Independent Statistics & Analysis
U.S. Energy Information Administration

April 2022

Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The April *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's further invasion of Ukraine. This STEO assumes U.S. GDP will grow by 3.4% in 2022 and by 3.1% in 2023, following growth of 5.7% in 2021. We use the S&P Global macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in our forecast are from Oxford Economics and include global GDP growth of 4.0% in 2022 and 3.7% in 2023, compared with growth of 6.0% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. Energy supply uncertainty results from the conflict in Ukraine, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- The Brent crude oil spot price averaged $117 per barrel (b) in March, a $20/b increase from February. Crude oil prices increased following the further invasion of Ukraine by Russia. Sanctions on Russia and other actions contributed to falling oil production in Russia and created significant market uncertainties about the potential for further oil supply disruptions. These events occurred against a backdrop of low oil inventories and persistent upward oil price pressures. Global oil inventory draws averaged 1.7 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that commercial oil inventories in the OECD ended 1Q22 at 2.61 billion barrels, up slightly from February, which was the lowest level since April 2014.

- We expect the Brent price will average $108/b in 2Q22 and $102/b in the second half of 2022 (2H22). We expect the average price to fall to $93/b in 2023. However, this price forecast is highly uncertain. Actual price outcomes will depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. In addition, the degree to which other oil producers respond to current oil prices, as well as the effects macroeconomic developments might have on global oil demand, will be important for oil price formation in the coming months. Although we reduced Russia's oil production in our forecast, we still expect that global oil inventories will build at an average rate of 0.5 million b/d from 2Q22 through the end of 2023, which we expect will put downward pressure on crude oil prices. However, if production

Note: EIA completed modeling and analysis for this report on Thursday, April 7, 2022

disruptions—in Russia or elsewhere—are more than we forecast, the resulting crude oil prices would be higher than our current forecast.

- We estimate that 98.3 million b/d of petroleum and liquid fuels was consumed globally in March 2022, an increase of 2.4 million b/d from March 2021. We forecast that global consumption of petroleum and liquid fuels will average 99.8 million b/d for all of 2022, which is a 2.4 million b/d increase from 2021. However, this forecast is down by 0.8 million b/d from last month's forecast as a result of downward revisions to global GDP growth from Oxford Economics. We forecast that global consumption of petroleum and liquid fuels will rise by 1.9 million b/d in 2023 to average 101.7 million b/d. The outlook for economic growth and oil consumption in Russia and surrounding countries continues to be highly uncertain.

- We are publishing the *Summer Fuels Outlook* as a supplement to this STEO. We expect U.S. prices for retail gasoline will average $3.84 per gallon (gal) this summer (April–September), which would be up from $3.06/gal last summer and the highest price (adjusted for inflation) since the summer of 2014. Retail diesel prices for the summer average $4.57/gal in the forecast, which would also be the highest inflation-adjusted price for the summer since 2014.

- U.S. crude oil production in the forecast averages 12.0 million b/d in 2022, up 0.8 million b/d from 2021. We forecast production to increase another 0.9 million b/d in 2023 to average almost 13.0 million b/d, surpassing the previous annual average record of 12.3 million b/d set in 2019.

Natural Gas

- In March, the Henry Hub natural gas spot price averaged $4.90 per million British thermal units (MMBtu), which was up from the February average of $4.69/MMBtu, as inventory withdrawals slightly outpaced the five-year (2017–2021) average. We expect liquefied natural gas (LNG) exports will increase from March levels, contributing to a Henry Hub price of $5.95/MMBtu for April. We expect the Henry Hub price will average $5.68/MMBtu in 2Q22 and $5.23/MMBtu for all of 2022. We expect the Henry Hub spot price will average $4.01/MMBtu in 2023. The forecast drop in prices for 2023 reflects our expectation that storage levels will be higher during 2023 than in 2022.

- We estimate that natural gas inventories ended March at 1.4 trillion cubic feet (Tcf), which is 17% below the five-year (2017−2021) average. Inventory withdrawals in March were 203 billion cubic feet (Bcf), resulting from relatively flat production and rising natural gas exports. We expect natural gas inventories to increase by 245 Bcf in April, as the injection season begins, ending the month at about almost 1.7 Tcf, which would be 14% below the five-year average for this time of year. We forecast that natural gas

inventories will end the 2022 injection season (end of October) at 3.5 Tcf, which is 4% below the five-year average.

- In March, U.S. LNG exports averaged 11.9 billion cubic feet per day (Bcf/d), an increase of 0.7 Bcf/d from February. LNG prices in Europe remain high amid supply uncertainties due to Russia's further invasion of Ukraine and the need to replenish Europe's natural gas inventories, which has kept Europe's demand for LNG elevated. Inventories in Europe were 26% full as of March 31, compared with the five-year average of 34%. We expect high levels of U.S. LNG exports to continue in 2022, averaging 12.2 Bcf/d for the year, a 25% increase from 2021.

- We expect that U.S. consumption of natural gas will average 84.1 Bcf/d in 2022, up 1% from 2021. The increase in U.S. natural gas consumption is a result of colder forecast temperatures in 2022 compared with 2021, which results in more consumption in the residential and commercial sectors. In addition, we expect the industrial sector to consume more natural gas in 2022 in response to expanding economic activity. We expect U.S. natural gas consumption will average 84.7 Bcf/d in 2023.

- We estimate dry natural gas production averaged 96.2 Bcf/d in the United States in March, up 1.2 Bcf/d from February. Similar to January and February, production in March was lower than in December because of brief periods of freezing temperatures in certain production regions and, in part, because of maintenance, according to public sources. We forecast dry natural gas production to average 96.9 Bcf/d in April. For all of 2022, we expect that dry natural gas production will average 97.4 Bcf/d, which would be 3.8 Bcf/d more than in 2021. We expect dry natural gas production to average of 100.9 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the annual share of U.S. electricity generation from renewable energy sources will rise from 20% in 2021, to 22% in 2022, and to 23% in 2023, as a result of continuing increases in solar and wind generating capacity. This increase in renewable generation leads to a decline in natural gas generation, which falls from a 37% share in 2021 to 35% in both 2022 and 2023. Natural gas generation falls in the forecast even though we expect the cost of natural gas for power generation to fall from an average of $5.85/MMBtu in 2Q22 to an annual average of $4.21/MMBtu in 2023. Although new natural gas-fired power generating units are scheduled to come online in 2022, they are likely to be run at lower utilization rates than in recent years. Increasing renewable generation also contributes to our forecast that the share of generation from coal will fall from 23% in both 2021 and 2022 to 21% by 2023. A major contributor to coal's declining generation share next year will be the retirement of coal-fired generating capacity during 2022. Nuclear generation remains relatively constant in the forecast at an average share of 20%. Although one nuclear reactor will be retired during 2022, that

loss will be offset by the opening of one new 1.1 GW reactor late in 2022, which will be the first new nuclear reactor to open in the United States since 2016.

- Planned additions to U.S. wind and solar capacity in 2022 and 2023 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14 gigawatts (GW) of new wind capacity in 2021. We expect 10 GW of new wind capacity will come online in 2022 and 4 GW in 2023. Utility-scale solar capacity rose by 13 GW in 2021. Our forecast for added utility-scale solar capacity is 20 GW for 2022 and 24 GW for 2023. We expect solar additions to account for nearly half of new electric generating capacity in 2022. In addition, in 2021 small-scale solar increased by 5 GW to a total of 33 GW. We expect small-scale solar capacity (systems less than 1 megawatt) will grow by 4 GW in 2022 and by almost 6 GW in 2023.

- U.S. coal production in the forecast increases by 43 million short tons (MMst) (7%) in 2022 to 621 MMst and increases by 12 MMSt (2%) in 2023. We expect production in the Western region to drive the increases. Additional coal production will help refill electric sector inventories that were depleted during 2021.

- We expect U.S. coal consumption to increase by 14 MMst in 2022 and then decrease by 32 MMst in 2023 due to natural gas prices that are currently high, but which we expect will decline through the forecast. We expect coke plant consumption to fall by 10% in 2022 but increase next year back to 2021 levels.

- Coal exports in our forecast total 89 MMst in 2022, up 4% from 2021. We assume international prices will continue to drive increasing U.S. coal exports as the conflict in Ukraine creates the potential to disrupt supplies from Russia. However, exports to Asia, and particularly China, which supported U.S. coal exports in 2021 have slowed in 1Q22. We also assume transportation and terminal capacity constraints will limit exports in the forecast.

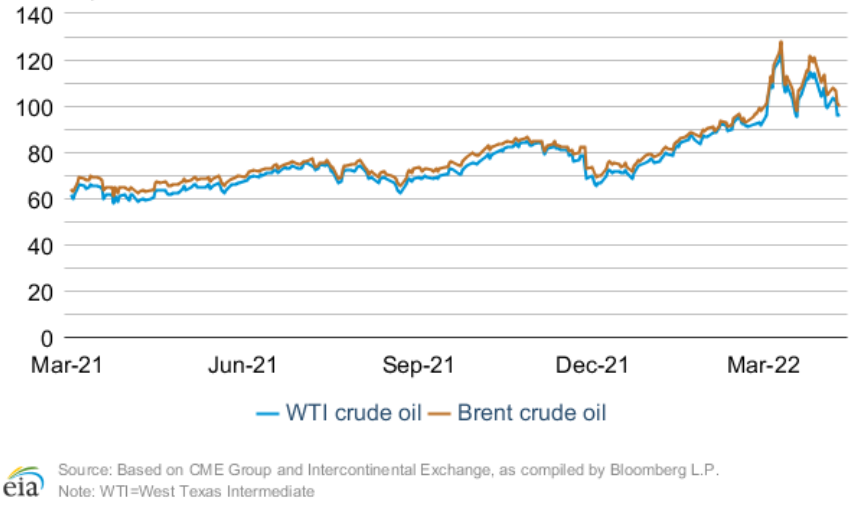
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain almost unchanged in 2023. We expect petroleum emissions to increase by 4% in 2022 compared with 2021, though this growth rate slows to less than 1% in 2023. Natural gas emissions are relatively flat in 2022 and then increase by 2% in our forecast for 2023. We forecast that coal-related CO_2 emissions will grow by 3% in 2022 and then fall 6% in 2023.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $100.58 per barrel (b) on April 7, 2022, a decrease of $4.39/b from the March 1, 2022, price of $104.97/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $7.38/b during the same period, settling at $96.03/b on April 7 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



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

Crude oil prices in March were subject to a wide range of price pressures and sustained price volatility throughout most of the month. Russia's further invasion of Ukraine, which began on February 24—as well as trade disruptions, sanctions, and private sector divestments from doing business in Russia—continued to contribute to substantial uncertainty in petroleum markets during March. The conflict in Ukraine increased crude oil prices to over $100/b in late February, and the Brent crude oil price closed above $100/b for all but two trading days in March. On March 8, the United States government announced a ban on petroleum imports from Russia, further contributing to temporary price increases associated with trade displacement. In addition to western sanctions and the U.S. import ban, weather-related disruptions at Kazakhstan's Caspian Pipeline Consortium (CPC) terminal along Russia's Black Sea Coast, as well as a fire related to a Houthi missile attack at a Saudi Aramco oil storage and distribution facility in Jeddah, contributed to additional volatility and risk of supply disruptions. On March 31, the White House announced a release of 1 million barrels of crude oil per day for a period of six months from the U.S. Strategic Petroleum Reserve (SPR) to expand supply and ease pressure on prices. On April 7, the International Energy Agency (IEA) confirmed an additional coordinated release. These releases from strategic reserves have contributed to downward oil price pressure by offsetting market perceptions of the risk of supply disruptions.

In addition to substantial supply-side uncertainty in March, city-scale mobility restrictions in China related to surging cases of COVID-19 contributed to heightened demand-side risks and downward pressure on crude oil prices during the month. Reports of restrictions began in early March, notably in the Jilin province and major industrial city of Shenzhen. On March 28, restrictions were announced in Shanghai and were extended on an indefinite basis on April 4.

Although front-month oil futures prices in early April have fallen from their early March levels, monthly average crude oil prices in March increased substantially over February. The average Brent front-month futures price in March 2022 was $112/b, an increase of $18/b (20%) over February 2022 and $47/b (71%) over March 2021. The Brent crude oil price in March closed at a monthly high of $128/b on March 8, and WTI also closed at a high of almost $124/b on the same day.

We lowered our outlooks for both global oil production and consumption in this STEO compared with last month's forecast. Lower expected oil production is primarily driven by reduced expectations of petroleum production in Russia, while lower expected consumption reflects reduced expectations of economic growth and associated fuels demand, as well as the impact of present COVID-19 responses in China. Despite the lower forecast for oil consumption, we continue to expect consumption to increase going into the summer. We forecast that rising consumption, falling oil production in Russia, and the risk of supply outages amid low global inventory levels will support crude oil prices in the coming months. However, we expect the release of strategic reserves by the United States and the IEA will limit upward price pressures. We forecast the Brent crude oil price in the second quarter (2Q22) will average $108/b before decreasing to $104/b in the 3Q22 and $101/b in 4Q22. Although we forecast Russia's oil production will decline by 1.7 million b/d from February 2022 to the end of 2023, global oil production will nonetheless increase as a result of higher production elsewhere, mostly from the United States and OPEC. We forecast that increasing production will be sufficient to contribute to net global builds in total petroleum inventories in 2Q22, and we expect global inventory to continue to build on a quarterly basis through the end of 2023. Significant sources of uncertainty in our forecast include:

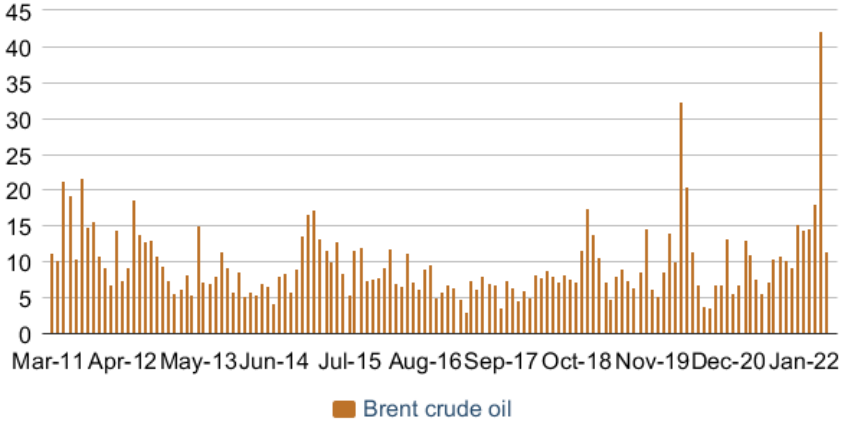
- Uncertainty related to geopolitical developments between Russia and Ukraine, the way in which existing sanctions on Russia will affect its oil production, and potential additional U.S. and EU sanctions on Russia
- The pace of oil demand growth in the summer
- The volume of new crude oil production at current price levels
- The potential for demand destruction because of high retail prices for petroleum products

Brent crude oil price trading range: The monthly price trading range for front-month Brent crude oil futures in March was $42/b, which was 38% of the monthly average price of $112/b

(Figure 2). This trading range is the widest since April 2020 in percentage terms, when the range averaged 77% of the monthly average price of $27/b. In March and April 2020, the market experienced significant price volatility from the initial effects of the COVID-19 pandemic. The wide price range is one measure of substantial volatility in the market, reflecting rapid changes in crude oil prices and heightened sensitivity to new market information. Several factors contributed to the wide swings in price within March, including:

- The competing pressures of trade displacement associated with sanctions on Russia and related divestments
- The impact of new mobility restrictions in China
- The announced SPR release
- Ongoing sources of uncertainty on future COVID-19 developments
- Additional geopolitical risks related to Iran and Libya

Figure 2. Monthly Brent crude oil price trading ranges



eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Brent futures strips: Energy market participants typically look at futures contracts in the form of futures strips to compare the price of crude oil over time. Crude oil futures strips show the sequential delivery of future contracts over a 24-month period. In the past six weeks, increased volatility in the Brent crude oil price has led to substantially different prices throughout the crude oil futures price strip **(Figure 3)**. On February 17, before the start of Russia's further invasion into Ukraine, the front-month Brent future price was $92.97/b, and the price for delivery two years in the future was trading below $80/b. By March 8, when prices reached their most recent peak, the front-month price was $127.98/b, and the price for crude oil delivery in August 2023 increased to $92.90/b. Backwardation, the condition in futures markets where

near-term prices are higher than longer-dated ones, increased to $30.90/b for the one-year ahead price spread between the front-month contracts and 13th-month contracts (1−13).

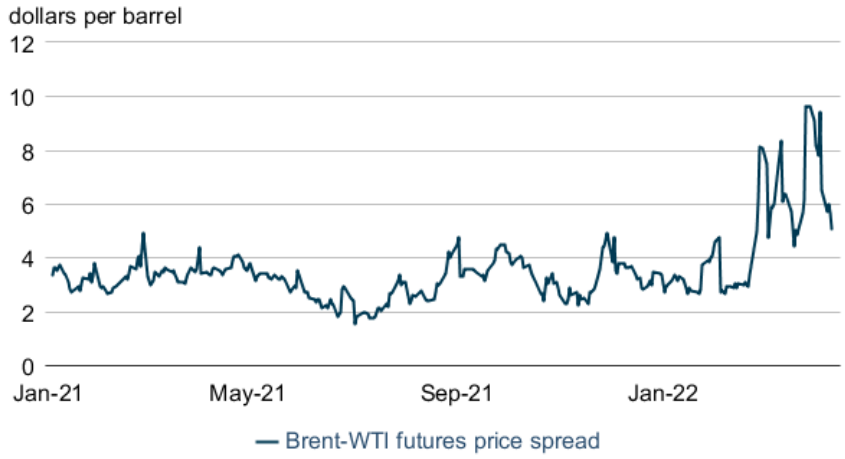
Figure 3. Brent crude oil futures price curves

Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

On April 7, backwardation decreased with the front-month price at $100.58/b and the 1–13 price spread at $8.54/b, less than the 1–13 spread on February 17 of $11.67/b. Although shorter-term contract prices have decreased, which may be related to the recently announced release of expanded crude oil supply from the SPR, longer-term futures prices remain elevated. Prices do not fall below $80/b for crude oil delivery through the next two years, indicating a tighter crude oil market in the long term. A higher price for long-dated Brent crude oil could be the result of market uncertainty around future Russian crude oil production and availability.

Crude oil price differentials: Sharp widening in the differentials between Brent crude oil and WTI crude oil likely reflects the effects of current market risks and disruptions from European markets compared with markets in the Western Hemisphere. This regional price spread is reflected in both spot market and front-month futures prices. After increasing sharply in late February, the front-month futures spread between Brent and WTI increased to a monthly average of $6.83/b in March; its highest point since June 2019 **(Figure 4)**. As of April 7, the spread was $5.07/b. We forecast the Brent-WTI spot price spread will average $6.00/b in April and May before declining to $5.50/b by July 2022. Brent crude oil and WTI crude oil are both light, sweet crude oil grades, meaning they have low sulfur contents and relatively high API gravity.

Figure 4. Brent–WTI futures price spread

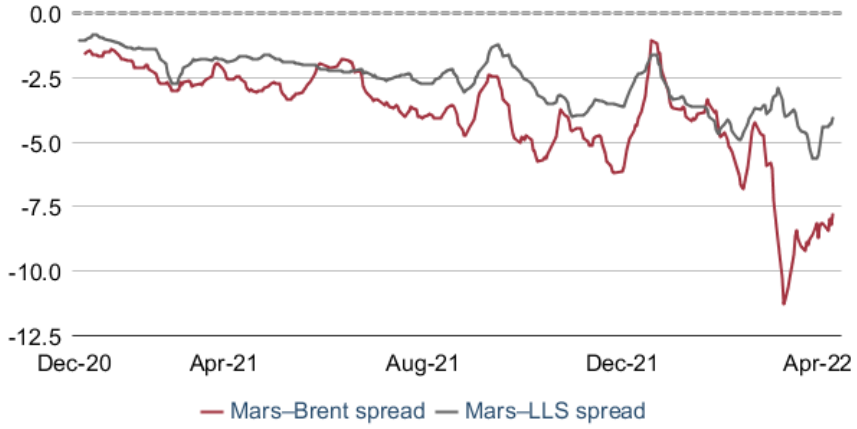


Source: Based on data from Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The impacts of recent market uncertainty have also affected the spread between Brent crude oil and other North American grades. The price differentials between the Mars crude oil spot price and the Brent spot price continued to widen in March 2022 **(Figure 5)**. Mars is a medium, sour crude oil grade with an API gravity of 28.0 and a sulfur content of 1.93%, in contrast to Brent with an API gravity of 37.9 and a sulfur content of 0.45%. Medium and heavy grades, as well as sour grades, typically sell at a discount to light, sweet grades because they require more complex refining units to produce profitable yields of higher quality refined products such as gasoline or distillate fuel oil. However, the relative value of this discount varies according to market conditions and can reflect relative scarcity of certain grades. In addition to the difference in crude oil quality, the Mars-Brent differential also reflects geographic disparities, similar to the Brent-WTI differential. The Mars-Brent spread averaged -$8.98/b in March, and the five-day moving average was -$7.83/b on April 7.

Figure 5. Mars crude oil price spreads

dollars per barrel, five-day moving average



Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: LLS=Light Louisiana Sweet.

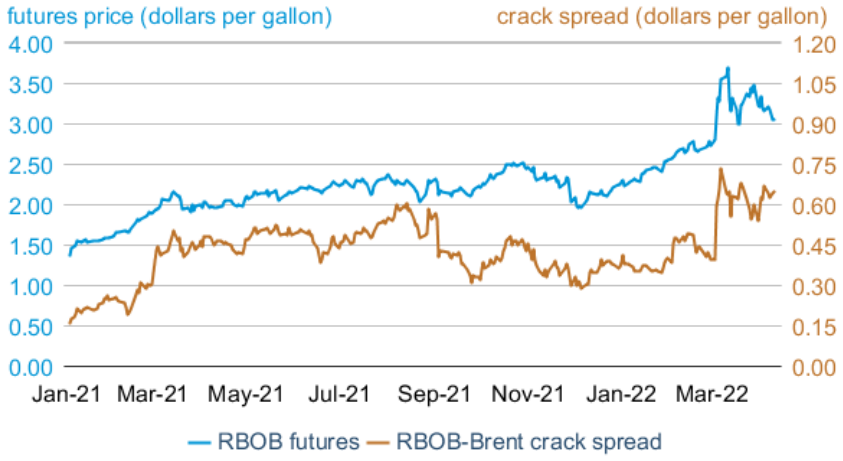
Unlike Brent, the Light Louisiana Sweet (LLS) benchmark is priced at the U.S. Gulf Coast, but similar to Brent and WTI, it is a light, sweet crude oil. The Mars-LLS spread averaged -$4.32/b in March, and the five-day moving average was -$4.11/b on April 7. The wide Mars-LLS spread reflects an increasing price premium for LLS based on its crude oil quality over Mars because both grades are priced at the U.S. Gulf Coast spot market and reflect market conditions for U.S. Gulf Coast refiners. Although not as wide as the Mars-Brent spread, the wide Mars-LLS differential suggests an increasing premium on light, sweet crude oil grades, or conversely, an increasing discount on medium, sour crude oil grades.

Mars is a U.S. benchmark grade but is also relatively similar in terms of quality to Russia's Urals grade, another medium, sour crude oil. Urals is the most exported Russian crude oil grade and has been subject to the most disruption in response to the sanctions levied on Russia. As Russia's crude oil production and exports decrease, it may contribute to rising medium, sour crude oil prices as volumes of Urals are taken off the market. However, the current width in the Mars-LLS spread suggests that a reduction in Russia's exports to the global market may not be currently reflected in the crude oil quality price spread at the U.S. Gulf Coast. One potential explanation may be that because Urals is forced to sell at a substantial discount to global benchmarks, the Urals discount may be putting downward pressure on other global medium, sour crude oil prices. As many buyers distance themselves from Russian purchases, buyers are still willing and able to buy discounted Urals, while non-Russian medium, sour crude oil grades may be experiencing some pressure on prices to remain competitive with Urals in certain markets. Alternatively, the widening Mars-LLS differential may not yet reflect reduced global supplies of medium, sour crude oil because of the distance from European markets or general market volatility.

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 $3.04 per gallon (gal) on April 7, down 5 cents/gal from March 1 **(Figure 6)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 65 cents/gal on April 7, up 6 cents/gal during the same period. The average RBOB–Brent crack spread in March was 62 cents/gal, 17 cents/gal higher than February.

Figure 6. Historical RBOB front-month futures prices and crack spreads



Source: 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.

Increases in RBOB prices and the crack spread reflect rapidly increasing crude oil prices and reduced Russian petroleum products trade in the international market. Prices and crack spreads also increased as a result of the seasonal shift to producing more expensive summer-grade gasoline. Over a five-day period from February 28 to March 4, the crack spread increased by 34 cents/gal and closed on March 4 at 73 cents/gal. Since March 4, the crack spread has not fallen below 54 cents/gal. On March 8, RBOB prices settled at $3.68/gal. The average RBOB price in March was $3.30/gal.

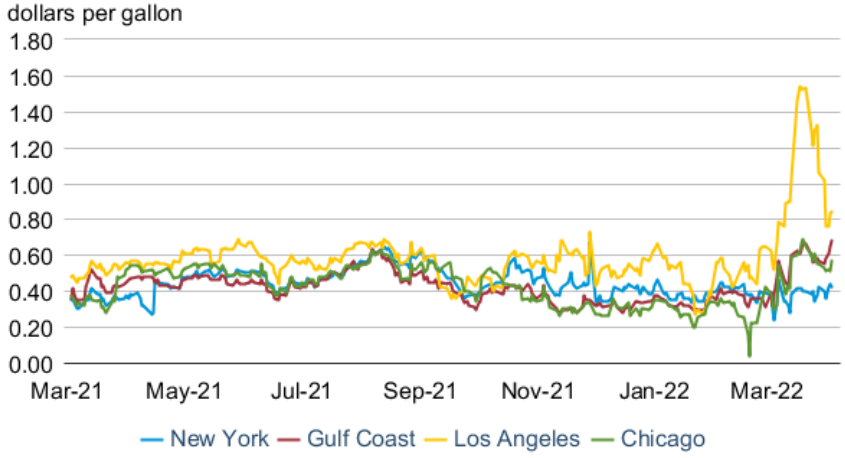
We estimate U.S. gasoline consumption averaged 8.6 million barrels a day (b/d) in March, which is 0.7 million b/d (7%) lower than the 2015–19 average and slightly higher than in March 2021. We expect vehicle miles traveled to increase by 1 billion miles per day (12%) between March and July as the summer travel season begins. We estimate gasoline inventories decreased by 7.8 million barrels in March and were 2.6% below the five-year (2017–2021) average. However, expected production increases in response to higher crack spreads suggest U.S. inventories will increase above the five-year average by June and remain above average for the rest of 2022.

West Coast gasoline spot market: Products in the West Coast gasoline spot market typically sell at a premium to those in other parts of the country because the region is relatively isolated from other refining centers in the United States and more expensive gasoline specifications in

California narrow supply options. However, West Coast premiums in March rose to the highest levels on a real basis since mid-2015, as reduced refinery capacity, unplanned refinery and other infrastructure outages, and higher than normal volatility in market prices constrained an already tight market for gasoline. Planned refinery outages typically do not drive large price increases. Refineries prepare ahead of outages to ensure adequate inventories and alternative sources of supplies are available. However, unplanned refinery outages can result in large price increases, especially when they occur at the same time as planned outages in a tightly balanced market.

Recent planned outages include turnaround activity at Marathon's 382,000-b/d Los Angeles refinery and Valero's 93,000-b/d Wilmington refinery, which extended its maintenance schedule after unplanned flaring on March 26. Unplanned outages this month include Kinder Morgan's SFPP pipeline entering unplanned maintenance on March 4 due to a petroleum product release at its Watson facility in Long Beach, PBF's 166,200-b/d Torrance refinery beginning unplanned maintenance on March 6 that has continued to disrupt operations as of April 5, and Valero's 149,000-b/d Benicia refinery experiencing mechanical issues on March 10. With West Coast gasoline inventories below average since the beginning of the year, an increasingly tight market pushed the Los Angeles CARBOB-Brent crack spread to $1.53/gal on March 18, a $1.12/gal premium over the New York Harbor spot crack spread **(Figure 7)**.

Figure 7. Spot market gasoline crack spread

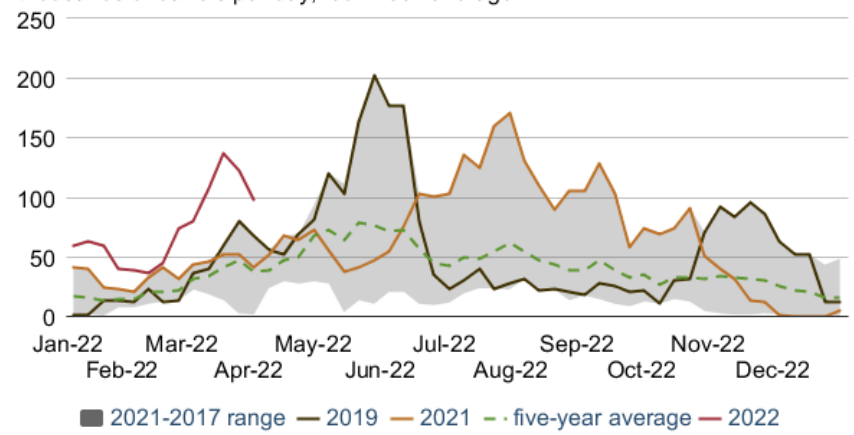


eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Refinery closures in the West may be contributing to low refinery output of gasoline and resulting low inventories, which contributes to higher prices. Another consequence of these refinery closures, particularly during unplanned refinery outages, is more gasoline imports into the West Coast. From mid-2020, refinery capacity in the West Coast has declined by about 200,000 b/d (7.5%). Since the beginning of the year, data from our *Weekly Petroleum Status Report* shows West Coast gasoline imports have been higher than the five-year range maximum for this time of year, reaching a four-week average of 137,000 b/d in the week ending March 18 **(Figure 8)**. In previous years, imports have generally been low except for similar periods of

market tightness, such as during several refinery outages in mid-2019. Total gasoline imports into the West Coast began increasing in 2021, reaching high levels even in the absence of significant unplanned outages, such as in the summer of 2021. This trend suggests the region may need more imports to offset the loss of supplies from reduced refining capacity. According to trade press reports, arrivals of gasoline and alkylate (a gasoline blending stock needed to produce Los Angeles CARBOB specification fuel) helped spur a drop in the Los Angeles spot market gasoline crack spread in the second half of March.

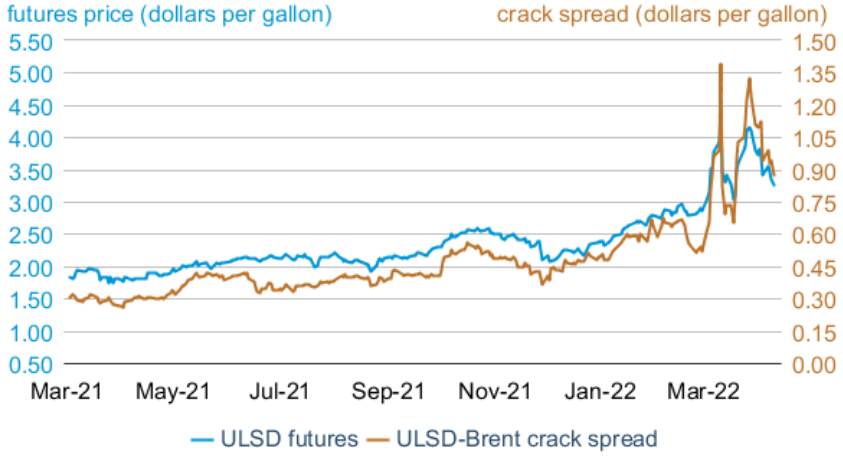
Figure 8. West coast (PADD 5) gasoline imports



Source: U.S. Energy Information Administration, Weekly Petroleum Status Report

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.27/gal on April 7, a 12 cent/gal increase from March 1 **(Figure 9)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 22 cents/gal during the same period and settled at 87 cents/gal on April 7.

Figure 9. Historical ULSD front-month futures prices and crack spreads

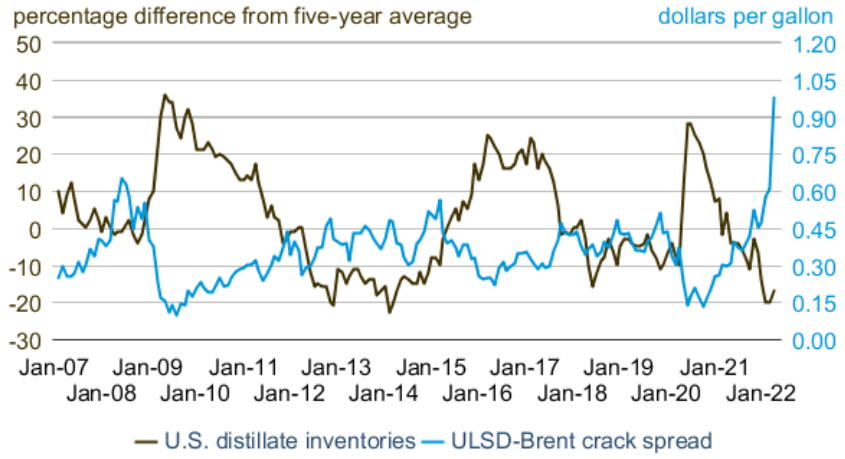


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Low inventories and high consumption globally contributed to the increasing ULSD-Brent crack spread in March. The ULSD-Brent crack spread reached as high as $1.39/gal on March 8 and averaged 97 cents/gal for the month, which—even when adjusted for inflation—is the highest monthly average crack spread in our data going back to July 1988. Our 4.0 million b/d estimate for distillate fuel oil consumption in March was 3% lower than the five-year average. Additionally, our March distillate production estimate of 5.0 million b/d was the highest since April 2020 and contributed to the first distillate inventory build since October 2021.

U.S. distillate inventories in March were 17% below their five-year March average **(Figure 10)**. As distillate inventories have come down from their June 2020 peak, ULSD-Brent crack spreads have been increasing. The more recent increase in the ULSD-Brent crack spread has been due to the possibility of reduced distillate exports from Russia, adding to the already short global supply. We estimate U.S. distillate production in March increased by 0.4 million b/d (8%), contributing to a slight inventory build, and we forecast inventories to generally increase throughout 2022.

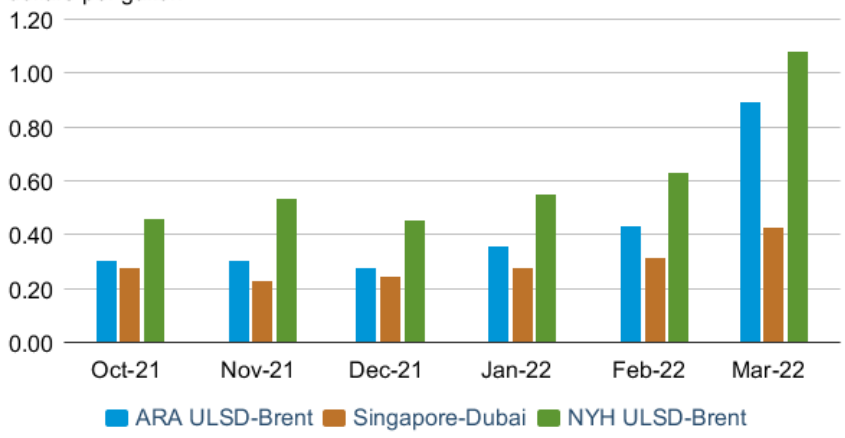
Figure 10. U.S. distillate inventories and ULSD-Brent crack spread



Source: Based on data from CME Group, as compiled by Bloomberg, L.P.

Low distillate inventories across the globe have been causing high spot distillate crack spreads at the major global trading hubs in Amsterdam, Rotterdam, and Antwerp (ARA); Singapore; and New York Harbor (NYH). In March, the ARA ULSD-Brent crack spread averaged 90 cents/gal, the Singapore-Dubai crack spread averaged 43 cents/gal, and the NYH ULSD-Brent crack spread averaged $1.08/gal **(Figure 11)**. Although distillate crack spreads have been increasing across the globe, they increased more at the ARA and NYH trading hubs in March, likely because of bans on petroleum imports from Russia into the United States and parts of Europe. The distillate crack spread increased by less at the Singapore hub because changes in Russia's oil trading patterns may have had less of an effect in the East of Suez market, a region that primarily exports diesel. Nevertheless, the Singapore crack spread has increased 15 cents/gal since October 2021. Distillate inventories are at more-than-five-year lows for the month of March at all three trading hubs.

Figure 11. International ULSD crack spreads

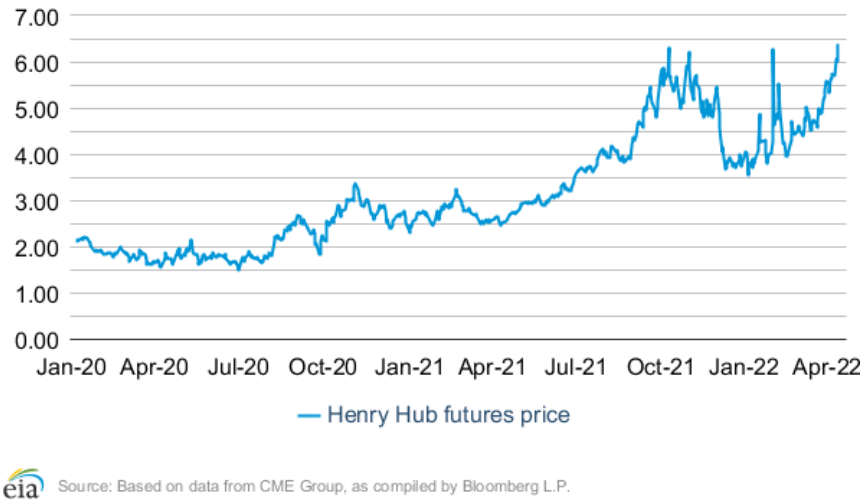


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ARA=Amsterdam, Rotterdam, and Antwerp; ULSD=ultra-low sulfur diesel; NYH=New York Harbor

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $6.36 per million British thermal units (MMBtu) on April 7, 2022, which was up $1.79/MMBtu from March 1, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures prices in March was $4.98/MMBtu, the highest March monthly average in real terms since 2014.

Figure 12. Historical nominal front-month U.S. natural gas prices

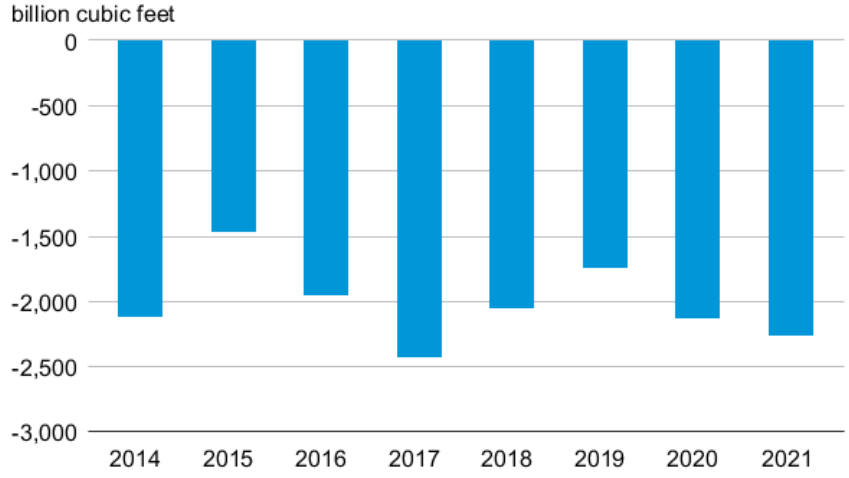


Source: Based on data from CME Group, as compiled by Bloomberg L.P.

The front-month natural gas futures contract price rose above $5.00/MMBtu in the second half of March and climbed above $6.00/MMBtu in early April amid high demand in the residential, commercial, and electric power sectors, along with high levels of U.S. liquefied natural gas (LNG) exports. In addition, storage inventories below the five-year (2017–2021) average coupled with only modest increases in production both contributed to upward pressure on natural gas futures prices. Natural gas consumption in the residential and commercial sectors was 31.1 billion cubic feet per day (Bcf/d) in March, which is 1.4 Bcf/d higher than March last year. Natural gas consumption in the electric power sector averaged 25.8 Bcf/d, up 1.5 Bcf/d from March last year. U.S. LNG export levels set another record high in March of 11.9 Bcf/d, which is 1.5 Bcf/d higher than March last year and 2.1 Bcf/d higher than the annual average last year, as facilities continue to operate at high utilization rates and new capacity comes online.

In STEO, we estimate storage inventories remained below the five-year average in March, finishing the month at 1.4 trillion cubic feet (Tcf), which is 17% lower than the five-year average for this time of year. U.S. dry natural gas production peaked in December 2021 at 97.3 Bcf/d, but then it declined to 94.9 Bcf/d in January, partially due to freeze-offs in key producing regions. Production has yet to return to its December level, averaging 96.2 Bcf/d in March.

Figure 13. November to March change in U.S. working natural gas inventory



Source: US. Energy Information Administration, Short Term Energy Outlook
Note: Listed year corresponds to beginning of period in November

We estimate natural gas storage inventories ended the withdrawal season (November–March) at 1.4 Tcf, which is almost 0.3 Tcf lower than the five-year average and 0.4 Tcf lower than last year at this time **(Figure 13)**. Despite weather near the 10-year average over the course of the winter, natural gas withdrawals during winter were the most since winter 2017–2018, and the second highest in the past eight years. Consumption of natural gas in the residential and commercial sectors was about the same as last year, averaging 37.3 Bcf/d from November–March. However, natural gas consumption in the electric power sector averaged 28.8 Bcf/d, which was 1.9 Bcf/d higher than last winter. The increase in natural gas consumption in the electric power sector in recent months is partly the result of reductions in coal-fired electricity-generating capacity and ongoing constraints in the coal market, which make coal-to-natural gas fuel switching less sensitive to rising natural gas prices than they have been in recent years.

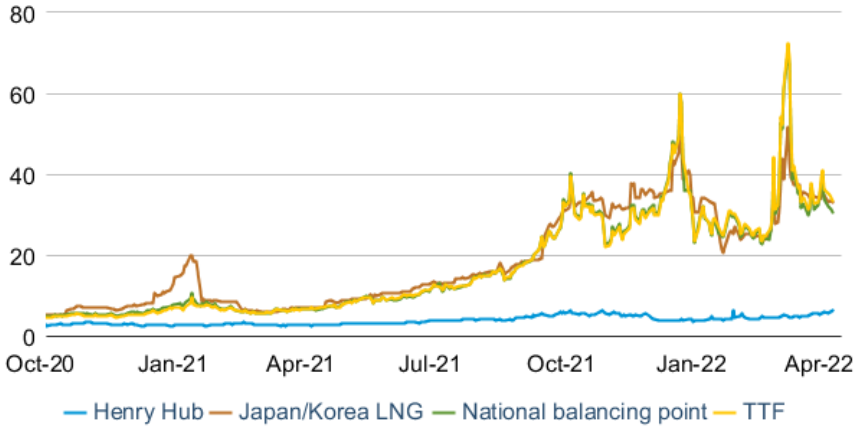
U.S. LNG exports have been at record-high levels since December 2021 and set another all-time record in March 2022. According to our estimates, LNG exports averaged 11.9 Bcf/d—an increase of 0.5 Bcf/d compared with the previous peak set in January (11.4 Bcf/d) and 0.7 Bcf/d higher than exports in February. The incremental increase in exports compared with prior months came from ramping up LNG production at a new U.S. LNG export facility, Calcasieu Pass LNG. The first LNG cargo from Calcasieu Pass was exported on March 1. During March 2022, Calcasieu Pass exported five LNG cargoes totaling 0.6 Bcf/d. We expect Calcasieu Pass to achieve its full LNG production capacity of 1.3 Bcf/d baseload (1.6 Bcf/d peak) by the third quarter of this year.

International natural gas prices: Most U.S. LNG exports since December 2021 have been shipped to countries in Europe, driven by high natural gas prices in Europe **(Figure 14)**. From January through November 2021, the United States shipped 49% of its LNG to countries in Asia, 27% to European Union (EU) countries and the United Kingdom, and 24% to other countries. However, from December 2021 through February 2022, 57% of U.S. LNG exports went to EU

countries and the United Kingdom, averaging 5.6 Bcf/d in December, 7.0 Bcf/d in January, and 6.6 Bcf/d in February.

Figure 14. International natural gas prices

dollars per million British thermal units

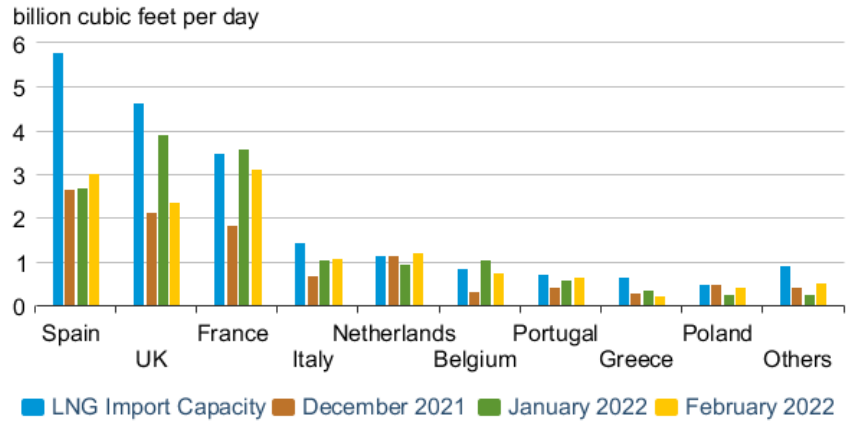


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

LNG swap prices in Europe remain high because of Europe's increased demand for LNG amid supply uncertainties due to Russia's further invasion of Ukraine. Europe's LNG imports will remain high to replenish natural gas inventories, which were 26% full as of March 31, 2022, compared with the five-year average of 34% and last year's level of 30% full.

Currently, 15 EU countries and the United Kingdom import LNG. Eleven of these countries account for 99% of Europe's total LNG imports and import capacity. Utilization of LNG import capacity across these 11 countries was relatively high this winter, averaging 66% compared with 39% last winter. Regionally, the European natural gas pipeline grid is not fully integrated between its northern and southern parts. Some countries, such as Belgium and the Netherlands, act as transit countries, delivering natural gas to other parts of Northwest Europe. Other countries in Southern Europe, including Spain, Portugal, Italy, and Greece, have limited pipeline interconnectivity and, therefore, use LNG imports primarily for domestic consumption. Belgium, the Netherlands, and France averaged utilization of 88% this winter, while Spain, Portugal, Italy, and Greece averaged 58% **(Figure 15)**.

Figure 15. Europe's liquefied natural gas imports and import capacity by country (Dec 2021-Feb 2022)



Source: Based on data from CEDIGAZ and the International Group of Liquefied Natural Gas Importers (GIIGNL)
Note: 'Others' include Lithuania, Croatia, Sweden, Finland, Malta, Gibraltar, and Norway

Notable forecast changes

- We forecast production of crude oil and other liquids in Russia will average 10.1 million b/d from 2Q22 through 4Q22, which would be down from 11.3 million b/d in 1Q22 and 0.6 million b/d less than we forecast in the March STEO. We forecast Russia's production will average 9.8 million b/d in 2023, which is 1.0 million b/d lower than we forecast in the March STEO. The lower forecast reflects our assumption that sanctions and independent corporate actions will limit crude oil production in Russia more than we expected last month.

- We revised our forecast for growth in world liquid fuels consumption in 2022 down by 0.7 million b/d from the March STEO to 2.4 million b/d. The effects on oil consumption and on economic growth in Russia and surrounding countries contributed to most of the downward revision. Our forecast for world GDP growth in 2022 from Oxford Economics is 4.0%, down from 4.3% in the March STEO. Other revisions to the global liquid fuels consumption forecast stemmed from an increase in mobility restrictions in China as a result of recent increases in COVID-19 cases.

- In this outlook, we have updated our assumptions to include the announced release of 1 million b/d of crude oil from the U.S. Strategic Petroleum Reserve (SPR) from May through October. Our assumption that SPR inventories will fall by 1.0 million b/d from May through October is changed from our assumption last STEO than SPR inventories would fall by 0.1 million b/d over the same period.

- In the April STEO, U.S. LNG exports for 2022 average 12.2 billion cubic feet per day (Bcf/d,) which is 0.9 Bcf/d more than we forecast in last month's STEO. The updated forecast factored in the recent agreement between the United States and EU that the United States will ensure additional LNG volumes for the EU market. We assume this

agreement will result in higher utilization at U.S. export facilities throughout the year than we had previously forecast. In addition, we assume that the Calcasieu Pass LNG export facility in Louisiana achieves full production sooner than we had previously forecast.

- The Henry Hub natural gas spot price average is $5.23/MMBtu in 2022 in this month's STEO. That forecast is $1.28/MMBtu higher than we had forecast in last month's STEO. The higher forecast largely reflects our forecast that natural gas exports in 2022 will be higher than we previously expected. It also reflects a reduction in our forecast of capacity additions of solar power generation, which increases the need for electric power generation from other sources, including natural gas.
- The electric power sector is currently scheduling 20 gigawatts (GW) of new solar PV capacity to be added in 2022, down from scheduled additions of 22 GW for 2022 that were reported in the last STEO. Some of these projects have been delayed into 2023, when we expect 24.0 GW will be added.
- You can find more information in the detailed table of forecast changes.

Short-Term Energy Outlook
Chart Gallery

April 12, 2022

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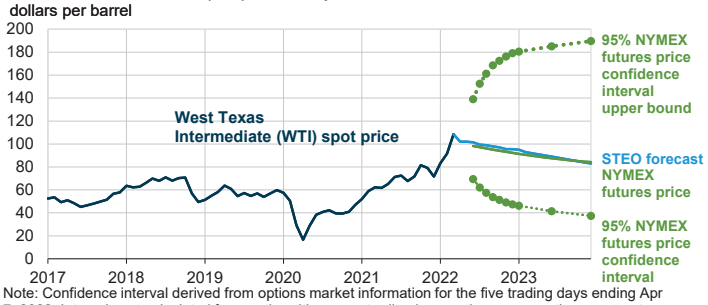
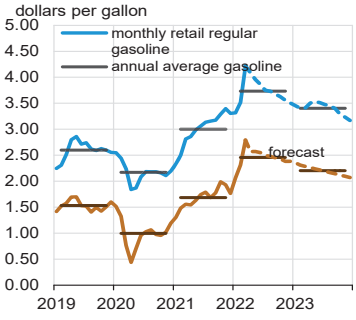
West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



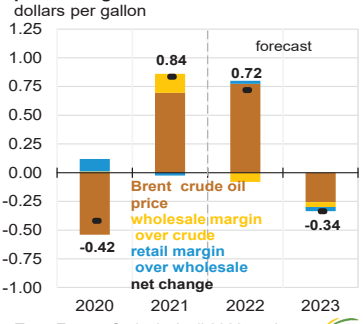
Note: Confidence interval derived from options market information for the five trading days ending Apr 7, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, CME Group, Bloomberg, L.P., and Refinitiv an LSEG Business

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

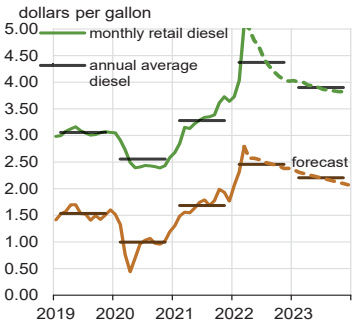


Components of annual gasoline price changes
dollars per gallon

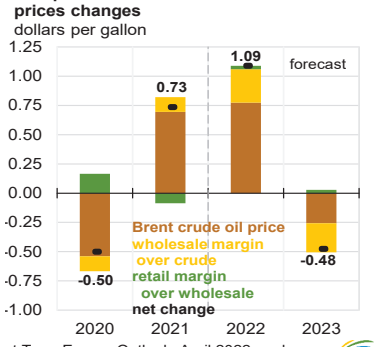


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

U.S. diesel and crude oil prices



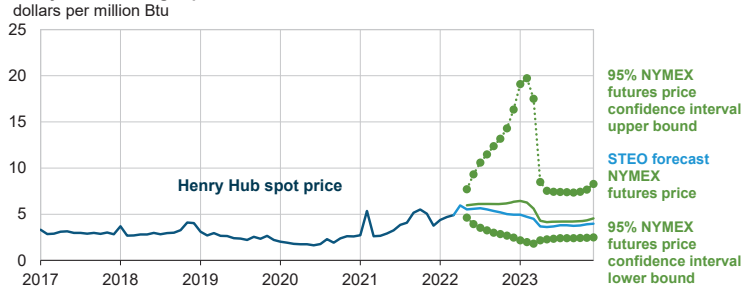
Components of annual diesel prices changes



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

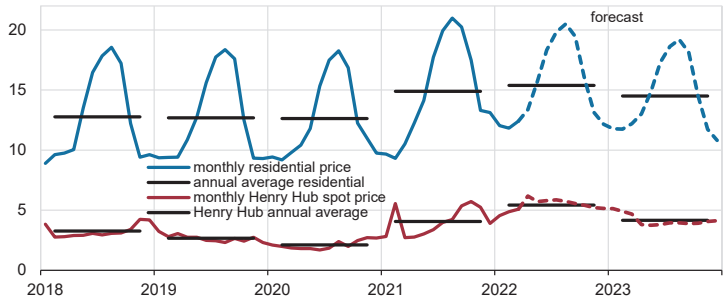


Note: Confidence interval derived from options market information for the five trading days ending Apr 7, 2022. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, CME Group, and Refinitiv an LSEG Business

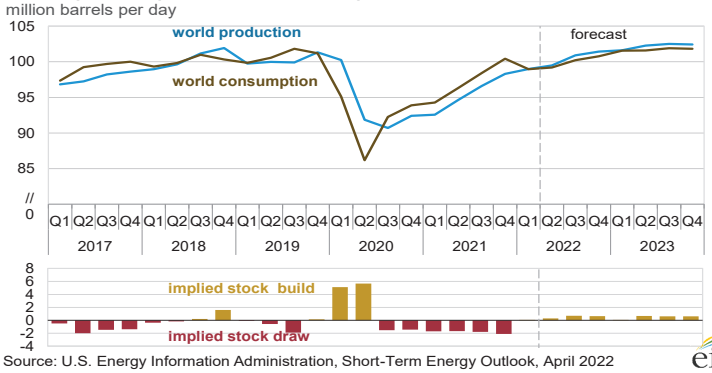
U.S. natural gas prices

dollars per thousand cubic feet



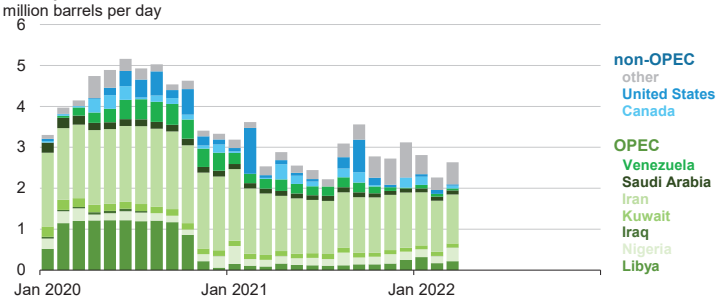
Sources: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022, and Refinitiv an LSEG Business

World liquid fuels production and consumption balance
million barrels per day



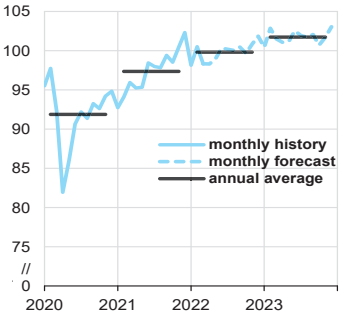
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

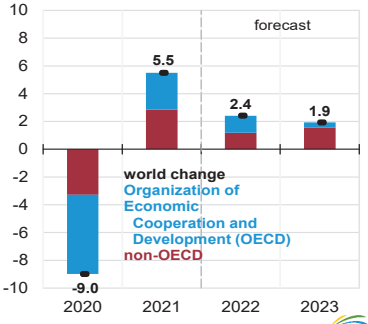


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

World liquid fuels consumption
million barrels per day

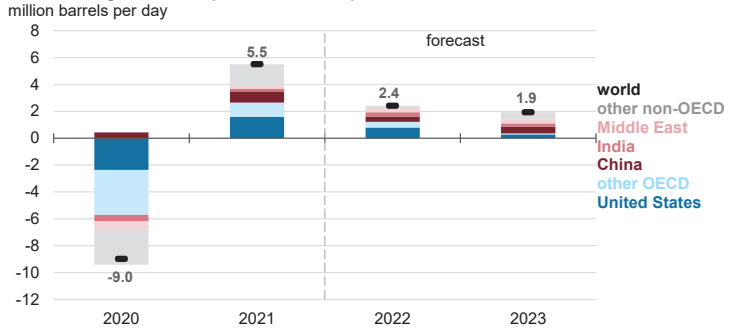


Components of annual change
million barrels per day



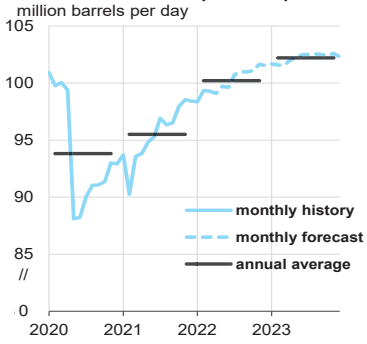
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

Annual change in world liquid fuels consumption
million barrels per day

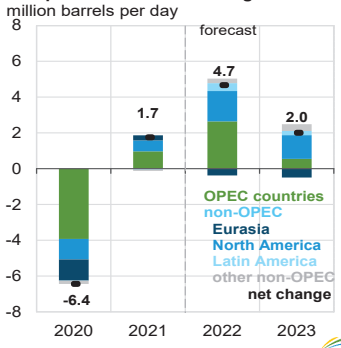


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

World crude oil and liquid fuels production
million barrels per day

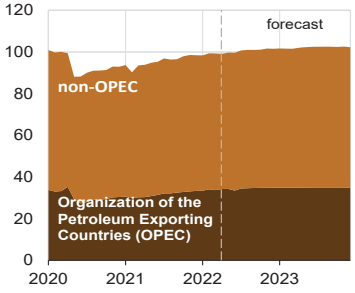


Components of annual change
million barrels per day

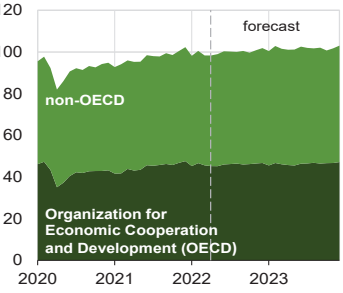


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

World liquid fuels production
million barrels per day

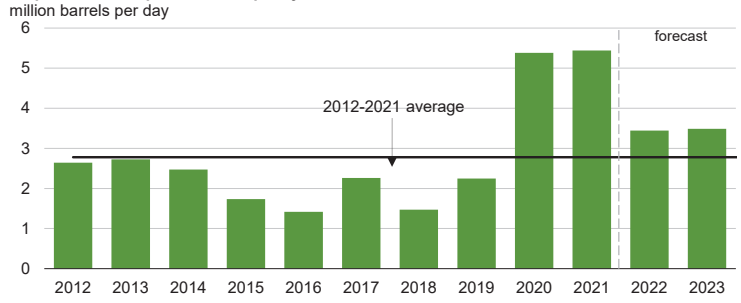


World liquid fuels consumption
million barrels per day



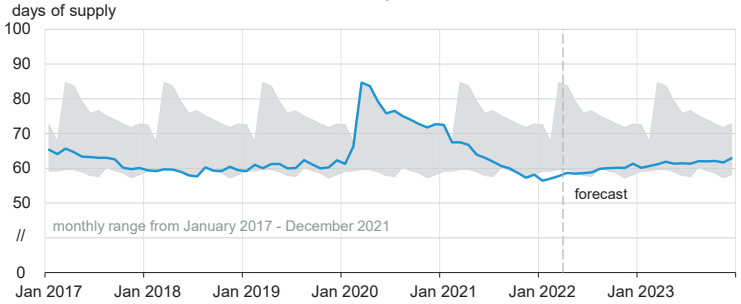
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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



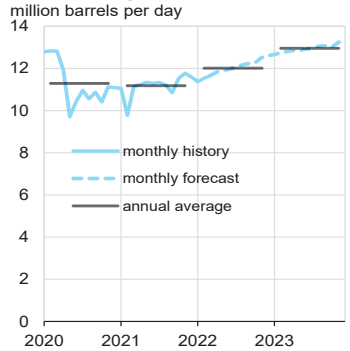
Note: Black line represents 2012-2021 average (2.8 million barrels per day).
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

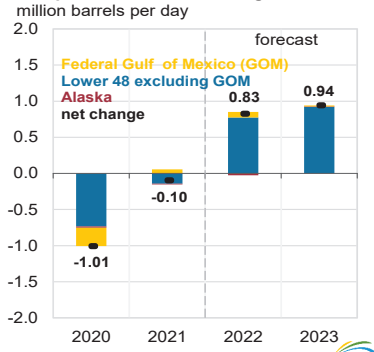


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. crude oil production
million barrels per day



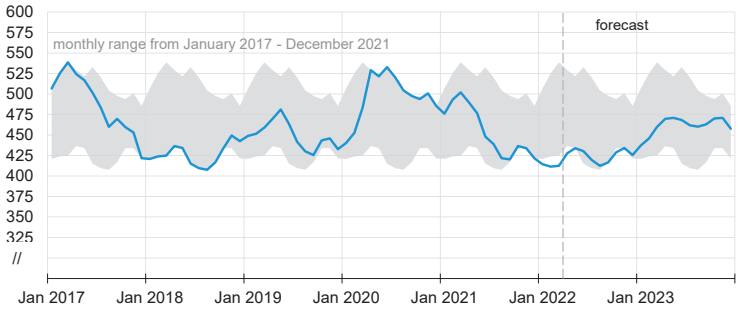
Components of annual change
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. commercial crude oil inventories

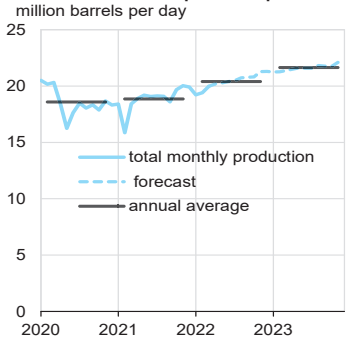
million barrels



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

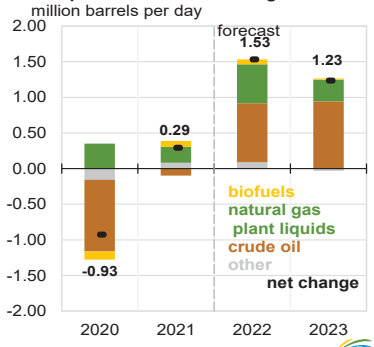
U.S. crude oil and liquid fuels production

million barrels per day



Components of annual change

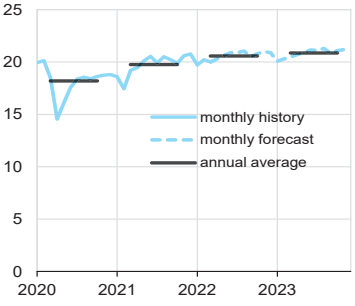
million barrels per day



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

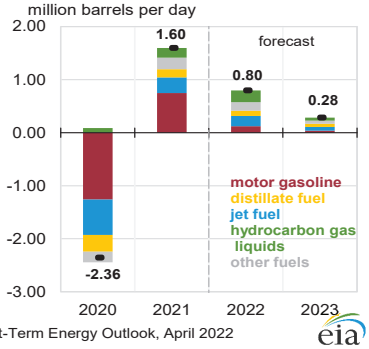
U.S. liquid fuels product supplied (consumption)

million barrels per day



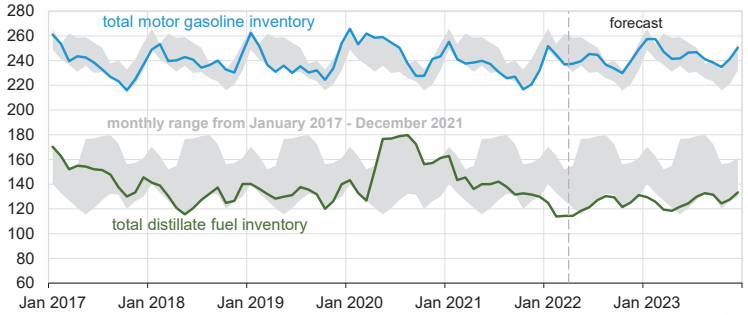
Components of annual change

million barrels per day



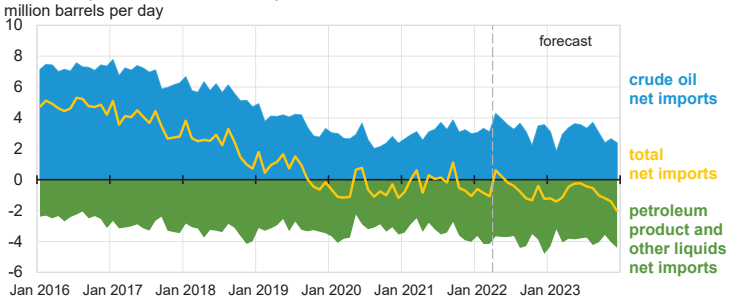
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. gasoline and distillate inventories
million barrels



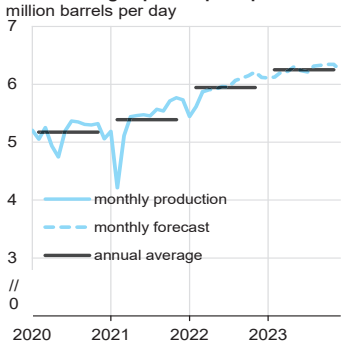
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

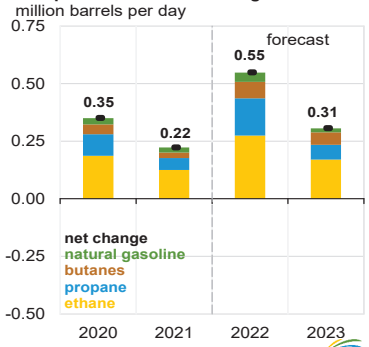


Note: Petroleum product and other liquids include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

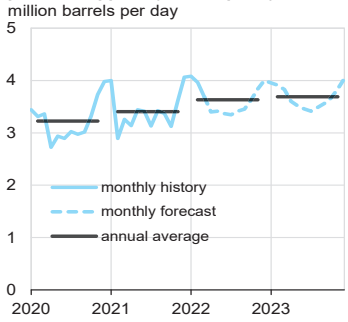


Components of annual change
million barrels per day

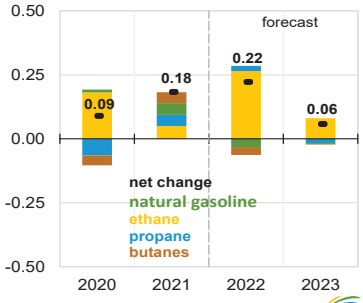


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

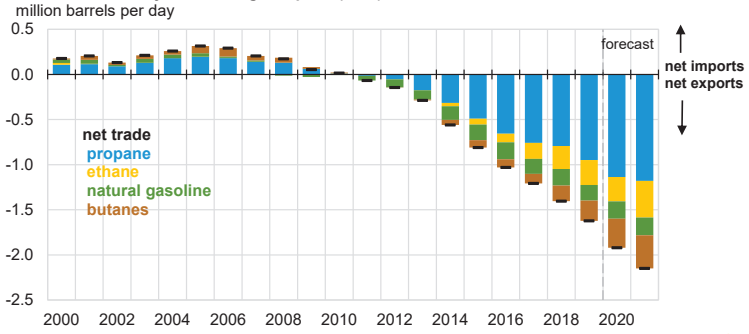


Components of annual change
million barrels per day



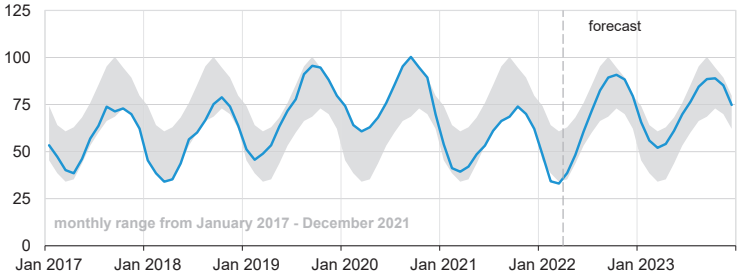
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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



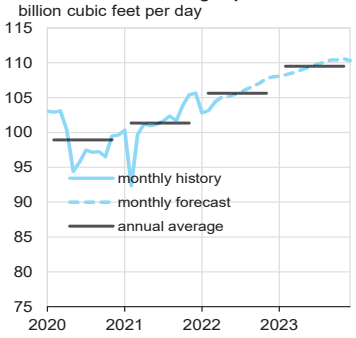
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. commercial propane inventories
million barrels

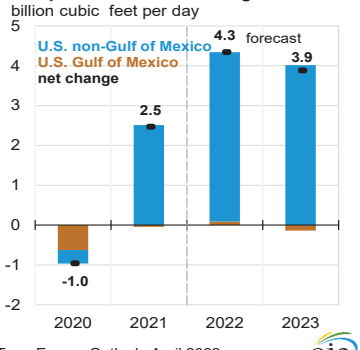


Note: Excludes propylene.
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

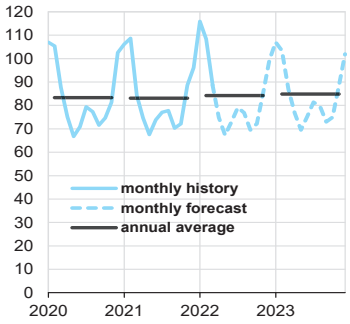


Components of annual change
billion cubic feet per day

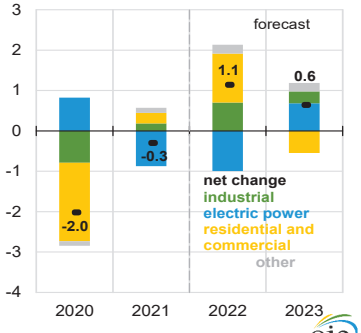


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

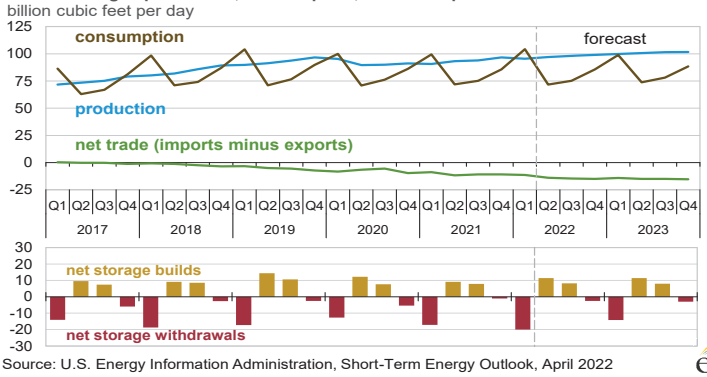


Components of annual change
billion cubic feet per day



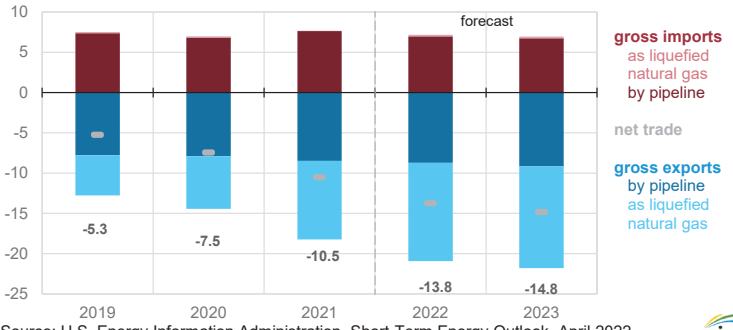
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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



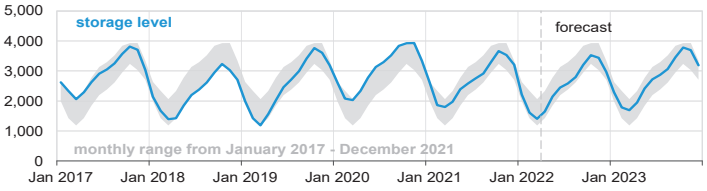
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

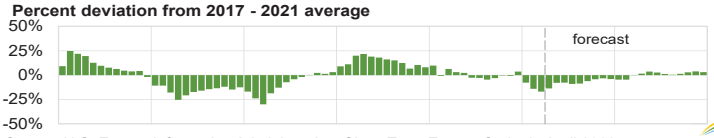


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

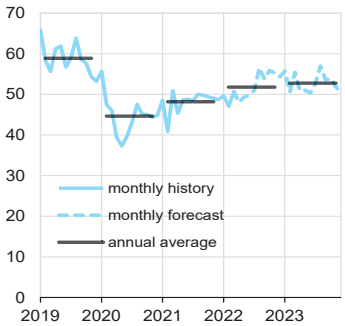


Percent deviation from 2017 - 2021 average

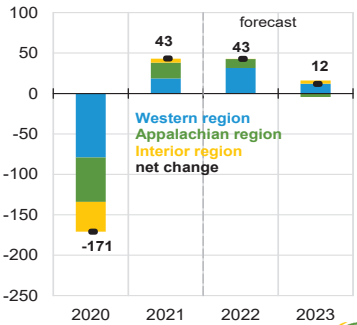


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. coal production
million short tons

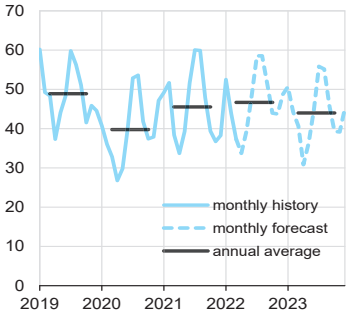


Components of annual change
million short tons

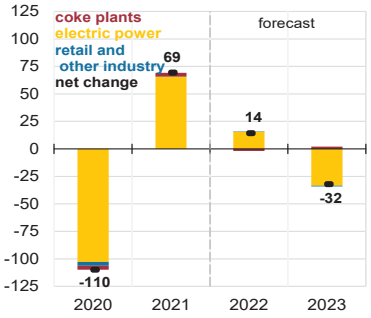


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. coal consumption
million short tons

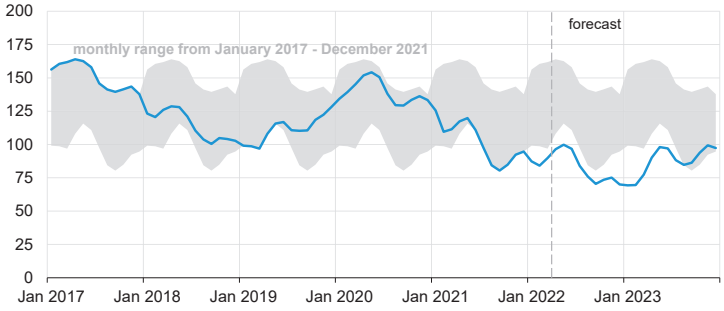


Components of annual change
million short tons



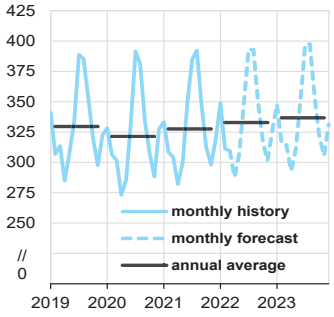
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. electric power coal inventories
million short tons

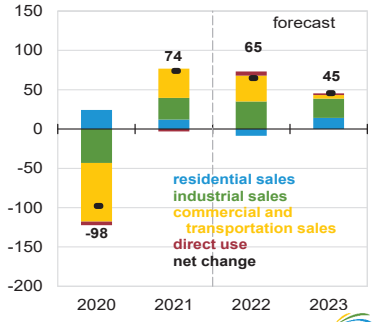


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. electricity consumption
billion kilowatthours



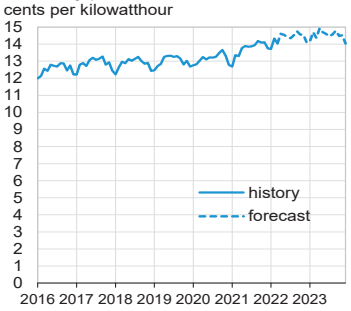
Components of annual change
billion kilowatthours



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

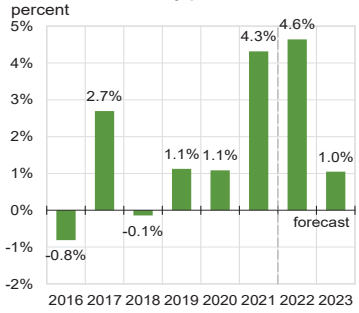
U.S. monthly nominal residential electricity price

cents per kilowatthour



Annual growth in nominal residential electricity prices

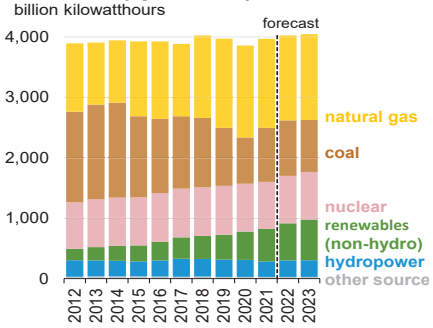
percent



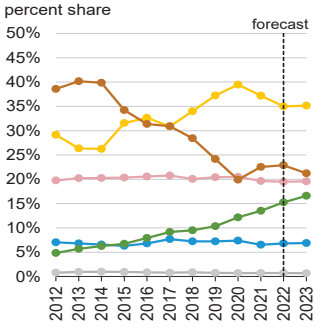
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

U.S. electricity generation by source, all sectors

billion kilowatthours



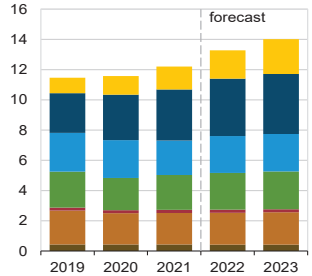
percent share



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

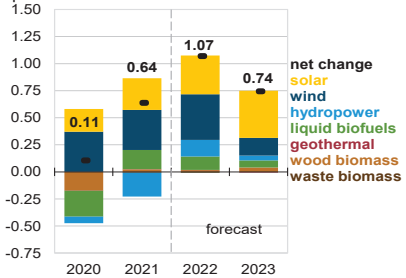
U.S. renewable energy supply

quadrillion British thermal units



Components of annual change

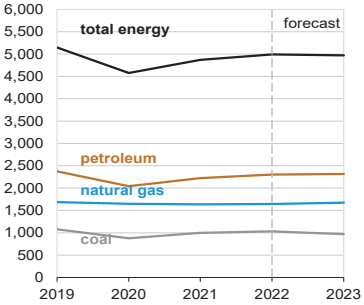
quadrillion British thermal units



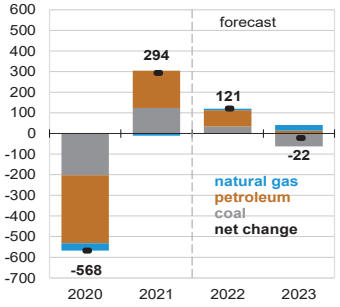
Note: Hydropower excludes pumped storage generation. Liquids include ethanol, biodiesel, renewable diesel, other biofuels, and biofuel losses and coproducts.Waste biommas includes municipal waste from biogenic sources, landfill gas, and non-wood waste.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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

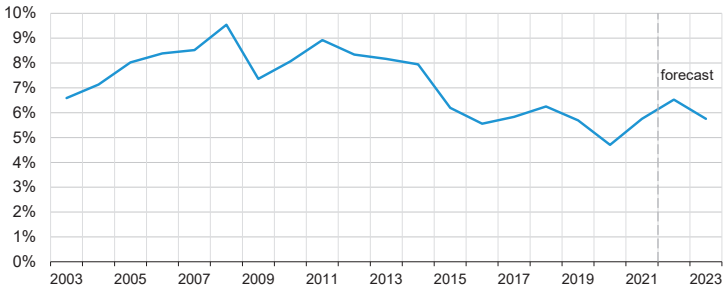


Components of annual change
million metric tons



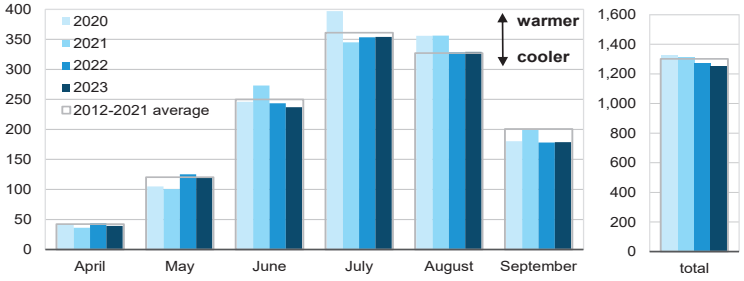
Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

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



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

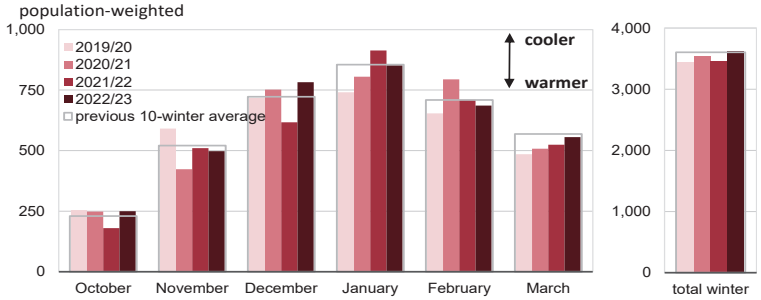
U.S. summer cooling degree days
population-weighted



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, April 2022

U.S. winter heating degree days
population-weighted

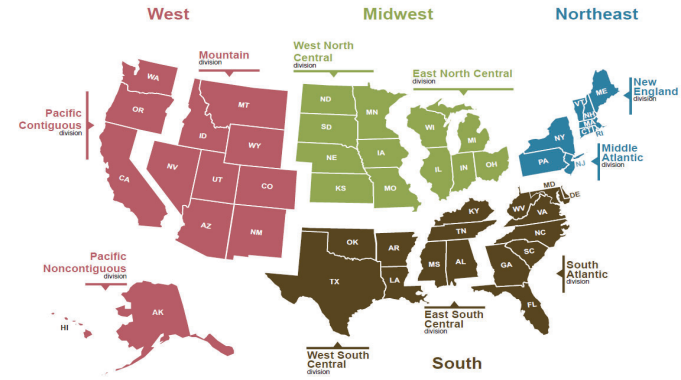


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

eia

U.S. Census regions and divisions



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

eia

Table SF01. U.S. Motor Gasoline Summer Outlook

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

	2021			2022			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) [a]	**1.58**	**1.68**	**1.63**	**2.42**	*2.35*	*2.39*	*53.8*	*40.0*	*46.6*
Brent Crude Oil Price (Spot)	**1.64**	**1.75**	**1.70**	**2.56**	*2.48*	*2.52*	*56.2*	*41.6*	*48.6*
U.S. Refiner Average Crude Oil Cost	**1.57**	**1.67**	**1.62**	**2.39**	*2.32*	*2.35*	*51.8*	*38.4*	*44.8*
Wholesale Gasoline Price [b]	**2.16**	**2.32**	**2.24**	**3.08**	*2.90*	*2.99*	*42.5*	*25.1*	*33.4*
Wholesale Diesel Fuel Price [b]	**2.04**	**2.19**	**2.12**	**3.49**	*3.18*	*3.34*	*70.7*	*45.4*	*57.6*
Regular Gasoline Retail Price [c]	**2.97**	**3.16**	**3.06**	**3.97**	*3.72*	*3.84*	*33.5*	*17.9*	*25.4*
Diesel Fuel Retail Price [c]	**3.21**	**3.36**	**3.28**	**4.82**	*4.32*	*4.57*	*50.0*	*28.5*	*39.0*
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	**9.068**	**9.132**	**9.100**	**9.129**	*9.221*	*9.175*	*0.7*	*1.0*	*0.8*
Total Refinery and Blender Net Supply [d]	**7.992**	**8.101**	**8.047**	**8.106**	*8.265*	*8.186*	*1.4*	*2.0*	*1.7*
Fuel Ethanol Blending	**0.934**	**0.937**	**0.935**	**0.927**	*0.931*	*0.929*	*-0.7*	*-0.7*	*-0.7*
Total Stock Withdrawal [e]	**0.004**	**0.111**	**0.058**	**-0.094**	*0.127*	*0.017*			
Net Imports [e]	**0.138**	**-0.017**	**0.060**	**0.190**	*-0.102*	*0.043*			
Refinery Utilization (percent)	**89.2**	**89.5**	**89.3**	**94.2**	*95.2*	*94.7*			
Total Gasoline Stocks (million barrels)									
Beginning	**237.6**	**237.2**	**237.6**	**236.8**	*245.3*	*236.8*			
Ending	**237.2**	**227.0**	**227.0**	**245.3**	*233.6*	*233.6*			
Economic Indicators									
Real GDP (annualized billion 2012 dollars)	**19,368**	**19,479**	**19,424**	**20,012**	*20,158*	*20,085*	*3.3*	*3.5*	*3.4*
Real Income (annualized billion 2012 dollars)	**15,807**	**15,641**	**15,724**	**15,241**	*15,357*	*15,299*	*-3.6*	*-1.8*	*-2.7*
Non-Farm Employment (million jobs)	**145.2**	**146.9**	**146.0**	**151.6**	*152.4*	*152.0*	*4.4*	*3.8*	*4.1*

[a] Spot Price of West Texas Intermediate (WTI) crude oil.

[b] Price product sold by refiners to resellers.

[c] Average retail price including taxes.

[d] Finished gasoline net production minus gasoline blend components net inputs minus fuel ethanol blending and supply adjustment.

[e] Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIA, *Petroleum Supply Monthly* , DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Refinitiv (WTI and Brent crude oil spot prices). Macroeconomic projections are based onthe S&P Global Macroeconomic Forecast Model.

Table 1. U.S. Energy Markets Summary

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Energy Production															
Crude Oil Production (a)															
(million barrels per day)	**10.69**	**11.28**	**11.13**	**11.63**	**11.52**	*11.90*	*12.15*	*12.46*	*12.73*	*12.88*	*13.02*	*13.17*	**11.19**	*12.01*	*12.95*
Dry Natural Gas Production															
(billion cubic feet per day)	**90.59**	**93.15**	**93.86**	**96.63**	**95.41**	*97.01*	*97.94*	*99.23*	*99.72*	*100.56*	*101.41*	*101.72*	**93.57**	*97.41*	*100.86*
Coal Production															
(million short tons)	**140**	**143**	**148**	**147**	**147**	*147*	*161*	*165*	*162*	*152*	*163*	*156*	**578**	*621*	*633*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Natural Gas															
(billion cubic feet per day)	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
Coal (b)															
(million short tons)	**139**	**125**	**168**	**114**	**134**	*122*	*168*	*136*	*136*	*112*	*157*	*124*	**546**	*560*	*528*
Electricity															
(billion kilowatt hours per day)	**10.51**	**10.23**	**12.22**	**10.10**	**10.77**	*10.38*	*12.35*	*10.27*	*10.86*	*10.50*	*12.49*	*10.41*	**10.77**	*10.94*	*11.07*
Renewables (c)															
(quadrillion Btu)	**2.95**	**3.16**	**2.95**	**3.14**	**3.23**	*3.52*	*3.20*	*3.28*	*3.44*	*3.73*	*3.40*	*3.46*	**12.21**	*13.23*	*14.02*
Total Energy Consumption (d)															
(quadrillion Btu)	**25.04**	**23.15**	**24.53**	**24.57**	**26.08**	*23.72*	*25.05*	*25.31*	*26.09*	*24.01*	*25.42*	*25.65*	**97.30**	*100.15*	*101.18*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.83*	*98.83*	*95.99*	*93.30*	*89.95*	*87.00*	*84.03*	**68.21**	*97.96*	*88.57*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*5.68*	*5.50*	*5.06*	*4.72*	*3.65*	*3.79*	*3.89*	**3.91**	*5.23*	*4.01*
Coal															
(dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,811**	**19,853**	*20,012*	*20,158*	*20,326*	*20,469*	*20,634*	*20,802*	*20,973*	**19,428**	*20,087*	*20,719*
Percent change from prior year	**0.5**	**12.2**	**4.9**	**5.6**	**4.2**	*3.3*	*3.5*	*2.6*	*3.1*	*3.1*	*3.2*	*3.2*	**5.7**	*3.4*	*3.1*
GDP Implicit Price Deflator															
(Index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**122.7**	*123.9*	*125.0*	*126.0*	*126.8*	*127.6*	*128.5*	*129.4*	**118.5**	*124.4*	*128.1*
Percent change from prior year	**2.1**	**4.1**	**4.6**	**5.9**	**5.9**	*5.4*	*4.8*	*3.9*	*3.4*	*3.0*	*2.8*	*2.6*	**4.2**	*5.0*	*2.9*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,417**	**15,254**	*15,241*	*15,357*	*15,464*	*15,668*	*15,857*	*16,029*	*16,219*	**16,021**	*15,329*	*15,944*
Percent change from prior year	**15.1**	**-4.3**	**-0.9**	**-0.2**	**-11.4**	*-3.6*	*-1.8*	*0.3*	*2.7*	*4.0*	*4.4*	*4.9*	**2.2**	*-4.3*	*4.0*
Manufacturing Production Index															
(Index, 2017=100)	**97.3**	**98.7**	**99.7**	**101.1**	**101.9**	*103.7*	*104.8*	*106.1*	*107.2*	*108.5*	*109.8*	*110.9*	**99.2**	*104.1*	*109.1*
Percent change from prior year	**-0.2**	**17.2**	**5.8**	**4.6**	**4.7**	*5.0*	*5.1*	*5.0*	*5.2*	*4.7*	*4.8*	*4.5*	**6.5**	*5.0*	*4.8*
Weather															
U.S. Heating Degree-Days	**2,107**	**472**	**51**	**1,307**	**2,148**	*479*	*73*	*1,531*	*2,094*	*485*	*73*	*1,529*	**3,937**	*4,230*	*4,181*
U.S. Cooling Degree-Days	**49**	**410**	**900**	**128**	**43**	*412*	*861*	*94*	*43*	*395*	*862*	*95*	**1,487**	*1,409*	*1,395*

(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 April 7, 2022.

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

Prices are not adjusted for inflation.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Petroleum Marketing Monthly* , DOE/EIA-0380; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; *Quarterly Coal Report* , DOE/EIA-0121; and *International Petroleum Monthly* , DOE/EIA-0520.

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

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.
Weather forecasts from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**58.09**	**66.19**	**70.61**	**77.27**	**95.18**	*101.83*	*98.83*	*95.99*	*93.30*	*89.95*	*87.00*	*84.03*	**68.21**	*97.96*	*88.57*
Brent Spot Average	**61.12**	**68.91**	**73.45**	**79.42**	**101.17**	*107.65*	*103.98*	*100.66*	*97.30*	*93.95*	*91.00*	*88.03*	**70.89**	*103.37*	*92.57*
U.S. Imported Average	**55.27**	**64.80**	**68.38**	**73.52**	**90.95**	*99.35*	*96.29*	*93.11*	*90.68*	*87.23*	*84.29*	*81.25*	**65.85**	*95.22*	*85.91*
U.S. Refiner Average Acquisition Cost	**57.12**	**66.11**	**70.30**	**76.35**	**92.57**	*100.33*	*97.27*	*94.23*	*91.61*	*88.23*	*85.27*	*82.23*	**67.82**	*96.20*	*86.75*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**180**	**216**	**232**	**243**	**286**	*308*	*290*	*269*	*261*	*271*	*262*	*241*	**219**	*288*	*258*
Diesel Fuel	**178**	**204**	**219**	**241**	**305**	*349*	*318*	*295*	*277*	*269*	*263*	*258*	**211**	*317*	*267*
Fuel Oil	**162**	**180**	**197**	**222**	**298**	*340*	*302*	*284*	*273*	*256*	*246*	*249*	**188**	*304*	*263*
Refiner Prices to End Users															
Jet Fuel	**163**	**182**	**199**	**226**	**292**	*342*	*316*	*294*	*277*	*266*	*260*	*256*	**195**	*311*	*265*
No. 6 Residual Fuel Oil (a)	**162**	**181**	**194**	**211**	**226**	*241*	*233*	*225*	*234*	*225*	*219*	*213*	**190**	*231*	*222*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**256**	**297**	**316**	**333**	**370**	*397*	*372*	*356*	*342*	*352*	*344*	*323*	**302**	*374*	*340*
Gasoline All Grades (b)	**265**	**306**	**325**	**343**	**380**	*408*	*384*	*370*	*356*	*365*	*358*	*337*	**311**	*386*	*354*
On-highway Diesel Fuel	**290**	**321**	**336**	**366**	**430**	*482*	*432*	*406*	*401*	*393*	*385*	*382*	**329**	*438*	*390*
Heating Oil	**272**	**283**	**297**	**346**	**410**	*444*	*401*	*386*	*377*	*354*	*337*	*342*	**300**	*407*	*359*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*5.90*	*5.72*	*5.26*	*4.90*	*3.79*	*3.93*	*4.04*	**4.06**	*5.43*	*4.17*
Henry Hub Spot (dollars per million Btu)	**3.56**	**2.94**	**4.36**	**4.77**	**4.66**	*5.68*	*5.50*	*5.06*	*4.72*	*3.65*	*3.79*	*3.89*	**3.91**	*5.23*	*4.01*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**5.73**	**4.09**	**5.11**	**6.86**	**6.40**	*6.66*	*6.64*	*6.63*	*6.51*	*5.09*	*4.84*	*5.22*	**5.50**	*6.57*	*5.44*
Commercial Sector	**7.54**	**8.85**	**10.12**	**10.27**	**9.74**	*10.36*	*11.10*	*10.09*	*9.73*	*9.78*	*9.71*	*8.64*	**8.82**	*10.09*	*9.42*
Residential Sector	**9.75**	**13.87**	**20.38**	**13.81**	**12.06**	*15.03*	*19.91*	*13.03*	*11.88*	*14.43*	*18.63*	*11.67*	**12.27**	*13.36*	*12.71*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.58**	*5.85*	*5.63*	*5.39*	*5.26*	*3.79*	*3.86*	*4.17*	**4.97**	*5.62*	*4.21*
Residual Fuel Oil (c)	**11.28**	**13.09**	**14.22**	**16.10**	**16.20**	*20.83*	*19.49*	*18.28*	*17.89*	*17.78*	*16.60*	*15.95*	**13.66**	*18.31*	*17.05*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.14**	*26.52*	*24.45*	*22.59*	*21.47*	*20.58*	*20.13*	*19.83*	**15.50**	*22.96*	*20.63*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*

(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 April 7, 2022.

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

Prices are not adjusted for inflation; prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Weekly Petroleum Status Report* , DOE/EIA-0208; *Natural Gas Monthly* , DOE/EIA-0130; *Electric Power Monthly* , DOE/EIA-0226; and *Monthly Energy Review* , DOE/EIA-0035.

Natural gas Henry Hub and WTI crude oil spot prices from Reuter's News Service (http://www.reuters.com).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.07**	**30.74**	**31.07**	**32.28**	**31.85**	*32.57*	*32.90*	*33.71*	*34.12*	*34.33*	*34.38*	*34.77*	**31.05**	*32.76*	*34.40*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.54**	*20.29*	*20.66*	*21.12*	*21.30*	*21.56*	*21.73*	*21.97*	**18.88**	*20.41*	*21.64*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	**5.75**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.89*	*5.91*	**5.56**	*5.75*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.92**	*1.92*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
Other OECD	**4.91**	**4.37**	**4.74**	**4.73**	**4.64**	*4.70*	*4.61*	*4.87*	*5.00*	*5.03*	*4.93*	*5.11*	**4.69**	*4.71*	*5.02*
Non-OECD	**62.51**	**63.91**	**65.52**	**66.02**	**67.14**	*66.91*	*68.01*	*67.72*	*67.49*	*67.93*	*68.14*	*67.67*	**64.50**	*67.45*	*67.81*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.03*	*34.58*	*34.85*	*34.97*	*34.82*	*34.81*	*34.80*	**31.66**	*34.30*	*34.85*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	**28.19**	*28.59*	*29.10*	*29.33*	*29.43*	*29.41*	*29.35*	*29.30*	**26.28**	*28.81*	*29.37*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.29**	*13.02*	*13.11*	*13.03*	*13.03*	*12.85*	*12.78*	*12.80*	**13.70**	*13.36*	*12.86*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.12**	*5.05*	*5.05*	*5.09*	*5.08*	*5.10*	*5.10*	*5.14*	**4.99**	*5.08*	*5.10*
Other Non-OECD	**13.79**	**14.38**	**14.64**	**13.76**	**13.98**	*14.81*	*15.27*	*14.75*	*14.41*	*15.15*	*15.45*	*14.93*	**14.15**	*14.71*	*14.99*
Total World Production	**92.58**	**94.65**	**96.59**	**98.30**	**98.99**	*99.48*	*100.91*	*101.42*	*101.61*	*102.27*	*102.52*	*102.44*	**95.55**	*100.21*	*102.21*
Non-OPEC Production	**62.23**	**63.77**	**64.31**	**65.21**	**65.24**	*65.45*	*66.33*	*66.58*	*66.64*	*67.44*	*67.71*	*67.64*	**63.89**	*65.91*	*67.36*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.74**	**45.82**	*45.49*	*46.24*	*46.48*	*46.12*	*45.90*	*46.61*	*46.85*	**44.79**	*46.01*	*46.37*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.21**	*0.19*	*0.20*	*0.21*	*0.21*	*0.19*	*0.19*	*0.20*	**0.20**	*0.20*	*0.20*
Canada	**2.26**	**2.24**	**2.50**	**2.38**	**2.43**	*2.40*	*2.52*	*2.50*	*2.48*	*2.42*	*2.53*	*2.50*	**2.35**	*2.47*	*2.48*
Europe	**11.91**	**12.62**	**13.83**	**13.87**	**13.21**	*13.14*	*13.46*	*13.17*	*13.17*	*13.18*	*13.58*	*13.35*	**13.06**	*13.25*	*13.32*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.84**	*3.14*	*3.19*	*3.50*	*3.78*	*3.14*	*3.16*	*3.46*	**3.42**	*3.42*	*3.38*
Other OECD	**5.89**	**5.92**	**5.90**	**6.21**	**6.15**	*6.01*	*6.04*	*6.20*	*6.19*	*6.04*	*6.06*	*6.20*	**5.98**	*6.10*	*6.12*
Non-OECD	**51.83**	**52.25**	**52.58**	**53.69**	**53.13**	*53.70*	*53.99*	*54.30*	*55.45*	*55.70*	*55.30*	*54.98*	**52.59**	*53.78*	*55.35*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.47**	*4.33*	*4.69*	*4.63*	*4.32*	*4.47*	*4.78*	*4.70*	**4.86**	*4.53*	*4.57*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	*0.76*	*0.76*	*0.77*	*0.76*	*0.77*	*0.78*	*0.78*	**0.75**	*0.76*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.41**	*15.74*	*15.57*	*15.88*	*16.58*	*16.48*	*15.84*	*15.76*	**15.27**	*15.65*	*16.16*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.78**	*13.93*	*13.54*	*13.95*	*14.56*	*14.53*	*13.95*	*14.25*	**13.23**	*13.80*	*14.32*
Other Non-OECD	**17.73**	**18.32**	**18.92**	**18.96**	**18.72**	*18.95*	*19.44*	*19.07*	*19.23*	*19.44*	*19.96*	*19.49*	**18.49**	*19.05*	*19.53*
Total World Consumption	**94.28**	**96.33**	**98.40**	**100.43**	**98.95**	*99.19*	*100.23*	*100.78*	*101.56*	*101.59*	*101.91*	*101.83*	**97.38**	*99.80*	*101.73*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.80**	*-0.11*	*0.73*	*0.60*	*0.02*	*-0.54*	*-0.21*	*0.56*	**0.53**	*0.51*	*-0.04*
Other OECD	**0.87**	**0.16**	**0.96**	**0.71**	**-0.28**	*-0.06*	*-0.45*	*-0.40*	*-0.02*	*-0.04*	*-0.12*	*-0.37*	**0.67**	*-0.30*	*-0.14*
Other Stock Draws and Balance	**0.37**	**1.02**	**0.48**	**0.64**	**-0.57**	*-0.12*	*-0.96*	*-0.85*	*-0.05*	*-0.09*	*-0.27*	*-0.79*	**0.63**	*-0.62*	*-0.30*
Total Stock Draw	**1.70**	**1.69**	**1.81**	**2.12**	**-0.04**	*-0.29*	*-0.68*	*-0.64*	*-0.04*	*-0.67*	*-0.61*	*-0.61*	**1.83**	*-0.41*	*-0.48*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,151**	*1,242*	*1,265*	*1,247*	*1,249*	*1,306*	*1,328*	*1,287*	**1,194**	*1,247*	*1,287*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,633**	**2,614**	*2,710*	*2,775*	*2,794*	*2,798*	*2,858*	*2,892*	*2,885*	**2,633**	*2,794*	*2,885*

(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 April 7, 2022.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3b. Non-OPEC Petroleum and Other Liquids Production (million barrels per day)

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**25.16**	**26.36**	**26.33**	**27.55**	**27.22**	*27.87*	*28.29*	*28.83*	*29.12*	*29.31*	*29.45*	*29.66*	**26.36**	*28.06*	*29.39*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	**5.75**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.89*	*5.91*	**5.56**	*5.75*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.92**	*1.92*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
United States	**17.62**	**19.05**	**18.94**	**19.87**	**19.54**	*20.29*	*20.66*	*21.12*	*21.30*	*21.56*	*21.73*	*21.97*	**18.88**	*20.41*	*21.64*
Central and South America	**5.64**	**6.29**	**6.69**	**5.80**	**5.87**	*6.70*	*7.14*	*6.62*	*6.25*	*7.03*	*7.36*	*6.85*	**6.11**	*6.59*	*6.87*
Argentina	**0.65**	**0.69**	**0.73**	**0.74**	**0.75**	*0.74*	*0.77*	*0.79*	*0.80*	*0.78*	*0.81*	*0.83*	**0.70**	*0.76*	*0.81*
Brazil	**3.22**	**3.89**	**4.21**	**3.42**	**3.39**	*4.11*	*4.47*	*3.89*	*3.50*	*4.29*	*4.57*	*4.03*	**3.69**	*3.97*	*4.10*
Colombia	**0.77**	**0.74**	**0.77**	**0.77**	**0.76**	*0.75*	*0.74*	*0.73*	*0.68*	*0.67*	*0.66*	*0.65*	**0.76**	*0.74*	*0.66*
Ecuador	**0.51**	**0.50**	**0.49**	**0.41**	**0.49**	*0.53*	*0.53*	*0.53*	*0.54*	*0.56*	*0.58*	*0.60*	**0.48**	*0.52*	*0.57*
Other Central and S. America	**0.49**	**0.46**	**0.49**	**0.46**	**0.48**	*0.57*	*0.64*	*0.69*	*0.73*	*0.73*	*0.73*	*0.73*	**0.48**	*0.59*	*0.73*
Europe	**4.32**	**3.83**	**4.13**	**4.14**	**4.08**	*4.12*	*4.02*	*4.29*	*4.42*	*4.45*	*4.36*	*4.54*	**4.10**	*4.13*	*4.44*
Norway	**2.11**	**1.90**	**2.06**	**2.05**	**1.99**	*2.05*	*2.05*	*2.21*	*2.32*	*2.33*	*2.32*	*2.43*	**2.03**	*2.07*	*2.35*
United Kingdom	**1.06**	**0.81**	**0.93**	**0.94**	**0.96**	*0.94*	*0.84*	*0.95*	*0.98*	*0.99*	*0.90*	*0.97*	**0.93**	*0.93*	*0.96*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.29**	*13.02*	*13.11*	*13.03*	*13.03*	*12.85*	*12.78*	*12.80*	**13.70**	*13.36*	*12.86*
Azerbaijan	**0.75**	**0.70**	**0.71**	**0.71**	**0.70**	*0.71*	*0.73*	*0.72*	*0.71*	*0.70*	*0.69*	*0.71*	**0.72**	*0.71*	*0.70*
Kazakhstan	**1.87**	**1.86**	**1.72**	**2.01**	**1.95**	*1.54*	*1.94*	*1.99*	*2.07*	*1.98*	*1.98*	*2.05*	**1.87**	*1.85*	*2.02*
Russia	**10.42**	**10.71**	**10.80**	**11.16**	**11.30**	*10.41*	*10.08*	*9.95*	*9.88*	*9.81*	*9.75*	*9.68*	**10.78**	*10.43*	*9.78*
Turkmenistan	**0.24**	**0.24**	**0.24**	**0.24**	**0.23**	*0.23*	*0.23*	*0.23*	*0.24*	*0.24*	*0.24*	*0.24*	**0.24**	*0.23*	*0.24*
Other Eurasia	**0.10**	**0.10**	**0.10**	**0.10**	**0.12**	*0.13*	*0.14*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	**0.10**	*0.13*	*0.13*
Middle East	**3.07**	**3.09**	**3.13**	**3.15**	**3.19**	*3.17*	*3.17*	*3.17*	*3.21*	*3.20*	*3.20*	*3.20*	**3.11**	*3.17*	*3.20*
Oman	**0.96**	**0.97**	**0.98**	**1.01**	**1.04**	*1.04*	*1.04*	*1.04*	*1.08*	*1.07*	*1.07*	*1.07*	**0.98**	*1.04*	*1.07*
Qatar	**1.80**	**1.82**	**1.83**	**1.83**	**1.86**	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	**1.82**	*1.86*	*1.86*
Asia and Oceania	**9.18**	**9.10**	**9.05**	**8.94**	**9.22**	*9.16*	*9.17*	*9.22*	*9.20*	*9.19*	*9.17*	*9.19*	**9.07**	*9.19*	*9.19*
Australia	**0.46**	**0.42**	**0.49**	**0.48**	**0.45**	*0.48*	*0.48*	*0.47*	*0.46*	*0.46*	*0.45*	*0.45*	**0.46**	*0.47*	*0.46*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.12**	*5.05*	*5.05*	*5.09*	*5.08*	*5.10*	*5.10*	*5.14*	**4.99**	*5.08*	*5.10*
India	**0.90**	**0.89**	**0.89**	**0.88**	**0.91**	*0.89*	*0.89*	*0.89*	*0.90*	*0.88*	*0.88*	*0.88*	**0.89**	*0.90*	*0.88*
Indonesia	**0.88**	**0.85**	**0.85**	**0.85**	**0.85**	*0.86*	*0.85*	*0.85*	*0.84*	*0.84*	*0.83*	*0.82*	**0.86**	*0.85*	*0.83*
Malaysia	**0.66**	**0.62**	**0.57**	**0.59**	**0.62**	*0.60*	*0.63*	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	**0.61**	*0.62*	*0.64*
Vietnam	**0.21**	**0.21**	**0.20**	**0.20**	**0.20**	*0.20*	*0.19*	*0.18*	*0.18*	*0.17*	*0.17*	*0.17*	**0.20**	*0.19*	*0.17*
Africa	**1.48**	**1.47**	**1.40**	**1.40**	**1.38**	*1.42*	*1.42*	*1.42*	*1.41*	*1.41*	*1.40*	*1.40*	**1.44**	*1.41*	*1.40*
Egypt	**0.66**	**0.67**	**0.65**	**0.66**	**0.65**	*0.65*	*0.65*	*0.65*	*0.64*	*0.64*	*0.64*	*0.64*	**0.66**	*0.65*	*0.64*
South Sudan	**0.16**	**0.16**	**0.15**	**0.16**	**0.15**	*0.18*	*0.18*	*0.18*	*0.19*	*0.19*	*0.19*	*0.20*	**0.16**	*0.17*	*0.19*
Total non-OPEC liquids	**62.23**	**63.77**	**64.31**	**65.21**	**65.24**	*65.45*	*66.33*	*66.58*	*66.64*	*67.44*	*67.71*	*67.64*	**63.89**	*65.91*	*67.36*
OPEC non-crude liquids	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Non-OPEC + OPEC non-crude	**67.50**	**69.16**	**69.75**	**70.65**	**70.80**	*70.89*	*71.81*	*72.10*	*72.18*	*72.86*	*73.17*	*73.14*	**69.27**	*71.40*	*72.84*
Unplanned non-OPEC Production Outages	**0.61**	**0.50**	**0.80**	**0.85**	**0.59**	-	-	-	-	-	-	-	**0.69**	-	-

- = 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 April 7, 2022.

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

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

Not all countries are shown in each region and sum of reported country volumes may not equal regional volumes.

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3c. OPEC Crude Oil (excluding condensates) Production (million barrels per day)

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Crude Oil															
Algeria	**0.87**	**0.88**	**0.92**	**0.94**	**0.97**	-	-	-	-	-	-	-	**0.90**	-	-
Angola	**1.11**	**1.08**	**1.11**	**1.13**	**1.15**	-	-	-	-	-	-	-	**1.11**	-	-
Congo (Brazzaville)	**0.28**	**0.27**	**0.26**	**0.26**	**0.27**	-	-	-	-	-	-	-	**0.26**	-	-
Equatorial Guinea	**0.11**	**0.10**	**0.10**	**0.09**	**0.09**	-	-	-	-	-	-	-	**0.10**	-	-
Gabon	**0.16**	**0.17**	**0.18**	**0.19**	**0.19**	-	-	-	-	-	-	-	**0.18**	-	-
Iran	**2.18**	**2.47**	**2.47**	**2.45**	**2.55**	-	-	-	-	-	-	-	**2.39**	-	-
Iraq	**3.94**	**3.98**	**4.07**	**4.25**	**4.30**	-	-	-	-	-	-	-	**4.06**	-	-
Kuwait	**2.33**	**2.36**	**2.45**	**2.53**	**2.61**	-	-	-	-	-	-	-	**2.42**	-	-
Libya	**1.18**	**1.16**	**1.18**	**1.12**	**1.06**	-	-	-	-	-	-	-	**1.16**	-	-
Nigeria	**1.31**	**1.32**	**1.28**	**1.31**	**1.27**	-	-	-	-	-	-	-	**1.30**	-	-
Saudi Arabia	**8.49**	**8.53**	**9.55**	**9.87**	**10.08**	-	-	-	-	-	-	-	**9.11**	-	-
United Arab Emirates	**2.61**	**2.65**	**2.76**	**2.86**	**2.94**	-	-	-	-	-	-	-	**2.72**	-	-
Venezuela	**0.52**	**0.53**	**0.53**	**0.68**	**0.70**	-	-	-	-	-	-	-	**0.56**	-	-
OPEC Total	**25.08**	**25.49**	**26.84**	**27.66**	**28.19**	*28.59*	*29.10*	*29.33*	*29.43*	*29.41*	*29.35*	*29.30*	**26.28**	*28.81*	*29.37*
Other Liquids (a)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Total OPEC Production	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.03*	*34.58*	*34.85*	*34.97*	*34.82*	*34.81*	*34.80*	**31.66**	*34.30*	*34.85*
Crude Oil Production Capacity															
Middle East	**25.31**	**25.60**	**25.60**	**25.58**	**25.68**	*25.73*	*25.82*	*26.22*	*26.42*	*26.42*	*26.42*	*26.42*	**25.52**	*25.86*	*26.42*
Other	**6.18**	**6.19**	**6.16**	**6.25**	**6.14**	*6.48*	*6.46*	*6.45*	*6.46*	*6.46*	*6.43*	*6.40*	**6.19**	*6.38*	*6.44*
OPEC Total	**31.49**	**31.78**	**31.75**	**31.83**	**31.82**	*32.21*	*32.28*	*32.67*	*32.88*	*32.88*	*32.85*	*32.82*	**31.71**	*32.25*	*32.86*
Surplus Crude Oil Production Capacity															
Middle East	**5.76**	**5.62**	**4.31**	**3.63**	**3.20**	*3.37*	*2.99*	*3.15*	*3.25*	*3.25*	*3.25*	*3.25*	**4.82**	*3.18*	*3.25*
Other	**0.65**	**0.68**	**0.60**	**0.54**	**0.43**	*0.24*	*0.20*	*0.19*	*0.20*	*0.23*	*0.25*	*0.27*	**0.62**	*0.26*	*0.23*
OPEC Total	**6.41**	**6.29**	**4.91**	**4.17**	**3.63**	*3.62*	*3.19*	*3.34*	*3.45*	*3.48*	*3.50*	*3.52*	**5.44**	*3.44*	*3.49*
Unplanned OPEC Production Outages	**2.49**	**2.12**	**2.15**	**2.03**	**1.98**	-	-	-	-	-	-	-	**2.20**	-	-

(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 April 7, 2022.

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

Forecasts are not published for individual OPEC countries.

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

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

	2021				2022				2023						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
North America	**22.34**	**23.92**	**24.31**	**24.52**	**24.05**	*24.67*	*25.00*	*25.05*	*24.39*	*24.99*	*25.25*	*25.30*	**23.78**	*24.69*	*24.99*
Canada	**2.26**	**2.24**	**2.50**	**2.38**	**2.43**	*2.40*	*2.52*	*2.50*	*2.48*	*2.42*	*2.53*	*2.50*	**2.35**	*2.47*	*2.48*
Mexico	**1.62**	**1.64**	**1.60**	**1.71**	**1.63**	*1.65*	*1.64*	*1.65*	*1.61*	*1.63*	*1.63*	*1.65*	**1.64**	*1.64*	*1.63*
United States	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Central and South America	**5.91**	**6.05**	**6.27**	**6.37**	**6.17**	*6.25*	*6.36*	*6.37*	*6.23*	*6.36*	*6.47*	*6.41*	**6.15**	*6.29*	*6.37*
Brazil	**2.79**	**2.90**	**3.02**	**3.12**	**2.92**	*2.92*	*3.00*	*3.01*	*2.91*	*2.96*	*3.04*	*3.02*	**2.96**	*2.96*	*2.98*
Europe	**12.65**	**13.36**	**14.57**	**14.62**	**13.96**	*13.90*	*14.22*	*13.95*	*13.93*	*13.96*	*14.36*	*14.13*	**13.81**	*14.01*	*14.10*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.47**	*4.33*	*4.69*	*4.63*	*4.32*	*4.47*	*4.78*	*4.70*	**4.86**	*4.53*	*4.57*
Russia	**3.42**	**3.53**	**3.82**	**3.66**	**3.25**	*3.17*	*3.45*	*3.37*	*3.14*	*3.22*	*3.50*	*3.36*	**3.61**	*3.31*	*3.31*
Middle East	**8.08**	**8.50**	**9.03**	**8.77**	**8.74**	*8.83*	*9.30*	*8.71*	*9.05*	*9.10*	*9.61*	*9.02*	**8.60**	*8.89*	*9.19*
Asia and Oceania	**36.27**	**35.38**	**34.83**	**36.71**	**37.08**	*36.68*	*36.20*	*37.43*	*39.02*	*38.07*	*36.89*	*37.56*	**35.80**	*36.85*	*37.88*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.41**	*15.74*	*15.57*	*15.88*	*16.58*	*16.48*	*15.84*	*15.76*	**15.27**	*15.65*	*16.16*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.84**	*3.14*	*3.19*	*3.50*	*3.78*	*3.14*	*3.16*	*3.46*	**3.42**	*3.42*	*3.38*
India	**4.94**	**4.37**	**4.41**	**4.87**	**5.01**	*5.10*	*4.76*	*5.06*	*5.26*	*5.33*	*4.97*	*5.30*	**4.65**	*4.98*	*5.22*
Africa	**4.37**	**4.39**	**4.30**	**4.48**	**4.48**	*4.54*	*4.46*	*4.65*	*4.62*	*4.64*	*4.55*	*4.72*	**4.39**	*4.53*	*4.63*
Total OECD Liquid Fuels Consumption	**42.45**	**44.08**	**45.82**	**46.74**	**45.82**	*45.49*	*46.24*	*46.48*	*46.12*	*45.90*	*46.61*	*46.85*	**44.79**	*46.01*	*46.37*
Total non-OECD Liquid Fuels Consumption	**51.83**	**52.25**	**52.58**	**53.69**	**53.13**	*53.70*	*53.99*	*54.30*	*55.45*	*55.70*	*55.30*	*54.98*	**52.59**	*53.78*	*55.35*
Total World Liquid Fuels Consumption	**94.28**	**96.33**	**98.40**	**100.43**	**98.95**	*99.19*	*100.23*	*100.78*	*101.56*	*101.59*	*101.91*	*101.83*	**97.38**	*99.80*	*101.73*
Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**116.3**	**117.5**	**118.9**	**120.5**	**120.9**	*122.4*	*123.7*	*124.8*	*125.7*	*127.0*	*128.1*	*129.2*	**118.3**	*123.0*	*127.5*
Percent change from prior year	**3.3**	**11.5**	**4.9**	**4.5**	**4.0**	*4.2*	*4.0*	*3.6*	*3.9*	*3.7*	*3.6*	*3.5*	**6.0**	*4.0*	*3.7*
OECD Index, 2015 = 100													**109.5**	*113.0*	*115.8*
Percent change from prior year													**5.5**	*3.2*	*2.4*
Non-OECD Index, 2015 = 100													**123.7**	*129.3*	*135.3*
Percent change from prior year													**6.3**	*4.5*	*4.7*
Nominal U.S. Dollar Index (b)															
Index, 2015 Q1 = 100	**106.5**	**106.1**	**107.5**	**109.1**	**110.2**	*111.1*	*110.9*	*110.8*	*110.5*	*109.9*	*109.4*	*108.9*	**107.3**	*110.8*	*109.7*
Percent change from prior year	**-4.6**	**-8.2**	**-3.4**	**0.9**	**3.5**	*4.7*	*3.2*	*1.6*	*0.3*	*-1.1*	*-1.4*	*-1.8*	**-3.9**	*3.2*	*-1.0*

(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 decrese 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 April 7, 2022.

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.52**	*11.90*	*12.15*	*12.46*	*12.73*	*12.88*	*13.02*	*13.17*	**11.19**	*12.01*	*12.95*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.44**	*0.39*	*0.40*	*0.41*	*0.43*	*0.39*	*0.41*	*0.43*	**0.44**	*0.41*	*0.42*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.76**	*1.81*	*1.75*	*1.78*	*1.85*	*1.83*	*1.75*	*1.75*	**1.70**	*1.78*	*1.79*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.45**	**9.31**	*9.69*	*10.01*	*10.26*	*10.45*	*10.66*	*10.86*	*10.99*	**9.05**	*9.82*	*10.74*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.14**	*3.91*	*3.33*	*3.07*	*2.64*	*3.51*	*3.35*	*2.46*	**3.13**	*3.36*	*2.99*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.32**	*0.89*	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.65*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.10**	*-0.20*	*0.15*	*-0.10*	*-0.38*	*-0.09*	*0.06*	*0.06*	**0.18**	*-0.01*	*-0.09*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.55**	**0.42**	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.26*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.51**	*16.72*	*16.84*	*16.01*	*15.25*	*16.60*	*16.68*	*15.97*	**15.15**	*16.27*	*16.13*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.97**	*1.07*	*1.06*	*1.07*	*1.04*	*1.00*	*1.00*	*1.01*	**0.95**	*1.04*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.64**	*5.93*	*6.04*	*6.16*	*6.15*	*6.26*	*6.29*	*6.31*	**5.40**	*5.95*	*6.25*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	*1.18*	*1.19*	*1.21*	*1.17*	*1.21*	*1.20*	*1.25*	**1.12**	*1.19*	*1.21*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.03**	*0.99*	*1.01*	*1.01*	*0.98*	*1.01*	*1.00*	*1.03*	**0.98**	*1.01*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.21**	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.98**	*-3.70*	*-4.12*	*-4.07*	*-3.89*	*-3.83*	*-4.01*	*-4.01*	**-3.29**	*-3.97*	*-3.94*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.21**	*-2.29*	*-2.37*	*-2.43*	*-2.56*	*-2.56*	*-2.64*	*-2.59*	**-2.15**	*-2.32*	*-2.59*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.17**	*0.31*	*0.31*	*0.20*	*0.18*	*0.22*	*0.29*	*0.21*	**0.17**	*0.25*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.06**	*-0.04*	*-0.06*	*-0.04*	*-0.05*	*-0.04*	*-0.04*	*-0.03*	**-0.05**	*-0.05*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.33**	*0.75*	*0.40*	*0.21*	*0.37*	*0.60*	*0.39*	*0.41*	**0.60**	*0.42*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.79**	*-0.56*	*-0.50*	*-0.54*	*-0.70*	*-0.57*	*-0.52*	*-0.75*	**-0.71**	*-0.60*	*-0.63*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	*0.02*	*-0.04*	*-0.03*	*-0.02*	*0.03*	*0.06*	*0.07*	**0.05**	*-0.02*	*0.03*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.87**	*-1.26*	*-1.30*	*-0.99*	*-0.70*	*-1.02*	*-1.04*	*-0.93*	**-0.80**	*-1.11*	*-0.93*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.11**	*0.05*	*0.01*	*0.08*	*-0.01*	*0.01*	*-0.02*	*0.08*	**0.09**	*0.06*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.62**	*-0.67*	*-0.59*	*-0.53*	*-0.40*	*-0.51*	*-0.49*	*-0.48*	**-0.49**	*-0.60*	*-0.47*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.38**	*-0.80*	*-0.40*	*0.29*	*0.36*	*-0.53*	*-0.30*	*0.39*	**0.23**	*-0.13*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**19.92**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.56*	*20.86*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.91**	*3.39*	*3.40*	*3.82*	*3.90*	*3.52*	*3.49*	*3.85*	**3.41**	*3.63*	*3.69*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.15**	*0.18*	*0.16*	*0.21*	*0.20*	*0.19*	*0.18*	*0.24*	**0.13**	*0.17*	*0.20*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.00**	*0.01*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.37**	*9.13*	*9.22*	*8.94*	*8.43*	*9.16*	*9.22*	*9.00*	**8.80**	*8.92*	*8.96*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.89**	*0.93*	*0.93*	*0.92*	*0.86*	*0.94*	*0.94*	*0.94*	**0.91**	*0.92*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.46**	*1.57*	*1.62*	*1.60*	*1.51*	*1.64*	*1.70*	*1.67*	**1.37**	*1.56*	*1.63*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.09**	*4.03*	*3.96*	*4.10*	*4.18*	*4.09*	*4.03*	*4.12*	**3.94**	*4.04*	*4.10*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.31**	*0.27*	*0.30*	*0.30*	*0.25*	*0.26*	*0.28*	*0.30*	**0.31**	*0.29*	*0.27*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.67**	*2.04*	*2.16*	*1.93*	*1.82*	*2.07*	*2.20*	*1.96*	**1.82**	*1.95*	*2.01*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.84**	*0.21*	*-0.79*	*-1.00*	*-1.25*	*-0.32*	*-0.66*	*-1.55*	**-0.16**	*-0.61*	*-0.95*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**412.4**	*430.3*	*416.4*	*425.5*	*460.0*	*468.3*	*463.0*	*457.7*	**421.4**	*425.5*	*457.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**139.6**	*194.9*	*243.4*	*205.6*	*166.6*	*214.2*	*251.8*	*209.0*	**188.4**	*205.6*	*209.0*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.8**	*89.8*	*89.7*	*82.9*	*92.3*	*90.1*	*89.6*	*82.5*	**80.3**	*82.9*	*82.5*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**33.5**	*32.3*	*32.0*	*32.2*	*34.3*	*33.1*	*32.8*	*33.1*	**28.6**	*32.2*	*33.1*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*245.3*	*233.6*	*249.1*	*247.1*	*246.5*	*238.4*	*250.5*	**232.2**	*249.1*	*250.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*20.8*	*23.0*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*224.5*	*210.5*	*222.5*	*223.9*	*222.2*	*213.0*	*222.6*	**214.5**	*222.5*	*222.6*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.4**	*37.1*	*40.3*	*37.6*	*37.5*	*38.5*	*41.2*	*38.2*	**35.8**	*37.6*	*38.2*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.3**	*121.4*	*129.4*	*131.1*	*119.4*	*124.5*	*131.4*	*133.3*	**129.9**	*131.1*	*133.3*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**28.8**	*30.8*	*29.6*	*31.0*	*30.7*	*31.4*	*30.1*	*31.5*	**25.4**	*31.0*	*31.5*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**62.2**	*59.9*	*50.6*	*52.0*	*61.1*	*59.0*	*49.7*	*51.0*	**51.8**	*52.0*	*51.0*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1150.7**	*1241.7*	*1264.8*	*1247.1*	*1248.8*	*1305.7*	*1327.9*	*1286.8*	**1193.8**	*1247.1*	*1286.8*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**564.6**	*483.4*	*393.4*	*355.6*	*351.8*	*344.0*	*341.4*	*330.9*	**593.7**	*355.6*	*330.9*

(a) Includes lease condensate.

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

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

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

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

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

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

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.87**	**2.19**	**2.18**	**2.32**	**2.28**	*2.38*	*2.44*	*2.56*	*2.56*	*2.61*	*2.57*	*2.61*	**2.14**	*2.42*	*2.59*
Propane	**1.62**	**1.74**	**1.75**	**1.82**	**1.81**	*1.91*	*1.92*	*1.94*	*1.94*	*1.95*	*1.97*	*1.98*	**1.73**	*1.90*	*1.96*
Butanes	**0.85**	**0.92**	**0.93**	**0.96**	**0.96**	*0.99*	*1.00*	*1.01*	*1.02*	*1.04*	*1.05*	*1.06*	**0.92**	*0.99*	*1.04*
Natural Gasoline (Pentanes Plus)	**0.53**	**0.61**	**0.65**	**0.64**	**0.60**	*0.65*	*0.68*	*0.65*	*0.63*	*0.66*	*0.69*	*0.66*	**0.61**	*0.65*	*0.66*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.00**	**0.01**	**0.00**	**0.01**	**0.01**	*0.01*	*0.01*	*0.01*	*0.00*	*0.01*	*0.01*	*0.01*	**0.00**	*0.01*	*0.01*
Propane	**0.25**	**0.29**	**0.28**	**0.29**	**0.28**	*0.29*	*0.30*	*0.29*	*0.28*	*0.28*	*0.29*	*0.29*	**0.28**	*0.29*	*0.29*
Propylene (refinery-grade)	**0.27**	**0.31**	**0.29**	**0.29**	**0.28**	*0.28*	*0.28*	*0.28*	*0.27*	*0.29*	*0.28*	*0.28*	**0.29**	*0.28*	*0.28*
Butanes/Butylenes	**-0.09**	**0.24**	**0.18**	**-0.16**	**-0.07**	*0.27*	*0.20*	*-0.19*	*-0.08*	*0.27*	*0.20*	*-0.20*	**0.04**	*0.05*	*0.05*
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	**-0.02**	**-0.02**	**-0.02**	**-0.02**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.35**	**-0.39**	**-0.41**	**-0.47**	**-0.44**	*-0.38*	*-0.40*	*-0.44*	*-0.46*	*-0.46*	*-0.46*	*-0.46*	**-0.40**	*-0.41*	*-0.46*
Propane/Propylene	**-1.11**	**-1.23**	**-1.19**	**-1.20**	**-1.21**	*-1.21*	*-1.26*	*-1.34*	*-1.38*	*-1.33*	*-1.40*	*-1.44*	**-1.18**	*-1.26*	*-1.39*
Butanes/Butylenes	**-0.35**	**-0.40**	**-0.38**	**-0.34**	**-0.36**	*-0.48*	*-0.48*	*-0.44*	*-0.46*	*-0.52*	*-0.53*	*-0.45*	**-0.37**	*-0.44*	*-0.49*
Natural Gasoline (Pentanes Plus)	**-0.22**	**-0.21**	**-0.18**	**-0.18**	**-0.21**	*-0.22*	*-0.23*	*-0.21*	*-0.26*	*-0.24*	*-0.25*	*-0.23*	**-0.20**	*-0.22*	*-0.25*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.39**	**0.29**	**0.31**	**0.52**	**0.42**	*0.28*	*0.31*	*0.50*	*0.42*	*0.29*	*0.31*	*0.51*	**0.38**	*0.38*	*0.38*
Natural Gasoline (Pentanes Plus)	**0.14**	**0.14**	**0.16**	**0.23**	**0.18**	*0.18*	*0.19*	*0.19*	*0.18*	*0.18*	*0.19*	*0.18*	**0.17**	*0.19*	*0.18*
HGL Consumption															
Ethane/Ethylene	**1.54**	**1.83**	**1.80**	**1.90**	**2.00**	*1.98*	*2.04*	*2.10*	*2.09*	*2.11*	*2.11*	*2.14*	**1.77**	*2.03*	*2.11*
Propane	**1.09**	**0.65**	**0.66**	**0.96**	**1.20**	*0.67*	*0.63*	*0.99*	*1.13*	*0.68*	*0.64*	*0.96*	**0.84**	*0.87*	*0.85*
Propylene (refinery-grade)	**0.29**	**0.32**	**0.30**	**0.30**	**0.30**	*0.30*	*0.29*	*0.30*	*0.30*	*0.30*	*0.29*	*0.30*	**0.31**	*0.29*	*0.30*
Butanes/Butylenes	**0.22**	**0.29**	**0.25**	**0.21**	**0.21**	*0.23*	*0.20*	*0.20*	*0.18*	*0.23*	*0.22*	*0.21*	**0.24**	*0.21*	*0.21*
Natural Gasoline (Pentanes Plus)	**0.26**	**0.24**	**0.30**	**0.22**	**0.19**	*0.22*	*0.24*	*0.24*	*0.21*	*0.20*	*0.22*	*0.23*	**0.25**	*0.22*	*0.22*
HGL Inventories (million barrels)															
Ethane	**65.8**	**67.4**	**64.6**	**64.0**	**51.7**	*51.3*	*51.3*	*54.7*	*54.3*	*58.8*	*58.5*	*60.9*	**65.4**	*52.2*	*58.2*
Propane	**39.3**	**53.2**	**68.6**	**62.1**	**33.1**	*60.7*	*89.4*	*79.4*	*52.1*	*69.8*	*88.5*	*74.8*	**62.1**	*79.4*	*74.8*
Propylene (at refineries only)	**1.1**	**1.2**	**1.3**	**1.4**	**1.3**	*1.6*	*1.9*	*1.8*	*1.6*	*1.8*	*2.0*	*1.9*	**1.4**	*1.8*	*1.9*
Butanes/Butylenes	**37.2**	**53.9**	**69.4**	**44.4**	**35.0**	*59.5*	*77.5*	*48.5*	*38.7*	*63.1*	*81.1*	*51.9*	**44.4**	*48.5*	*51.9*
Natural Gasoline (Pentanes Plus)	**22.8**	**22.3**	**22.3**	**20.7**	**20.7**	*21.7*	*22.4*	*21.6*	*19.0*	*20.1*	*20.9*	*20.1*	**20.7**	*21.6*	*20.1*
Refinery and Blender Net Inputs															
Crude Oil	**13.81**	**15.65**	**15.60**	**15.51**	**15.51**	*16.72*	*16.84*	*16.01*	*15.25*	*16.60*	*16.68*	*15.97*	**15.15**	*16.27*	*16.13*
Hydrocarbon Gas Liquids	**0.53**	**0.43**	**0.47**	**0.75**	**0.60**	*0.46*	*0.50*	*0.68*	*0.59*	*0.47*	*0.50*	*0.69*	**0.54**	*0.56*	*0.56*
Other Hydrocarbons/Oxygenates	**1.05**	**1.19**	**1.20**	**1.18**	**1.12**	*1.18*	*1.19*	*1.15*	*1.09*	*1.19*	*1.19*	*1.17*	**1.15**	*1.16*	*1.16*
Unfinished Oils	**-0.08**	**0.22**	**0.31**	**0.20**	**0.06**	*0.28*	*0.31*	*0.27*	*0.08*	*0.28*	*0.31*	*0.27*	**0.16**	*0.23*	*0.24*
Motor Gasoline Blend Components	**0.71**	**0.92**	**0.81**	**0.28**	**0.35**	*0.80*	*0.65*	*0.30*	*0.48*	*0.72*	*0.59*	*0.53*	**0.68**	*0.53*	*0.58*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**16.01**	**18.41**	**18.39**	**17.91**	**17.63**	*19.45*	*19.49*	*18.42*	*17.49*	*19.26*	*19.27*	*18.63*	**17.69**	*18.75*	*18.66*
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.97**	*1.07*	*1.06*	*1.07*	*1.04*	*1.00*	*1.00*	*1.01*	**0.95**	*1.04*	*1.01*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.44**	**0.85**	**0.76**	**0.42**	**0.49**	*0.85*	*0.78*	*0.39*	*0.49*	*0.84*	*0.77*	*0.38*	**0.62**	*0.63*	*0.62*
Finished Motor Gasoline	**8.74**	**9.82**	**9.83**	**9.69**	**9.18**	*9.80*	*9.81*	*9.70*	*9.18*	*9.80*	*9.81*	*9.94*	**9.52**	*9.62*	*9.69*
Jet Fuel	**1.10**	**1.32**	**1.41**	**1.42**	**1.49**	*1.58*	*1.69*	*1.60*	*1.53*	*1.63*	*1.67*	*1.57*	**1.31**	*1.59*	*1.60*
Distillate Fuel	**4.29**	**4.77**	**4.72**	**4.87**	**4.78**	*5.37*	*5.34*	*5.11*	*4.75*	*5.16*	*5.15*	*5.07*	**4.66**	*5.15*	*5.04*
Residual Fuel	**0.19**	**0.20**	**0.21**	**0.22**	**0.24**	*0.24*	*0.27*	*0.23*	*0.26*	*0.26*	*0.28*	*0.23*	**0.21**	*0.24*	*0.26*
Other Oils (a)	**2.09**	**2.42**	**2.44**	**2.33**	**2.41**	*2.68*	*2.65*	*2.47*	*2.32*	*2.56*	*2.59*	*2.45*	**2.32**	*2.55*	*2.48*
Total Refinery and Blender Net Production	**16.86**	**19.38**	**19.36**	**18.94**	**18.59**	*20.52*	*20.55*	*19.49*	*18.53*	*20.25*	*20.27*	*19.64*	**18.64**	*19.79*	*19.68*
Refinery Distillation Inputs	**14.25**	**16.17**	**16.22**	**16.02**	**16.02**	*16.89*	*17.08*	*16.30*	*15.59*	*16.79*	*16.94*	*16.26*	**15.67**	*16.58*	*16.40*
Refinery Operable Distillation Capacity	**18.11**	**18.13**	**18.13**	**18.05**	**17.94**	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	*17.94*	**18.10**	*17.94*	*17.94*
Refinery Distillation Utilization Factor	**0.79**	**0.89**	**0.89**	**0.89**	**0.89**	*0.94*	*0.95*	*0.91*	*0.87*	*0.94*	*0.94*	*0.91*	**0.87**	*0.92*	*0.91*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; *Weekly Petroleum Status Report* , DOE/EIA-0208.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Prices (cents per gallon)															
Refiner Wholesale Price	**180**	**216**	**232**	**243**	**286**	*308*	*290*	*269*	*261*	*271*	*262*	*241*	**219**	*288*	*258*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**252**	**287**	**304**	**327**	**364**	*384*	*365*	*350*	*335*	*344*	*336*	*319*	**294**	*366*	*333*
PADD 2	**247**	**288**	**304**	**315**	**350**	*377*	*355*	*337*	*326*	*340*	*333*	*309*	**290**	*355*	*327*
PADD 3	**228**	**267**	**282**	**298**	**339**	*360*	*337*	*318*	*304*	*313*	*307*	*286*	**271**	*338*	*302*
PADD 4	**247**	**311**	**360**	**351**	**358**	*401*	*381*	*357*	*340*	*356*	*351*	*328*	**319**	*375*	*344*
PADD 5	**312**	**366**	**391**	**410**	**452**	*489*	*445*	*440*	*420*	*422*	*414*	*390*	**372**	*457*	*411*
U.S. Average	**256**	**297**	**316**	**333**	**370**	*397*	*372*	*356*	*342*	*352*	*344*	*323*	**302**	*374*	*340*
Gasoline All Grades Including Taxes	**265**	**306**	**325**	**343**	**380**	*408*	*384*	*370*	*356*	*365*	*358*	*337*	**311**	*386*	*354*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**65.1**	**69.9**	**59.0**	**61.8**	**56.4**	*66.1*	*62.6*	*68.7*	*67.1*	*67.6*	*62.9*	*68.5*	**61.8**	*68.7*	*68.5*
PADD 2	**50.7**	**50.6**	**46.9**	**50.9**	**56.7**	*52.9*	*50.3*	*50.6*	*52.9*	*51.8*	*51.2*	*50.0*	**50.9**	*50.6*	*50.0*
PADD 3	**81.9**	**81.6**	**82.9**	**81.7**	**86.1**	*89.0*	*83.8*	*90.1*	*89.2*	*90.1*	*87.5*	*91.1*	**81.7**	*90.1*	*91.1*
PADD 4	**8.6**	**6.2**	**7.6**	**8.1**	**7.9**	*7.9*	*7.5*	*8.1*	*8.0*	*8.0*	*7.6*	*8.4*	**8.1**	*8.1*	*8.4*
PADD 5	**31.4**	**29.0**	**30.6**	**29.6**	**29.7**	*29.4*	*29.4*	*31.6*	*29.8*	*29.0*	*29.2*	*32.5*	**29.6**	*31.6*	*32.5*
U.S. Total	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*245.3*	*233.6*	*249.1*	*247.1*	*246.5*	*238.4*	*250.5*	**232.2**	*249.1*	*250.5*
Finished Gasoline Inventories															
U.S. Total	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*20.8*	*23.0*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Gasoline Blending Components Inventories															
U.S. Total	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*224.5*	*210.5*	*222.5*	*223.9*	*222.2*	*213.0*	*222.6*	**214.5**	*222.5*	*222.6*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Prices are not adjusted for inflation.

Regions refer to Petroleum Administration for Defense Districts (PADD).

See "Petroleum for Administration Defense District" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly* , DOE/EIA-0380; *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.96**	**103.44**	*105.21*	*106.22*	*107.62*	*108.28*	*109.18*	*110.10*	*110.44*	**101.43**	*105.64*	*109.51*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**0.99**	*0.78*	*0.73*	*0.86*	*0.92*	*0.78*	*0.74*	*0.88*	**0.97**	*0.84*	*0.83*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.22**	*2.27*	*2.16*	*2.15*	*2.18*	*2.12*	*2.00*	*1.95*	**2.11**	*2.20*	*2.06*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.82**	**100.23**	*102.15*	*103.33*	*104.60*	*105.18*	*106.27*	*107.35*	*107.60*	**98.34**	*102.59*	*106.61*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.63**	**95.41**	*97.01*	*97.94*	*99.23*	*99.72*	*100.56*	*101.41*	*101.72*	**93.57**	*97.41*	*100.86*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.23**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.20*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.51**	*12.35*	*12.11*	*12.78*	*13.08*	*12.51*	*12.19*	*12.78*	**9.76**	*12.19*	*12.64*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.38**	*6.47*	*6.38*	*6.71*	*7.74*	*6.44*	*6.31*	*6.50*	**7.63**	*6.98*	*6.74*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.41**	**8.43**	*8.20*	*9.14*	*9.15*	*9.09*	*9.01*	*9.33*	*9.23*	**8.47**	*8.74*	*9.17*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.02**	*-11.43*	*-8.20*	*2.53*	*14.21*	*-11.36*	*-8.00*	*2.93*	**0.24**	*0.66*	*-0.60*
Total Supply	**99.18**	**72.53**	**75.31**	**86.96**	**104.27**	*71.84*	*75.22*	*86.91*	*99.99*	*74.47*	*78.57*	*89.51*	**83.44**	*84.48*	*85.59*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.33**	**-0.09**	*-0.16*	*0.03*	*-1.28*	*-1.02*	*-0.67*	*-0.48*	*-1.18*	**-0.47**	*-0.38*	*-0.84*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**26.15**	*8.10*	*3.82*	*16.35*	*24.76*	*8.18*	*3.87*	*16.23*	**12.75**	*13.55*	*13.21*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.67**	*6.66*	*4.87*	*10.32*	*14.85*	*6.70*	*4.85*	*10.28*	**8.94**	*9.35*	*9.14*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**24.88**	*21.82*	*21.64*	*24.32*	*24.25*	*22.02*	*22.27*	*25.28*	**22.46**	*23.16*	*23.45*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.74**	*27.38*	*37.04*	*26.33*	*26.31*	*28.92*	*38.93*	*28.01*	**30.88**	*29.89*	*30.57*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.16**	*5.24*	*5.30*	*5.36*	*5.40*	*5.44*	*5.49*	*5.51*	**5.06**	*5.27*	*5.46*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.43**	*2.33*	*2.45*	*2.80*	*3.26*	*2.39*	*2.54*	*2.89*	**2.74**	*2.75*	*2.77*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,208**	**1,406**	*2,447*	*3,201*	*2,968*	*1,690*	*2,723*	*3,459*	*3,189*	**3,208**	*2,968*	*3,189*
East Region (d)	**313**	**515**	**804**	**766**	**245**	*506*	*792*	*694*	*307*	*613*	*873*	*768*	**766**	*694*	*768*
Midwest Region (d)	**395**	**630**	**966**	**887**	**299**	*566*	*900*	*807*	*367*	*645*	*961*	*850*	**887**	*807*	*850*
South Central Region (d)	**760**	**991**	**1,052**	**1,141**	**588**	*919*	*992*	*1,006*	*722*	*1,024*	*1,085*	*1,085*	**1,141**	*1,006*	*1,085*
Mountain Region (d)	**113**	**175**	**205**	**171**	**91**	*149*	*200*	*183*	*111*	*151*	*213*	*191*	**171**	*183*	*191*
Pacific Region (d)	**197**	**246**	**248**	**218**	**164**	*287*	*298*	*259*	*164*	*271*	*309*	*276*	**218**	*259*	*276*
Alaska	**23**	**27**	**30**	**25**	**19**	*19*	*19*	*19*	*19*	*19*	*19*	*19*	**25**	*19*	*19*

(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 April 7, 2022.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Wholesale/Spot															
Henry Hub Spot Price	**3.70**	**3.06**	**4.53**	**4.96**	**4.84**	*5.90*	*5.72*	*5.26*	*4.90*	*3.79*	*3.93*	*4.04*	**4.06**	*5.43*	*4.17*
Residential Retail															
New England	**14.66**	**16.24**	**20.41**	**17.61**	**16.89**	*17.07*	*19.89*	*15.76*	*15.22*	*15.88*	*18.36*	*14.28*	**16.12**	*16.79*	*15.26*
Middle Atlantic	**10.43**	**13.49**	**19.81**	**14.29**	**12.65**	*14.81*	*19.57*	*13.41*	*12.14*	*13.90*	*17.89*	*11.73*	**12.55**	*13.63*	*12.69*
E. N. Central	**7.41**	**12.69**	**22.36**	**11.40**	**9.70**	*13.18*	*18.96*	*10.63*	*9.73*	*12.34*	*17.69*	*9.41*	**10.19**	*10.95*	*10.52*
W. N. Central	**7.49**	**11.63**	**20.32**	**12.62**	**10.81**	*13.42*	*19.64*	*11.66*	*10.19*	*12.81*	*18.38*	*10.27*	**10.23**	*11.84*	*11.06*
S. Atlantic	**11.94**	**18.03**	**27.56**	**16.62**	**13.28**	*18.58*	*25.05*	*14.88*	*13.33*	*18.13*	*23.79*	*13.45*	**15.24**	*15.34*	*14.81*
E. S. Central	**9.35**	**14.78**	**22.94**	**14.14**	**11.59**	*16.57*	*24.70*	*15.83*	*13.53*	*18.38*	*24.14*	*15.03*	**11.99**	*13.89*	*15.51*
W. S. Central	**9.23**	**15.85**	**23.76**	**17.82**	**11.81**	*16.13*	*22.98*	*13.79*	*10.62*	*16.06*	*21.38*	*12.40*	**13.22**	*13.92*	*12.88*
Mountain	**7.90**	**10.64**	**15.58**	**10.85**	**10.02**	*11.65*	*15.87*	*10.71*	*10.05*	*11.55*	*14.82*	*9.40*	**9.77**	*10.87*	*10.44*
Pacific	**14.20**	**15.01**	**15.90**	**16.47**	**17.15**	*17.16*	*17.88*	*16.56*	*16.39*	*16.52*	*16.75*	*15.47*	**15.25**	*17.06*	*16.17*
U.S. Average	**9.75**	**13.87**	**20.38**	**13.81**	**12.06**	*15.03*	*19.91*	*13.03*	*11.88*	*14.43*	*18.63*	*11.67*	**12.27**	*13.36*	*12.71*
Commercial Retail															
New England	**10.39**	**11.13**	**12.24**	**12.58**	**12.40**	*12.54*	*12.61*	*12.32*	*12.41*	*12.06*	*11.22*	*10.80*	**11.33**	*12.42*	*11.75*
Middle Atlantic	**7.92**	**7.99**	**7.99**	**10.11**	**10.21**	*10.01*	*9.64*	*9.98*	*10.07*	*9.37*	*8.41*	*8.62*	**8.56**	*10.03*	*9.32*
E. N. Central	**6.11**	**8.59**	**11.03**	**8.67**	**8.08**	*9.40*	*11.16*	*8.98*	*8.71*	*9.25*	*9.86*	*7.62*	**7.60**	*8.75*	*8.52*
W. N. Central	**6.32**	**7.67**	**9.94**	**10.19**	**10.05**	*10.20*	*11.52*	*9.39*	*9.01*	*9.05*	*9.86*	*7.91*	**7.91**	*9.97*	*8.73*
S. Atlantic	**8.69**	**9.84**	**10.37**	**11.04**	**10.01**	*11.44*	*12.22*	*11.09*	*10.60*	*11.03*	*10.94*	*9.82*	**9.76**	*10.83*	*10.47*
E. S. Central	**8.33**	**9.90**	**11.95**	**11.80**	**10.39**	*11.50*	*12.44*	*11.22*	*10.46*	*11.00*	*11.05*	*9.73*	**9.89**	*11.03*	*10.37*
W. S. Central	**6.91**	**8.57**	**10.14**	**10.87**	**9.24**	*9.58*	*10.54*	*9.71*	*8.81*	*9.08*	*9.08*	*8.21*	**8.62**	*9.61*	*8.74*
Mountain	**6.50**	**7.76**	**9.25**	**9.02**	**8.71**	*9.11*	*10.26*	*9.16*	*8.88*	*9.04*	*9.53*	*8.16*	**7.75**	*9.06*	*8.74*
Pacific	**10.46**	**10.31**	**11.31**	**12.12**	**12.51**	*11.86*	*12.28*	*11.74*	*11.18*	*10.39*	*10.18*	*9.49*	**11.09**	*12.12*	*10.35*
U.S. Average	**7.54**	**8.85**	**10.12**	**10.27**	**9.74**	*10.36*	*11.10*	*10.09*	*9.73*	*9.78*	*9.71*	*8.64*	**8.82**	*10.09*	*9.42*
Industrial Retail															
New England	**8.59**	**8.08**	**7.85**	**10.08**	**10.49**	*9.97*	*9.39*	*10.27*	*10.41*	*9.35*	*7.96*	*8.88*	**8.73**	*10.12*	*9.35*
Middle Atlantic	**7.66**	**7.37**	**7.90**	**10.36**	**10.29**	*9.87*	*9.94*	*10.07*	*10.02*	*8.93*	*8.14*	*8.35*	**8.24**	*10.10*	*9.19*
E. N. Central	**5.43**	**8.14**	**8.49**	**7.89**	**7.71**	*8.08*	*8.29*	*7.95*	*7.94*	*7.07*	*6.59*	*6.55*	**6.90**	*7.91*	*7.22*
W. N. Central	**5.13**	**4.34**	**5.25**	**6.95**	**7.82**	*7.06*	*7.05*	*7.22*	*7.13*	*5.71*	*5.26*	*5.70*	**5.48**	*7.32*	*6.01*
S. Atlantic	**5.13**	**4.76**	**6.02**	**7.66**	**7.01**	*7.36*	*7.44*	*7.31*	*7.20*	*5.91*	*5.63*	*5.93*	**5.90**	*7.26*	*6.22*
E. S. Central	**4.72**	**4.28**	**5.36**	**7.21**	**6.43**	*7.00*	*6.98*	*6.90*	*6.82*	*5.57*	*5.15*	*5.52*	**5.39**	*6.81*	*5.81*
W. S. Central	**5.75**	**3.20**	**4.38**	**5.95**	**4.96**	*5.96*	*5.95*	*5.50*	*5.11*	*4.08*	*4.09*	*4.16*	**4.80**	*5.61*	*4.35*
Mountain	**4.98**	**5.32**	**6.66**	**7.27**	**7.15**	*7.27*	*7.78*	*7.65*	*7.62*	*7.05*	*6.88*	*6.54*	**5.99**	*7.43*	*7.05*
Pacific	**8.28**	**7.24**	**8.88**	**9.21**	**8.76**	*8.56*	*9.20*	*9.20*	*8.90*	*7.89*	*7.34*	*7.29*	**8.54**	*8.95*	*7.87*
U.S. Average	**5.73**	**4.09**	**5.11**	**6.86**	**6.40**	*6.66*	*6.64*	*6.63*	*6.51*	*5.09*	*4.84*	*5.22*	**5.50**	*6.57*	*5.44*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly* , DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (http://www.reuters.com).

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 6. U.S. Coal Supply, Consumption, and Inventories

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million short tons)															
Production	**140.3**	**142.7**	**148.3**	**147.1**	**147.4**	*147.1*	*161.3*	*165.5*	*161.7*	*152.1*	*163.0*	*156.3*	**578.4**	*621.2*	*633.0*
Appalachia	**40.8**	**39.5**	**36.6**	**41.3**	**42.9**	*41.9*	*40.6*	*43.6*	*44.9*	*42.2*	*40.1*	*37.6*	**158.2**	*169.0*	*164.8*
Interior	**25.0**	**23.3**	**22.7**	**24.7**	**24.5**	*22.3*	*24.0*	*25.1*	*26.5*	*24.0*	*25.1*	*24.4*	**95.7**	*96.0*	*99.9*
Western	**74.5**	**80.0**	**89.0**	**81.0**	**79.9**	*82.9*	*96.7*	*96.7*	*90.2*	*85.9*	*97.8*	*94.3*	**324.6**	*356.2*	*368.3*
Primary Inventory Withdrawals	**-4.5**	**2.1**	**2.6**	**-1.8**	**-1.3**	*-2.2*	*-0.9*	*-5.2*	*-2.0*	*-1.2*	*1.6*	*-1.7*	**-1.7**	*-9.6*	*-3.3*
Imports	**1.1**	**1.5**	**1.1**	**1.7**	**1.1**	*1.0*	*1.2*	*1.1*	*1.0*	*1.2*	*1.6*	*1.4*	**5.4**	*4.4*	*5.2*
Exports	**20.7**	**22.1**	**20.7**	**21.7**	**21.2**	*18.8*	*21.4*	*27.7*	*20.5*	*22.0*	*21.6*	*23.1*	**85.2**	*89.0*	*87.2*
Metallurgical Coal	**10.3**	**11.7**	**11.4**	**11.9**	**12.1**	*11.2*	*12.9*	*14.4*	*12.1*	*13.1*	*12.7*	*13.4*	**45.3**	*50.6*	*51.3*
Steam Coal	**10.4**	**10.4**	**9.3**	**9.7**	**9.1**	*7.6*	*8.5*	*13.2*	*8.4*	*8.9*	*8.9*	*9.7*	**39.9**	*38.4*	*35.9*
Total Primary Supply	**116.2**	**124.2**	**131.3**	**125.2**	**126.0**	*127.1*	*140.2*	*133.7*	*140.2*	*130.1*	*144.6*	*132.9*	**496.9**	*527.0*	*547.7*
Secondary Inventory Withdrawals	**22.3**	**0.3**	**30.4**	**-15.1**	**4.9**	*-7.1*	*26.2*	*0.7*	*-6.5*	*-19.9*	*10.5*	*-11.0*	**37.9**	*24.8*	*-27.0*
Waste Coal (a)	**2.2**	**1.7**	**2.0**	**2.0**	**1.9**	*1.9*	*1.9*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	**7.9**	*7.5*	*7.2*
Total Supply	**140.6**	**126.2**	**163.7**	**112.1**	**132.9**	*121.9*	*168.3*	*136.3*	*135.5*	*111.9*	*156.8*	*123.6*	**542.7**	*559.4*	*527.9*
Consumption (million short tons)															
Coke Plants	**4.4**	**4.5**	**4.4**	**4.6**	**4.4**	*3.8*	*3.6*	*4.2*	*4.3*	*4.4*	*4.6*	*4.7*	**17.8**	*16.0*	*18.0*
Electric Power Sector (b)	**128.0**	**113.8**	**157.0**	**102.7**	**122.4**	*111.5*	*158.0*	*125.2*	*124.2*	*101.5*	*146.1*	*111.9*	**501.4**	*517.1*	*483.7*
Retail and Other Industry	**6.8**	**6.3**	**6.5**	**7.0**	**6.8**	*6.7*	*6.6*	*6.9*	*7.0*	*6.1*	*6.2*	*7.0*	**26.7**	*27.1*	*26.2*
Residential and Commercial	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	*0.1*	*0.2*	*0.2*	*0.3*	*0.2*	*0.1*	*0.2*	**0.8**	*0.7*	*0.9*
Other Industrial	**6.6**	**6.2**	**6.3**	**6.8**	**6.7**	*6.5*	*6.5*	*6.7*	*6.6*	*5.9*	*6.0*	*6.7*	**25.8**	*26.3*	*25.3*
Total Consumption	**139.2**	**124.6**	**167.9**	**114.3**	**133.6**	*121.9*	*168.3*	*136.3*	*135.5*	*111.9*	*156.8*	*123.6*	**545.9**	*560.1*	*527.9*
Discrepancy (c)	**1.4**	**1.6**	**-4.1**	**-2.2**	**-0.7**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-3.3**	*-0.7*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**28.1**	**26.1**	**23.4**	**25.3**	**26.6**	*28.8*	*29.7*	*34.8*	*36.8*	*38.0*	*36.4*	*38.1*	**25.3**	*34.8*	*38.1*
Secondary Inventories	**115.8**	**115.5**	**85.1**	**100.2**	**95.3**	*102.4*	*76.1*	*75.4*	*81.9*	*101.8*	*91.3*	*102.4*	**100.2**	*75.4*	*102.4*
Electric Power Sector	**111.5**	**110.9**	**80.4**	**94.7**	**89.9**	*96.8*	*70.5*	*70.0*	*77.3*	*97.1*	*86.4*	*97.4*	**94.7**	*70.0*	*97.4*
Retail and General Industry	**2.6**	**2.6**	**2.7**	**3.4**	**3.6**	*3.5*	*3.4*	*3.3*	*2.7*	*2.8*	*3.0*	*3.0*	**3.4**	*3.3*	*3.0*
Coke Plants	**1.5**	**1.9**	**1.8**	**2.0**	**1.6**	*1.9*	*2.0*	*1.9*	*1.7*	*1.8*	*1.8*	*1.9*	**2.0**	*1.9*	*1.9*
Commercial & Institutional	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.1*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.32**	**6.32**	**6.32**	**6.32**	**6.30**	*6.30*	*6.30*	*6.30*	*6.21*	*6.21*	*6.21*	*6.21*	**6.32**	*6.30*	*6.21*
Total Raw Steel Production (Million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.252*	*0.268*	*0.283*	*0.294*	*0.294*	*0.309*	*0.323*	**0.258**	*0.264*	*0.305*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*

(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 April 7, 2022.

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report* , DOE/EIA-0121; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7a. U.S. Electricity Industry Overview

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electricity Supply (billion kilowatthours)															
Electricity Generation	**989**	**985**	**1,166**	**975**	**1,024**	*997*	*1,174*	*984*	*1,007*	*1,008*	*1,189*	*998*	**4,116**	*4,180*	*4,202*
Electric Power Sector (a)	**952**	**949**	**1,127**	**935**	**986**	*959*	*1,133*	*944*	*968*	*969*	*1,146*	*957*	**3,963**	*4,021*	*4,040*
Industrial Sector (b)	**34**	**33**	**36**	**36**	**36**	*35*	*38*	*37*	*36*	*36*	*39*	*37*	**140**	*145*	*148*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	*3*	*4*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**11**	**11**	**11**	**6**	**13**	*13*	*15*	*12*	*12*	*13*	*15*	*12*	**39**	*53*	*52*
Total Supply	**1,000**	**997**	**1,177**	**981**	**1,037**	*1,010*	*1,189*	*995*	*1,019*	*1,021*	*1,204*	*1,010*	**4,155**	*4,232*	*4,253*
Losses and Unaccounted for (c)	**54**	**66**	**52**	**52**	**68**	*65*	*53*	*51*	*42*	*65*	*55*	*52*	**225**	*237*	*213*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**913**	**898**	**1,089**	**894**	**935**	*911*	*1,099*	*909*	*942*	*921*	*1,112*	*922*	**3,795**	*3,854*	*3,897*
Residential Sector	**379**	**329**	**446**	**324**	**373**	*324*	*442*	*328*	*372*	*328*	*447*	*335*	**1,477**	*1,468*	*1,482*
Commercial Sector	**304**	**321**	**377**	**322**	**319**	*331*	*383*	*325*	*320*	*332*	*384*	*326*	**1,325**	*1,358*	*1,362*
Industrial Sector	**229**	**247**	**264**	**247**	**241**	*254*	*272*	*254*	*248*	*261*	*279*	*259*	**987**	*1,022*	*1,046*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	*2*	**6**	*6*	*6*
Direct Use (d)	**33**	**32**	**35**	**35**	**35**	*34*	*37*	*36*	*35*	*35*	*38*	*36*	**136**	*141*	*143*
Total Consumption	**946**	**931**	**1,124**	**929**	**970**	*945*	*1,136*	*944*	*977*	*956*	*1,149*	*958*	**3,930**	*3,995*	*4,040*
Average residential electricity usage per customer (kWh)	**2,744**	**2,381**	**3,232**	**2,346**	**2,680**	*2,328*	*3,175*	*2,356*	*2,646*	*2,328*	*3,178*	*2,380*	**10,703**	*10,539*	*10,533*
End-of-period Fuel Inventories Held by Electric Power Sector															
Coal (mmst)	**111.5**	**110.9**	**80.4**	**94.7**	**89.9**	*96.8*	*70.5*	*70.0*	*77.3*	*97.1*	*86.4*	*97.4*	**94.7**	*70.0*	*97.4*
Residual Fuel (mmb)	**8.0**	**7.4**	**6.9**	**7.0**	**6.5**	*6.6*	*6.7*	*7.0*	*4.9*	*4.8*	*3.0*	*3.7*	**7.0**	*7.0*	*3.7*
Distillate Fuel (mmb)	**16.0**	**15.5**	**15.3**	**16.0**	**14.9**	*14.8*	*14.8*	*15.1*	*15.0*	*14.9*	*14.8*	*15.1*	**16.0**	*15.1*	*15.1*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**1.91**	**1.93**	**2.03**	**2.05**	**2.05**	*1.89*	*1.76*	*1.77*	*1.82*	*1.83*	*1.82*	*1.79*	**1.98**	*1.86*	*1.81*
Natural Gas	**7.24**	**3.26**	**4.36**	**5.42**	**5.58**	*5.85*	*5.63*	*5.39*	*5.26*	*3.79*	*3.86*	*4.17*	**4.97**	*5.62*	*4.21*
Residual Fuel Oil	**11.28**	**13.09**	**14.22**	**16.10**	**16.20**	*20.83*	*19.49*	*18.28*	*17.89*	*17.78*	*16.60*	*15.95*	**13.66**	*18.31*	*17.05*
Distillate Fuel Oil	**13.54**	**15.20**	**16.19**	**18.03**	**21.14**	*26.52*	*24.45*	*22.59*	*21.47*	*20.58*	*20.13*	*19.83*	**15.50**	*22.96*	*20.63*
Retail Prices (cents per kilowatthour)															
Residential Sector	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*
Commercial Sector	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Industrial Sector	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**616.34**	**39.74**	**52.31**	**49.79**	**42.73**	*53.47*	*62.01*	*44.34*	*41.84*	*33.50*	*40.40*	*34.60*	**189.54**	*50.63*	*37.59*
CAISO SP15 zone	**44.74**	**36.90**	**72.02**	**60.47**	**45.20**	*44.42*	*62.06*	*47.77*	*42.50*	*34.88*	*44.57*	*38.46*	**53.53**	*49.86*	*40.10*
ISO-NE Internal hub	**55.26**	**33.67**	**52.57**	**65.75**	**116.48**	*84.37*	*82.42*	*38.15*	*71.07*	*74.91*	*76.94*	*39.28*	**51.81**	*80.36*	*65.55*
NYISO Hudson Valley zone	**44.74**	**31.85**	**50.42**	**57.54**	**100.10**	*76.01*	*73.58*	*32.86*	*64.57*	*68.04*	*68.71*	*34.37*	**46.14**	*70.64*	*58.92*
PJM Western hub	**35.09**	**33.71**	**51.32**	**62.57**	**58.33**	*62.78*	*75.70*	*59.72*	*57.79*	*49.39*	*57.72*	*49.98*	**45.67**	*64.13*	*53.72*
Midcontinent ISO Illinois hub	**44.97**	**33.82**	**49.36**	**57.71**	**47.88**	*60.60*	*69.90*	*55.23*	*52.58*	*45.32*	*53.62*	*44.52*	**46.47**	*58.40*	*49.01*
SPP ISO South hub	**250.31**	**30.86**	**48.63**	**45.72**	**37.25**	*52.36*	*60.61*	*43.44*	*40.55*	*37.78*	*45.75*	*35.73*	**93.88**	*48.41*	*39.95*
SERC index, Into Southern	**41.10**	**32.93**	**44.18**	**51.34**	**42.45**	*53.57*	*59.73*	*50.10*	*47.57*	*40.47*	*46.00*	*39.84*	**42.39**	*51.46*	*43.47*
FRCC index, Florida Reliability	**27.73**	**32.17**	**42.76**	**49.02**	**41.11**	*50.04*	*52.15*	*46.58*	*44.17*	*37.52*	*39.43*	*38.38*	**37.92**	*47.47*	*39.87*
Northwest index, Mid-Columbia	**34.56**	**51.51**	**91.61**	**60.46**	**39.85**	*37.54*	*49.06*	*40.64*	*41.30*	*28.97*	*37.34*	*35.31*	**59.53**	*41.77*	*35.73*
Southwest index, Palo Verde	**41.72**	**46.57**	**79.86**	**53.60**	**39.02**	*37.37*	*47.03*	*36.41*	*32.99*	*28.63*	*34.57*	*29.88*	**55.44**	*39.96*	*31.52*

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

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

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

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

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

Historical data sources:

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

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

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**12.9**	**10.8**	**14.0**	**11.0**	**12.9**	*10.0*	*13.6*	*11.1*	*12.8*	*10.0*	*13.7*	*11.2*	**48.7**	*47.6*	*47.6*
Middle Atlantic	**36.0**	**30.3**	**41.9**	**30.5**	**35.9**	*28.6*	*40.3*	*30.5*	*35.6*	*29.0*	*40.7*	*30.7*	**138.7**	*135.4*	*136.0*
E. N. Central	**50.1**	**43.1**	**56.3**	**43.2**	**50.2**	*41.1*	*54.1*	*43.9*	*49.0*	*41.4*	*54.7*	*44.6*	**192.6**	*189.2*	*189.7*
W. N. Central	**29.9**	**23.7**	**31.0**	**24.0**	**31.0**	*24.1*	*31.3*	*26.0*	*30.7*	*25.1*	*32.3*	*26.7*	**108.6**	*112.3*	*114.7*
S. Atlantic	**95.2**	**85.1**	**111.5**	**83.1**	**93.4**	*85.1*	*112.8*	*83.6*	*93.8*	*86.5*	*113.9*	*85.6*	**374.9**	*374.8*	*379.7*
E. S. Central	**33.5**	**25.3**	**35.8**	**25.9**	**31.7**	*25.7*	*36.2*	*26.5*	*32.2*	*26.0*	*36.3*	*26.9*	**120.5**	*120.2*	*121.4*
W. S. Central	**56.8**	**50.0**	**76.2**	**47.5**	**54.5**	*52.4*	*78.1*	*48.8*	*54.0*	*52.0*	*78.9*	*50.7*	**230.5**	*233.8*	*235.5*
Mountain	**23.7**	**26.9**	**35.2**	**22.3**	**23.7**	*25.2*	*34.9*	*22.9*	*23.8*	*25.5*	*35.7*	*23.3*	**108.1**	*106.7*	*108.3*
Pacific contiguous	**39.0**	**32.2**	**43.0**	**34.8**	**38.8**	*30.8*	*39.7*	*33.8*	*39.3*	*31.1*	*40.0*	*34.0*	**149.0**	*143.1*	*144.4*
AK and HI	**1.3**	**1.1**	**1.2**	**1.3**	**1.3**	*1.1*	*1.2*	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	**4.9**	*4.9*	*4.9*
Total	**378.5**	**328.5**	**445.8**	**323.7**	**373.3**	*324.3*	*442.2*	*328.1*	*372.4*	*327.6*	*447.3*	*335.0*	**1,476.6**	*1,468.0*	*1,482.3*
Commercial Sector															
New England	**11.7**	**11.7**	**13.5**	**11.5**	**12.1**	*11.8*	*13.6*	*11.6*	*12.2*	*11.8*	*13.5*	*11.6*	**48.5**	*49.1*	*49.0*
Middle Atlantic	**34.6**	**33.2**	**39.7**	**34.3**	**36.0**	*33.8*	*39.7*	*34.5*	*36.2*	*33.8*	*39.5*	*34.3*	**141.9**	*144.1*	*143.8*
E. N. Central	**41.7**	**42.1**	**48.9**	**42.1**	**42.8**	*42.8*	*49.0*	*42.5*	*42.8*	*42.8*	*49.0*	*42.4*	**174.8**	*177.1*	*177.0*
W. N. Central	**24.0**	**23.7**	**27.6**	**24.0**	**25.2**	*24.4*	*28.5*	*24.8*	*25.5*	*24.7*	*28.8*	*25.1*	**99.3**	*103.0*	*104.0*
S. Atlantic	**70.8**	**77.3**	**89.6**	**75.3**	**74.0**	*79.5*	*91.1*	*75.8*	*74.2*	*79.8*	*91.5*	*76.2*	**313.1**	*320.3*	*321.8*
E. S. Central	**20.7**	**21.5**	**26.0**	**20.9**	**21.3**	*22.5*	*26.9*	*21.1*	*21.7*	*22.6*	*27.0*	*21.3*	**89.0**	*91.8*	*92.5*
W. S. Central	**42.4**	**50.5**	**58.7**	**49.5**	**45.3**	*53.7*	*61.3*	*50.0*	*45.6*	*53.8*	*61.9*	*50.5*	**201.0**	*210.3*	*211.8*
Mountain	**21.9**	**24.8**	**28.8**	**23.2**	**22.8**	*24.9*	*29.0*	*23.6*	*23.0*	*24.9*	*29.2*	*23.7*	**98.7**	*100.3*	*100.8*
Pacific contiguous	**35.2**	**35.3**	**43.1**	**39.6**	**37.6**	*36.1*	*42.5*	*39.8*	*37.9*	*36.0*	*42.2*	*39.5*	**153.2**	*156.0*	*155.6*
AK and HI	**1.3**	**1.3**	**1.3**	**1.4**	**1.3**	*1.3*	*1.4*	*1.4*	*1.3*	*1.4*	*1.4*	*1.4*	**5.3**	*5.5*	*5.6*
Total	**304.3**	**321.5**	**377.2**	**321.8**	**318.6**	*330.8*	*382.9*	*325.2*	*320.3*	*331.5*	*384.1*	*326.1*	**1,324.8**	*1,357.5*	*1,362.1*
Industrial Sector															
New England	**3.8**	**4.0**	**4.2**	**3.9**	**3.9**	*4.0*	*4.2*	*3.9*	*3.9*	*4.0*	*4.2*	*3.9*	**15.8**	*15.9*	*16.0*
Middle Atlantic	**17.6**	**17.9**	**19.4**	**18.1**	**18.5**	*18.6*	*20.0*	*18.4*	*18.8*	*18.8*	*20.2*	*18.6*	**73.1**	*75.5*	*76.4*
E. N. Central	**44.5**	**46.4**	**48.6**	**46.0**	**46.6**	*47.3*	*50.1*	*47.5*	*48.2*	*48.8*	*51.6*	*48.7*	**185.5**	*191.5*	*197.3*
W. N. Central	**23.0**	**24.2**	**26.0**	**24.6**	**24.2**	*25.6*	*27.5*	*25.8*	*25.1*	*26.5*	*28.3*	*26.5*	**97.9**	*103.0*	*106.4*
S. Atlantic	**33.4**	**35.9**	**38.2**	**36.1**	**36.4**	*37.1*	*39.4*	*37.1*	*37.4*	*37.9*	*40.2*	*37.8*	**143.7**	*150.0*	*153.3*
E. S. Central	**23.7**	**24.9**	**26.1**	**25.0**	**25.0**	*25.6*	*26.6*	*25.5*	*25.5*	*26.0*	*27.0*	*25.8*	**99.7**	*102.7*	*104.2*
W. S. Central	**44.1**	**49.7**	**54.3**	**51.5**	**47.1**	*52.7*	*57.4*	*54.4*	*49.5*	*55.5*	*60.4*	*57.0*	**199.7**	*211.7*	*222.5*
Mountain	**19.2**	**21.6**	**23.2**	**20.4**	**19.8**	*21.6*	*23.4*	*20.7*	*20.1*	*22.0*	*23.9*	*21.1*	**84.4**	*85.6*	*87.1*
Pacific contiguous	**18.2**	**20.9**	**23.1**	**20.4**	**18.7**	*20.6*	*22.4*	*19.7*	*18.2*	*19.9*	*21.6*	*18.9*	**82.5**	*81.5*	*78.6*
AK and HI	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	**4.6**	*4.7*	*4.7*
Total	**228.5**	**246.7**	**264.4**	**247.2**	**241.4**	*254.2*	*272.3*	*254.1*	*247.9*	*260.5*	*278.6*	*259.4*	**986.8**	*1,022.0*	*1,046.4*
Total All Sectors (a)															
New England	**28.5**	**26.6**	**31.7**	**26.5**	**29.1**	*25.9*	*31.4*	*26.7*	*28.9*	*25.9*	*31.5*	*26.7*	**113.4**	*113.1*	*113.0*
Middle Atlantic	**89.1**	**82.3**	**101.8**	**83.7**	**91.2**	*81.8*	*100.9*	*84.2*	*91.4*	*82.4*	*101.3*	*84.4*	**356.9**	*358.1*	*359.4*
E. N. Central	**136.4**	**131.7**	**154.0**	**131.3**	**139.7**	*131.3*	*153.3*	*133.9*	*140.2*	*133.1*	*155.4*	*135.8*	**553.4**	*558.3*	*564.5*
W. N. Central	**77.0**	**71.6**	**84.6**	**72.6**	**80.4**	*74.2*	*87.3*	*76.6*	*81.3*	*76.2*	*89.4*	*78.2*	**305.8**	*318.4*	*325.2*
S. Atlantic	**199.7**	**198.6**	**239.6**	**194.9**	**204.0**	*201.9*	*243.6*	*196.7*	*205.7*	*204.5*	*245.9*	*199.9*	**832.7**	*846.2*	*856.0*
E. S. Central	**77.8**	**71.8**	**87.8**	**71.9**	**78.1**	*73.8*	*89.7*	*73.1*	*79.3*	*74.5*	*90.3*	*74.0*	**309.2**	*314.7*	*318.1*
W. S. Central	**143.4**	**150.2**	**189.2**	**148.5**	**147.0**	*158.9*	*196.9*	*153.2*	*149.1*	*161.4*	*201.3*	*158.3*	**631.4**	*656.0*	*670.0*
Mountain	**64.9**	**73.3**	**87.3**	**66.0**	**66.4**	*71.7*	*87.4*	*67.2*	*67.0*	*72.5*	*88.8*	*68.1*	**291.4**	*292.7*	*296.4*
Pacific contiguous	**92.5**	**88.6**	**109.3**	**95.0**	**95.3**	*87.7*	*104.8*	*93.5*	*95.6*	*87.2*	*104.0*	*92.6*	**385.5**	*381.2*	*379.3*
AK and HI	**3.7**	**3.6**	**3.7**	**3.9**	**3.7**	*3.6*	*3.8*	*3.9*	*3.7*	*3.6*	*3.8*	*3.9*	**14.9**	*15.0*	*15.1*
Total	**913.0**	**898.2**	**1,089.1**	**894.3**	**935.0**	*910.8*	*1,099.1*	*908.9*	*942.3*	*921.2*	*1,111.6*	*922.0*	**3,794.5**	*3,853.8*	*3,897.1*

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

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Retail Sales represents total retail electricity sales by electric utilities and power marketers.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Residential Sector															
New England	**21.38**	**21.34**	**21.43**	**21.95**	**23.57**	*24.39*	*24.90*	*25.51*	*26.80*	*26.94*	*26.69*	*26.61*	**21.51**	*24.57*	*26.75*
Middle Atlantic	**15.63**	**16.51**	**16.93**	**16.85**	**17.01**	*17.86*	*18.16*	*17.69*	*17.41*	*17.76*	*17.87*	*17.45*	**16.49**	*17.68*	*17.63*
E. N. Central	**13.39**	**14.50**	**14.14**	**14.48**	**14.17**	*15.30*	*14.86*	*15.04*	*14.66*	*15.65*	*15.07*	*15.12*	**14.10**	*14.81*	*15.10*
W. N. Central	**10.88**	**12.77**	**13.29**	**11.90**	**11.06**	*12.37*	*12.44*	*11.10*	*10.64*	*11.74*	*12.23*	*10.99*	**12.21**	*11.73*	*11.41*
S. Atlantic	**11.66**	**12.34**	**12.48**	**12.48**	**12.65**	*13.17*	*13.15*	*12.92*	*12.82*	*13.14*	*13.03*	*12.73*	**12.24**	*12.98*	*12.94*
E. S. Central	**11.20**	**12.24**	**11.99**	**12.02**	**12.17**	*12.79*	*12.31*	*12.19*	*12.29*	*12.92*	*12.41*	*12.18*	**11.83**	*12.35*	*12.44*
W. S. Central	**11.85**	**11.70**	**11.80**	**12.28**	**12.82**	*12.05*	*11.99*	*12.38*	*13.14*	*12.30*	*12.01*	*12.17*	**11.89**	*12.28*	*12.37*
Mountain	**11.53**	**12.09**	**12.33**	**12.27**	**12.16**	*12.65*	*12.72*	*12.49*	*12.24*	*12.64*	*12.69*	*12.45*	**12.08**	*12.53*	*12.53*
Pacific	**16.75**	**18.15**	**19.43**	**17.55**	**17.29**	*19.01*	*20.41*	*18.35*	*18.22*	*20.18*	*21.10*	*18.62*	**18.01**	*18.78*	*19.54*
U.S. Average	**13.10**	**13.84**	**13.99**	**13.97**	**14.02**	*14.51*	*14.52*	*14.38*	*14.40*	*14.72*	*14.59*	*14.32*	**13.72**	*14.36*	*14.51*
Commercial Sector															
New England	**16.31**	**15.96**	**16.78**	**16.89**	**18.47**	*17.89*	*18.69*	*18.57*	*19.86*	*18.71*	*19.11*	*18.71*	**16.49**	*18.42*	*19.10*
Middle Atlantic	**12.51**	**13.24**	**14.31**	**13.53**	**13.91**	*14.27*	*15.12*	*14.10*	*14.04*	*13.89*	*14.57*	*13.56*	**13.43**	*14.37*	*14.04*
E. N. Central	**10.40**	**10.70**	**10.66**	**10.92**	**11.09**	*11.36*	*11.23*	*11.34*	*11.39*	*11.49*	*11.23*	*11.25*	**10.67**	*11.25*	*11.34*
W. N. Central	**9.10**	**10.19**	**10.83**	**9.61**	**9.36**	*9.65*	*9.81*	*8.80*	*8.83*	*9.11*	*9.57*	*8.67*	**9.97**	*9.42*	*9.06*
S. Atlantic	**9.29**	**9.18**	**9.52**	**9.95**	**10.16**	*9.75*	*9.97*	*10.28*	*10.34*	*9.82*	*9.95*	*10.09*	**9.49**	*10.03*	*10.04*
E. S. Central	**10.98**	**11.24**	**11.27**	**11.26**	**11.80**	*11.75*	*11.63*	*11.60*	*12.07*	*11.91*	*11.71*	*11.60*	**11.19**	*11.69*	*11.82*
W. S. Central	**10.37**	**8.89**	**8.55**	**8.65**	**10.33**	*8.86*	*8.58*	*8.80*	*10.57*	*8.90*	*8.63*	*8.88*	**9.04**	*9.08*	*9.18*
Mountain	**9.11**	**9.76**	**10.20**	**9.59**	**9.61**	*10.13*	*10.40*	*9.63*	*9.58*	*10.01*	*10.27*	*9.55*	**9.70**	*9.97*	*9.88*
Pacific	**14.52**	**15.99**	**18.08**	**16.12**	**15.92**	*17.52*	*19.45*	*17.20*	*16.88*	*18.13*	*19.63*	*17.11*	**16.27**	*17.58*	*17.97*
U.S. Average	**10.99**	**11.07**	**11.59**	**11.37**	**11.81**	*11.64*	*12.01*	*11.74*	*12.09*	*11.70*	*11.95*	*11.60*	**11.27**	*11.81*	*11.84*
Industrial Sector															
New England	**13.50**	**12.99**	**13.71**	**14.13**	**15.31**	*13.99*	*14.51*	*14.77*	*15.76*	*14.20*	*14.58*	*14.81*	**13.58**	*14.64*	*14.83*
Middle Atlantic	**6.52**	**6.59**	**7.11**	**7.30**	**7.29**	*6.88*	*7.19*	*7.02*	*7.04*	*6.60*	*6.88*	*6.79*	**6.89**	*7.09*	*6.83*
E. N. Central	**6.97**	**6.97**	**7.38**	**7.70**	**7.55**	*7.36*	*7.62*	*7.73*	*7.63*	*7.28*	*7.54*	*7.68*	**7.26**	*7.57*	*7.53*
W. N. Central	**6.97**	**7.30**	**8.00**	**7.06**	**7.16**	*7.55*	*8.18*	*7.14*	*7.28*	*7.56*	*8.21*	*7.18*	**7.35**	*7.52*	*7.57*
S. Atlantic	**6.24**	**6.31**	**7.04**	**6.89**	**6.63**	*6.57*	*7.19*	*6.87*	*6.68*	*6.41*	*7.02*	*6.75*	**6.64**	*6.82*	*6.72*
E. S. Central	**5.75**	**5.86**	**6.27**	**6.26**	**6.48**	*6.20*	*6.42*	*6.25*	*6.51*	*6.08*	*6.31*	*6.15*	**6.04**	*6.34*	*6.26*
W. S. Central	**7.22**	**5.46**	**6.00**	**6.13**	**7.27**	*5.71*	*5.98*	*5.93*	*7.05*	*5.33*	*5.60*	*5.63*	**6.17**	*6.19*	*5.86*
Mountain	**6.27**	**6.63**	**7.39**	**6.54**	**6.66**	*6.76*	*7.39*	*6.53*	*6.68*	*6.77*	*7.38*	*6.54*	**6.74**	*6.85*	*6.86*
Pacific	**9.69**	**10.71**	**12.62**	**11.06**	**10.02**	*11.01*	*12.85*	*11.28*	*10.28*	*11.28*	*13.12*	*11.55*	**11.10**	*11.35*	*11.62*
U.S. Average	**7.09**	**6.92**	**7.62**	**7.38**	**7.53**	*7.21*	*7.73*	*7.35*	*7.53*	*7.07*	*7.57*	*7.23*	**7.26**	*7.46*	*7.35*
All Sectors (a)															
New England	**18.20**	**17.67**	**18.40**	**18.54**	**20.29**	*19.77*	*20.79*	*20.86*	*22.34*	*21.16*	*21.77*	*21.40*	**18.21**	*20.45*	*21.69*
Middle Atlantic	**12.57**	**12.98**	**14.00**	**13.37**	**13.77**	*13.84*	*14.75*	*13.84*	*13.90*	*13.58*	*14.36*	*13.48*	**13.26**	*14.08*	*13.86*
E. N. Central	**10.38**	**10.62**	**10.90**	**10.96**	**11.01**	*11.15*	*11.33*	*11.27*	*11.24*	*11.24*	*11.36*	*11.24*	**10.72**	*11.19*	*11.27*
W. N. Central	**9.16**	**10.07**	**10.86**	**9.50**	**9.35**	*9.81*	*10.24*	*9.02*	*9.03*	*9.44*	*10.10*	*8.96*	**9.92**	*9.62*	*9.40*
S. Atlantic	**9.91**	**10.01**	**10.50**	**10.46**	**10.67**	*10.61*	*10.99*	*10.76*	*10.80*	*10.59*	*10.90*	*10.59*	**10.23**	*10.77*	*10.73*
E. S. Central	**9.48**	**9.72**	**10.08**	**9.80**	**10.24**	*10.19*	*10.36*	*9.95*	*10.37*	*10.23*	*10.38*	*9.91*	**9.78**	*10.19*	*10.23*
W. S. Central	**9.99**	**8.69**	**9.13**	**8.93**	**10.27**	*8.87*	*9.18*	*8.92*	*10.33*	*8.77*	*9.04*	*8.76*	**9.17**	*9.29*	*9.20*
Mountain	**9.16**	**9.69**	**10.31**	**9.55**	**9.64**	*10.00*	*10.52*	*9.65*	*9.65*	*9.95*	*10.47*	*9.61*	**9.73**	*9.99*	*9.96*
Pacific	**14.50**	**15.52**	**17.45**	**15.55**	**15.30**	*16.50*	*18.38*	*16.35*	*16.16*	*17.27*	*18.83*	*16.51*	**15.83**	*16.68*	*17.23*
U.S. Average	**10.88**	**10.94**	**11.61**	**11.21**	**11.58**	*11.43*	*11.96*	*11.47*	*11.80*	*11.46*	*11.92*	*11.36*	**11.18**	*11.63*	*11.65*

(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 April 7, 2022.

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

Prices are not adjusted for inflation.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

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

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
United States															
Natural Gas	**319.3**	**345.7**	**453.9**	**354.7**	**336.6**	*320.3*	*437.0*	*313.2*	*305.2*	*333.9*	*453.1*	*328.6*	**1,473.6**	*1,407.2*	*1,420.8*
Coal	**230.0**	**203.8**	**280.9**	**178.1**	**218.6**	*200.3*	*282.9*	*217.7*	*221.5*	*182.3*	*260.2*	*194.1*	**892.8**	*919.5*	*858.1*
Nuclear	**198.4**	**186.6**	**202.8**	**190.4**	**195.8**	*192.0*	*204.4*	*192.1*	*195.7*	*188.1*	*207.4*	*198.8*	**778.2**	*784.2*	*790.0*
Renewable Energy Sources:	**197.9**	**207.3**	**183.3**	**206.6**	**226.3**	*241.2*	*203.2*	*215.3*	*238.4*	*259.6*	*220.4*	*230.2*	**795.2**	*885.9*	*948.7*
Conventional Hydropower	**68.7**	**65.8**	**60.7**	**63.8**	**72.6**	*79.0*	*63.6*	*57.9*	*70.3*	*81.4*	*65.7*	*60.0*	**259.0**	*273.2*	*277.3*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**115.3**	*108.0*	*84.9*	*117.7*	*121.6*	*112.3*	*88.4*	*122.1*	**378.6**	*425.9*	*444.4*
Solar (a)	**21.3**	**34.7**	**34.6**	**23.3**	**27.9**	*44.0*	*43.9*	*29.3*	*36.0*	*56.2*	*55.6*	*37.8*	**113.9**	*145.2*	*185.6*
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.4**	*6.2*	*6.8*	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*25.8*	*26.0*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**4.0**	*3.9*	*4.0*	*4.0*	*3.9*	*3.5*	*4.0*	*4.0*	**15.7**	*15.9*	*15.3*
Pumped Storage Hydropower	**-1.1**	**-1.0**	**-1.8**	**-1.2**	**-1.0**	*-1.1*	*-1.9*	*-1.1*	*-0.9*	*-1.0*	*-1.8*	*-1.1*	**-5.1**	*-5.1*	*-4.7*
Petroleum (b)	**5.2**	**3.5**	**4.7**	**4.4**	**6.6**	*3.7*	*4.4*	*3.9*	*5.2*	*3.6*	*4.4*	*4.1*	**17.8**	*18.6*	*17.2*
Other Gases	**0.7**	**0.8**	**0.9**	**0.7**	**0.9**	*0.8*	*0.9*	*0.8*	*0.9*	*0.7*	*0.9*	*0.8*	**3.2**	*3.4*	*3.2*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.8**	**1.8**	**1.7**	*1.7*	*1.7*	*1.8*	*1.7*	*1.8*	*1.8*	*1.8*	**7.2**	*7.0*	*7.1*
Total Generation	**952.2**	**948.5**	**1,126.6**	**935.5**	**985.5**	*958.9*	*1,132.6*	*943.7*	*967.6*	*969.0*	*1,146.4*	*957.4*	**3,962.8**	*4,020.7*	*4,040.4*
New England (ISO-NE)															
Natural Gas	**12.2**	**11.0**	**15.7**	**12.6**	**13.1**	*12.2*	*15.4*	*12.7*	*14.9*	*12.9*	*15.5*	*14.1*	**51.5**	*53.4*	*57.4*
Coal	**0.5**	**0.0**	**0.0**	**0.0**	**0.2**	*0.1*	*0.1*	*0.0*	*0.2*	*0.4*	*0.1*	*0.2*	**0.6**	*0.4*	*0.8*
Nuclear	**7.1**	**7.1**	**7.3**	**5.6**	**7.2**	*6.2*	*7.3*	*7.3*	*7.1*	*5.7*	*7.3*	*6.3*	**27.1**	*27.9*	*26.3*
Conventional hydropower	**1.7**	**1.5**	**1.5**	**1.5**	**1.8**	*2.2*	*1.2*	*1.8*	*2.0*	*2.2*	*1.2*	*1.8*	**6.3**	*6.9*	*7.2*
Nonhydro renewables (d)	**2.8**	**2.9**	**2.6**	**2.8**	**3.0**	*3.0*	*2.7*	*2.9*	*3.1*	*3.1*	*2.8*	*2.9*	**11.2**	*11.6*	*11.9*
Other energy sources (e)	**0.4**	**0.3**	**0.3**	**0.4**	**1.3**	*0.3*	*0.3*	*0.4*	*0.7*	*0.4*	*0.3*	*0.4*	**1.5**	*2.4*	*1.8*
Total generation	**24.7**	**22.9**	**27.6**	**23.1**	**26.5**	*24.0*	*26.9*	*25.1*	*27.9*	*24.6*	*27.1*	*25.7*	**98.2**	*102.5*	*105.4*
Net energy for load (f)	**29.4**	**27.0**	**32.5**	**27.6**	**30.1**	*27.1*	*32.4*	*28.2*	*29.8*	*27.5*	*32.8*	*28.6*	**116.4**	*117.8*	*118.7*
New York (NYISO)															
Natural Gas	**12.9**	**14.1**	**19.7**	**15.2**	**14.1**	*14.2*	*21.5*	*15.7*	*12.1*	*14.1*	*20.9*	*14.3*	**61.9**	*65.6*	*61.4*
Coal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.0*
Nuclear	**9.3**	**7.7**	**7.2**	**7.0**	**6.4**	*6.9*	*6.6*	*6.9*	*6.7*	*6.5*	*7.0*	*7.0*	**31.1**	*26.7*	*27.1*
Conventional hydropower	**6.9**	**6.8**	**6.9**	**7.2**	**6.9**	*6.9*	*6.9*	*7.1*	*7.3*	*7.3*	*7.3*	*7.5*	**27.9**	*27.9*	*29.5*
Nonhydro renewables (d)	**1.8**	**1.8**	**1.6**	**1.9**	**2.1**	*2.0*	*1.7*	*2.1*	*2.3*	*2.5*	*2.1*	*2.6*	**7.1**	*7.9*	*9.5*
Other energy sources (e)	**0.6**	**0.2**	**0.4**	**0.1**	**1.4**	*0.1*	*0.2*	*0.1*	*0.7*	*0.2*	*0.3*	*0.1*	**1.3**	*1.9*	*1.3*
Total generation	**31.5**	**30.6**	**35.8**	**31.4**	**30.9**	*30.2*	*36.9*	*31.9*	*29.0*	*30.5*	*37.6*	*31.6*	**129.3**	*129.9*	*128.8*
Net energy for load (f)	**36.6**	**34.7**	**42.8**	**34.9**	**37.5**	*35.3*	*43.3*	*36.0*	*37.4*	*36.0*	*43.9*	*36.6*	**149.0**	*152.1*	*153.8*
Mid-Atlantic (PJM)															
Natural Gas	**72.7**	**70.8**	**88.9**	**78.5**	**73.7**	*65.3*	*81.2*	*67.0*	*71.0*	*73.1*	*95.3*	*76.4*	**310.9**	*287.2*	*315.7*
Coal	**50.5**	**39.9**	**55.4**	**29.5**	**47.6**	*35.8*	*53.7*	*40.9*	*46.6*	*34.7*	*45.8*	*33.7*	**175.4**	*178.0*	*160.8*
Nuclear	**68.3**	**64.6**	**70.5**	**68.3**	**68.7**	*67.9*	*72.3*	*66.8*	*67.9*	*67.2*	*72.1*	*69.6*	**271.7**	*275.6*	*276.8*
Conventional hydropower	**2.6**	**2.3**	**2.2**	**2.2**	**2.4**	*2.6*	*1.7*	*2.1*	*2.6*	*2.6*	*1.7*	*2.1*	**9.3**	*8.8*	*9.1*
Nonhydro renewables (d)	**11.0**	**10.7**	**9.2**	**11.5**	**12.6**	*12.1*	*10.2*	*12.3*	*13.9*	*13.6*	*11.8*	*13.5*	**42.4**	*47.1*	*52.8*
Other energy sources (e)	**0.9**	**0.6**	**0.4**	**0.6**	**0.9**	*0.5*	*0.4*	*0.6*	*0.8*	*0.5*	*0.4*	*0.6*	**2.5**	*2.3*	*2.3*
Total generation	**206.0**	**188.9**	**226.7**	**190.6**	**205.8**	*184.2*	*219.3*	*189.8*	*202.8*	*191.7*	*227.1*	*195.9*	**812.1**	*799.1*	*817.4*
Net energy for load (f)	**194.5**	**177.6**	**215.3**	**182.9**	**197.9**	*175.9*	*209.5*	*182.1*	*196.2*	*179.9*	*213.3*	*185.9*	**770.2**	*765.4*	*775.2*
Southeast (SERC)															
Natural Gas	**57.6**	**57.2**	**73.2**	**64.3**	**63.7**	*56.0*	*71.3*	*56.3*	*57.0*	*59.6*	*73.2*	*58.9*	**252.3**	*247.2*	*248.7*
Coal	**36.3**	**33.7**	**44.3**	**23.3**	**33.9**	*39.1*	*52.8*	*35.3*	*36.1*	*33.9*	*48.8*	*31.3*	**137.7**	*161.0*	*150.1*
Nuclear	**53.8**	**52.2**	**54.1**	**52.0**	**51.8**	*53.0*	*56.1*	*53.3*	*54.4*	*54.2*	*58.4*	*58.5*	**212.2**	*214.1*	*225.5*
Conventional hydropower	**11.6**	**10.4**	**10.9**	**11.0**	**10.7**	*8.0*	*7.2*	*8.1*	*10.9*	*8.3*	*7.4*	*8.4*	**43.9**	*34.0*	*35.0*
Nonhydro renewables (d)	**3.9**	**5.7**	**5.4**	**4.1**	**4.5**	*6.7*	*6.4*	*4.7*	*5.2*	*7.9*	*7.4*	*5.2*	**19.1**	*22.3*	*25.6*
Other energy sources (e)	**0.0**	**-0.2**	**-0.5**	**-0.2**	**-0.1**	*-0.2*	*-0.4*	*-0.2*	*-0.1*	*-0.2*	*-0.5*	*-0.2*	**-0.9**	*-1.0*	*-1.1*
Total generation	**163.2**	**159.0**	**187.3**	**154.6**	**164.5**	*162.6*	*193.2*	*157.4*	*163.4*	*163.7*	*194.7*	*162.1*	**664.2**	*677.7*	*683.9*
Net energy for load (f)	**163.7**	**162.3**	**186.4**	**155.7**	**168.7**	*161.8*	*192.1*	*158.2*	*166.7*	*164.6*	*195.3*	*161.9*	**668.0**	*680.8*	*688.5*
Florida (FRCC)															
Natural Gas	**34.5**	**43.8**	**52.5**	**40.9**	**37.7**	*45.2*	*50.7*	*39.0*	*35.9*	*47.5*	*52.1*	*39.6*	**171.8**	*172.6*	*175.1*
Coal	**4.7**	**5.3**	**5.6**	**2.8**	**2.8**	*3.1*	*4.1*	*2.9*	*2.6*	*2.9*	*4.0*	*2.8*	**18.3**	*13.0*	*12.4*
Nuclear	**7.8**	**7.2**	**7.2**	**5.8**	**7.3**	*7.6*	*8.0*	*7.1*	*7.0*	*6.9*	*7.5*	*7.7*	**28.1**	*30.0*	*29.1*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**2.4**	**3.1**	**2.9**	**2.6**	**3.0**	*3.7*	*3.5*	*2.9*	*3.8*	*4.8*	*4.4*	*3.5*	**11.0**	*13.1*	*16.6*
Other energy sources (e)	**0.8**	**0.7**	**0.7**	**0.6**	**0.8**	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	**2.8**	*3.0*	*3.0*
Total generation	**50.3**	**60.2**	**68.9**	**52.8**	**51.6**	*60.4*	*67.1*	*52.6*	*50.2*	*63.0*	*68.9*	*54.3*	**232.2**	*231.8*	*236.4*
Net energy for load (f)	**50.6**	**55.0**	**71.1**	**55.1**	**51.8**	*58.1*	*67.3*	*52.1*	*48.7*	*59.0*	*68.2*	*53.0*	**231.8**	*229.4*	*228.9*

(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 April 7, 2022.

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

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

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

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), *continued from Table 7d part 1*

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Midwest (MISO)															
Natural Gas	**35.4**	**41.1**	**50.2**	**43.1**	**43.7**	*36.6*	*47.5*	*31.7*	*35.2*	*42.9*	*55.5*	*38.0*	**169.7**	*159.5*	*171.6*
Coal	**69.7**	**60.1**	**83.2**	**54.7**	**65.1**	*65.2*	*85.3*	*65.4*	*68.2*	*58.5*	*76.2*	*60.5*	**267.7**	*280.9*	*263.4*
Nuclear	**23.6**	**22.6**	**25.2**	**24.4**	**23.8**	*22.3*	*24.1*	*23.5*	*22.3*	*21.0*	*24.3*	*21.3*	**95.7**	*93.8*	*88.9*
Conventional hydropower	**2.8**	**2.7**	**2.5**	**2.7**	**3.0**	*3.0*	*2.4*	*2.2*	*2.5*	*2.9*	*2.4*	*2.2*	**10.7**	*10.6*	*10.1*
Nonhydro renewables (d)	**24.1**	**23.1**	**18.5**	**27.3**	**28.7**	*25.1*	*20.2*	*29.2*	*30.4*	*26.6*	*21.7*	*30.3*	**93.1**	*103.2*	*109.0*
Other energy sources (e)	**1.8**	**1.3**	**1.7**	**1.7**	**1.5**	*1.4*	*1.5*	*1.2*	*1.6*	*1.4*	*1.5*	*1.4*	**6.4**	*5.7*	*5.8*
Total generation	**157.4**	**150.9**	**181.2**	**153.8**	**165.8**	*153.6*	*181.0*	*153.2*	*160.1*	*153.2*	*181.6*	*153.9*	**643.3**	*653.7*	*648.9*
Net energy for load (f)	**159.0**	**154.0**	**180.7**	**153.5**	**163.6**	*157.9*	*182.4*	*157.8*	*160.2*	*160.0*	*185.7*	*161.3*	**647.3**	*661.7*	*667.1*
Central (Southwest Power Pool)															
Natural Gas	**12.4**	**14.3**	**18.8**	**10.9**	**11.2**	*13.2*	*20.7*	*10.8*	*9.5*	*14.8*	*23.0*	*11.7*	**56.3**	*55.9*	*59.0*
Coal	**21.8**	**19.8**	**31.3**	**19.2**	**22.3**	*17.3*	*29.8*	*22.2*	*22.2*	*16.1*	*28.0*	*20.1*	**92.0**	*91.6*	*86.5*
Nuclear	**4.1**	**2.8**	**4.2**	**4.3**	**4.3**	*4.3*	*4.1*	*2.5*	*4.3*	*4.3*	*4.4*	*4.4*	**15.5**	*15.2*	*17.3*
Conventional hydropower	**4.2**	**3.9**	**3.6**	**3.9**	**4.4**	*4.5*	*3.8*	*3.1*	*3.9*	*4.7*	*4.2*	*3.5*	**15.5**	*15.7*	*16.3*
Nonhydro renewables (d)	**22.9**	**23.8**	**20.5**	**26.4**	**29.2**	*26.6*	*23.3*	*29.3*	*31.4*	*27.8*	*24.4*	*30.1*	**93.6**	*108.5*	*113.7*
Other energy sources (e)	**0.3**	**0.1**	**0.1**	**0.2**	**0.2**	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.2*	**0.7**	*0.7*	*0.7*
Total generation	**65.7**	**64.7**	**78.5**	**64.7**	**71.6**	*66.0*	*81.9*	*68.2*	*71.5*	*67.9*	*84.1*	*69.9*	**273.6**	*287.6*	*293.4*
Net energy for load (f)	**65.0**	**66.7**	**77.2**	**61.4**	**67.2**	*64.9*	*79.3*	*63.7*	*66.1*	*67.7*	*82.1*	*66.1*	**270.3**	*275.2*	*282.0*
Texas (ERCOT)															
Natural Gas	**32.8**	**39.7**	**57.3**	**34.5**	**31.9**	*34.0*	*52.7*	*28.0*	*23.9*	*26.9*	*46.0*	*24.3*	**164.2**	*146.6*	*121.1*
Coal	**16.3**	**18.5**	**22.7**	**17.0**	**16.4**	*20.2*	*23.6*	*18.8*	*17.1*	*19.5*	*23.4*	*18.0*	**74.5**	*78.9*	*78.1*
Nuclear	**10.5**	**9.8**	**11.0**	**8.9**	**11.0**	*10.0*	*10.6*	*10.8*	*10.7*	*9.0*	*11.0*	*10.2*	**40.2**	*42.5*	*40.8*
Conventional hydropower	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.2*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.1*	**0.6**	*0.6*	*0.6*
Nonhydro renewables (d)	**25.2**	**27.8**	**23.8**	**29.4**	**31.8**	*37.3*	*30.2*	*33.9*	*36.1*	*42.6*	*34.7*	*37.2*	**106.3**	*133.3*	*150.6*
Other energy sources (e)	**0.2**	**0.3**	**0.4**	**0.4**	**0.3**	*0.3*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.4*	**1.4**	*1.4*	*1.4*
Total generation	**85.2**	**96.2**	**115.3**	**90.4**	**91.6**	*102.0*	*117.6*	*92.0*	*88.3*	*98.5*	*115.7*	*90.2*	**387.1**	*403.2*	*392.6*
Net energy for load (f)	**85.2**	**96.2**	**115.3**	**90.4**	**91.6**	*102.0*	*117.6*	*92.0*	*88.3*	*98.5*	*115.7*	*90.2*	**387.1**	*403.2*	*392.6*
Northwest															
Natural Gas	**20.9**	**20.1**	**28.2**	**21.0**	**22.2**	*17.2*	*29.7*	*21.6*	*21.2*	*18.2*	*28.0*	*23.0*	**90.2**	*90.7*	*90.4*
Coal	**22.5**	**19.1**	**26.6**	**22.2**	**23.2**	*14.0*	*24.3*	*24.6*	*23.8*	*11.6*	*24.5*	*19.6*	**90.5**	*86.0*	*79.5*
Nuclear	**2.5**	**1.2**	**2.5**	**2.3**	**2.5**	*2.4*	*2.4*	*2.4*	*2.3*	*1.2*	*2.4*	*2.4*	**8.5**	*9.7*	*8.4*
Conventional hydropower	**33.8**	**31.0**	**25.7**	**30.4**	**37.1**	*41.0*	*30.4*	*27.7*	*33.4*	*41.2*	*30.2*	*27.7*	**121.0**	*136.1*	*132.5*
Nonhydro renewables (d)	**15.9**	**17.0**	**15.2**	**17.4**	**17.2**	*17.5*	*16.1*	*18.3*	*18.6*	*18.8*	*17.1*	*20.0*	**65.5**	*69.2*	*74.5*
Other energy sources (e)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**0.7**	*0.8*	*0.8*
Total generation	**95.8**	**88.7**	**98.5**	**93.5**	**102.4**	*92.2*	*103.1*	*94.7*	*99.5*	*91.2*	*102.5*	*92.9*	**376.4**	*392.5*	*386.1*
Net energy for load (f)	**89.6**	**84.8**	**97.6**	**90.1**	**91.7**	*85.0*	*96.1*	*88.2*	*91.4*	*85.2*	*96.5*	*88.4*	**362.0**	*361.1*	*361.6*
Southwest															
Natural Gas	**10.9**	**15.7**	**20.1**	**12.1**	**8.3**	*12.5*	*19.4*	*9.1*	*9.3*	*12.0*	*18.3*	*9.2*	**58.7**	*49.3*	*48.9*
Coal	**5.5**	**5.6**	**8.3**	**7.4**	**5.2**	*4.0*	*6.7*	*5.3*	*2.7*	*3.1*	*6.7*	*5.4*	**26.8**	*21.3*	*17.9*
Nuclear	**8.5**	**7.1**	**8.6**	**7.5**	**8.2**	*7.4*	*8.6*	*7.4*	*8.4*	*7.5*	*8.6*	*7.5*	**31.6**	*31.7*	*32.0*
Conventional hydropower	**2.5**	**3.2**	**3.2**	**2.0**	**2.6**	*3.8*	*3.8*	*2.5*	*2.8*	*4.0*	*3.9*	*2.6*	**10.9**	*12.7*	*13.2*
Nonhydro renewables (d)	**3.1**	**3.9**	**3.2**	**3.7**	**4.6**	*5.5*	*4.4*	*5.1*	*5.0*	*5.8*	*4.6*	*5.4*	**14.0**	*19.5*	*20.8*
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*	**0.1**	*0.2*	*0.1*
Total generation	**30.4**	**35.7**	**43.4**	**32.6**	**29.0**	*33.3*	*42.9*	*29.4*	*28.2*	*32.4*	*42.1*	*30.2*	**142.1**	*134.6*	*132.9*
Net energy for load (f)	**19.8**	**25.9**	**32.1**	**20.9**	**20.9**	*25.9*	*33.5*	*21.8*	*21.1*	*25.6*	*33.6*	*21.7*	**98.7**	*102.1*	*102.1*
California															
Natural Gas	**16.5**	**17.5**	**28.8**	**21.0**	**16.4**	*13.2*	*26.5*	*20.5*	*14.4*	*11.4*	*24.6*	*18.3*	**83.8**	*76.5*	*68.7*
Coal	**1.8**	**1.4**	**3.0**	**1.4**	**1.6**	*1.2*	*2.1*	*1.8*	*1.7*	*1.1*	*2.2*	*1.8*	**7.6**	*6.7*	*6.8*
Nuclear	**2.9**	**4.2**	**5.0**	**4.3**	**4.7**	*4.0*	*4.4*	*4.0*	*4.6*	*4.7*	*4.6*	*4.0*	**16.5**	*17.1*	*17.9*
Conventional hydropower	**2.0**	**3.2**	**3.7**	**2.4**	**3.0**	*6.4*	*5.8*	*3.0*	*4.1*	*7.5*	*6.7*	*3.6*	**11.2**	*18.2*	*22.0*
Nonhydro renewables (d)	**15.5**	**21.2**	**19.2**	**15.2**	**16.6**	*22.1*	*20.3*	*16.2*	*18.1*	*24.2*	*23.2*	*18.9*	**71.1**	*75.3*	*84.4*
Other energy sources (e)	**0.0**	**-0.1**	**0.0**	**-0.1**	**0.0**	*-0.2*	*-0.2*	*0.1*	*0.1*	*-0.1*	*-0.1*	*0.1*	**-0.2**	*-0.3*	*0.0*
Total generation	**38.7**	**47.4**	**59.6**	**44.3**	**42.3**	*46.7*	*59.0*	*45.5*	*43.1*	*48.7*	*61.1*	*46.8*	**190.0**	*193.5*	*199.8*
Net energy for load (f)	**56.4**	**63.9**	**77.7**	**60.4**	**59.0**	*61.4*	*75.4*	*59.6*	*58.2*	*61.5*	*75.7*	*59.7*	**258.4**	*255.4*	*255.1*

(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 April 7, 2022.

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

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

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

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

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Electric Power Sector															
Geothermal	**0.034**	**0.035**	**0.035**	**0.035**	**0.035**	*0.034*	*0.035*	*0.035*	*0.034*	*0.031*	*0.035*	*0.035*	**0.138**	*0.139*	*0.135*
Hydroelectric Power (a)	**0.603**	**0.577**	**0.533**	**0.560**	**0.639**	*0.704*	*0.567*	*0.516*	*0.626*	*0.725*	*0.585*	*0.534*	**2.272**	*2.425*	*2.470*
Solar (b)	**0.189**	**0.309**	**0.308**	**0.207**	**0.249**	*0.392*	*0.391*	*0.261*	*0.320*	*0.500*	*0.495*	*0.337*	**1.014**	*1.293*	*1.653*
Waste Biomass (c)	**0.060**	**0.059**	**0.059**	**0.058**	**0.057**	*0.057*	*0.058*	*0.057*	*0.058*	*0.057*	*0.057*	*0.056*	**0.236**	*0.228*	*0.227*
Wood Biomass	**0.051**	**0.046**	**0.054**	**0.048**	**0.045**	*0.039*	*0.048*	*0.043*	*0.046*	*0.041*	*0.049*	*0.044*	**0.199**	*0.176*	*0.180*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.026**	*0.962*	*0.756*	*1.048*	*1.083*	*1.000*	*0.787*	*1.088*	**3.372**	*3.793*	*3.958*
Subtotal	**1.800**	**1.881**	**1.673**	**1.876**	**2.051**	*2.189*	*1.855*	*1.960*	*2.167*	*2.354*	*2.008*	*2.093*	**7.231**	*8.054*	*8.621*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.201**	*0.199*	*0.205*	*0.207*	*0.195*	*0.203*	*0.204*	*0.209*	**0.789**	*0.812*	*0.811*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	**0.008**	*0.009*	*0.008*
Solar (b)	**0.007**	**0.011**	**0.011**	**0.007**	**0.008**	*0.011*	*0.011*	*0.008*	*0.008*	*0.012*	*0.013*	*0.009*	**0.036**	*0.038*	*0.042*
Waste Biomass (c)	**0.042**	**0.040**	**0.037**	**0.042**	**0.040**	*0.039*	*0.039*	*0.042*	*0.040*	*0.040*	*0.039*	*0.041*	**0.160**	*0.160*	*0.161*
Wood Biomass	**0.333**	**0.339**	**0.343**	**0.328**	**0.328**	*0.339*	*0.356*	*0.359*	*0.349*	*0.347*	*0.360*	*0.362*	**1.342**	*1.383*	*1.419*
Subtotal (e)	**0.568**	**0.596**	**0.595**	**0.602**	**0.585**	*0.598*	*0.620*	*0.624*	*0.601*	*0.611*	*0.624*	*0.630*	**2.361**	*2.427*	*2.466*
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*	*0.025*
Solar (b)	**0.028**	**0.042**	**0.042**	**0.028**	**0.033**	*0.047*	*0.047*	*0.032*	*0.037*	*0.054*	*0.054*	*0.038*	**0.140**	*0.159*	*0.182*
Waste Biomass (c)	**0.009**	**0.008**	**0.009**	**0.009**	**0.009**	*0.008*	*0.009*	*0.009*	*0.009*	*0.008*	*0.009*	*0.009*	**0.035**	*0.035*	*0.035*
Wood Biomass	**0.020**	**0.020**	**0.021**	**0.021**	**0.020**	*0.020*	*0.021*	*0.021*	*0.020*	*0.020*	*0.021*	*0.021*	**0.083**	*0.083*	*0.083*
Subtotal (e)	**0.070**	**0.085**	**0.086**	**0.072**	**0.075**	*0.090*	*0.091*	*0.076*	*0.080*	*0.096*	*0.098*	*0.082*	**0.313**	*0.332*	*0.356*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.040*	*0.040*
Solar (f)	**0.065**	**0.099**	**0.097**	**0.067**	**0.078**	*0.118*	*0.116*	*0.080*	*0.087*	*0.130*	*0.130*	*0.089*	**0.329**	*0.391*	*0.435*
Wood Biomass	**0.114**	**0.116**	**0.117**	**0.117**	**0.114**	*0.116*	*0.117*	*0.117*	*0.114*	*0.116*	*0.117*	*0.117*	**0.464**	*0.464*	*0.464*
Subtotal	**0.189**	**0.225**	**0.224**	**0.194**	**0.202**	*0.243*	*0.243*	*0.207*	*0.211*	*0.256*	*0.257*	*0.216*	**0.832**	*0.895*	*0.939*
Transportation Sector															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.101**	*0.119*	*0.110*	*0.132*	*0.125*	*0.128*	*0.122*	*0.149*	**0.372**	*0.462*	*0.523*
Ethanol (g)	**0.243**	**0.281**	**0.285**	**0.288**	**0.265**	*0.280*	*0.284*	*0.281*	*0.256*	*0.284*	*0.286*	*0.287*	**1.097**	*1.110*	*1.113*
Subtotal	**0.322**	**0.376**	**0.374**	**0.397**	**0.366**	*0.399*	*0.393*	*0.413*	*0.381*	*0.411*	*0.408*	*0.436*	**1.469**	*1.572*	*1.636*
All Sectors Total															
Biodiesel, Renewable Diesel, and Other (g)	**0.080**	**0.095**	**0.089**	**0.108**	**0.101**	*0.119*	*0.110*	*0.132*	*0.125*	*0.128*	*0.122*	*0.149*	**0.372**	*0.462*	*0.523*
Biofuel Losses and Co-products (d)	**0.179**	**0.199**	**0.196**	**0.216**	**0.201**	*0.199*	*0.205*	*0.207*	*0.195*	*0.203*	*0.204*	*0.209*	**0.789**	*0.812*	*0.811*
Ethanol (f)	**0.253**	**0.293**	**0.298**	**0.301**	**0.277**	*0.292*	*0.296*	*0.294*	*0.268*	*0.296*	*0.299*	*0.300*	**1.146**	*1.159*	*1.163*
Geothermal	**0.050**	**0.052**	**0.052**	**0.052**	**0.053**	*0.051*	*0.052*	*0.052*	*0.051*	*0.048*	*0.052*	*0.052*	**0.206**	*0.208*	*0.203*
Hydroelectric Power (a)	**0.605**	**0.580**	**0.535**	**0.562**	**0.642**	*0.707*	*0.569*	*0.519*	*0.629*	*0.727*	*0.587*	*0.537*	**2.283**	*2.436*	*2.480*
Solar (b)(f)	**0.290**	**0.461**	**0.458**	**0.310**	**0.363**	*0.568*	*0.565*	*0.381*	*0.452*	*0.696*	*0.692*	*0.472*	**1.519**	*1.878*	*2.312*
Waste Biomass (c)	**0.110**	**0.107**	**0.106**	**0.109**	**0.107**	*0.105*	*0.106*	*0.107*	*0.107*	*0.105*	*0.105*	*0.106*	**0.431**	*0.425*	*0.423*
Wood Biomass	**0.519**	**0.520**	**0.535**	**0.513**	**0.506**	*0.515*	*0.542*	*0.540*	*0.530*	*0.524*	*0.547*	*0.544*	**2.087**	*2.104*	*2.145*
Wind	**0.863**	**0.856**	**0.684**	**0.969**	**1.026**	*0.962*	*0.756*	*1.048*	*1.083*	*1.000*	*0.787*	*1.088*	**3.372**	*3.793*	*3.958*
Total Consumption	**2.950**	**3.162**	**2.953**	**3.141**	**3.232**	*3.519*	*3.202*	*3.279*	*3.439*	*3.728*	*3.395*	*3.456*	**12.206**	*13.232*	*14.018*

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distrib

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Subtotals for the industrial and commercial sectors might not equal the sum of the components. The subtotal for the industrial sector includes ethanol consumption that is not shown separately. The subtotal for the commercial sector includes ethanol and hydroelectric consumption that are not shown separately.

(f) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(g) Fuel ethanol and biodiesel, renewable diesel, and other biofuels consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly* , DOE/EIA-0226 and *Renewable Energy Annual* , DOE/EIA-0603; *Petroleum Supply*

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

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 8b. U.S. Renewable Electricity Generation and Capacity

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**6,161**	**5,997**	**5,980**	**5,977**	**5,971**	*6,007*	*6,009*	*6,010*	*5,986*	*5,986*	*5,928*	*5,928*	**5,977**	*6,010*	*5,928*
Waste	**3,700**	**3,680**	**3,677**	**3,674**	**3,668**	*3,704*	*3,706*	*3,708*	*3,684*	*3,684*	*3,625*	*3,625*	**3,674**	*3,708*	*3,625*
Wood	**2,461**	**2,318**	**2,303**	**2,303**	**2,303**	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	*2,303*	**2,303**	*2,303*	*2,303*
Conventional Hydroelectric	**78,736**	**78,796**	**78,798**	**78,798**	**78,807**	*78,842*	*78,883*	*78,887*	*78,882*	*78,894*	*78,915*	*78,925*	**78,798**	*78,887*	*78,925*
Geothermal	**2,483**	**2,483**	**2,483**	**2,483**	**2,500**	*2,500*	*2,500*	*2,525*	*2,525*	*2,525*	*2,525*	*2,525*	**2,483**	*2,525*	*2,525*
Large-Scale Solar (b)	**50,368**	**52,359**	**55,609**	**60,671**	**64,871**	*69,165*	*71,596*	*80,809*	*84,843*	*89,713*	*92,084*	*104,764*	**60,671**	*80,809*	*104,764*
Wind	**121,201**	**124,742**	**126,696**	**132,243**	**136,225**	*139,039*	*139,264*	*142,442*	*142,592*	*143,743*	*143,743*	*146,793*	**132,243**	*142,442*	*146,793*
Other Sectors (c)															
Biomass	**6,206**	**6,210**	**6,214**	**6,214**	**6,204**	*6,204*	*6,197*	*6,197*	*6,197*	*6,200*	*6,200*	*6,200*	**6,214**	*6,197*	*6,200*
Waste	**827**	**830**	**829**	**829**	**829**	*829*	*829*	*829*	*829*	*829*	*829*	*829*	**829**	*829*	*829*
Wood	**5,380**	**5,380**	**5,385**	**5,385**	**5,375**	*5,375*	*5,367*	*5,367*	*5,367*	*5,371*	*5,371*	*5,371*	**5,385**	*5,367*	*5,371*
Conventional Hydroelectric	**291**	**291**	**288**	**288**	**288**	*291*	*291*	*291*	*291*	*291*	*291*	*291*	**288**	*291*	*291*
Large-Scale Solar (b)	**473**	**475**	**511**	**529**	**546**	*558*	*560*	*580*	*583*	*628*	*628*	*628*	**529**	*580*	*628*
Small-Scale Solar (d)	**28,846**	**30,325**	**31,515**	**32,972**	**33,832**	*34,783*	*35,799*	*36,981*	*38,214*	*39,531*	*40,972*	*42,508*	**32,972**	*36,981*	*42,508*
Residential Sector	**18,023**	**19,102**	**20,039**	**21,022**	**21,668**	*22,324*	*23,001*	*23,768*	*24,562*	*25,381*	*26,306*	*27,264*	**21,022**	*23,768*	*27,264*
Commercial Sector	**8,734**	**9,086**	**9,300**	**9,728**	**9,911**	*10,153*	*10,439*	*10,795*	*11,175*	*11,611*	*12,063*	*12,575*	**9,728**	*10,795*	*12,575*
Industrial Sector	**2,089**	**2,137**	**2,176**	**2,223**	**2,254**	*2,305*	*2,359*	*2,417*	*2,477*	*2,539*	*2,603*	*2,670*	**2,223**	*2,417*	*2,670*
Wind	**121**	**121**	**121**	**121**	**121**	*121*	*121*	*121*	*121*	*121*	*121*	*121*	**121**	*121*	*121*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**7.2**	**6.8**	**7.2**	**6.7**	**6.4**	*6.2*	*6.8*	*6.4*	*6.6*	*6.3*	*6.8*	*6.4*	**27.9**	*25.8*	*26.0*
Waste	**4.0**	**3.9**	**3.8**	**3.8**	**3.7**	*3.7*	*3.8*	*3.7*	*3.8*	*3.7*	*3.7*	*3.6*	**15.5**	*14.9*	*14.9*
Wood	**3.2**	**2.8**	**3.4**	**2.9**	**2.7**	*2.4*	*3.0*	*2.6*	*2.8*	*2.5*	*3.0*	*2.7*	**12.4**	*10.8*	*11.1*
Conventional Hydroelectric	**68.7**	**65.8**	**60.7**	**63.8**	**72.6**	*79.0*	*63.6*	*57.9*	*70.3*	*81.4*	*65.7*	*60.0*	**259.0**	*273.2*	*277.3*
Geothermal	**3.8**	**3.9**	**4.0**	**4.0**	**4.0**	*3.9*	*4.0*	*4.0*	*3.9*	*3.5*	*4.0*	*4.0*	**15.7**	*15.9*	*15.3*
Large-Scale Solar (b)	**21.3**	**34.7**	**34.6**	**23.3**	**27.9**	*44.0*	*43.9*	*29.3*	*36.0*	*56.2*	*55.6*	*37.8*	**113.9**	*145.2*	*185.6*
Wind	**97.0**	**96.1**	**76.8**	**108.8**	**115.3**	*108.0*	*84.9*	*117.7*	*121.6*	*112.3*	*88.4*	*122.1*	**378.6**	*425.9*	*444.4*
Other Sectors (c)															
Biomass	**6.9**	**6.8**	**7.1**	**6.8**	**6.8**	*6.8*	*7.1*	*6.8*	*6.8*	*6.8*	*7.1*	*6.8*	**27.6**	*27.5*	*27.5*
Waste	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	**2.8**	*2.8*	*2.8*
Wood	**6.2**	**6.1**	**6.4**	**6.1**	**6.1**	*6.1*	*6.4*	*6.1*	*6.1*	*6.1*	*6.4*	*6.1*	**24.8**	*24.7*	*24.7*
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**	*0.2*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	**0.8**	*0.9*	*1.0*
Small-Scale Solar (d)	**9.8**	**14.7**	**14.5**	**10.0**	**11.8**	*17.3*	*17.2*	*11.7*	*13.2*	*19.5*	*19.6*	*13.4*	**49.0**	*58.0*	*65.7*
Residential Sector	**5.9**	**9.1**	**8.9**	**6.1**	**7.5**	*11.0*	*10.9*	*7.4*	*8.3*	*12.4*	*12.4*	*8.5*	**30.1**	*36.8*	*41.5*
Commercial Sector	**3.1**	**4.5**	**4.5**	**3.0**	**3.5**	*5.1*	*5.1*	*3.5*	*4.0*	*5.8*	*5.8*	*4.0*	**15.1**	*17.1*	*19.6*
Industrial Sector	**0.8**	**1.1**	**1.1**	**0.8**	**0.8**	*1.2*	*1.2*	*0.9*	*0.9*	*1.4*	*1.4*	*1.0*	**3.8**	*4.2*	*4.6*
Wind	**0.3**	**0.3**	**0.2**	**0.4**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.1**	*0.3*	*0.3*

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

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

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

(d) Solar photovoltaic systems smaller than one megawatt.

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Historical data: Latest data available from EIA databases supporting the Electric Power Monthly, DOE/EIA-0226.

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

Forecasts: EIA Short-Term Integrated Forecasting System.

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

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**19,056**	**19,368**	**19,479**	**19,811**	**19,853**	*20,012*	*20,158*	*20,326*	*20,469*	*20,634*	*20,802*	*20,973*	**19,428**	*20,087*	*20,719*
Real Personal Consumption Expend.															
(billion chained 2012 dollars - SAAR)	**13,283**	**13,666**	**13,732**	**13,837**	**13,935**	*14,016*	*14,053*	*14,129*	*14,214*	*14,328*	*14,448*	*14,577*	**13,629**	*14,034*	*14,391*
Real Private Fixed Investment															
(billion chained 2012 dollars - SAAR)	**3,564**	**3,593**	**3,585**	**3,608**	**3,681**	*3,742*	*3,775*	*3,788*	*3,803*	*3,826*	*3,852*	*3,884*	**3,587**	*3,747*	*3,841*
Business Inventory Change															
(billion chained 2012 dollars - SAAR)	**-94**	**-174**	**-60**	**225**	**126**	*118*	*151*	*177*	*171*	*166*	*169*	*172*	**-26**	*143*	*170*
Real Government Expenditures															
(billion chained 2012 dollars - SAAR)	**3,391**	**3,374**	**3,382**	**3,360**	**3,362**	*3,374*	*3,383*	*3,390*	*3,401*	*3,412*	*3,420*	*3,429*	**3,376**	*3,378*	*3,416*
Real Exports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**2,262**	**2,304**	**2,273**	**2,397**	**2,408**	*2,463*	*2,505*	*2,545*	*2,586*	*2,624*	*2,660*	*2,693*	**2,309**	*2,480*	*2,641*
Real Imports of Goods & Services															
(billion chained 2012 dollars - SAAR)	**3,488**	**3,549**	**3,590**	**3,738**	**3,821**	*3,873*	*3,870*	*3,851*	*3,851*	*3,864*	*3,885*	*3,920*	**3,591**	*3,854*	*3,880*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**17,219**	**15,807**	**15,641**	**15,417**	**15,254**	*15,241*	*15,357*	*15,464*	*15,668*	*15,857*	*16,029*	*16,219*	**16,021**	*15,329*	*15,944*
Non-Farm Employment															
(millions)	**143.7**	**145.2**	**146.9**	**148.6**	**150.3**	*151.6*	*152.4*	*153.1*	*153.7*	*154.1*	*154.6*	*155.0*	**146.1**	*151.9*	*154.3*
Civilian Unemployment Rate															
(percent)	**6.2**	**5.9**	**5.1**	**4.2**	**3.8**	*3.6*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	**5.4**	*3.6*	*3.4*
Housing Starts															
(millions - SAAR)	**1.60**	**1.59**	**1.56**	**1.65**	**1.66**	*1.65*	*1.58*	*1.53*	*1.54*	*1.51*	*1.51*	*1.50*	**1.60**	*1.61*	*1.51*
Industrial Production Indices (Index, 2017=100)															
Total Industrial Production	**98.3**	**99.9**	**100.7**	**101.8**	**103.8**	*105.8*	*106.9*	*108.1*	*108.8*	*109.7*	*110.7*	*111.4*	**100.2**	*106.2*	*110.2*
Manufacturing	**97.3**	**98.7**	**99.7**	**101.1**	**101.9**	*103.7*	*104.8*	*106.1*	*107.2*	*108.5*	*109.8*	*110.9*	**99.2**	*104.1*	*109.1*
Food	**101.2**	**100.5**	**99.7**	**101.7**	**103.1**	*103.5*	*103.8*	*104.0*	*104.3*	*104.5*	*104.9*	*105.3*	**100.8**	*103.6*	*104.8*
Paper	**93.9**	**95.0**	**95.2**	**93.9**	**95.3**	*95.7*	*96.1*	*96.6*	*96.9*	*97.4*	*97.9*	*98.4*	**94.5**	*95.9*	*97.6*
Petroleum and Coal Products	**90.5**	**95.9**	**95.0**	**96.0**	**94.4**	*96.5*	*97.5*	*98.2*	*98.5*	*98.8*	*99.0*	*99.2*	**94.3**	*96.7*	*98.9*
Chemicals	**91.8**	**99.3**	**99.6**	**100.6**	**101.6**	*102.7*	*103.6*	*104.7*	*105.5*	*106.4*	*107.4*	*108.2*	**97.8**	*103.1*	*106.9*
Nonmetallic Mineral Products	**97.4**	**95.4**	**96.8**	**99.7**	**101.5**	*101.7*	*101.9*	*102.1*	*102.5*	*103.2*	*104.2*	*105.2*	**97.3**	*101.8*	*103.8*
Primary Metals	**92.4**	**96.7**	**98.0**	**99.4**	**98.8**	*99.1*	*100.7*	*103.1*	*103.5*	*105.3*	*107.1*	*108.3*	**96.6**	*100.4*	*106.0*
Coal-weighted Manufacturing (a)	**92.3**	**96.4**	**96.4**	**97.5**	**97.7**	*98.5*	*99.5*	*100.8*	*101.3*	*102.3*	*103.4*	*104.2*	**95.6**	*99.1*	*102.8*
Distillate-weighted Manufacturing (a)	**101.2**	**102.5**	**102.8**	**104.5**	**105.4**	*106.4*	*107.2*	*108.1*	*108.5*	*109.2*	*109.9*	*110.7*	**102.7**	*106.8*	*109.6*
Electricity-weighted Manufacturing (a)	**94.2**	**97.6**	**97.7**	**98.7**	**99.3**	*100.5*	*101.5*	*102.9*	*103.7*	*104.7*	*105.8*	*106.7*	**97.0**	*101.1*	*105.2*
Natural Gas-weighted Manufacturing (a)	**90.7**	**96.8**	**95.9**	**96.4**	**97.0**	*98.3*	*99.2*	*100.6*	*101.4*	*102.4*	*103.4*	*104.1*	**95.0**	*98.8*	*102.8*
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	**2.64**	**2.69**	**2.73**	**2.78**	**2.84**	*2.87*	*2.89*	*2.91*	*2.93*	*2.94*	*2.96*	*2.98*	**2.71**	*2.88*	*2.95*
Producer Price Index: All Commodities															
(index, 1982=1.00)	**2.10**	**2.24**	**2.33**	**2.42**	**2.43**	*2.48*	*2.48*	*2.48*	*2.49*	*2.49*	*2.50*	*2.51*	**2.27**	*2.47*	*2.50*
Producer Price Index: Petroleum															
(index, 1982=1.00)	**2.00**	**2.36**	**2.55**	**2.73**	**3.06**	*3.18*	*2.99*	*2.81*	*2.74*	*2.75*	*2.68*	*2.55*	**2.41**	*3.01*	*2.68*
GDP Implicit Price Deflator															
(index, 2012=100)	**115.8**	**117.5**	**119.3**	**121.3**	**122.7**	*123.9*	*125.0*	*126.0*	*126.8*	*127.6*	*128.5*	*129.4*	**118.5**	*124.4*	*128.1*
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	**7,928**	**9,138**	**9,368**	**8,934**	**8,220**	*9,383*	*9,576*	*9,091*	*8,524*	*9,507*	*9,683*	*9,260*	**8,846**	*9,072*	*9,247*
Air Travel Capacity															
(Available ton-miles/day, thousands)	**553**	**596**	**659**	**667**	**650**	*720*	*724*	*692*	*687*	*701*	*728*	*708*	**619**	*697*	*706*
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	**258**	**340**	**372**	**376**	**370**	*410*	*414*	*388*	*377*	*421*	*423*	*398*	**337**	*396*	*405*
Airline Ticket Price Index															
(index, 1982-1984=100)	**198.4**	**243.3**	**218.5**	**210.0**	**213.7**	*235.3*	*230.3*	*243.9*	*212.8*	*243.5*	*247.0*	*259.2*	**217.5**	*230.8*	*240.6*
Raw Steel Production															
(million short tons per day)	**0.246**	**0.258**	**0.267**	**0.260**	**0.253**	*0.252*	*0.268*	*0.283*	*0.294*	*0.294*	*0.309*	*0.323*	**0.258**	*0.264*	*0.305*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**517**	**559**	**569**	**578**	**558**	*575*	*585*	*585*	*561*	*579*	*588*	*589*	**2,223**	*2,303*	*2,317*
Natural Gas	**485**	**353**	**373**	**426**	**493**	*352*	*374*	*426*	*482*	*362*	*388*	*439*	**1,637**	*1,645*	*1,671*
Coal	**255**	**228**	**306**	**209**	**253**	*223*	*306*	*249*	*249*	*206*	*287*	*227*	**999**	*1,032*	*969*
Total Energy (c)	**1,260**	**1,143**	**1,251**	**1,216**	**1,307**	*1,152*	*1,268*	*1,263*	*1,295*	*1,150*	*1,266*	*1,258*	**4,870**	*4,991*	*4,969*

(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 April 7, 2022.

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

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal

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

Forecasts: EIA Short-Term Integrated Forecasting System. U.S. macroeconomic forecasts are based on the S&P Global model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Real Gross State Product (Billion $2012)															
New England	**979**	**1,001**	**1,008**	**1,026**	**1,025**	*1,033*	*1,039*	*1,046*	*1,052*	*1,059*	*1,066*	*1,074*	**1,004**	*1,036*	*1,063*
Middle Atlantic	**2,718**	**2,756**	**2,774**	**2,812**	**2,825**	*2,838*	*2,861*	*2,886*	*2,903*	*2,925*	*2,947*	*2,970*	**2,765**	*2,852*	*2,936*
E. N. Central	**2,485**	**2,514**	**2,520**	**2,564**	**2,566**	*2,588*	*2,607*	*2,627*	*2,643*	*2,662*	*2,682*	*2,701*	**2,521**	*2,597*	*2,672*
W. N. Central	**1,199**	**1,213**	**1,215**	**1,231**	**1,232**	*1,242*	*1,251*	*1,260*	*1,268*	*1,278*	*1,288*	*1,298*	**1,214**	*1,246*	*1,283*
S. Atlantic	**3,382**	**3,436**	**3,461**	**3,521**	**3,528**	*3,556*	*3,581*	*3,608*	*3,633*	*3,662*	*3,691*	*3,722*	**3,450**	*3,568*	*3,677*
E. S. Central	**836**	**842**	**846**	**860**	**861**	*868*	*873*	*879*	*884*	*890*	*896*	*902*	**846**	*870*	*893*
W. S. Central	**2,320**	**2,362**	**2,378**	**2,428**	**2,435**	*2,464*	*2,488*	*2,514*	*2,540*	*2,567*	*2,593*	*2,620*	**2,372**	*2,475*	*2,580*
Mountain	**1,274**	**1,296**	**1,303**	**1,327**	**1,331**	*1,343*	*1,353*	*1,366*	*1,378*	*1,392*	*1,406*	*1,420*	**1,300**	*1,348*	*1,399*
Pacific	**3,692**	**3,774**	**3,800**	**3,863**	**3,870**	*3,899*	*3,924*	*3,958*	*3,985*	*4,015*	*4,046*	*4,077*	**3,782**	*3,913*	*4,031*
Industrial Output, Manufacturing (Index, Year 2017=100)															
New England	**95.4**	**96.8**	**98.0**	**99.4**	**100.1**	*101.8*	*102.7*	*104.1*	*105.1*	*106.4*	*107.7*	*108.6*	**97.4**	*102.2*	*107.0*
Middle Atlantic	**93.3**	**94.7**	**96.0**	**97.5**	**98.4**	*100.3*	*101.3*	*102.4*	*103.5*	*104.5*	*105.6*	*106.5*	**95.4**	*100.6*	*105.0*
E. N. Central	**95.3**	**96.1**	**97.0**	**98.5**	**99.2**	*100.9*	*102.1*	*103.6*	*104.7*	*106.1*	*107.3*	*108.4*	**96.8**	*101.5*	*106.6*
W. N. Central	**98.4**	**99.6**	**101.1**	**102.3**	**103.0**	*104.5*	*105.7*	*106.9*	*107.9*	*109.2*	*110.4*	*111.5*	**100.3**	*105.0*	*109.8*
S. Atlantic	**99.2**	**100.6**	**101.5**	**102.8**	**103.6**	*105.4*	*106.4*	*107.6*	*108.6*	*109.8*	*111.0*	*112.1*	**101.0**	*105.7*	*110.4*
E. S. Central	**98.1**	**99.3**	**100.2**	**101.4**	**102.0**	*103.6*	*104.6*	*105.9*	*106.8*	*108.0*	*109.3*	*110.4*	**99.8**	*104.0*	*108.6*
W. S. Central	**99.1**	**100.7**	**101.6**	**102.9**	**104.1**	*106.2*	*107.4*	*108.7*	*109.7*	*111.2*	*112.6*	*113.8*	**101.1**	*106.6*	*111.8*
Mountain	**105.6**	**107.9**	**108.3**	**109.8**	**110.5**	*112.1*	*113.3*	*114.8*	*116.0*	*117.5*	*118.9*	*120.1*	**107.9**	*112.7*	*118.1*
Pacific	**93.8**	**95.0**	**95.4**	**97.0**	**98.1**	*100.2*	*101.5*	*103.0*	*104.5*	*105.8*	*107.1*	*108.2*	**95.3**	*100.7*	*106.4*
Real Personal Income (Billion $2012)															
New England	**998**	**948**	**940**	**930**	**921**	*922*	*929*	*935*	*944*	*952*	*960*	*967*	**954**	*927*	*956*
Middle Atlantic	**2,614**	**2,449**	**2,436**	**2,403**	**2,388**	*2,379*	*2,398*	*2,415*	*2,441*	*2,462*	*2,481*	*2,501*	**2,475**	*2,395*	*2,471*
E. N. Central	**2,744**	**2,523**	**2,504**	**2,465**	**2,438**	*2,441*	*2,459*	*2,476*	*2,502*	*2,524*	*2,545*	*2,565*	**2,559**	*2,454*	*2,534*
W. N. Central	**1,275**	**1,194**	**1,181**	**1,166**	**1,157**	*1,156*	*1,164*	*1,170*	*1,183*	*1,194*	*1,205*	*1,217*	**1,204**	*1,162*	*1,200*
S. Atlantic	**3,720**	**3,441**	**3,425**	**3,405**	**3,374**	*3,376*	*3,404*	*3,429*	*3,470*	*3,506*	*3,540*	*3,573*	**3,498**	*3,396*	*3,522*
E. S. Central	**1,025**	**927**	**923**	**915**	**905**	*905*	*911*	*916*	*926*	*934*	*942*	*949*	**947**	*909*	*938*
W. S. Central	**2,238**	**2,077**	**2,070**	**2,067**	**2,051**	*2,058*	*2,077*	*2,095*	*2,122*	*2,146*	*2,168*	*2,190*	**2,113**	*2,070*	*2,157*
Mountain	**1,381**	**1,281**	**1,278**	**1,267**	**1,255**	*1,257*	*1,267*	*1,278*	*1,292*	*1,308*	*1,321*	*1,335*	**1,302**	*1,264*	*1,314*
Pacific	**3,269**	**3,089**	**3,073**	**3,041**	**3,004**	*3,005*	*3,024*	*3,045*	*3,075*	*3,105*	*3,130*	*3,155*	**3,118**	*3,019*	*3,117*
Households (Thousands)															
New England	**6,054**	**6,061**	**6,057**	**6,067**	**6,076**	*6,085*	*6,096*	*6,106*	*6,116*	*6,127*	*6,136*	*6,146*	**6,067**	*6,106*	*6,146*
Middle Atlantic	**16,405**	**16,405**	**16,387**	**16,404**	**16,419**	*16,440*	*16,461*	*16,487*	*16,517*	*16,544*	*16,570*	*16,594*	**16,404**	*16,487*	*16,594*
E. N. Central	**19,076**	**19,090**	**19,095**	**19,140**	**19,176**	*19,203*	*19,229*	*19,259*	*19,291*	*19,322*	*19,352*	*19,382*	**19,140**	*19,259*	*19,382*
W. N. Central	**8,717**	**8,729**	**8,736**	**8,763**	**8,784**	*8,809*	*8,832*	*8,852*	*8,873*	*8,894*	*8,914*	*8,934*	**8,763**	*8,852*	*8,934*
S. Atlantic	**26,284**	**26,358**	**26,405**	**26,516**	**26,617**	*26,722*	*26,823*	*26,921*	*27,021*	*27,117*	*27,210*	*27,305*	**26,516**	*26,921*	*27,305*
E. S. Central	**7,816**	**7,830**	**7,840**	**7,866**	**7,888**	*7,911*	*7,933*	*7,953*	*7,973*	*7,993*	*8,013*	*8,032*	**7,866**	*7,953*	*8,032*
W. S. Central	**15,332**	**15,379**	**15,414**	**15,482**	**15,545**	*15,608*	*15,670*	*15,727*	*15,785*	*15,842*	*15,899*	*15,955*	**15,482**	*15,727*	*15,955*
Mountain	**9,612**	**9,653**	**9,688**	**9,744**	**9,794**	*9,842*	*9,889*	*9,932*	*9,975*	*10,020*	*10,062*	*10,105*	**9,744**	*9,932*	*10,105*
Pacific	**19,002**	**18,992**	**18,979**	**19,010**	**19,043**	*19,074*	*19,107*	*19,131*	*19,158*	*19,185*	*19,212*	*19,243*	**19,010**	*19,131*	*19,243*
Total Non-farm Employment (Millions)															
New England	**7.0**	**7.1**	**7.2**	**7.3**	**7.3**	*7.4*	*7.4*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	**7.1**	*7.4*	*7.5*
Middle Atlantic	**18.4**	**18.5**	**18.7**	**19.0**	**19.2**	*19.4*	*19.5*	*19.6*	*19.7*	*19.7*	*19.8*	*19.8*	**18.6**	*19.4*	*19.8*
E. N. Central	**21.0**	**21.1**	**21.3**	**21.6**	**21.8**	*22.0*	*22.1*	*22.2*	*22.2*	*22.3*	*22.3*	*22.4*	**21.3**	*22.0*	*22.3*
W. N. Central	**10.3**	**10.4**	**10.5**	**10.6**	**10.7**	*10.8*	*10.8*	*10.8*	*10.9*	*10.9*	*10.9*	*10.9*	**10.5**	*10.8*	*10.9*
S. Atlantic	**28.0**	**28.2**	**28.6**	**28.9**	**29.3**	*29.5*	*29.7*	*29.8*	*29.9*	*30.0*	*30.1*	*30.2*	**28.4**	*29.6*	*30.0*
E. S. Central	**8.1**	**8.1**	**8.2**	**8.2**	**8.3**	*8.4*	*8.4*	*8.4*	*8.5*	*8.5*	*8.5*	*8.5*	**8.1**	*8.4*	*8.5*
W. S. Central	**17.2**	**17.4**	**17.6**	**17.8**	**18.0**	*18.2*	*18.3*	*18.4*	*18.4*	*18.5*	*18.6*	*18.7*	**17.5**	*18.2*	*18.6*
Mountain	**10.8**	**10.9**	**11.1**	**11.2**	**11.3**	*11.4*	*11.4*	*11.5*	*11.6*	*11.6*	*11.7*	*11.7*	**11.0**	*11.4*	*11.6*
Pacific	**22.0**	**22.5**	**22.8**	**23.1**	**23.4**	*23.7*	*23.8*	*24.0*	*24.0*	*24.1*	*24.2*	*24.2*	**22.6**	*23.7*	*24.1*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (http://www.eia.doe.gov/glossary/index.html) for a list of States in each region.

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

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

Forecasts: U.S. macroeconomic forecasts are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

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

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Heating Degree Days															
New England	**3,017**	**779**	**85**	**1,926**	**3,125**	*864*	*128*	*2,144*	*3,087*	*848*	*128*	*2,144*	**5,808**	*6,261*	*6,208*
Middle Atlantic	**2,820**	**668**	**57**	**1,726**	**2,909**	*683*	*76*	*1,961*	*2,834*	*668*	*76*	*1,961*	**5,270**	*5,629*	*5,539*
E. N. Central	**3,086**	**708**	**70**	**1,889**	**3,273**	*700*	*120*	*2,245*	*3,071*	*707*	*120*	*2,245*	**5,752**	*6,338*	*6,142*
W. N. Central	**3,228**	**718**	**88**	**2,027**	**3,503**	*663*	*157*	*2,467*	*3,238*	*712*	*157*	*2,467*	**6,061**	*6,790*	*6,574*
South Atlantic	**1,346**	**211**	**10**	**798**	**1,340**	*191*	*13*	*951*	*1,373*	*189*	*13*	*949*	**2,366**	*2,495*	*2,525*
E. S. Central	**1,789**	**312**	**19**	**1,032**	**1,840**	*237*	*20*	*1,303*	*1,789*	*248*	*20*	*1,303*	**3,151**	*3,399*	*3,361*
W. S. Central	**1,296**	**121**	**1**	**495**	**1,366**	*67*	*4*	*816*	*1,205*	*90*	*4*	*815*	**1,913**	*2,253*	*2,114*
Mountain	**2,309**	**662**	**110**	**1,636**	**2,322**	*660*	*143*	*1,866*	*2,258*	*713*	*142*	*1,865*	**4,716**	*4,990*	*4,978*
Pacific	**1,562**	**487**	**77**	**1,205**	**1,376**	*625*	*94*	*1,219*	*1,544*	*612*	*95*	*1,220*	**3,331**	*3,313*	*3,470*
U.S. Average	**2,107**	**472**	**51**	**1,307**	**2,148**	*479*	*73*	*1,531*	*2,094*	*485*	*73*	*1,529*	**3,937**	*4,230*	*4,181*
Heating Degree Days, Prior 10-year Average															
New England	**3,133**	**855**	**107**	**2,100**	**3,101**	*852*	*107*	*2,104*	*3,150*	*866*	*107*	*2,111*	**6,195**	*6,165*	*6,234*
Middle Atlantic	**2,912**	**677**	**71**	**1,911**	**2,887**	*684*	*71*	*1,908*	*2,941*	*693*	*70*	*1,911*	**5,572**	*5,550*	*5,616*
E. N. Central	**3,157**	**731**	**104**	**2,170**	**3,133**	*727*	*97*	*2,162*	*3,215*	*736*	*95*	*2,171*	**6,161**	*6,119*	*6,217*
W. N. Central	**3,248**	**728**	**133**	**2,368**	**3,219**	*726*	*125*	*2,357*	*3,319*	*741*	*125*	*2,368*	**6,477**	*6,427*	*6,554*
South Atlantic	**1,395**	**181**	**11**	**916**	**1,380**	*187*	*11*	*905*	*1,401*	*190*	*10*	*901*	**2,503**	*2,483*	*2,503*
E. S. Central	**1,771**	**231**	**16**	**1,249**	**1,763**	*243*	*15*	*1,227*	*1,811*	*249*	*14*	*1,226*	**3,267**	*3,248*	*3,300*
W. S. Central	**1,140**	**86**	**3**	**786**	**1,145**	*93*	*3*	*754*	*1,191*	*96*	*3*	*764*	**2,015**	*1,994*	*2,055*
Mountain	**2,188**	**704**	**135**	**1,850**	**2,181**	*685*	*132*	*1,818*	*2,203*	*693*	*135*	*1,826*	**4,877**	*4,816*	*4,857*
Pacific	**1,461**	**553**	**81**	**1,147**	**1,455**	*523*	*79*	*1,136*	*1,437*	*525*	*80*	*1,141*	**3,242**	*3,193*	*3,183*
U.S. Average	**2,112**	**483**	**65**	**1,487**	**2,096**	*479*	*62*	*1,473*	*2,133*	*485*	*62*	*1,476*	**4,147**	*4,110*	*4,155*
Cooling Degree Days															
New England	**0**	**143**	**454**	**6**	**0**	*84*	*422*	*2*	*0*	*84*	*422*	*2*	**604**	*508*	*508*
Middle Atlantic	**0**	**181**	**628**	**24**	**0**	*154*	*553*	*5*	*0*	*156*	*553*	*5*	**833**	*712*	*714*
E. N. Central	**2**	**250**	**627**	**30**	**0**	*228*	*549*	*6*	*0*	*220*	*549*	*6*	**909**	*784*	*776*
W. N. Central	**8**	**312**	**746**	**23**	**0**	*288*	*688*	*10*	*3*	*256*	*687*	*10*	**1,089**	*985*	*956*
South Atlantic	**151**	**616**	**1,170**	**285**	**148**	*652*	*1,162*	*236*	*126*	*652*	*1,163*	*237*	**2,222**	*2,198*	*2,177*
E. S. Central	**40**	**436**	**1,017**	**127**	**11**	*527*	*1,056*	*65*	*28*	*506*	*1,056*	*65*	**1,620**	*1,659*	*1,655*
W. S. Central	**90**	**768**	**1,471**	**316**	**56**	*932*	*1,531*	*200*	*83*	*835*	*1,531*	*200*	**2,645**	*2,719*	*2,650*
Mountain	**10**	**528**	**963**	**67**	**13**	*436*	*928*	*75*	*17*	*414*	*929*	*75*	**1,567**	*1,453*	*1,435*
Pacific	**24**	**249**	**696**	**58**	**26**	*162*	*564*	*60*	*27*	*163*	*563*	*60*	**1,027**	*812*	*814*
U.S. Average	**49**	**410**	**900**	**128**	**43**	*412*	*861*	*94*	*43*	*395*	*862*	*95*	**1,487**	*1,409*	*1,395*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**80**	**474**	**1**	**0**	*87*	*471*	*2*	*0*	*88*	*465*	*2*	**555**	*560*	*555*
Middle Atlantic	**0**	**163**	**610**	**6**	**0**	*162*	*608*	*8*	*0*	*159*	*601*	*8*	**779**	*779*	*769*
E. N. Central	**3**	**234**	**572**	**7**	**3**	*238*	*571*	*9*	*1*	*231*	*560*	*10*	**816**	*821*	*802*
W. N. Central	**7**	**294**	**686**	**10**	**7**	*299*	*681*	*11*	*4*	*290*	*669*	*12*	**997**	*999*	*975*
South Atlantic	**143**	**679**	**1,194**	**260**	**147**	*668*	*1,188*	*269*	*143*	*669*	*1,189*	*274*	**2,276**	*2,272*	*2,275*
E. S. Central	**42**	**532**	**1,065**	**74**	**44**	*518*	*1,057*	*84*	*34*	*514*	*1,058*	*86*	**1,713**	*1,703*	*1,692*
W. S. Central	**114**	**881**	**1,568**	**210**	**113**	*853*	*1,536*	*224*	*101*	*845*	*1,535*	*226*	**2,772**	*2,726*	*2,706*
Mountain	**24**	**441**	**949**	**85**	**23**	*459*	*945*	*84*	*23*	*452*	*942*	*82*	**1,499**	*1,511*	*1,499*
Pacific	**31**	**193**	**648**	**86**	**31**	*208*	*664*	*85*	*31*	*208*	*655*	*84*	**959**	*988*	*977*
U.S. Average	**52**	**413**	**892**	**104**	**53**	*412*	*889*	*109*	*50*	*410*	*885*	*110*	**1,461**	*1,463*	*1,455*

- = no data available

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

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

Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National

See *Change in Regional and U.S. Degree-Day Calculations* (http://www.eia.gov/forecasts/steo/special/pdf/2012_sp_04.pdf) for more information.

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

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

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

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

Appendix to the April 2022 *Short-Term Energy Outlook*

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

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

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

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	Feb 2022	Mar 2022	Feb 2022 – Mar 2022 Average	Feb 2021 – Mar 2021 Average	2019 – 2021 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	99.4	99.3	99.3	92.0	96.5
Global Petroleum and Other Liquids Consumption (b)	100.5	98.3	99.4	95.1	96.7
Biofuels Production (c)	2.3	2.3	2.3	2.2	2.7
Biofuels Consumption (c)	2.5	2.5	2.5	2.5	2.6
Iran Liquid Fuels Production	3.7	3.7	3.7	3.3	3.2
Iran Liquid Fuels Consumption	2.2	1.9	2.1	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	93.4	93.3	93.3	86.5	90.6
Consumption (d)	95.8	93.9	94.8	90.7	92.3
Production minus Consumption	-2.4	-0.6	-1.5	-4.2	-1.7
World Inventory Net Withdrawals Including Iran	1.2	-1.0	0.0	3.1	0.2
Estimated OECD Inventory Level (e) (million barrels)	2,601	2,614	2,608	2,934	2,943
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.4	3.6	3.5	6.7	4.4

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

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

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

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

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

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

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

Table a2. Crude Oil and Petroleum Product Price Data

Item	Feb 2022	Mar 2022	Feb 2022 – Mar 2022 Average	Feb 2021 – Mar 2021 Average	2019 – 2021 Average
Brent Front Month Futures Price ($ per barrel)	94.10	112.46	104.15	64.15	59.44
WTI Front Month Futures Price ($ per barrel)	91.63	108.26	100.74	60.87	54.82
Dubai Front Month Futures Price ($ per barrel)	92.02	110.18	101.96	62.91	58.86
Brent 1st - 13th Month Futures Spread ($ per barrel)	12.01	21.83	17.39	5.18	1.80
WTI 1st - 13th Month Futures Spread ($ per barrel)	13.07	22.74	18.37	5.23	1.37
RBOB Front Month Futures Price ($ per gallon)	2.69	3.30	3.02	1.89	1.67
Heating Oil Front Month Futures Price ($ per gallon)	2.85	3.65	3.29	1.82	1.75
RBOB - Brent Futures Crack Spread ($ per gallon)	0.45	0.62	0.54	0.36	0.25
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.61	0.97	0.81	0.30	0.34

(a) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
(b) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
(c) RBOB refers to r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).