	*18.8*
Electric Power Sector (b)	**97.9**	**87.2**	**139.3**	**112.1**	**128.1**	**113.8**	**156.3**	*118.5*	*119.7*	*107.9*	*146.9*	*116.2*	**436.5**	*516.6*	*490.7*
Retail and Other Industry	**7.4**	**5.8**	**6.1**	**7.2**	**6.8**	**6.3**	**6.6**	*6.9*	*6.9*	*6.6*	*6.6*	*6.8*	**26.5**	*26.7*	*26.9*
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**	*0.9*	*0.8*
Other Industrial	**7.1**	**5.6**	**6.0**	**7.0**	**6.6**	**6.2**	**6.5**	*6.7*	*6.7*	*6.4*	*6.4*	*6.6*	**25.7**	*25.9*	*26.1*
Total Consumption	**109.5**	**96.5**	**148.6**	**122.8**	**139.4**	**124.6**	**166.7**	*129.4*	*131.9*	*119.0*	*157.7*	*127.7*	**477.4**	*560.0*	*536.4*
Discrepancy (c)	**6.8**	**3.9**	**0.7**	**-5.5**	**0.1**	**1.9**	**-2.1**	*-1.1*	*0.0*	*0.0*	*0.0*	*0.0*	**5.8**	*-1.2*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**30.8**	**29.5**	**25.5**	**23.6**	**28.1**	**26.1**	**23.4**	*25.4*	*26.6*	*28.7*	*29.5*	*34.7*	**23.6**	*25.4*	*34.7*
Secondary Inventories	**150.6**	**155.7**	**134.2**	**137.5**	**116.1**	**115.9**	**88.1**	*82.8*	*78.9*	*87.6*	*70.4*	*70.2*	**137.5**	*82.8*	*70.2*
Electric Power Sector	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**82.3**	*77.3*	*73.5*	*82.0*	*64.7*	*64.8*	**132.7**	*77.3*	*64.8*
Retail and General Industry	**3.0**	**3.0**	**2.9**	**2.8**	**2.6**	**2.6**	**3.6**	*3.4*	*3.6*	*3.5*	*3.4*	*3.3*	**2.8**	*3.4*	*3.3*
Coke Plants	**2.1**	**2.0**	**2.0**	**1.7**	**1.5**	**1.9**	**2.1**	*2.0*	*1.6*	*2.0*	*2.1*	*2.0*	**1.7**	*2.0*	*2.0*
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**	**0.267**	*0.300*	*0.322*	*0.292*	*0.289*	*0.302*	**0.216**	*0.268*	*0.301*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*

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

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

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

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**984**	**1,163**	*976*	*976*	*994*	*1,160*	*990*	**4,009**	*4,112*	*4,119*
Electric Power Sector (a)	**925**	**896**	**1,109**	**923**	**952**	**948**	**1,123**	*938*	*938*	*957*	*1,118*	*951*	**3,853**	*3,960*	*3,963*
Industrial Sector (b)	**38**	**34**	**36**	**36**	**34**	**33**	**37**	*35*	*35*	*34*	*38*	*36*	**143**	*138*	*142*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	**4**	*3*	*3*	*3*	*4*	*3*	**13**	*14*	*14*
Net Imports	**10**	**11**	**15**	**12**	**11**	**11**	**13**	*9*	*11*	*12*	*14*	*11*	**47**	*45*	*48*
Total Supply	**976**	**944**	**1,163**	**973**	**999**	**995**	**1,177**	*986*	*987*	*1,006*	*1,174*	*1,001*	**4,056**	*4,157*	*4,167*
Losses and Unaccounted for (c)	**53**	**67**	**71**	**63**	**53**	**65**	**61**	*57*	*45*	*67*	*58*	*56*	**254**	*236*	*225*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**887**	**844**	**1,057**	**876**	**914**	**898**	**1,085**	*899*	*908*	*906*	*1,079*	*910*	**3,664**	*3,797*	*3,804*
Residential Sector	**340**	**334**	**453**	**334**	**379**	**328**	**445**	*338*	*360*	*325*	*434*	*343*	**1,462**	*1,490*	*1,462*
Commercial Sector	**314**	**293**	**360**	**309**	**305**	**322**	**376**	*317*	*309*	*326*	*376*	*319*	**1,276**	*1,319*	*1,331*
Industrial Sector	**231**	**216**	**242**	**231**	**229**	**247**	**263**	*243*	*238*	*253*	*268*	*247*	**920**	*981*	*1,005*
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**	**36**	*34*	*33*	*33*	*37*	*35*	**138**	*134*	*138*
Total Consumption	**923**	**877**	**1,092**	**910**	**947**	**930**	**1,116**	*929*	*942*	*939*	*1,116*	*945*	**3,802**	*3,921*	*3,942*
Average residential electricity usage per customer (kWh)	**2,496**	**2,451**	**3,326**	**2,451**	**2,753**	**2,386**	**3,220**	*2,443*	*2,589*	*2,338*	*3,121*	*2,464*	**10,723**	*10,802*	*10,513*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**145.2**	**150.4**	**129.1**	**132.7**	**111.8**	**111.2**	**82.3**	*77.3*	*73.5*	*82.0*	*64.7*	*64.8*	**132.7**	*77.3*	*64.8*
Residual Fuel (mmb)	**8.3**	**8.5**	**8.2**	**8.3**	**8.0**	**7.5**	**7.3**	*8.2*	*7.9*	*7.8*	*7.8*	*8.1*	**8.3**	*8.2*	*8.1*
Distillate Fuel (mmb)	**16.5**	**16.5**	**17.0**	**16.8**	**15.9**	**15.3**	**15.3**	*15.6*	*15.5*	*15.4*	*15.4*	*15.7*	**16.8**	*15.6*	*15.7*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.93**	**1.91**	**1.93**	**1.92**	**1.91**	**1.93**	**2.05**	*2.06*	*2.08*	*2.09*	*2.08*	*2.06*	**1.92**	*1.99*	*2.08*
Natural Gas	**2.39**	**2.08**	**2.26**	**2.87**	**7.26**	**3.26**	**4.49**	*5.94*	*5.86*	*3.76*	*3.69*	*3.82*	**2.39**	*5.12*	*4.20*
Residual Fuel Oil	**12.15**	**6.65**	**8.85**	**8.90**	**11.28**	**13.09**	**13.69**	*13.99*	*14.55*	*14.55*	*13.13*	*12.53*	**9.15**	*12.98*	*13.67*
Distillate Fuel Oil	**13.27**	**8.39**	**10.37**	**10.54**	**13.59**	**15.20**	**16.21**	*18.73*	*17.87*	*16.89*	*16.28*	*15.91*	**10.73**	*15.64*	*16.81*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*
Commercial Sector	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Industrial Sector	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**23.41**	**24.03**	**34.12**	**26.41**	**616.34**	**39.74**	**52.31**	*49.89*	*45.27*	*41.26*	*38.86*	*31.55*	**26.99**	*189.57*	*39.24*
CAISO SP15 zone	**28.64**	**19.21**	**61.94**	**42.80**	**44.74**	**36.90**	**72.02**	*29.82*	*20.20*	*18.15*	*19.27*	*16.74*	**38.15**	*45.87*	*18.59*
ISO-NE Internal hub	**24.61**	**20.25**	**27.20**	**34.03**	**55.26**	**33.67**	**52.57**	*64.80*	*64.35*	*57.72*	*59.26*	*53.36*	**26.52**	*51.57*	*58.67*
NYISO Hudson Valley zone	**21.82**	**18.13**	**24.38**	**27.05**	**44.74**	**31.85**	**50.42**	*59.62*	*61.40*	*51.07*	*52.27*	*47.22*	**22.85**	*46.66*	*52.99*
PJM Western hub	**22.47**	**20.79**	**28.24**	**26.44**	**35.09**	**33.71**	**51.32**	*56.60*	*50.38*	*39.89*	*44.74*	*38.28*	**24.49**	*44.18*	*43.32*
Midcontinent ISO Illinois hub	**24.43**	**23.00**	**29.35**	**24.94**	**44.97**	**33.82**	**49.36**	*55.62*	*50.41*	*40.16*	*43.63*	*36.95*	**25.43**	*45.94*	*42.79*
SPP ISO South hub	**20.06**	**19.54**	**26.27**	**24.34**	**250.31**	**30.86**	**48.63**	*47.28*	*45.07*	*37.19*	*42.98*	*33.14*	**22.55**	*94.27*	*39.60*
SERC index, Into Southern	**23.58**	**18.23**	**23.47**	**25.21**	**41.10**	**32.93**	**44.18**	*52.06*	*48.36*	*38.04*	*40.15*	*35.07*	**22.62**	*42.57*	*40.40*
FRCC index, Florida Reliability	**26.24**	**18.53**	**23.75**	**25.39**	**27.73**	**32.17**	**42.76**	*48.06*	*47.36*	*35.36*	*35.88*	*34.15*	**23.48**	*37.68*	*38.19*
Northwest index, Mid-Columbia	**22.77**	**14.49**	**33.56**	**31.00**	**34.56**	**51.51**	**91.61**	*31.31*	*20.56*	*20.30*	*18.59*	*18.06*	**25.46**	*52.25*	*19.38*
Southwest index, Palo Verde	**22.07**	**19.60**	**80.81**	**36.10**	**41.72**	**46.57**	**79.86**	*27.17*	*17.01*	*16.82*	*16.74*	*14.60*	**39.64**	*48.83*	*16.29*

Notes: EIA completed modeling and analysis for this report on November 4, 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 colocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

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

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - November 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**	*11.1*	*12.4*	*10.3*	*12.9*	*11.0*	**48.2**	*48.6*	*46.6*
Middle Atlantic	**32.2**	**30.6**	**43.5**	**30.9**	**36.1**	**30.3**	**42.1**	*31.4*	*36.6*	*30.3*	*39.6*	*31.8*	**137.1**	*139.9*	*138.4*
E. N. Central	**46.4**	**43.7**	**56.5**	**43.4**	**50.2**	**43.1**	**56.4**	*44.4*	*47.7*	*41.7*	*52.6*	*44.6*	**190.0**	*194.2*	*186.5*
W. N. Central	**27.6**	**23.7**	**30.0**	**24.5**	**29.9**	**23.7**	**31.3**	*26.0*	*31.3*	*24.6*	*32.8*	*28.6*	**105.8**	*110.9*	*117.3*
S. Atlantic	**84.3**	**86.3**	**114.7**	**85.3**	**95.2**	**85.1**	**111.9**	*86.3*	*89.9*	*84.6*	*109.4*	*86.7*	**370.6**	*378.5*	*370.6*
E. S. Central	**29.0**	**26.0**	**37.2**	**26.6**	**33.8**	**25.6**	**35.9**	*27.2*	*31.8*	*26.0*	*36.2*	*27.7*	**118.8**	*122.5*	*121.6*
W. S. Central	**48.8**	**52.9**	**76.4**	**48.5**	**56.8**	**49.5**	**74.4**	*49.8*	*49.8*	*50.3*	*75.7*	*50.1*	**226.5**	*230.5*	*225.9*
Mountain	**22.5**	**25.7**	**36.2**	**24.0**	**23.7**	**26.9**	**35.0**	*23.4*	*22.9*	*25.3*	*34.3*	*24.2*	**108.4**	*109.0*	*106.7*
Pacific contiguous	**36.7**	**33.2**	**43.0**	**38.6**	**39.0**	**32.2**	**43.1**	*37.1*	*36.6*	*30.9*	*39.4*	*36.7*	**151.5**	*151.5*	*143.7*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	**1.1**	**1.2**	*1.3*	*1.2*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**340.3**	**334.1**	**453.4**	**334.1**	**378.9**	**328.4**	**445.2**	*337.9*	*360.1*	*325.2*	*434.1*	*342.6*	**1,462.0**	*1,490.4*	*1,462.1*
Commercial Sector															
New England	**12.3**	**10.6**	**13.2**	**11.4**	**11.7**	**11.7**	**13.6**	*11.6*	*11.7*	*11.6*	*13.3*	*11.6*	**47.5**	*48.6*	*48.2*
Middle Atlantic	**35.9**	**31.0**	**38.9**	**33.2**	**34.6**	**33.3**	**40.1**	*34.4*	*35.6*	*34.1*	*40.1*	*35.2*	**138.9**	*142.4*	*145.0*
E. N. Central	**43.1**	**38.3**	**47.3**	**41.0**	**41.7**	**42.2**	**49.0**	*42.0*	*42.4*	*42.6*	*48.4*	*42.3*	**169.7**	*174.9*	*175.7*
W. N. Central	**24.7**	**21.6**	**26.3**	**23.4**	**24.0**	**23.7**	**27.6**	*24.5*	*24.7*	*24.1*	*28.0*	*25.2*	**96.0**	*99.8*	*102.1*
S. Atlantic	**72.0**	**70.0**	**85.7**	**72.4**	**70.8**	**77.3**	**89.3**	*73.9*	*71.4*	*78.5*	*89.5*	*74.2*	**300.2**	*311.2*	*313.7*
E. S. Central	**20.7**	**19.4**	**25.3**	**20.4**	**20.9**	**21.7**	**25.7**	*21.0*	*21.0*	*22.1*	*25.9*	*21.1*	**85.8**	*89.4*	*90.0*
W. S. Central	**44.3**	**44.6**	**55.0**	**45.4**	**42.4**	**50.2**	**57.7**	*47.5*	*43.0*	*52.0*	*58.8*	*47.8*	**189.4**	*197.8*	*201.6*
Mountain	**22.4**	**22.1**	**27.4**	**22.8**	**21.9**	**24.8**	**28.9**	*23.3*	*22.4*	*24.6*	*28.9*	*23.7*	**94.7**	*99.0*	*99.5*
Pacific contiguous	**37.0**	**33.9**	**39.8**	**37.6**	**35.2**	**35.3**	**42.4**	*37.5*	*35.6*	*35.5*	*41.3*	*37.0*	**148.3**	*150.5*	*149.4*
AK and HI	**1.4**	**1.2**	**1.3**	**1.3**	**1.3**	**1.3**	**1.3**	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	**5.2**	*5.2*	*5.3*
Total	**313.7**	**292.7**	**360.3**	**308.9**	**304.6**	**321.6**	**375.6**	*316.9*	*309.1*	*326.3*	*375.7*	*319.5*	**1,275.7**	*1,318.7*	*1,330.6*
Industrial Sector															
New England	**3.7**	**3.5**	**3.9**	**3.7**	**3.8**	**4.0**	**4.2**	*3.8*	*3.8*	*4.0*	*4.2*	*3.8*	**14.8**	*15.7*	*15.7*
Middle Atlantic	**18.0**	**16.2**	**18.6**	**17.6**	**17.6**	**17.9**	**19.2**	*18.3*	*18.3*	*18.4*	*19.6*	*18.6*	**70.4**	*73.1*	*74.9*
E. N. Central	**44.0**	**37.7**	**44.5**	**42.5**	**44.8**	**46.6**	**48.7**	*44.7*	*46.7*	*47.3*	*49.6*	*45.5*	**168.7**	*184.7*	*189.1*
W. N. Central	**21.7**	**20.3**	**23.2**	**22.1**	**23.0**	**24.2**	**26.0**	*24.1*	*24.8*	*25.4*	*26.9*	*24.6*	**87.3**	*97.3*	*101.6*
S. Atlantic	**32.8**	**31.0**	**34.2**	**33.6**	**33.4**	**35.9**	**37.5**	*34.8*	*34.2*	*36.4*	*38.2*	*35.3*	**131.7**	*141.7*	*144.1*
E. S. Central	**23.3**	**21.4**	**23.4**	**22.9**	**23.8**	**25.0**	**25.9**	*24.4*	*24.9*	*25.5*	*26.3*	*24.6*	**91.1**	*99.2*	*101.3*
W. S. Central	**46.6**	**44.9**	**47.9**	**48.7**	**44.1**	**49.7**	**53.4**	*51.8*	*46.1*	*51.8*	*55.2*	*52.9*	**188.1**	*198.9*	*206.1*
Mountain	**20.1**	**20.3**	**22.6**	**19.9**	**19.2**	**21.6**	**23.4**	*20.3*	*19.1*	*21.5*	*23.5*	*20.6*	**82.9**	*84.4*	*84.7*
Pacific contiguous	**19.2**	**19.7**	**22.1**	**19.0**	**18.1**	**20.9**	**23.1**	*19.5*	*18.5*	*21.3*	*23.4*	*19.6*	**80.1**	*81.7*	*82.8*
AK and HI	**1.2**	**1.0**	**1.2**	**1.2**	**1.1**	**1.1**	**1.2**	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.5**	*4.6*	*4.6*
Total	**230.7**	**216.0**	**241.6**	**231.2**	**228.8**	**246.9**	**262.6**	*242.9*	*237.6*	*252.8*	*268.0*	*246.7*	**919.5**	*981.2*	*1,005.0*
Total All Sectors (a)															
New England	**27.8**	**25.1**	**31.9**	**26.3**	**28.5**	**26.7**	**31.6**	*26.5*	*28.0*	*26.0*	*30.5*	*26.5*	**111.0**	*113.3*	*110.9*
Middle Atlantic	**86.9**	**78.5**	**101.8**	**82.5**	**89.2**	**82.3**	**102.2**	*84.9*	*91.4*	*83.6*	*100.2*	*86.5*	**349.7**	*358.6*	*361.5*
E. N. Central	**133.7**	**119.7**	**148.4**	**127.0**	**136.9**	**132.0**	**154.2**	*131.2*	*136.9*	*131.7*	*150.7*	*132.5*	**528.8**	*554.3*	*551.8*
W. N. Central	**74.0**	**65.7**	**79.5**	**70.0**	**77.0**	**71.6**	**84.9**	*74.6*	*80.9*	*74.1*	*87.7*	*78.4*	**289.2**	*308.1*	*321.1*
S. Atlantic	**189.5**	**187.6**	**235.0**	**191.6**	**199.7**	**198.6**	**239.0**	*195.2*	*195.8*	*199.9*	*237.4*	*196.5*	**803.7**	*832.5*	*829.6*
E. S. Central	**73.0**	**66.8**	**85.9**	**69.9**	**78.5**	**72.4**	**87.5**	*72.6*	*77.7*	*73.6*	*88.3*	*73.3*	**295.7**	*311.0*	*312.9*
W. S. Central	**139.8**	**142.4**	**179.4**	**142.7**	**143.3**	**149.5**	**185.6**	*149.1*	*138.9*	*154.2*	*189.8*	*150.9*	**604.2**	*627.4*	*633.8*
Mountain	**65.0**	**68.2**	**86.3**	**66.7**	**64.8**	**73.3**	**87.3**	*67.0*	*64.4*	*71.4*	*86.8*	*68.5*	**286.2**	*292.5*	*291.1*
Pacific contiguous	**93.1**	**87.0**	**105.1**	**95.4**	**92.5**	**88.6**	**108.9**	*94.2*	*91.0*	*87.9*	*104.3*	*93.5*	**380.6**	*384.3*	*376.6*
AK and HI	**3.8**	**3.4**	**3.6**	**3.8**	**3.6**	**3.6**	**3.7**	*3.8*	*3.6*	*3.6*	*3.8*	*3.8*	**14.6**	*14.7*	*14.7*
Total	**886.6**	**844.3**	**1,056.9**	**875.9**	**914.0**	**898.4**	**1,085.0**	*899.3*	*908.5*	*905.8*	*1,079.3*	*910.4*	**3,663.7**	*3,796.6*	*3,804.0*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**20.82**	**21.31**	*22.18*	*23.69*	*23.53*	*24.25*	*25.02*	**21.20**	*21.42*	*24.13*
Middle Atlantic	**15.47**	**15.96**	**16.18**	**15.98**	**15.62**	**16.28**	**16.98**	*17.08*	*16.72*	*17.28*	*17.74*	*17.34*	**15.92**	*16.50*	*17.28*
E. N. Central	**13.14**	**13.75**	**13.33**	**13.75**	**13.38**	**14.40**	**14.19**	*14.36*	*14.09*	*15.11*	*14.86*	*14.73*	**13.48**	*14.07*	*14.68*
W. N. Central	**10.98**	**12.59**	**12.88**	**11.46**	**10.88**	**12.76**	**13.20**	*11.88*	*10.87*	*12.35*	*12.23*	*10.96*	**11.99**	*12.17*	*11.58*
S. Atlantic	**11.79**	**11.80**	**12.05**	**11.83**	**11.66**	**12.31**	**12.45**	*12.42*	*12.54*	*13.13*	*13.13*	*12.69*	**11.88**	*12.22*	*12.88*
E. S. Central	**11.24**	**11.56**	**11.28**	**11.41**	**11.18**	**12.22**	**12.02**	*12.02*	*11.84*	*12.62*	*12.24*	*12.09*	**11.36**	*11.83*	*12.18*
W. S. Central	**11.04**	**11.42**	**11.29**	**11.37**	**11.85**	**11.71**	**11.88**	*12.33*	*13.00*	*12.18*	*12.07*	*12.26*	**11.29**	*11.93*	*12.34*
Mountain	**11.42**	**12.08**	**12.19**	**11.64**	**11.53**	**12.09**	**12.37**	*11.95*	*11.86*	*12.32*	*12.37*	*11.73*	**11.88**	*12.03*	*12.10*
Pacific	**15.69**	**16.18**	**17.77**	**16.79**	**16.76**	**18.15**	**19.01**	*16.72*	*16.99*	*18.94*	*19.69*	*17.02*	**16.67**	*17.69*	*18.16*
U.S. Average	**12.90**	**13.24**	**13.35**	**13.25**	**13.09**	**13.78**	**13.97**	*13.85*	*13.88*	*14.41*	*14.35*	*13.99*	**13.20**	*13.68*	*14.17*
Commercial Sector															
New England	**16.24**	**15.67**	**15.98**	**15.67**	**16.28**	**15.75**	**16.40**	*16.46*	*17.45*	*17.04*	*17.72*	*17.57*	**15.90**	*16.23*	*17.45*
Middle Atlantic	**11.69**	**12.53**	**13.21**	**12.41**	**12.48**	**13.34**	**14.65**	*13.33*	*13.29*	*14.10*	*15.05*	*13.53*	**12.47**	*13.50*	*14.03*
E. N. Central	**9.95**	**10.37**	**10.19**	**10.29**	**10.40**	**10.69**	**10.76**	*10.91*	*11.05*	*11.29*	*11.15*	*11.01*	**10.19**	*10.69*	*11.13*
W. N. Central	**9.07**	**10.12**	**10.33**	**9.12**	**9.10**	**10.19**	**10.86**	*9.72*	*9.14*	*9.72*	*9.85*	*8.80*	**9.66**	*10.00*	*9.39*
S. Atlantic	**9.23**	**9.02**	**9.09**	**9.20**	**9.29**	**9.18**	**9.54**	*9.82*	*10.03*	*9.76*	*9.89*	*9.89*	**9.13**	*9.46*	*9.89*
E. S. Central	**10.75**	**10.83**	**10.60**	**10.67**	**10.96**	**11.23**	**11.33**	*11.35*	*11.58*	*11.68*	*11.64*	*11.48*	**10.70**	*11.22*	*11.60*
W. S. Central	**7.84**	**7.87**	**7.89**	**7.98**	**11.28**	**8.86**	**8.44**	*7.91*	*10.99*	*8.85*	*8.47*	*8.05*	**7.90**	*9.03*	*9.01*
Mountain	**9.00**	**9.82**	**10.09**	**9.31**	**9.11**	**9.76**	**10.23**	*9.48*	*9.21*	*9.75*	*10.00*	*9.08*	**9.58**	*9.69*	*9.54*
Pacific	**13.50**	**14.79**	**17.20**	**15.05**	**14.53**	**16.00**	**17.76**	*15.78*	*15.23*	*16.48*	*17.47*	*15.01*	**15.18**	*16.10*	*16.09*
U.S. Average	**10.33**	**10.63**	**10.97**	**10.62**	**11.11**	**11.07**	**11.58**	*11.15*	*11.61*	*11.45*	*11.68*	*11.07*	**10.65**	*11.24*	*11.46*
Industrial Sector															
New England	**12.29**	**12.22**	**12.41**	**12.12**	**13.49**	**12.78**	**13.40**	*12.76*	*14.10*	*13.27*	*13.86*	*13.12*	**12.26**	*13.11*	*13.59*
Middle Atlantic	**6.36**	**6.35**	**6.41**	**6.28**	**6.50**	**6.55**	**7.13**	*6.62*	*6.58*	*6.55*	*6.91*	*6.27*	**6.35**	*6.71*	*6.58*
E. N. Central	**6.51**	**6.78**	**6.75**	**6.62**	**6.92**	**6.92**	**7.32**	*7.09*	*7.12*	*7.05*	*7.31*	*6.96*	**6.66**	*7.07*	*7.11*
W. N. Central	**6.94**	**7.32**	**7.89**	**6.62**	**6.97**	**7.30**	**7.97**	*6.87*	*7.02*	*7.44*	*8.04*	*6.87*	**7.20**	*7.30*	*7.36*
S. Atlantic	**5.98**	**6.09**	**6.50**	**6.09**	**6.24**	**6.30**	**7.00**	*6.45*	*6.51*	*6.36*	*6.91*	*6.25*	**6.17**	*6.51*	*6.51*
E. S. Central	**5.45**	**5.51**	**5.70**	**5.52**	**5.75**	**5.87**	**6.23**	*5.85*	*5.86*	*5.91*	*6.18*	*5.70*	**5.54**	*5.93*	*5.92*
W. S. Central	**5.05**	**4.98**	**5.21**	**5.03**	**7.60**	**5.45**	**5.95**	*5.49*	*6.95*	*5.39*	*5.70*	*5.19*	**5.07**	*6.07*	*5.77*
Mountain	**5.73**	**6.15**	**6.91**	**5.94**	**6.23**	**6.62**	**7.36**	*6.02*	*6.17*	*6.51*	*7.12*	*6.00*	**6.21**	*6.59*	*6.48*
Pacific	**8.97**	**10.33**	**12.38**	**10.95**	**9.64**	**10.70**	**12.82**	*11.19*	*9.75*	*10.78*	*12.70*	*11.42*	**10.71**	*11.18*	*11.24*
U.S. Average	**6.38**	**6.63**	**7.08**	**6.53**	**7.15**	**6.90**	**7.59**	*6.89*	*7.14*	*6.94*	*7.49*	*6.75*	**6.66**	*7.14*	*7.09*
All Sectors (a)															
New England	**18.02**	**17.61**	**17.79**	**17.27**	**18.19**	**17.34**	**18.11**	*18.28*	*19.72*	*19.02*	*19.93*	*19.99*	**17.68**	*17.99*	*19.68*
Middle Atlantic	**11.98**	**12.58**	**13.23**	**12.42**	**12.56**	**12.94**	**14.18**	*13.26*	*13.32*	*13.58*	*14.51*	*13.37*	**12.58**	*13.27*	*13.72*
E. N. Central	**9.92**	**10.47**	**10.36**	**10.24**	**10.35**	**10.58**	**10.92**	*10.77*	*10.76*	*10.97*	*11.18*	*10.86*	**10.24**	*10.66*	*10.95*
W. N. Central	**9.15**	**10.15**	**10.58**	**9.15**	**9.16**	**10.07**	**10.84**	*9.55*	*9.16*	*9.81*	*10.19*	*8.99*	**9.77**	*9.93*	*9.55*
S. Atlantic	**9.80**	**9.82**	**10.16**	**9.82**	**9.91**	**10.00**	**10.50**	*10.37*	*10.56*	*10.56*	*10.90*	*10.47*	**9.91**	*10.21*	*10.64*
E. S. Central	**9.25**	**9.41**	**9.56**	**9.26**	**9.48**	**9.73**	**10.10**	*9.75*	*9.85*	*10.01*	*10.26*	*9.77*	**9.38**	*9.78*	*9.99*
W. S. Central	**8.03**	**8.28**	**8.63**	**8.12**	**10.37**	**8.67**	**9.10**	*8.54*	*10.37*	*8.77*	*9.10*	*8.45*	**8.29**	*9.16*	*9.14*
Mountain	**8.83**	**9.58**	**10.14**	**9.14**	**9.15**	**9.69**	**10.32**	*9.30*	*9.25*	*9.68*	*10.16*	*9.09*	**9.48**	*9.67*	*9.59*
Pacific	**13.41**	**14.30**	**16.41**	**14.92**	**14.50**	**15.53**	**17.20**	*15.19*	*14.81*	*15.95*	*17.22*	*15.03*	**14.82**	*15.67*	*15.80*
U.S. Average	**10.29**	**10.63**	**11.11**	**10.54**	**10.94**	**10.92**	**11.59**	*11.01*	*11.34*	*11.25*	*11.71*	*11.00*	**10.66**	*11.14*	*11.34*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**345.4**	**452.8**	*324.9*	*298.0*	*325.2*	*445.5*	*326.4*	**1,512.2**	*1,441.3*	*1,395.1*
Coal	**170.3**	**151.2**	**248.2**	**198.6**	**230.3**	**203.8**	**280.8**	*214.3*	*217.6*	*195.1*	*263.1*	*210.1*	**768.2**	*929.1*	*886.0*
Nuclear	**204.1**	**190.7**	**204.1**	**191.0**	**198.5**	**185.2**	**203.3**	*191.1*	*195.3*	*191.1*	*204.7*	*193.0*	**789.9**	*778.1*	*784.1*
Renewable Energy Sources:	**190.1**	**206.5**	**176.9**	**187.0**	**198.0**	**208.2**	**180.7**	*202.4*	*220.7*	*240.1*	*199.7*	*215.7*	**760.6**	*789.3*	*876.1*
Conventional Hydropower	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**60.7**	*57.3*	*67.7*	*78.4*	*63.6*	*58.0*	**289.9**	*254.6*	*267.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.0**	*110.7*	*114.3*	*106.6*	*82.0*	*117.6*	**336.7**	*377.3*	*420.4*
Solar (a)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.8**	*23.8*	*28.2*	*44.8*	*43.1*	*29.5*	**90.1**	*114.3*	*145.7*
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**7.0**	*6.5*	*6.6*	*6.4*	*6.9*	*6.4*	**27.5**	*27.1*	*26.3*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.1*	*3.9*	*3.9*	*4.1*	*4.2*	**16.5**	*16.0*	*16.0*
Pumped Storage Hydropower	**-1.0**	**-1.2**	**-2.0**	**-1.2**	**-1.1**	**-1.0**	**-2.1**	*-1.1*	*-1.0*	*-1.0*	*-2.0*	*-1.0*	**-5.3**	*-5.3*	*-5.0*
Petroleum (b)	**4.0**	**3.9**	**4.5**	**4.0**	**5.2**	**3.5**	**4.6**	*3.8*	*4.5*	*3.7*	*4.3*	*3.6*	**16.5**	*17.1*	*16.2*
Other Gases	**1.0**	**0.4**	**0.8**	**0.9**	**0.7**	**0.8**	**0.9**	*0.9*	*0.9*	*0.7*	*0.9*	*0.9*	**3.1**	*3.3*	*3.5*
Other Nonrenewable Fuels (c)	**1.9**	**1.8**	**1.9**	**1.9**	**1.9**	**1.8**	**1.8**	*1.8*	*1.8*	*1.8*	*1.8*	*1.9*	**7.5**	*7.2*	*7.2*
Total Generation	**925.2**	**896.1**	**1,108.5**	**922.9**	**951.8**	**947.8**	**1,122.8**	*938.0*	*937.9*	*956.8*	*1,117.9*	*950.5*	**3,852.8**	*3,960.3*	*3,963.2*
New England (ISO-NE)															
Natural Gas	**10.8**	**10.0**	**16.1**	**10.8**	**12.1**	**11.0**	**16.6**	*13.2*	*13.6*	*12.6*	*16.1*	*11.8*	**47.7**	*52.8*	*54.1*
Coal	**0.1**	**0.0**	**0.0**	**0.1**	**0.5**	**0.0**	**0.3**	*1.1*	*0.5*	*0.2*	*0.1*	*0.6*	**0.2**	*1.9*	*1.4*
Nuclear	**7.3**	**4.9**	**7.3**	**6.1**	**7.1**	**7.1**	**7.3**	*5.6*	*7.0*	*6.2*	*7.2*	*7.2*	**25.6**	*27.1*	*27.7*
Conventional hydropower	**2.2**	**2.1**	**1.8**	**1.7**	**1.9**	**1.8**	**1.7**	*1.9*	*2.0*	*2.3*	*1.3*	*1.8*	**7.8**	*7.2*	*7.3*
Nonhydro renewables (d)	**2.6**	**2.7**	**2.4**	**2.6**	**2.8**	**2.9**	**2.7**	*2.9*	*3.0*	*3.1*	*2.8*	*3.0*	**10.3**	*11.2*	*11.9*
Other energy sources (e)	**0.3**	**0.3**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	**1.4**	*1.5*	*1.5*
Total generation	**23.2**	**20.1**	**28.0**	**21.7**	**24.7**	**23.0**	**29.0**	*25.0*	*26.6*	*24.7*	*27.8*	*24.8*	**92.9**	*101.7*	*104.0*
Net energy for load (f)	**27.9**	**25.2**	**32.3**	**27.6**	**29.4**	**26.9**	**32.5**	*27.9*	*29.3*	*27.4*	*32.0*	*28.5*	**113.0**	*116.7*	*117.2*
New York (NYISO)															
Natural Gas	**12.4**	**11.4**	**20.6**	**12.8**	**12.8**	**14.0**	**20.0**	*14.1*	*14.4*	*14.4*	*20.1*	*14.9*	**57.1**	*60.9*	*63.8*
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**	**7.3**	*6.9*	*6.5*	*7.0*	*6.7*	*7.0*	**38.5**	*31.1*	*27.3*
Conventional hydropower	**8.0**	**8.0**	**7.8**	**7.6**	**7.3**	**7.2**	**7.3**	*7.4*	*7.1*	*7.1*	*7.0*	*7.2*	**31.4**	*29.3*	*28.4*
Nonhydro renewables (d)	**2.0**	**1.9**	**1.7**	**2.1**	**1.9**	**2.0**	**1.7**	*2.2*	*2.1*	*2.2*	*1.9*	*2.5*	**7.6**	*7.8*	*8.6*
Other energy sources (e)	**0.2**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.3**	*0.1*	*0.4*	*0.1*	*0.2*	*0.1*	**0.6**	*0.9*	*0.8*
Total generation	**33.4**	**30.6**	**39.2**	**32.2**	**31.7**	**31.0**	**36.6**	*30.8*	*30.5*	*30.9*	*35.9*	*31.6*	**135.4**	*130.0*	*128.9*
Net energy for load (f)	**35.3**	**32.4**	**42.9**	**34.7**	**36.6**	**34.7**	**43.4**	*36.5*	*37.2*	*36.1*	*43.1*	*37.0*	**145.3**	*151.2*	*153.4*
Mid-Atlantic (PJM)															
Natural Gas	**78.4**	**69.9**	**97.6**	**69.9**	**72.5**	**70.9**	**91.6**	*69.1*	*68.4*	*69.1*	*90.2*	*72.2*	**315.8**	*304.0*	*299.9*
Coal	**33.7**	**29.7**	**46.8**	**38.1**	**50.5**	**39.8**	**55.7**	*38.2*	*44.8*	*39.8*	*47.6*	*40.2*	**148.3**	*184.2*	*172.4*
Nuclear	**68.9**	**67.1**	**70.9**	**68.9**	**68.4**	**64.6**	**70.4**	*68.1*	*67.9*	*67.8*	*72.0*	*66.6*	**275.7**	*271.5*	*274.2*
Conventional hydropower	**3.1**	**2.9**	**2.1**	**1.9**	**2.7**	**2.4**	**2.1**	*2.2*	*2.6*	*2.7*	*1.6*	*2.1*	**9.9**	*9.4*	*9.0*
Nonhydro renewables (d)	**10.4**	**10.2**	**7.5**	**10.9**	**11.1**	**11.0**	**8.8**	*11.9*	*12.0*	*12.5*	*9.6*	*12.7*	**39.1**	*42.8*	*46.8*
Other energy sources (e)	**0.6**	**0.5**	**0.4**	**0.7**	**1.0**	**0.5**	**0.3**	*0.7*	*0.8*	*0.6*	*0.3*	*0.6*	**2.2**	*2.6*	*2.3*
Total generation	**195.1**	**180.2**	**225.3**	**190.5**	**206.2**	**189.3**	**229.0**	*190.1*	*196.6*	*192.4*	*221.3*	*194.3*	**791.1**	*814.6*	*804.6*
Net energy for load (f)	**182.5**	**163.5**	**209.3**	**177.0**	**194.4**	**177.8**	**214.4**	*181.3*	*193.3*	*178.6*	*207.8*	*184.4*	**732.4**	*767.9*	*764.2*
Southeast (SERC)															
Natural Gas	**61.9**	**59.1**	**74.7**	**58.5**	**57.6**	**57.2**	**73.1**	*57.0*	*49.9*	*55.1*	*71.8*	*55.9*	**254.2**	*244.8*	*232.8*
Coal	**23.8**	**22.1**	**44.4**	**28.0**	**36.3**	**33.7**	**45.4**	*34.0*	*38.4*	*35.9*	*49.1*	*36.1*	**118.3**	*149.4*	*159.4*
Nuclear	**53.0**	**50.5**	**54.1**	**52.5**	**53.8**	**50.9**	**54.6**	*52.1*	*51.7*	*52.6*	*56.9*	*54.8*	**210.1**	*211.4*	*216.0*
Conventional hydropower	**11.1**	**10.2**	**8.8**	**8.6**	**9.8**	**8.7**	**8.3**	*8.4*	*10.3*	*7.6*	*6.7*	*7.8*	**38.7**	*35.2*	*32.3*
Nonhydro renewables (d)	**3.4**	**5.0**	**5.0**	**3.9**	**4.0**	**5.9**	**5.3**	*4.2*	*4.4*	*6.9*	*6.4*	*4.7*	**17.4**	*19.4*	*22.5*
Other energy sources (e)	**-0.1**	**-0.3**	**-0.6**	**-0.2**	**0.0**	**-0.2**	**-0.5**	*-0.2*	*-0.1*	*-0.2*	*-0.6*	*-0.2*	**-1.1**	*-0.9*	*-1.0*
Total generation	**153.1**	**146.7**	**186.5**	**151.3**	**161.4**	**156.2**	**186.3**	*155.4*	*154.7*	*157.9*	*190.2*	*159.1*	**637.6**	*659.2*	*661.9*
Net energy for load (f)	**157.4**	**152.5**	**186.1**	**153.7**	**163.0**	**161.2**	**179.7**	*153.5*	*157.1*	*159.4*	*187.6*	*158.9*	**649.7**	*657.4*	*663.0*
Florida (FRCC)															
Natural Gas	**40.0**	**45.7**	**52.8**	**41.0**	**34.5**	**43.7**	**51.6**	*36.9*	*33.9*	*45.5*	*51.5*	*40.4*	**179.5**	*166.8*	*171.4*
Coal	**2.1**	**3.5**	**5.7**	**4.6**	**4.7**	**5.3**	**6.2**	*5.3*	*2.8*	*3.0*	*4.7*	*4.9*	**15.9**	*21.4*	*15.4*
Nuclear	**7.3**	**7.6**	**7.6**	**7.0**	**7.8**	**7.2**	**7.2**	*7.6*	*7.9*	*7.3*	*8.1*	*7.1*	**29.4**	*29.9*	*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**	**3.2**	**2.9**	*2.7*	*3.1*	*3.4*	*3.2*	*2.8*	**8.4**	*11.2*	*12.5*
Other energy sources (e)	**0.9**	**0.8**	**0.9**	**0.7**	**0.8**	**0.7**	**0.7**	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**3.3**	*2.9*	*3.1*
Total generation	**52.1**	**60.0**	**69.3**	**55.2**	**50.3**	**60.2**	**68.7**	*53.1*	*48.6*	*60.0*	*68.4*	*56.0*	**236.7**	*232.3*	*233.0*
Net energy for load (f)	**50.2**	**54.3**	**72.0**	**56.3**	**50.6**	**54.9**	**68.2**	*53.2*	*47.8*	*59.0*	*67.3*	*52.7*	**232.8**	*226.9*	*226.7*

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

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

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

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

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

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

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**40.2**	**49.3**	*33.6*	*31.0*	*37.7*	*48.8*	*33.0*	**178.3**	*157.6*	*150.5*
Coal	**51.0**	**41.1**	**68.5**	**57.8**	**69.7**	**60.1**	**81.7**	*64.4*	*71.1*	*60.6*	*74.8*	*61.5*	**218.4**	*275.9*	*268.1*
Nuclear	**26.6**	**22.9**	**24.4**	**21.2**	**23.6**	**22.6**	**25.2**	*23.0*	*23.8*	*22.2*	*23.7*	*23.0*	**95.1**	*94.3*	*92.7*
Conventional hydropower	**3.1**	**3.2**	**2.8**	**2.7**	**2.8**	**2.9**	**2.7**	*2.3*	*2.4*	*2.8*	*2.3*	*2.1*	**11.8**	*10.7*	*9.6*
Nonhydro renewables (d)	**20.8**	**20.1**	**16.2**	**24.2**	**24.3**	**23.2**	**18.7**	*27.9*	*26.5*	*25.2*	*20.0*	*28.8*	**81.3**	*94.1*	*100.4*
Other energy sources (e)	**1.4**	**1.3**	**1.3**	**1.2**	**1.8**	**1.3**	**1.5**	*1.1*	*1.7*	*1.4*	*1.5*	*1.0*	**5.2**	*5.8*	*5.6*
Total generation	**146.9**	**131.8**	**166.6**	**144.8**	**156.7**	**150.3**	**179.1**	*152.4*	*156.5*	*149.8*	*171.0*	*149.5*	**590.0**	*638.5*	*626.9*
Net energy for load (f)	**153.0**	**141.5**	**174.4**	**149.8**	**159.0**	**154.2**	**181.1**	*154.7*	*153.9*	*155.9*	*177.9*	*157.0*	**618.7**	*648.9*	*644.7*
Central (Southwest Power Pool)															
Natural Gas	**17.5**	**16.3**	**24.2**	**13.7**	**12.4**	**14.5**	**19.1**	*11.1*	*10.9*	*14.3*	*21.7*	*12.9*	**71.6**	*57.1*	*59.9*
Coal	**17.0**	**15.7**	**26.7**	**19.8**	**21.8**	**19.8**	**30.9**	*21.9*	*22.5*	*16.9*	*28.9*	*21.6*	**79.2**	*94.4*	*89.9*
Nuclear	**4.4**	**4.4**	**4.2**	**3.8**	**4.1**	**2.8**	**4.3**	*4.4*	*4.3*	*4.4*	*4.1*	*2.5*	**16.8**	*15.5*	*15.2*
Conventional hydropower	**5.9**	**6.0**	**5.1**	**4.8**	**5.3**	**5.1**	**4.7**	*3.6*	*3.6*	*4.3*	*3.9*	*3.1*	**21.8**	*18.7*	*15.0*
Nonhydro renewables (d)	**20.3**	**21.4**	**16.7**	**22.2**	**22.8**	**23.6**	**19.7**	*26.3*	*28.9*	*26.1*	*22.0*	*28.8*	**80.6**	*92.4*	*105.9*
Other energy sources (e)	**0.1**	**0.1**	**0.1**	**0.2**	**0.3**	**0.1**	**0.1**	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.5**	*0.7*	*0.6*
Total generation	**65.2**	**63.9**	**77.0**	**64.4**	**66.7**	**65.9**	**78.7**	*67.4*	*70.5*	*66.1*	*80.8*	*69.2*	**270.5**	*278.8*	*286.5*
Net energy for load (f)	**62.8**	**63.7**	**74.7**	**60.9**	**64.7**	**66.2**	**76.4**	*62.5*	*65.3*	*65.4*	*79.8*	*66.0*	**262.1**	*269.7*	*276.6*
Texas (ERCOT)															
Natural Gas	**37.2**	**42.1**	**59.3**	**36.0**	**33.0**	**40.0**	**57.4**	*34.0*	*27.8*	*32.9*	*50.6*	*28.3*	**174.6**	*164.5*	*139.6*
Coal	**13.1**	**15.8**	**20.3**	**17.9**	**16.3**	**18.5**	**22.4**	*17.7*	*12.3*	*18.3*	*22.6*	*15.4*	**67.2**	*74.9*	*68.7*
Nuclear	**10.4**	**9.7**	**11.0**	**10.3**	**10.5**	**9.8**	**11.0**	*9.0*	*10.7*	*10.0*	*10.6*	*10.8*	**41.4**	*40.3*	*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**	*0.9*	*0.7*
Nonhydro renewables (d)	**22.6**	**24.8**	**20.8**	**24.4**	**25.2**	**27.6**	**23.2**	*31.1*	*35.2*	*37.4*	*30.1*	*35.3*	**92.6**	*107.1*	*138.0*
Other energy sources (e)	**0.4**	**0.3**	**0.4**	**0.4**	**0.2**	**0.3**	**0.4**	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.5**	*1.3*	*1.4*
Total generation	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**114.6**	*92.4*	*86.6*	*99.1*	*114.3*	*90.3*	**378.4**	*389.0*	*390.3*
Net energy for load (f)	**84.1**	**93.1**	**112.1**	**89.1**	**85.6**	**96.5**	**114.6**	*92.4*	*86.6*	*99.1*	*114.3*	*90.3*	**378.4**	*389.0*	*390.3*
Northwest															
Natural Gas	**23.7**	**17.1**	**27.3**	**21.6**	**20.9**	**20.1**	**29.5**	*25.7*	*25.9*	*21.0*	*30.8*	*24.3*	**89.6**	*96.2*	*102.0*
Coal	**22.3**	**16.1**	**24.5**	**23.2**	**22.5**	**19.0**	**27.1**	*24.7*	*18.1*	*13.8*	*27.4*	*23.1*	**86.1**	*93.3*	*82.4*
Nuclear	**2.4**	**2.0**	**2.4**	**2.5**	**2.5**	**1.2**	**2.5**	*2.5*	*2.4*	*2.4*	*2.4*	*2.4*	**9.4**	*8.7*	*9.7*
Conventional hydropower	**35.0**	**38.7**	**32.4**	**29.9**	**34.3**	**32.0**	**26.7**	*26.3*	*32.8*	*40.5*	*30.3*	*27.6*	**136.0**	*119.2*	*131.3*
Nonhydro renewables (d)	**13.9**	**14.2**	**12.6**	**14.9**	**15.3**	**16.6**	**14.6**	*16.3*	*16.6*	*17.7*	*15.8*	*17.4*	**55.6**	*62.9*	*67.4*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	**0.6**	*0.8*	*0.8*
Total generation	**97.5**	**88.3**	**99.4**	**92.2**	**95.6**	**89.2**	**100.6**	*95.6*	*96.0*	*95.6*	*107.0*	*95.0*	**377.4**	*381.0*	*393.7*
Net energy for load (f)	**91.3**	**81.6**	**94.8**	**87.6**	**88.4**	**84.1**	**97.2**	*91.1*	*89.1*	*85.9*	*96.6*	*90.1*	**355.3**	*360.9*	*361.7*
Southwest															
Natural Gas	**11.8**	**14.7**	**20.4**	**14.8**	**11.0**	**15.8**	**20.3**	*13.5*	*7.8*	*8.2*	*17.1*	*11.6*	**61.7**	*60.6*	*44.8*
Coal	**5.3**	**5.3**	**8.8**	**6.6**	**5.9**	**5.6**	**8.1**	*4.4*	*5.0*	*5.0*	*5.4*	*4.1*	**25.9**	*24.1*	*19.5*
Nuclear	**8.3**	**7.6**	**8.7**	**7.0**	**8.5**	**7.1**	**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**	**3.1**	*2.1*	*2.6*	*3.9*	*3.8*	*2.6*	**12.8**	*11.0*	*12.9*
Nonhydro renewables (d)	**2.5**	**3.1**	**2.5**	**2.3**	**3.0**	**3.8**	**3.2**	*4.2*	*4.9*	*4.9*	*4.2*	*5.3*	**10.5**	*14.2*	*19.4*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	**0.2**	*0.2*	*0.2*
Total generation	**30.5**	**34.8**	**44.2**	**33.1**	**30.8**	**35.7**	**43.4**	*32.0*	*28.9*	*29.6*	*39.4*	*31.1*	**142.7**	*142.0*	*129.0*
Net energy for load (f)	**20.6**	**24.4**	**34.4**	**20.6**	**19.5**	**25.6**	**31.9**	*20.5*	*18.7*	*24.3*	*31.9*	*20.9*	**100.0**	*97.5*	*95.8*
California															
Natural Gas	**16.7**	**12.6**	**27.0**	**23.6**	**16.6**	**17.4**	**28.8**	*20.6*	*13.6*	*13.7*	*26.2*	*20.2*	**79.9**	*83.4*	*73.7*
Coal	**1.4**	**1.2**	**2.1**	**2.0**	**1.8**	**1.4**	**2.6**	*2.1*	*1.7*	*1.2*	*2.0*	*2.2*	**6.7**	*7.9*	*7.1*
Nuclear	**4.8**	**4.9**	**4.5**	**2.1**	**2.9**	**4.2**	**5.0**	*4.3*	*4.6*	*3.8*	*4.4*	*4.0*	**16.3**	*16.5*	*16.7*
Conventional hydropower	**3.1**	**5.6**	**5.4**	**2.7**	**2.0**	**3.2**	**3.4**	*2.5*	*3.4*	*6.8*	*6.1*	*3.2*	**16.8**	*11.1*	*19.5*
Nonhydro renewables (d)	**14.3**	**18.9**	**18.1**	**14.4**	**15.5**	**20.9**	**18.6**	*15.0*	*15.9*	*21.7*	*19.6*	*16.0*	**65.8**	*69.9*	*73.1*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.1**	**-0.1**	*0.2*	*0.0*	*-0.1*	*-0.1*	*0.3*	**0.2**	*0.0*	*0.1*
Total generation	**40.3**	**43.3**	**57.3**	**44.9**	**38.7**	**47.1**	**58.2**	*44.7*	*39.1*	*47.1*	*58.1*	*45.8*	**185.8**	*188.7*	*190.2*
Net energy for load (f)	**58.6**	**59.9**	**76.8**	**60.8**	**55.6**	**63.3**	**77.4**	*60.7*	*56.3*	*62.2*	*76.1*	*60.9*	**256.1**	*257.0*	*255.4*

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

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

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

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

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

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

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**0.035**	**0.036**	*0.036*	*0.035*	*0.035*	*0.036*	*0.037*	**0.147**	*0.143*	*0.143*
Hydroelectric Power (a)	**0.668**	**0.724**	**0.629**	**0.561**	**0.617**	**0.599**	**0.534**	*0.522*	*0.616*	*0.714*	*0.579*	*0.528*	**2.581**	*2.272*	*2.437*
Solar (b)	**0.152**	**0.248**	**0.252**	**0.168**	**0.195**	**0.320**	**0.308**	*0.217*	*0.256*	*0.408*	*0.393*	*0.269*	**0.820**	*1.040*	*1.326*
Waste Biomass (c)	**0.063**	**0.058**	**0.059**	**0.059**	**0.059**	**0.057**	**0.058**	*0.059*	*0.058*	*0.057*	*0.058*	*0.058*	**0.238**	*0.232*	*0.232*
Wood Biomass	**0.049**	**0.043**	**0.048**	**0.046**	**0.050**	**0.045**	**0.051**	*0.041*	*0.045*	*0.041*	*0.048*	*0.041*	**0.185**	*0.187*	*0.175*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.683**	*1.008*	*1.041*	*0.970*	*0.746*	*1.071*	**3.065**	*3.435*	*3.828*
Subtotal	**1.761**	**1.904**	**1.639**	**1.733**	**1.833**	**1.923**	**1.671**	*1.883*	*2.050*	*2.226*	*1.861*	*2.003*	**7.037**	*7.310*	*8.140*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.190**	*0.190*	*0.183*	*0.192*	*0.198*	*0.194*	**0.699**	*0.738*	*0.767*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.009**	*0.009*	*0.009*
Solar (b)	**0.007**	**0.010**	**0.010**	**0.007**	**0.007**	**0.011**	**0.011**	*0.008*	*0.008*	*0.012*	*0.012*	*0.009*	**0.033**	*0.037*	*0.041*
Waste Biomass (c)	**0.041**	**0.039**	**0.036**	**0.041**	**0.041**	**0.039**	**0.037**	*0.040*	*0.039*	*0.038*	*0.038*	*0.040*	**0.156**	*0.156*	*0.155*
Wood Biomass	**0.349**	**0.340**	**0.336**	**0.352**	**0.338**	**0.344**	**0.352**	*0.356*	*0.347*	*0.345*	*0.358*	*0.360*	**1.376**	*1.390*	*1.410*
Subtotal	**0.594**	**0.521**	**0.558**	**0.588**	**0.555**	**0.579**	**0.588**	*0.593*	*0.577*	*0.583*	*0.601*	*0.602*	**2.262**	*2.316*	*2.363*
Commercial Sector															
Geothermal	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.024**	*0.024*	*0.024*
Solar (b)	**0.025**	**0.037**	**0.037**	**0.025**	**0.029**	**0.043**	**0.043**	*0.030*	*0.035*	*0.051*	*0.052*	*0.036*	**0.123**	*0.146*	*0.174*
Waste Biomass (c)	**0.010**	**0.008**	**0.009**	**0.009**	**0.009**	**0.008**	**0.009**	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.036**	*0.035*	*0.035*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.020**	**0.020**	**0.021**	*0.021*	*0.020*	*0.020*	*0.021*	*0.020*	**0.083**	*0.082*	*0.082*
Subtotal	**0.068**	**0.077**	**0.078**	**0.067**	**0.070**	**0.085**	**0.086**	*0.072*	*0.076*	*0.093*	*0.095*	*0.078*	**0.290**	*0.313*	*0.342*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (e)	**0.058**	**0.086**	**0.086**	**0.061**	**0.066**	**0.101**	**0.102**	*0.072*	*0.080*	*0.124*	*0.127*	*0.089*	**0.291**	*0.341*	*0.421*
Wood Biomass	**0.114**	**0.114**	**0.115**	**0.115**	**0.112**	**0.113**	**0.115**	*0.115*	*0.112*	*0.113*	*0.115*	*0.115*	**0.458**	*0.455*	*0.455*
Subtotal	**0.181**	**0.210**	**0.211**	**0.186**	**0.188**	**0.224**	**0.227**	*0.197*	*0.202*	*0.248*	*0.252*	*0.214*	**0.788**	*0.836*	*0.916*
Transportation Sector															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.061**	*0.071*	*0.072*	*0.075*	*0.080*	*0.088*	**0.276**	*0.258*	*0.315*
Ethanol (f)	**0.258**	**0.222**	**0.266**	**0.259**	**0.244**	**0.283**	**0.289**	*0.276*	*0.256*	*0.286*	*0.292*	*0.282*	**1.006**	*1.091*	*1.116*
Subtotal	**0.320**	**0.289**	**0.340**	**0.333**	**0.300**	**0.353**	**0.350**	*0.347*	*0.327*	*0.361*	*0.373*	*0.370*	**1.282**	*1.350*	*1.431*
All Sectors Total															
Biomass-based Diesel (f)	**0.062**	**0.067**	**0.073**	**0.074**	**0.056**	**0.070**	**0.061**	*0.071*	*0.072*	*0.075*	*0.080*	*0.088*	**0.276**	*0.258*	*0.315*
Biofuel Losses and Co-products (d)	**0.197**	**0.135**	**0.179**	**0.189**	**0.169**	**0.188**	**0.190**	*0.190*	*0.183*	*0.192*	*0.198*	*0.194*	**0.699**	*0.738*	*0.767*
Ethanol (f)	**0.268**	**0.231**	**0.277**	**0.269**	**0.253**	**0.293**	**0.297**	*0.293*	*0.265*	*0.297*	*0.303*	*0.293*	**1.045**	*1.138*	*1.158*
Geothermal	**0.052**	**0.054**	**0.054**	**0.055**	**0.051**	**0.052**	**0.055**	*0.053*	*0.052*	*0.052*	*0.053*	*0.054*	**0.214**	*0.211*	*0.211*
Hydroelectric Power (a)	**0.671**	**0.727**	**0.632**	**0.563**	**0.620**	**0.601**	**0.537**	*0.524*	*0.619*	*0.717*	*0.582*	*0.530*	**2.592**	*2.283*	*2.448*
Solar (b)(e)	**0.238**	**0.374**	**0.377**	**0.257**	**0.292**	**0.467**	**0.461**	*0.328*	*0.380*	*0.596*	*0.584*	*0.403*	**1.246**	*1.547*	*1.962*
Waste Biomass (c)	**0.113**	**0.105**	**0.104**	**0.108**	**0.108**	**0.104**	**0.105**	*0.108*	*0.106*	*0.104*	*0.105*	*0.107*	**0.430**	*0.425*	*0.422*
Wood Biomass	**0.532**	**0.517**	**0.519**	**0.533**	**0.520**	**0.523**	**0.536**	*0.532*	*0.524*	*0.520*	*0.542*	*0.537*	**2.101**	*2.111*	*2.123*
Wind	**0.796**	**0.793**	**0.615**	**0.862**	**0.877**	**0.867**	**0.683**	*1.008*	*1.041*	*0.970*	*0.746*	*1.071*	**3.065**	*3.435*	*3.828*
Total Consumption	**2.925**	**3.001**	**2.826**	**2.907**	**2.946**	**3.164**	**2.915**	*3.093*	*3.233*	*3.510*	*3.181*	*3.268*	**11.659**	*12.117*	*13.192*

(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 November 4, 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 - November 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	**6,348**	**6,346**	**6,296**	**6,295**	**6,285**	**6,141**	**6,143**	*6,184*	*6,187*	*6,190*	*6,190*	*6,190*	**6,295**	*6,184*	*6,190*
Waste	**3,867**	**3,865**	**3,792**	**3,790**	**3,781**	**3,779**	**3,781**	*3,822*	*3,825*	*3,829*	*3,829*	*3,829*	**3,790**	*3,822*	*3,829*
Wood	**2,480**	**2,480**	**2,505**	**2,505**	**2,505**	**2,362**	**2,362**	*2,362*	*2,362*	*2,362*	*2,362*	*2,362*	**2,505**	*2,362*	*2,362*
Conventional Hydroelectric	**78,528**	**78,522**	**78,669**	**78,671**	**78,672**	**78,744**	**78,747**	*78,765*	*78,786*	*78,796*	*78,837*	*78,840*	**78,671**	*78,765*	*78,840*
Geothermal	**2,466**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	**2,483**	*2,500*	*2,500*	*2,500*	*2,500*	*2,525*	**2,483**	*2,500*	*2,525*
Large-Scale Solar (b)	**39,067**	**41,160**	**42,961**	**47,586**	**50,256**	**52,222**	**55,880**	*63,333*	*65,718*	*69,665*	*72,133*	*81,531*	**47,586**	*63,333*	*81,531*
Wind	**106,055**	**107,549**	**109,076**	**118,045**	**120,930**	**124,472**	**126,735**	*135,042*	*136,197*	*137,896*	*138,606*	*141,903*	**118,045**	*135,042*	*141,903*
Other Sectors (c)															
Biomass	**6,295**	**6,296**	**6,292**	**6,302**	**6,280**	**6,284**	**6,289**	*6,289*	*6,289*	*6,289*	*6,281*	*6,281*	**6,302**	*6,289*	*6,281*
Waste	**770**	**771**	**767**	**777**	**775**	**778**	**778**	*778*	*778*	*778*	*778*	*778*	**777**	*778*	*778*
Wood	**5,525**	**5,525**	**5,525**	**5,525**	**5,505**	**5,505**	**5,510**	*5,510*	*5,510*	*5,510*	*5,503*	*5,503*	**5,525**	*5,510*	*5,503*
Conventional Hydroelectric	**279**	**279**	**279**	**279**	**279**	**279**	**277**	*279*	*279*	*279*	*279*	*279*	**279**	*279*	*279*
Large-Scale Solar (b)	**443**	**456**	**462**	**468**	**472**	**472**	**489**	*538*	*538*	*538*	*541*	*541*	**468**	*538*	*541*
Small-Scale Solar (d)	**24,355**	**25,255**	**26,264**	**27,724**	**28,888**	**30,385**	**31,805**	*33,487*	*35,262*	*37,149*	*39,151*	*41,276*	**27,724**	*33,487*	*41,276*
Residential Sector	**15,071**	**15,689**	**16,373**	**17,238**	**18,076**	**19,144**	**20,183**	*21,354*	*22,596*	*23,926*	*25,347*	*26,865*	**17,238**	*21,354*	*26,865*
Commercial Sector	**7,425**	**7,642**	**7,910**	**8,430**	**8,725**	**9,104**	**9,447**	*9,892*	*10,358*	*10,847*	*11,358*	*11,893*	**8,430**	*9,892*	*11,893*
Industrial Sector	**1,859**	**1,924**	**1,981**	**2,056**	**2,088**	**2,138**	**2,175**	*2,241*	*2,308*	*2,376*	*2,446*	*2,518*	**2,056**	*2,241*	*2,518*
Wind	**111**	**337**	**346**	**346**	**346**	**346**	**346**	*346*	*346*	*346*	*346*	*346*	**346**	*346*	*346*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.1**	**6.7**	**7.0**	**6.7**	**7.0**	**6.6**	**7.0**	*6.5*	*6.6*	*6.4*	*6.9*	*6.4*	**27.5**	*27.1*	*26.3*
Waste	**4.1**	**4.0**	**4.0**	**3.9**	**4.0**	**3.9**	**3.8**	*3.9*	*3.9*	*3.9*	*3.9*	*3.9*	**16.1**	*15.6*	*15.6*
Wood	**3.0**	**2.7**	**3.0**	**2.7**	**3.1**	**2.7**	**3.2**	*2.5*	*2.7*	*2.5*	*3.0*	*2.5*	**11.4**	*11.5*	*10.8*
Conventional Hydroelectric	**75.0**	**81.3**	**70.6**	**63.0**	**69.3**	**67.2**	**60.7**	*57.3*	*67.7*	*78.4*	*63.6*	*58.0*	**289.9**	*254.6*	*267.7*
Geothermal	**3.9**	**4.2**	**4.2**	**4.2**	**3.9**	**4.0**	**4.1**	*4.1*	*3.9*	*3.9*	*4.1*	*4.2*	**16.5**	*16.0*	*16.0*
Large-Scale Solar (b)	**16.7**	**27.3**	**27.6**	**18.5**	**21.4**	**35.2**	**33.8**	*23.8*	*28.2*	*44.8*	*43.1*	*29.5*	**90.1**	*114.3*	*145.7*
Wind	**87.4**	**87.1**	**67.5**	**94.7**	**96.3**	**95.2**	**75.0**	*110.7*	*114.3*	*106.6*	*82.0*	*117.6*	**336.7**	*377.3*	*420.4*
Other Sectors (c)															
Biomass	**7.4**	**7.1**	**7.0**	**7.1**	**7.0**	**6.8**	**7.1**	*7.1*	*7.0*	*6.8*	*7.1*	*7.1*	**28.6**	*28.0*	*28.0*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.6**	**0.6**	*0.7*	*0.7*	*0.6*	*0.6*	*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**	*25.3*	*25.3*
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**	**14.8**	*10.4*	*11.9*	*18.1*	*18.5*	*13.0*	**41.7**	*49.8*	*61.6*
Residential Sector	**5.0**	**7.5**	**7.5**	**5.4**	**5.9**	**9.1**	**9.1**	*6.4*	*7.4*	*11.5*	*11.8*	*8.3*	**25.4**	*30.6*	*38.9*
Commercial Sector	**2.7**	**3.8**	**3.8**	**2.6**	**3.1**	**4.5**	**4.5**	*3.2*	*3.7*	*5.4*	*5.5*	*3.8*	**12.9**	*15.3*	*18.3*
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*	*4.3*
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 November 4, 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 - November 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)	**18,952**	**17,258**	**18,561**	**18,768**	**19,056**	**19,368**	**19,430**	*19,661*	*19,880*	*20,101*	*20,300*	*20,463*	**18,385**	*19,379*	*20,186*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,014**	**11,756**	**12,821**	**12,928**	**13,283**	**13,666**	**13,676**	*13,829*	*13,919*	*14,016*	*14,108*	*14,196*	**12,630**	*13,614*	*14,060*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,420**	**3,123**	**3,319**	**3,457**	**3,564**	**3,593**	**3,573**	*3,592*	*3,633*	*3,668*	*3,700*	*3,731*	**3,329**	*3,580*	*3,683*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-21**	**-290**	**15**	**57**	**-94**	**-174**	**-88**	*-59*	*11*	*85*	*145*	*181*	**-60**	*-104*	*105*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,346**	**3,378**	**3,360**	**3,356**	**3,391**	**3,374**	**3,396**	*3,408*	*3,435*	*3,455*	*3,472*	*3,483*	**3,360**	*3,392*	*3,461*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,442**	**1,943**	**2,166**	**2,279**	**2,262**	**2,304**	**2,302**	*2,341*	*2,394*	*2,447*	*2,498*	*2,550*	**2,208**	*2,303*	*2,472*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,284**	**2,718**	**3,188**	**3,412**	**3,488**	**3,549**	**3,593**	*3,610*	*3,666*	*3,712*	*3,758*	*3,809*	**3,150**	*3,560*	*3,736*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,963**	**16,520**	**15,783**	**15,443**	**17,219**	**15,740**	**15,544**	*15,237*	*15,179*	*15,335*	*15,495*	*15,596*	**15,677**	*15,935*	*15,401*
Non-Farm Employment															
(millions)	**151.9**	**133.7**	**140.9**	**142.6**	**143.4**	**145.1**	**147.3**	*148.2*	*149.4*	*150.7*	*151.8*	*152.7*	**142.3**	*146.0*	*151.2*
Civilian Unemployment Rate															
(percent)	**3.8**	**13.1**	**8.8**	**6.8**	**6.2**	**5.9**	**5.1**	*4.7*	*4.5*	*4.3*	*4.0*	*3.8*	**8.1**	*5.5*	*4.2*
Housing Starts															
(millions - SAAR)	**1.49**	**1.09**	**1.44**	**1.58**	**1.60**	**1.59**	**1.57**	*1.52*	*1.47*	*1.42*	*1.38*	*1.35*	**1.40**	*1.57*	*1.41*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**100.0**	**87.1**	**95.5**	**97.4**	**98.3**	**99.9**	**100.9**	*101.7*	*102.8*	*104.2*	*105.7*	*106.7*	**95.0**	*100.2*	*104.8*
Manufacturing	**97.6**	**84.2**	**94.2**	**96.7**	**97.3**	**98.7**	**100.1**	*101.2*	*102.2*	*103.8*	*105.6*	*107.0*	**93.2**	*99.3*	*104.6*
Food	**101.8**	**93.8**	**98.0**	**100.1**	**101.2**	**100.7**	**99.1**	*99.2*	*99.3*	*99.7*	*100.1*	*100.7*	**98.4**	*100.0*	*99.9*
Paper	**99.5**	**91.5**	**90.7**	**94.9**	**93.9**	**95.0**	**95.5**	*95.9*	*95.7*	*96.1*	*96.7*	*97.2*	**94.2**	*95.1*	*96.4*
Petroleum and Coal Products	**98.0**	**77.3**	**84.0**	**86.7**	**90.5**	**96.0**	**95.2**	*96.2*	*97.1*	*97.9*	*98.5*	*98.6*	**86.5**	*94.5*	*98.0*
Chemicals	**95.0**	**89.9**	**92.5**	**94.7**	**91.8**	**99.0**	**99.7**	*101.1*	*101.4*	*102.7*	*103.8*	*104.1*	**93.0**	*97.9*	*103.0*
Nonmetallic Mineral Products	**99.7**	**88.1**	**94.6**	**98.4**	**97.4**	**95.2**	**95.5**	*96.1*	*96.3*	*96.4*	*96.6*	*97.0*	**95.2**	*96.0*	*96.6*
Primary Metals	**95.9**	**72.9**	**83.3**	**90.3**	**92.4**	**96.7**	**98.3**	*98.5*	*97.6*	*99.1*	*100.9*	*101.4*	**85.6**	*96.5*	*99.7*
Coal-weighted Manufacturing (a)	**97.1**	**86.7**	**93.0**	**96.6**	**94.2**	**97.2**	**97.1**	*98.0*	*98.2*	*99.3*	*100.6*	*101.3*	**93.3**	*96.6*	*99.8*
Distillate-weighted Manufacturing (a)	**97.0**	**84.4**	**92.0**	**95.7**	**94.6**	**97.1**	**96.9**	*97.4*	*97.5*	*98.4*	*99.3*	*99.8*	**92.3**	*96.5*	*98.8*
Electricity-weighted Manufacturing (a)	**97.1**	**83.4**	**91.6**	**95.4**	**94.5**	**97.7**	**98.2**	*98.9*	*99.1*	*100.4*	*101.8*	*102.6*	**91.9**	*97.3*	*101.0*
Natural Gas-weighted Manufacturing (a)	**95.5**	**84.1**	**89.7**	**93.7**	**90.5**	**96.1**	**95.6**	*96.5*	*96.5*	*97.7*	*99.0*	*99.5*	**90.8**	*94.7*	*98.2*
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**	**2.73**	*2.75*	*2.77*	*2.78*	*2.79*	*2.80*	**2.59**	*2.70*	*2.78*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**1.97**	**1.88**	**1.94**	**1.99**	**2.11**	**2.23**	**2.29**	*2.33*	*2.32*	*2.28*	*2.27*	*2.26*	**1.94**	*2.24*	*2.28*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**1.71**	**1.05**	**1.47**	**1.51**	**1.84**	**2.14**	**2.29**	*2.45*	*2.30*	*2.22*	*2.13*	*2.01*	**1.43**	*2.18*	*2.17*
GDP Implicit Price Deflator															
(index, 2012=100)	**113.4**	**113.0**	**114.0**	**114.6**	**115.8**	**117.5**	**119.1**	*120.2*	*120.9*	*121.5*	*122.1*	*122.7*	**113.7**	*118.2*	*121.8*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,764**	**6,868**	**8,262**	**8,009**	**7,682**	**8,939**	**9,031**	*8,881*	*8,181*	*9,305*	*9,408*	*8,993*	**7,728**	*8,638*	*8,975*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**630**	**362**	**478**	**537**	**537**	**595**	**725**	*700*	*657*	*692*	*701*	*648*	**502**	*640*	*675*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**328**	**151**	**208**	**238**	**245**	**340**	**391**	*388*	*405*	*451*	*449*	*408*	**231**	*341*	*428*
Airline Ticket Price Index															
(index, 1982-1984=100)	**250.8**	**203.7**	**200.6**	**215.1**	**198.4**	**243.3**	**218.5**	*199.5*	*204.7*	*231.7*	*232.9*	*242.5*	**217.5**	*214.9*	*227.9*
Raw Steel Production															
(million short tons per day)	**0.268**	**0.174**	**0.197**	**0.224**	**0.246**	**0.258**	**0.267**	*0.300*	*0.322*	*0.292*	*0.289*	*0.302*	**0.216**	*0.268*	*0.301*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**558**	**441**	**520**	**523**	**517**	**559**	**568**	*567*	*552*	*569*	*586*	*578*	**2,042**	*2,212*	*2,286*
Natural Gas	**490**	**347**	**381**	**428**	**484**	**353**	**365**	*428*	*472*	*352*	*374*	*441*	**1,647**	*1,631*	*1,638*
Coal	**202**	**177**	**271**	**225**	**255**	**228**	**312**	*237*	*243*	*219*	*288*	*235*	**875**	*1,032*	*984*
Total Energy (c)	**1,252**	**969**	**1,175**	**1,179**	**1,259**	**1,142**	**1,249**	*1,236*	*1,269*	*1,143*	*1,251*	*1,256*	**4,575**	*4,886*	*4,920*

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

- = no data available

SAAR = Seasonally-adjusted annual rate

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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	**980**	**889**	**959**	**967**	**976**	**993**	**997**	*1,009*	*1,019*	*1,031*	*1,042*	*1,049*	**949**	*994*	*1,035*
Middle Atlantic	**2,706**	**2,484**	**2,659**	**2,699**	**2,740**	**2,788**	**2,789**	*2,820*	*2,855*	*2,893*	*2,927*	*2,950*	**2,637**	*2,784*	*2,906*
E. N. Central	**2,468**	**2,238**	**2,421**	**2,452**	**2,482**	**2,521**	**2,524**	*2,551*	*2,579*	*2,605*	*2,627*	*2,649*	**2,395**	*2,520*	*2,615*
W. N. Central	**1,184**	**1,080**	**1,165**	**1,185**	**1,201**	**1,220**	**1,220**	*1,233*	*1,245*	*1,256*	*1,267*	*1,275*	**1,153**	*1,218*	*1,261*
S. Atlantic	**3,369**	**3,079**	**3,296**	**3,332**	**3,381**	**3,433**	**3,445**	*3,483*	*3,519*	*3,557*	*3,591*	*3,618*	**3,269**	*3,436*	*3,571*
E. S. Central	**829**	**738**	**808**	**819**	**834**	**845**	**847**	*856*	*864*	*871*	*877*	*883*	**798**	*845*	*874*
W. S. Central	**2,333**	**2,114**	**2,283**	**2,313**	**2,332**	**2,365**	**2,375**	*2,406*	*2,434*	*2,463*	*2,493*	*2,515*	**2,261**	*2,369*	*2,476*
Mountain	**1,278**	**1,154**	**1,239**	**1,250**	**1,264**	**1,284**	**1,292**	*1,308*	*1,324*	*1,339*	*1,353*	*1,365*	**1,230**	*1,287*	*1,345*
Pacific	**3,645**	**3,321**	**3,568**	**3,583**	**3,675**	**3,746**	**3,768**	*3,819*	*3,863*	*3,906*	*3,942*	*3,977*	**3,529**	*3,752*	*3,922*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**96.1**	**82.6**	**91.6**	**94.6**	**95.1**	**96.4**	**92.7**	*93.8*	*94.6*	*95.9*	*97.4*	*98.5*	**91.3**	*94.5*	*96.6*
Middle Atlantic	**95.0**	**79.2**	**89.9**	**92.5**	**93.0**	**94.3**	**91.1**	*92.4*	*93.4*	*95.0*	*96.5*	*97.5*	**89.2**	*92.7*	*95.6*
E. N. Central	**95.9**	**79.0**	**91.8**	**94.4**	**95.0**	**95.8**	**99.0**	*100.3*	*101.6*	*103.3*	*105.3*	*107.0*	**90.3**	*97.5*	*104.3*
W. N. Central	**98.0**	**86.0**	**94.7**	**97.1**	**98.0**	**99.3**	**100.6**	*101.7*	*102.5*	*103.8*	*105.6*	*106.8*	**94.0**	*99.9*	*104.7*
S. Atlantic	**98.6**	**85.8**	**95.2**	**98.4**	**98.9**	**100.3**	**104.9**	*105.9*	*106.9*	*108.6*	*110.4*	*111.7*	**94.5**	*102.5*	*109.4*
E. S. Central	**96.6**	**79.9**	**93.6**	**96.7**	**97.8**	**98.9**	**105.7**	*106.4*	*107.2*	*108.6*	*110.4*	*112.0*	**91.7**	*102.2*	*109.5*
W. S. Central	**100.2**	**88.9**	**95.7**	**97.9**	**98.8**	**100.4**	**95.1**	*96.4*	*97.7*	*99.4*	*101.2*	*102.6*	**95.7**	*97.7*	*100.2*
Mountain	**102.8**	**92.2**	**101.3**	**104.0**	**105.2**	**107.6**	**114.3**	*115.3*	*116.3*	*118.0*	*119.8*	*121.3*	**100.1**	*110.6*	*118.8*
Pacific	**96.4**	**84.0**	**91.6**	**93.3**	**93.5**	**94.7**	**95.3**	*96.3*	*97.6*	*99.5*	*101.3*	*102.7*	**91.3**	*94.9*	*100.3*
Real Personal Income (Billion $2012)															
New England	**883**	**960**	**918**	**911**	**983**	**922**	**913**	*898*	*898*	*908*	*918*	*925*	**918**	*929*	*912*
Middle Atlantic	**2,248**	**2,477**	**2,401**	**2,326**	**2,553**	**2,381**	**2,352**	*2,309*	*2,304*	*2,330*	*2,357*	*2,372*	**2,363**	*2,399*	*2,341*
E. N. Central	**2,465**	**2,716**	**2,572**	**2,543**	**2,837**	**2,608**	**2,571**	*2,530*	*2,522*	*2,546*	*2,570*	*2,587*	**2,574**	*2,636*	*2,556*
W. N. Central	**1,160**	**1,259**	**1,182**	**1,197**	**1,316**	**1,221**	**1,209**	*1,191*	*1,184*	*1,193*	*1,204*	*1,211*	**1,199**	*1,234*	*1,198*
S. Atlantic	**3,284**	**3,531**	**3,398**	**3,350**	**3,744**	**3,457**	**3,446**	*3,393*	*3,386*	*3,420*	*3,456*	*3,480*	**3,391**	*3,510*	*3,435*
E. S. Central	**916**	**1,004**	**942**	**931**	**1,060**	**960**	**956**	*941*	*937*	*944*	*952*	*958*	**948**	*979*	*948*
W. S. Central	**2,053**	**2,200**	**2,122**	**2,093**	**2,343**	**2,164**	**2,143**	*2,120*	*2,122*	*2,148*	*2,175*	*2,193*	**2,117**	*2,192*	*2,159*
Mountain	**1,222**	**1,322**	**1,261**	**1,249**	**1,389**	**1,277**	**1,270**	*1,252*	*1,250*	*1,264*	*1,277*	*1,286*	**1,263**	*1,297*	*1,269*
Pacific	**2,765**	**2,962**	**2,955**	**2,876**	**3,142**	**2,955**	**2,928**	*2,871*	*2,863*	*2,892*	*2,919*	*2,939*	**2,889**	*2,974*	*2,903*
Households (Thousands)															
New England	**6,018**	**6,031**	**6,041**	**6,049**	**6,057**	**6,058**	**6,052**	*6,061*	*6,070*	*6,081*	*6,095*	*6,108*	**6,049**	*6,061*	*6,108*
Middle Atlantic	**16,348**	**16,383**	**16,420**	**16,450**	**16,479**	**16,484**	**16,486**	*16,520*	*16,551*	*16,588*	*16,623*	*16,661*	**16,450**	*16,520*	*16,661*
E. N. Central	**18,941**	**18,999**	**19,038**	**19,057**	**19,088**	**19,096**	**19,101**	*19,145*	*19,183*	*19,217*	*19,251*	*19,289*	**19,057**	*19,145*	*19,289*
W. N. Central	**8,618**	**8,653**	**8,675**	**8,697**	**8,720**	**8,729**	**8,736**	*8,760*	*8,782*	*8,809*	*8,836*	*8,860*	**8,697**	*8,760*	*8,860*
S. Atlantic	**25,839**	**25,970**	**26,062**	**26,164**	**26,256**	**26,310**	**26,354**	*26,459*	*26,558*	*26,670*	*26,778*	*26,883*	**26,164**	*26,459*	*26,883*
E. S. Central	**7,709**	**7,743**	**7,765**	**7,788**	**7,808**	**7,817**	**7,827**	*7,851*	*7,874*	*7,900*	*7,926*	*7,949*	**7,788**	*7,851*	*7,949*
W. S. Central	**15,055**	**15,138**	**15,195**	**15,260**	**15,315**	**15,348**	**15,382**	*15,448*	*15,512*	*15,581*	*15,650*	*15,713*	**15,260**	*15,448*	*15,713*
Mountain	**9,385**	**9,448**	**9,496**	**9,549**	**9,597**	**9,632**	**9,665**	*9,718*	*9,767*	*9,817*	*9,868*	*9,913*	**9,549**	*9,718*	*9,913*
Pacific	**18,878**	**18,947**	**18,990**	**19,037**	**19,069**	**19,072**	**19,077**	*19,123*	*19,172*	*19,224*	*19,275*	*19,316*	**19,037**	*19,123*	*19,316*
Total Non-farm Employment (Millions)															
New England	**7.6**	**6.4**	**6.8**	**6.9**	**7.0**	**7.1**	**7.2**	*7.2*	*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**	**18.8**	*18.9*	*19.1*	*19.4*	*19.6*	*19.7*	**18.2**	*18.6*	*19.4*
E. N. Central	**22.3**	**19.3**	**20.7**	**20.8**	**20.9**	**21.1**	**21.4**	*21.5*	*21.7*	*21.8*	*22.0*	*22.1*	**20.8**	*21.2*	*21.9*
W. N. Central	**10.8**	**9.7**	**10.2**	**10.2**	**10.3**	**10.4**	**10.5**	*10.6*	*10.6*	*10.7*	*10.8*	*10.8*	**10.2**	*10.5*	*10.7*
S. Atlantic	**29.3**	**26.2**	**27.4**	**27.8**	**27.9**	**28.1**	**28.6**	*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*	*8.2*	*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**	*17.7*	*17.8*	*17.9*	*18.1*	*18.2*	**17.0**	*17.4*	*18.0*
Mountain	**11.2**	**10.0**	**10.5**	**10.6**	**10.7**	**10.9**	**11.1**	*11.1*	*11.2*	*11.3*	*11.4*	*11.5*	**10.6**	*11.0*	*11.4*
Pacific	**24.0**	**20.9**	**21.6**	**21.9**	**21.9**	**22.4**	**22.9**	*23.1*	*23.3*	*23.6*	*23.7*	*23.9*	**22.1**	*22.6*	*23.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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 - November 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**	**971**	**115**	**1,994**	**3,009**	**779**	**83**	*2,012*	*3,104*	*879*	*139*	*2,147*	**5,812**	*5,883*	*6,269*
Middle Atlantic	**2,463**	**834**	**85**	**1,827**	**2,815**	**666**	**57**	*1,797*	*2,858*	*708*	*90*	*1,966*	**5,209**	*5,335*	*5,620*
E. N. Central	**2,785**	**846**	**126**	**2,099**	**3,085**	**708**	**69**	*2,089*	*3,111*	*743*	*135*	*2,257*	**5,856**	*5,952*	*6,246*
W. N. Central	**3,039**	**800**	**167**	**2,316**	**3,230**	**721**	**88**	*2,344*	*3,233*	*714*	*168*	*2,476*	**6,322**	*6,383*	*6,591*
South Atlantic	**1,110**	**254**	**17**	**880**	**1,349**	**211**	**10**	*888*	*1,351*	*195*	*14*	*948*	**2,262**	*2,458*	*2,507*
E. S. Central	**1,480**	**336**	**20**	**1,226**	**1,790**	**312**	**19**	*1,222*	*1,756*	*252*	*22*	*1,315*	**3,062**	*3,344*	*3,345*
W. S. Central	**970**	**102**	**8**	**739**	**1,295**	**122**	**1**	*743*	*1,099*	*80*	*5*	*831*	**1,818**	*2,161*	*2,015*
Mountain	**2,220**	**676**	**128**	**1,780**	**2,305**	**662**	**109**	*1,866*	*2,243*	*694*	*144*	*1,878*	**4,805**	*4,943*	*4,959*
Pacific	**1,537**	**527**	**65**	**1,089**	**1,564**	**483**	**76**	*1,283*	*1,570*	*592*	*87*	*1,230*	**3,218**	*3,406*	*3,480*
U.S. Average	**1,880**	**543**	**71**	**1,424**	**2,107**	**472**	**51**	*1,460*	*2,089*	*494*	*77*	*1,539*	**3,917**	*4,089*	*4,199*
Heating Degree Days, Prior 10-year Average															
New England	**3,152**	**822**	**105**	**2,127**	**3,133**	**855**	**107**	*2,099*	*3,100*	*852*	*107*	*2,112*	**6,207**	*6,194*	*6,171*
Middle Atlantic	**2,948**	**644**	**69**	**1,944**	**2,912**	**677**	**71**	*1,911*	*2,886*	*684*	*71*	*1,915*	**5,606**	*5,571*	*5,556*
E. N. Central	**3,198**	**698**	**102**	**2,197**	**3,157**	**731**	**105**	*2,170*	*3,133*	*727*	*97*	*2,182*	**6,195**	*6,162*	*6,139*
W. N. Central	**3,288**	**703**	**132**	**2,380**	**3,248**	**728**	**133**	*2,368*	*3,220*	*726*	*125*	*2,389*	**6,502**	*6,478*	*6,459*
South Atlantic	**1,461**	**169**	**10**	**953**	**1,395**	**181**	**11**	*916*	*1,380*	*187*	*11*	*915*	**2,593**	*2,503*	*2,493*
E. S. Central	**1,849**	**214**	**15**	**1,277**	**1,771**	**231**	**16**	*1,249*	*1,763*	*243*	*15*	*1,246*	**3,356**	*3,267*	*3,267*
W. S. Central	**1,199**	**83**	**3**	**794**	**1,140**	**86**	**3**	*786*	*1,145*	*93*	*3*	*779*	**2,078**	*2,015*	*2,020*
Mountain	**2,198**	**721**	**136**	**1,850**	**2,188**	**704**	**135**	*1,850*	*2,181*	*685*	*132*	*1,840*	**4,905**	*4,877*	*4,838*
Pacific	**1,456**	**580**	**85**	**1,162**	**1,462**	**553**	**81**	*1,147*	*1,455*	*523*	*79*	*1,144*	**3,283**	*3,242*	*3,201*
U.S. Average	**2,153**	**473**	**64**	**1,512**	**2,112**	**483**	**65**	*1,487*	*2,095*	*479*	*62*	*1,488*	**4,202**	*4,147*	*4,125*
Cooling Degree Days															
New England	**0**	**103**	**542**	**0**	**0**	**144**	**460**	*2*	*0*	*80*	*403*	*2*	**644**	*606*	*485*
Middle Atlantic	**0**	**157**	**684**	**4**	**0**	**185**	**637**	*13*	*0*	*147*	*531*	*5*	**845**	*835*	*682*
E. N. Central	**2**	**218**	**607**	**2**	**2**	**250**	**630**	*41*	*0*	*209*	*518*	*6*	**829**	*923*	*733*
W. N. Central	**6**	**294**	**661**	**3**	**8**	**311**	**746**	*24*	*3*	*256*	*650*	*9*	**964**	*1,090*	*918*
South Atlantic	**195**	**614**	**1,225**	**296**	**150**	**615**	**1,176**	*275*	*136*	*656*	*1,160*	*237*	**2,330**	*2,215*	*2,190*
E. S. Central	**74**	**425**	**1,062**	**81**	**41**	**437**	**1,019**	*115*	*30*	*505*	*1,031*	*62*	**1,642**	*1,611*	*1,628*
W. S. Central	**174**	**841**	**1,505**	**210**	**91**	**771**	**1,475**	*286*	*101*	*867*	*1,488*	*192*	**2,731**	*2,623*	*2,648*
Mountain	**10**	**463**	**1,075**	**117**	**10**	**528**	**960**	*45*	*17*	*424*	*933*	*76*	**1,665**	*1,544*	*1,450*
Pacific	**25**	**195**	**714**	**123**	**24**	**253**	**705**	*48*	*27*	*171*	*595*	*60*	**1,057**	*1,030*	*853*
U.S. Average	**70**	**393**	**931**	**120**	**49**	**411**	**905**	*118*	*48*	*398*	*847*	*93*	**1,513**	*1,482*	*1,385*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**83**	**471**	**1**	**0**	**80**	**474**	*1*	*0*	*87*	*472*	*1*	**554**	*555*	*561*
Middle Atlantic	**0**	**170**	**609**	**6**	**0**	**163**	**610**	*6*	*0*	*162*	*609*	*7*	**786**	*779*	*779*
E. N. Central	**3**	**240**	**579**	**8**	**3**	**234**	**572**	*7*	*3*	*237*	*571*	*11*	**829**	*816*	*822*
W. N. Central	**7**	**296**	**696**	**11**	**7**	**294**	**686**	*10*	*7*	*299*	*681*	*12*	**1,010**	*997*	*999*
South Atlantic	**127**	**695**	**1,201**	**247**	**143**	**679**	**1,194**	*260*	*147*	*667*	*1,189*	*268*	**2,270**	*2,275*	*2,270*
E. S. Central	**36**	**557**	**1,082**	**72**	**42**	**532**	**1,065**	*74*	*44*	*518*	*1,058*	*83*	**1,747**	*1,714*	*1,702*
W. S. Central	**100**	**892**	**1,576**	**207**	**114**	**880**	**1,567**	*210*	*113*	*853*	*1,536*	*221*	**2,775**	*2,772*	*2,723*
Mountain	**24**	**430**	**934**	**80**	**24**	**441**	**949**	*85*	*23*	*459*	*945*	*82*	**1,468**	*1,499*	*1,508*
Pacific	**31**	**185**	**624**	**78**	**31**	**193**	**647**	*86*	*31*	*208*	*664*	*84*	**919**	*957*	*987*
U.S. Average	**47**	**419**	**891**	**99**	**52**	**413**	**892**	*104*	*53*	*412*	*889*	*108*	**1,455**	*1,461*	*1,462*

- = no data available

Notes: EIA completed modeling and analysis for this report on November 4, 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).