



Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Although all market outlooks are subject to many risks, the May edition of EIA's *Short-Term Energy Outlook* remains subject to heightened levels of uncertainty because the effects on energy markets of mitigation efforts related to the [2019 novel coronavirus disease \(COVID-19\)](#) are still evolving. Reduced economic activity related to the COVID-19 pandemic has caused significant changes in energy supply and demand patterns. Crude oil prices, in particular, have fallen significantly since the beginning of 2020, largely driven by reduced oil demand because of COVID-19 mitigation efforts. Despite the April agreement between the Organization of the Petroleum Exporting Countries (OPEC) and partner countries (OPEC+) to reduce production levels beyond the end of the STEO forecast period, crude oil prices have remained at some of their lowest levels in more than 20 years. Uncertainties persist across EIA's outlook for other energy sources, including natural gas, electricity, coal, and renewables.
- Brent crude oil prices averaged \$18 per barrel (b) in April, a decrease of \$13/b from the average in March. EIA forecasts Brent crude oil prices will average \$34/b in 2020, down from an average of \$64/b in 2019. EIA expects prices will average \$23/b during the second quarter of 2020 before increasing to \$32/b during the second half of the year. EIA forecasts that Brent prices will rise to an average of \$48/b in 2021, \$2/b higher than forecast last month, as EIA expects that declining global oil inventories next year will put upward pressure on oil prices.
- EIA estimates global petroleum and liquid fuels consumption averaged 94.1 million barrels per day (b/d) in the first quarter of 2020, a decline of 5.8 million b/d from the same period in 2019. EIA expects global petroleum and liquid fuels demand will average 92.6 million b/d in 2020, a decrease of 8.1 million b/d from last year, before increasing by 7.0 million b/d in 2021. Lower global oil demand growth for 2020 in the May STEO reflects growing evidence of disruptions to global economic activity along with reduced expected travel globally as a result of restrictions related to COVID-19.
- EIA expects that global liquid fuels inventories will grow by an average of 2.6 million b/d in 2020 after falling by 0.2 million b/d in 2019. EIA expects inventory builds will

be largest in the first half of 2020, rising at a rate of 6.6 million b/d in the first quarter and increasing to builds of 11.5 million b/d in the second quarter as a result of widespread travel limitations and sharp reductions in economic activity. Firmer demand growth as the global economy begins to recover and slower supply growth will contribute to global oil inventory draws beginning in the third quarter of 2020. EIA expects global liquid fuels inventories will fall by 1.9 million b/d in 2021.

- EIA forecasts significant decreases in U.S. liquid fuels demand during the first half of 2020 as a result of COVID-19 travel restrictions and disruptions to business and economic activity. EIA expects the largest impacts will occur in the second quarter of 2020 before gradually dissipating over the next 18 months. EIA expects U.S. motor gasoline consumption to fall from 8.6 million b/d in the first quarter of 2020 to an average of 7.0 million b/d in the second quarter before gradually increasing to 8.7 million b/d in the second half of the year. U.S. jet fuel consumption will fall from 1.6 million b/d in the first quarter of 2020 to an average of 0.8 million b/d in the second quarter. U.S. distillate fuel oil consumption is forecast to decline by 0.6 million b/d to average 3.3 million b/d during the same period. For all of 2020, EIA forecasts that U.S. motor gasoline consumption will average 8.3 million b/d, a decrease of 11% compared with 2019, while jet fuel and distillate fuel oil consumption will fall by 25% and 10%, respectively, during the same period.
- EIA has revised its current forecast of domestic crude oil production down from the April STEO as a result of lower crude oil prices. EIA forecasts U.S. crude oil production will average 11.7 million b/d in 2020, down 0.5 million b/d from 2019. In 2021, EIA expects U.S. crude oil production to decline further by 0.8 million b/d. If realized, the 2020 production decline would mark the first annual decline since 2016. U.S. crude oil production has not declined for two years in a row since the 17-year period of declines beginning in 1992 and running through 2008. Typically, price changes affect production after about a six-month lag. However, current market conditions will likely reduce this lag as many producers have already announced plans to reduce capital spending and drilling levels.

Natural Gas

- In April, the Henry Hub natural gas spot price averaged \$1.73 per million British thermal units (MMBtu). EIA forecasts that natural gas prices will generally rise through the rest of 2020 as U.S. production declines. EIA forecasts that Henry Hub natural gas spot prices will average \$2.14/MMBtu in 2020 and then increase in 2021, reaching an annual average of \$2.89/MMBtu. EIA expects prices to rise largely because of lower natural gas production compared with 2020.

- EIA expects total consumption of natural gas to average 81.7 billion cubic feet per day (Bcf/d) in 2020, down 3.9% from the 2019 average primarily because of lower industrial sector consumption of natural gas. EIA forecasts industrial natural gas consumption to average 21.3 Bcf/d in 2020, down 7.1% from 2019 as a result of lower expected manufacturing activity. This expected decline is lower than the 0.3% decline forecast in the April STEO because of large downward revisions to the macroeconomic forecast in the May STEO.
- U.S. dry natural gas production [set a record in 2019](#), averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 89.8 Bcf/d in 2020, with monthly production falling from an estimated 93.1 Bcf/d in April to 85.4 Bcf/d in December. Natural gas production declines the most in the Appalachian region and Permian region. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low oil prices reduce associated gas output from oil-directed wells. In 2021, forecast dry natural gas production averages 84.9 Bcf/d, rising in the second half of 2021 in response to higher prices.
- EIA estimates that total U.S. working natural gas in storage ended April at 2.3 trillion cubic feet (Tcf), 20% more than the five-year (2015–19) average. In the forecast, inventories rise by 2.1 Tcf during the April through October injection season to reach almost 4.2 Tcf on October 31, which would be a record level.
- EIA forecasts that U.S. liquefied natural gas exports will average 5.8 Bcf/d in the second quarter of 2020 and 4.8 Bcf/d in the third quarter of 2020. U.S. liquefied natural gas exports are expected to decline through the end of the summer as a result of lower expected global demand for natural gas.

Electricity, coal, renewables, and emissions

- Although some stay-at-home orders are beginning to be relaxed, the effects of social distancing guidelines are likely to continue affecting U.S. electricity consumption during the next few months. EIA expects retail sales of electricity in the commercial sector will fall by 6.5% in 2020 because many businesses have closed and many people are working from home. Similarly, EIA expects industrial retail sales of electricity will fall by 6.5% in 2020 as many factories cut back production. Forecast U.S. sales of electricity to the residential sector fall by 1.3% in 2020 because of lower electricity demand as a result of milder winter and summer weather, which is offset slightly by increased household electricity consumption as much of the population spends relatively more time at home.
- EIA forecasts that total U.S. electric power sector generation will decline by 5% in 2020. Most of the expected decline in electricity supply is reflected in lower fossil fuel generation, especially at coal-fired power plants. EIA expects that coal generation will fall by 25% in 2020. Forecast natural gas generation is relatively flat

this year, reflecting favorable fuel costs and the addition of new generating capacity. Renewable energy sources account for the largest portion of new generating capacity in 2020, driving EIA's forecast of 11% growth in renewable generation by the electric power sector. Renewable energy is typically dispatched whenever it is available because of its low operating cost.

- Although EIA expects renewable energy to be the fastest-growing source of electricity generation in 2020, the effects the economic slowdown related to COVID-19 are likely to affect new generating capacity builds during the next few months. EIA expects the electric power sector will add 20.4 gigawatts of new wind capacity and 12.7 gigawatts of utility-scale solar capacity in 2020. However, these forecasts are subject to a high degree of uncertainty, and EIA will continue to monitor reported planned capacity builds.
- EIA forecasts U.S. average coal consumption will decrease by 23% to 453 MMst in 2020. The decrease is primarily driven by a 24% decline in electric power sector consumption and persistently low natural gas prices. In 2021, consumption is expected to increase by 10% to 498 MMst because of stronger natural gas prices and an overall economic recovery that results in rising electricity generation.
- After decreasing by 2.8% in 2019, EIA forecasts that U.S. energy-related carbon dioxide (CO₂) emissions will decrease by 11% (572 million metric tons) in 2020. This record decline is the result of restrictions on business and travel activity and slowing economic growth related to COVID-19. CO₂ emissions decline from all fossil fuels, particularly coal (23%) and petroleum (11%). In 2021, EIA forecasts that energy-related CO₂ emissions will increase by 5% as the economy recovers and stay-at-home orders are lifted. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Forecast Assumptions

Because of the heightened uncertainty surrounding this month's STEO, we have included some of the driving assumptions that affected our forecast this month.

Global Liquid Fuels

Global Petroleum and Other Liquid Fuels Consumption

In the May STEO, EIA revised its 2020 global oil consumption forecast to reflect the most up-to-date information available.

Similar to the March and April STEOs, EIA analyzed reductions in oil demand by evaluating three main drivers: lower economic growth, less air travel, and other declines in demand not captured by these two categories, largely related to reductions in travel because of stay-at-home orders. Based on incoming data and updated assessments of lockdowns and stay-at-home orders across dozens of countries globally, EIA has lowered its forecasts for global oil demand in 2020. The precise effect of lockdowns on petroleum consumption remains highly uncertain because the severity and enforcement of the shutdowns vary by country. EIA currently assumes all stay-at-home orders will be eased by the fourth quarter of 2020. EIA is not assuming resurgent outbreaks of COVID-19 that result in the announcement of further lockdowns.

The May STEO's forecast for non-U.S. economic growth is based on forecasts from Oxford Economics, which have been revised down since the April STEO. In 2020, EIA forecasts global oil consumption-weighted gross domestic product (GDP) to decline by 4.1%, compared with a decline of 0.1% in the April STEO. The sharpest declines occur in the second quarter of 2020 when Oxford Economics forecasts that global GDP will decrease 7.1% compared with 2019.

EIA forecasts global liquid fuels consumption will average 92.6 million barrels per day (b/d) in 2020, down 8.1 million b/d from 2019. Following the pattern of the GDP forecast, the sharpest consumption declines are in the second quarter, when EIA forecasts a year-over-year decline in liquid fuels consumption of 18.8 million b/d. EIA forecasts both economic growth and global liquid fuels consumption to increase in 2021. However, any lasting changes to transportation and other oil consumption patterns once COVID-19 mitigation efforts end present considerable uncertainty to the increase in liquid fuels consumption, even if GDP growth increases significantly.

Non-OPEC Petroleum and Other Liquid Fuels Supply

EIA forecasts that the supply of non-OPEC petroleum and other liquid fuels will decline by 2.4 million b/d in 2020, compared with a decline of 0.2 million b/d in the April STEO. The steeper decline largely reflects the newly implemented production cuts from non-OPEC participants in the [OPEC+ agreement](#). EIA expects the largest non-OPEC production declines in 2020 to occur in Russia, the United States, and Canada.

EIA expects production of non-OPEC petroleum and other liquid fuels to increase in 2021. Production in countries that have implemented voluntary production cuts will generally rise in 2021 as global oil demand recovers. However, EIA forecasts production to continue to decline in the United States, where production is driven by price-sensitive shale operators.

EIA expects Russia to experience the largest liquid fuels production declines in 2020 among OPEC+ producers, with forecast declines of more than 0.8 million b/d compared with 2019. EIA expects Russia's liquid fuels production to rise in 2021.

EIA expects total production of liquid fuels in the United States to fall by 0.8 million b/d in 2020, largely as a result of reductions in drilling in price-sensitive tight oil regions. EIA expects U.S. supply to fall by another 0.6 million b/d in 2021.

EIA expects Canada's total liquid fuels production to fall by 0.4 million b/d in 2020. This decrease is a result of 2019 government-ordered production cuts in Alberta and economic shut-ins because of the effect of low oil prices and falling demand for oil exports. In 2021, EIA expects Canada's production to increase and return to near 2019 levels. EIA does not expect any additional production from new upstream projects to come online during the forecast period, only expansions of existing projects.

EIA expects Brazil's production of petroleum and other liquid fuels to grow more slowly than previously forecast. On April 1, Brazil's national oil company, Petroleo Brasileiro, S.A. (Petrobras), deepened its production cuts to 200,000 b/d. EIA expects this level of cuts to continue for the remainder of 2020. Petrobras will idle some shallow-water platforms with higher production costs in the Sergipe, Rio Grande do Norte, and Ceará states to achieve these cuts. In addition, production volumes from the P-70 floating, production, storage, and offloading vessel (FPSO) will be delayed until 2021. The P-70 was originally scheduled to begin producing in the first half of 2020, before it was damaged in a storm in February 2020. Growth in 2021 will be restrained as previously scheduled FPSOs (Carioca, Sepia, Guanabara) are now delayed because of the economic slowdown related to COVID-19 restrictions that are affecting production schedules. In 2020, EIA also expects biofuels to be affected by reduced ethanol demand, and it expects sugar cane millers to switch to sugar production as a result of pricing conditions.

Mexico agreed to 100,000 b/d of cuts under the OPEC+ agreement. EIA had previously forecast crude oil production to decline in Mexico in 2020 and 2021 because of natural declines in mature fields. EIA now expects additional declines as result of Mexico shutting in new priority wells to fulfill the OPEC+ obligation. Overall EIA expects Mexico's annual average liquid fuels production to fall by almost 0.1 million b/d in both 2020 and 2021.

Norway's Ministry of Petroleum and Energy announced unilateral production cuts on the Norwegian continental shelf to help stabilize world oil markets. Norway will limit production of crude oil to no more than 1.609 million b/d in June and no more than 1.725 million b/d for the remainder of 2020. EIA assumes Norway's crude oil production will adhere to these levels.

In Asia, EIA expects India to shut in about 120,000 b/d of production during the next few months as a result of the immediate economic impacts related to COVID-19 on labor mobility and other logistics. In addition, the significantly lower oil price environment will reduce capital expenditure by upstream investors in both China and India and shutter production at higher production cost fields, such as China's tight oil plays in the north central and northwest of the country and the mature fields that require enhanced oil recovery. EIA expects declines to deepen in 2020 and 2021. India plans to begin oil production from the deepwater KG-DWN-98/2 oil and natural gas project in early 2021, which will offset some production declines from mature basins in 2021.

EIA assumes that Malaysia will fully comply with the April 2020 OPEC+ agreement for the months of May and June 2020. Malaysia reports that the production cuts will come from the deepwater Kimanis crude oil grade.

In the non-OPEC Middle East, EIA expects Oman's production to decline in 2020, in contrast to last month's STEO, which forecasted growth. EIA assumes Oman will fully comply with the OPEC+ agreement for May and June 2020. Condensate production will grow slightly through the forecast period from new projects, but crude oil production will remain constrained by lower oil prices and falling investment.

OPEC Petroleum and Other Liquid Fuels Supply

OPEC and partner countries (OPEC+) agreed to new production cuts in early April that will remain in place throughout the STEO forecast period. EIA assumes OPEC countries will mostly adhere to announced cuts during the first two months of the agreement (May and June). This forecast assumes OPEC's production compliance relaxes later in the forecast period, as stated production cuts are reduced and global oil demand begins growing again.

EIA forecasts OPEC crude oil production will fall below 24.1 million b/d in June, a 6.3 million b/d decline from April when OPEC production increased following an inconclusive meeting in March. The forecast for June OPEC production does not account for additional voluntary cuts announced by the Saudi Energy Ministry on May 11. If OPEC production declines to less than 24.1 million b/d, it would be the group's lowest level of production since March 1995.

EIA expects OPEC production will begin increasing in July 2020 in response to rising global oil demand and prices. From that point EIA expects a gradual increase in OPEC crude oil production through the remainder of the forecast, with production rising to an average of 28.5 million b/d during the second half of 2021.

Part of this increase is the result of oil production resuming in Libya. After reaching production levels of 1.2 million b/d in late 2019, Libya's crude oil output averaged 80,000 b/d in April 2020. Most of the country's export ports closed and several oil fields were shut-in, including El Sharara and El Feel, in January 2020. With the ongoing civil war in Libya, EIA does not expect production to increase until late 2020. Once currently shuttered export terminals and oil fields reopen, EIA expects that Libya will boost production to near-capacity despite low oil prices in a relatively short time.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in 2019, will average 5.8 million b/d during the third quarter of 2020. EIA expects it to decline to an average of 3.7 million b/d in 2021 with increased production as the targeted cuts are relaxed. These capacity increases include the Neutral Zone production ramp up that started in March 2020 that will add 0.6 million b/d of additional surplus capacity when completed in a year.

OECD Petroleum Inventories

An unprecedented drop in global oil demand in 2020 leads EIA to forecast that global oil inventories will build at an average rate of 2.6 million b/d for the year, the largest annual inventory build during the 40 years that EIA has tracked international data.

Unlike previous periods of significant global oil inventory builds, where oversupplied market conditions persisted for several quarters (for example, 1997–98 and 2014–16), EIA expects that inventory builds in 2020 will be of an unprecedented magnitude but will only occur for two quarters. Forecast builds average 9.1 million b/d during the first half of 2020, peaking at a build of 22.8 million b/d during April. EIA estimates that builds during the first half of 2020 could add 1.6 billion barrels to global inventories, likely leaving global storage near full capacity. EIA expects global liquid fuels inventories to draw at an average rate between 2.5 million b/d and 3.0 million b/d from the third quarter of 2020 through the end of 2021, given the implementation of OPEC+ production cuts beginning in May, economically driven reductions in U.S. oil production, and a return of global oil demand. Draws of this magnitude would largely work off the inventory builds accrued during the first half of 2020.

Crude Oil Prices

Brent crude oil spot prices averaged \$18 per barrel (b) in April, down \$13/b from March as global oil demand continued to fall and global oil inventories rose strongly. In particular, crude oil prices fell as concerns regarding the capacity of global oil storage to handle expected inventory builds increased. EIA expects that the rate of inventory builds peaked in April, and as oil demand begins to return and oil supply decreases, upward price pressures will begin to emerge. With global oil demand expected to exceed supply beginning in the second half of 2020 and continuing through the forecast period, prices could rise steadily beginning in the second half of this year. Although EIA forecasts significant inventory draws beginning in July, high existing inventory levels, high OPEC spare production capacity, and uncertainty about the trajectory of oil demand will likely limit, but not completely contain, upward crude oil price movements.

EIA expects Brent crude oil prices will rise to an average of \$32/b during the second half of 2020 and \$48/b on average in 2021, reaching \$54/b by the end of the year. However, this price path reflects an expected of global oil consumption to 97.4 million b/d during the second half of 2020, along with relatively high compliance to announced OPEC+ production cuts, both of which are uncertain. Also, the degree to which the U.S. shale industry responds to the current low prices will affect the oil price path in the coming quarters.

U.S. Liquid Fuels

Consumption

EIA assumes significantly lower levels of U.S. liquid fuels consumption during much of 2020 as a result of the disruptions to economic and business activity because of the strict containment measures related to COVID-19 that have dramatically reduced all forms of travel. These impacts are expected to be most pronounced during the second quarter of 2020, when most containment measures and wide-scale reductions in business activity are assumed to be in place. EIA expects these impacts to persist through most of 2020, but in the second half of 2020, EIA expects liquid fuels consumption will gradually increase from second-quarter levels as some business activity resumes and stay-at-home orders gradually ease. EIA expects U.S. total liquid fuels consumption will rise from an average of 15.9 million b/d in the second quarter of 2020 to 18.7 million b/d in the third quarter of 2020 and then to average 19.8 million b/d in 2021, up 8% from 2020, but lower than 2019 levels. EIA forecasts travel disruptions will affect jet fuel consumption the most in percentage terms, with consumption expected to decline by 25% year-over-year for all of 2020 and by more than 50% year-over-year in the second quarter. EIA expects gasoline and distillate fuel consumption will both see consumption fall about 10% compared with 2019 levels.

EIA's current forecast for U.S. annual average hydrocarbon gas liquids (HGL) consumption reflects a steeper decline in 2020 followed by a slower recovery in 2021 compared with the previous forecast. The May STEO expects HGL consumption will decline by 7.4% in 2020 and increase by 5.3% in 2021. The current forecast expects a deeper slowdown in manufacturing that keeps petrochemical feedstock and gasoline blending demand for HGLs lower than 2019 levels in both 2020 and 2021. Ethane consumption begins to rise in the first quarter of 2021 as manufacturing begins to recover and as ethane-fed petrochemical plants increase utilization.

Crude Oil Supply

EIA's model for crude oil production in the Lower 48 states' includes structural parameters that reduce the forecast for rigs and wells when the West Texas Intermediate crude oil price falls below \$45/b or the Henry Hub natural gas price falls below \$2 per million British thermal units, based on historical trends in each region. In addition to this model-based drop, EIA assumes a further 30% reduction in drilling activity on average in the second quarter of 2020 and a 6% reduction in the third quarter of 2020 as a result of low oil prices related to the unprecedented effects of restrictions as a result of COVID-19; many producers have already announced plans to reduce capital spending and drilling levels.

EIA expects that steepest declines in U.S. crude oil production will be in the second quarter of 2020, with forecast month-over-month declines averaging 0.5 million b/d during those three months. EIA expects production to continue declining, albeit at a slower rate, through March 2021, when production bottoms out at 10.7 million b/d, which would be a 2.1 million b/d decline from the record monthly production reached in November 2019. EIA expects production to rise modestly through the end 2021 in response to rising crude oil prices. EIA forecasts annual

average crude oil production to be 11.7 million b/d in 2020 and 10.9 million b/d in 2021, both of which are about 0.1 million b/d lower than forecast in the April STEO.

The decline in U.S. crude oil production in 2020 and 2021, combined with rising U.S. liquid fuels consumption, results in the United States returning to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

Product Prices

EIA expects that restrictions related to COVID-19 will drive sharp reductions in crude oil prices and U.S. liquid fuels demand during the second quarter of 2020, which will significantly reduce prices for gasoline and diesel fuel during the same period. EIA forecasts that U.S. average retail prices for regular-grade gasoline will average \$1.91 per gallon (gal) and diesel retail prices will average \$2.22/gal in the second quarter of 2020.

The gasoline and diesel price declines largely reflect a drop in crude oil prices. Refinery margins, after falling significantly as gasoline and diesel demand fell quickly in March and April, have increased recently as refiners have reduced runs. EIA expects petroleum product prices will rise as crude oil prices rise in the coming quarters. However, EIA generally expects U.S. average gasoline prices to remain lower than \$2/gal until March 2021.

Natural Gas

Natural Gas Consumption

EIA expects the most significant effects of COVID-19 related restrictions on natural gas demand to occur in the industrial sector. EIA forecasts that industrial demand for natural gas will decrease by 7% in 2020 compared with 2019. The decline reflects a reduction in economic activity, leading to a declining forecast natural gas-weighted manufacturing index through October 2020. The industrial demand for natural gas forecast is particularly sensitive to macroeconomic conditions, and the size and pace of the forecast economic contraction and the subsequent expected economic recovery significantly affect industrial demand for natural gas.

The May STEO assumes minor shifts in space heating demand in April as more people stayed at home rather than go to work or shop at retail establishments as a result of restrictions related to the COVID-19 pandemic. This shift increases residential natural gas demand for a given temperature level while decreasing commercial natural gas demand. Commercial natural gas demand will decrease further in the near term under the assumption that restaurants and other food establishments, which use more natural gas for cooking food and for hot water heating compared with other segments of the commercial sector, will see a particularly high number of closings.

The May STEO forecast assumes that a combination of lower global natural gas demand as a result of restriction related to the COVID-19 pandemic and an unfavorable liquefied natural gas (LNG) pricing environment will lower U.S. LNG exports, primarily in the third quarter of 2020.

Natural Gas Supply

EIA's model for natural gas production in the Lower 48 states includes structural parameters that reduce the forecast for rigs and wells when the West Texas Intermediate crude oil price falls lower than \$45/b or the Henry Hub natural gas price falls lower than \$2 per million British thermal units (MMBtu), based on historical trends. In addition to this model-based drop, EIA assumes a further 30% reduction in activity on average in the second quarter of 2020 and a 6% reduction in the third quarter of 2020 to account for the unprecedented effects of travel restrictions related to COVID-19 on the level of drilling activity; many producers have already announced plans to reduce capital spending and drilling levels.

Natural Gas Inventories

EIA's natural gas storage forecast assumes an injection season (March through October) storage build that is slightly higher than average because natural gas consumption is forecast to decline relatively quickly in the second quarter of 2020, while production also declines but at a slower rate. In addition, reductions in economic activity reduce natural-gas fired electricity generation. EIA assumes that end-of-October storage levels in 2020 will be almost 4.2 trillion cubic feet, which would be the largest U.S. natural gas storage inventory on record.

Natural Gas Prices

The May STEO assumes that the Henry Hub spot price will remain low compared with historical levels in the near term as reduced business activity and higher-than-average storage levels entering the summer injection season contribute to keeping prices low. In the third quarter of 2020, slowing natural gas production, combined with increasing industrial demand and higher winter demand for space heating, encourage increases in the natural gas price. EIA expects the Henry Hub spot prices will rise from an average of \$2.14/MMBtu in 2020 to an average of \$2.89/MMBtu in 2021.

Coal

Coal Supply

Coal production has continued to slow, primarily because of low electric power demand. Some large producers have stipulated that their mines will be shut down or idled for periods ranging from 14 to 30 days, while others have not implied a date to resume normal operations. EIA expects that these decreases in overall production will have a noticeable effect on supply, contributing to a steeper decline than would have occurred had these measures not been put into place.

Coal Consumption

EIA expects coal consumption to decline in 2020 as a result of an overall decline in electricity generation. However, EIA forecasts that coal consumption will rise in 2021 because of a general economic recovery that will increase overall electricity generation and an expected increase in

natural gas prices that will cause some coal-fired generation units to become more economic to dispatch. Secondary stocks (at power plants) remain high, and even with decreased production, coal plants do not expect shortfalls in the next few months. EIA projects that industrial consumption will also decline as coal coke demand is slowed by unfavorable market conditions and by significantly decreased raw steel production.

Coal Trade

EIA estimates that U.S. coal exports will decrease through 2020. Atlantic markets, which are the primary outlet for U.S. coal exports, are showing considerably decreased demand because of the global economic slowdown. India, the top destination for U.S. exports, has decreased demand for both steam and coking coals as a result of nationwide lockdowns. Smaller U.S. coal export destinations such as Egypt have cancelled proposed coal projects that would have relied on imported fuel. Japan, a large consumer of U.S. coking coal, idled many blast furnaces in the beginning of the second quarter of 2020. COVID-19 related lockdowns affecting large seaborne market suppliers, including Colombia and Indonesia, have stifled global supply, providing some support to international prices but not enough to overcome the overarching shortfalls in demand.

Coal Prices

EIA estimates the delivered coal price to U.S. electricity generators averaged \$2.02 per million British thermal units (MMBtu) in 2019, which was 4 cents/MMBtu lower than in 2018. EIA forecasts that coal prices will decrease in 2020 to \$1.99/MMBtu and increase in 2021 to \$2.04/MMBtu.

Electricity

The restrictions related to the COVID-19 pandemic and the associated economic effects also create a high level of uncertainty regarding EIA's short-term outlook for U.S. electricity markets. EIA has developed some initial assumptions about potential effects. As EIA receives new survey data during the coming weeks, future STEO forecasts will incorporate this information.

Electricity Consumption

The current STEO forecast incorporates new macroeconomic projections, which lead to a forecast of declines in retail sales of electricity to the commercial and industrial sectors. Social distancing guidelines are likely to especially affect electricity consumption in the commercial sector where many businesses, such as lodging and food service establishments, will experience reduced activity. In addition, increased numbers of people working from home reduces electricity usage in office buildings. EIA assumes these social distancing effects will magnify the economic impact on commercial electricity consumption during the next three to six months, after which time commercial electricity usage is likely to begin to increase.

As people spend more time in their homes, weather-adjusted electricity consumption by the residential sector is likely to increase in the near term, in contrast to the effects on the

commercial and industrial sectors. EIA assumes, in particular, that household usage of electronic equipment such as computers and televisions will increase. Other uses of electricity, such as for cooking and for heating water, may also rise. Household use of air conditioning during the summer months is also likely to be greater than normal as more people stay home during the daytime.

Electricity Generation

Macroeconomic effects on electricity supply are also very uncertain because of rapidly changing economic conditions. The status of component supply chains and the construction workforce are likely to affect the building new generating capacity in the near term in many areas of the country. Most of the generating capacity that had been scheduled to come online in 2020 is fueled by renewable energy sources—including solar and wind—and by natural gas.

To represent these impacts on electricity supply, EIA assumes that some of the generating capacity previously reported to EIA as planned to come online in the next six months will be postponed to sometime beyond the STEO forecast period. Most of these postponements are in solar and wind. As EIA continues to collect updates for project development activities reported on our surveys, we will revise these assumptions in future STEO forecasts.

Electricity Prices

The forecast reduction in overall electricity demand resulting from the economic slowdown, along with lower expected natural gas fuel costs for power generation, drives EIA's expectation that wholesale electricity prices will be lower in 2020 throughout the country. The lower costs of electricity supply will likely not affect retail electricity prices in the near term but may be reflected in lower retail prices in the future as utilities make adjustments to their electric rates during the coming months.

U.S. Economic Assumptions and Energy-Related Carbon Dioxide Emissions

Recent Economic Indicators

The STEO is based on macroeconomic projections by Oxford Economics (for countries other than the United States) and by IHS Markit (for the United States). Given the tremendous uncertainty in both the spread and severity of COVID-19 and in the efforts to stop the spread of the virus, these forecasts are significantly more uncertain than normal.

The April version of the Oxford forecast used in this STEO represents a significant downward revision from the previous month, reflecting a greater understanding of the severity of the virus and the effects of the travel restrictions and stay-at-home orders. Using the Oxford data, EIA assumes that [global oil-consumption weighted GDP](#) will contract by 2.8% in the first quarter of 2020 and by 4.5% in the second quarter (quarter-over-quarter growth rates). With the assumption that most lockdowns are lifted sometime during the second quarter, growth returns in the second half of 2020, leading to an overall year-over-year growth rate for oil consumption-weighted GDP in 2020 of -4.1%. The recovery continues in 2021, leading to a 6.7% growth rate.

For the United States, EIA used the April 2, 2020 release of the IHS Markit U.S. Short-Term Macroeconomic model with EIA's energy prices. Since the release of the April STEO, the near-term outlook for GDP has significantly declined as policies to slow the spread of COVID-19 remain in place. U.S. real GDP in the May STEO is forecasted to decline by 7.5% in the second quarter of 2020 (quarter-over-quarter) as compared with a 3.5% decline forecast in the April STEO. Year-over-year, the decline in 2020 for the May STEO is 5.4% as compared to the 2.0% decline forecasted in the April STEO. As in the April STEO, the economy is forecasted to return to growth in the fourth quarter of 2020. Employment does not return to pre-pandemic levels by the end of the STEO forecast period.

Energy-Related Carbon Dioxide Emissions.

After decreasing by 2.8% in 2019, EIA forecasts that U.S. energy-related carbon dioxide (CO₂) emissions will decrease by 11% (572 million metric tons) in 2020. This record decline is the result of restrictions on business and travel activity and slowing economic growth related to COVID-19. CO₂ emissions decline from all fossil fuels, particularly coal (23%) and petroleum (11%). In 2021, EIA forecasts that energy-related CO₂ emissions will increase by 5% as the economy recovers and stay-at-home orders are lifted. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

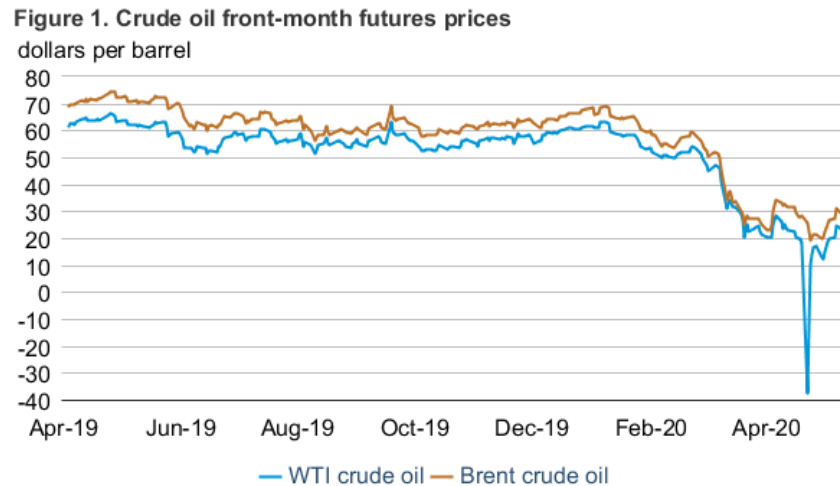
Notable forecast changes

- Because of the rapidly changing situation in energy markets, EIA's forecast includes a significant number of notable forecast changes. Please see the [detailed table of forecast changes](#) for more information.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at \$29.46 per barrel (b) on May 7, 2020, an increase of \$4.72/b from April 1, 2020. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by \$3.24/b during the same period, settling at \$23.55/b on May 7 (Figure 1).



 CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

The oil futures market continued to exhibit significant **volatility** in April, marked in particular by the WTI front-month futures price closing at -\$37.63/b on April 20, 2020. Although negative pricing has occurred in other commodity markets, it has never occurred in a highly visible and widely traded benchmark crude oil price. For a full explanation of this event, see [This Week in Petroleum](#). Since April 21, crude oil prices have steadily increased and could indicate downside price pressure is easing. Many countries have begun to reopen their economies. In addition, the Organization of the Petroleum Exporting Countries (OPEC), along with Russia and a number of other non-OPEC producers (OPEC+), agreed to significant **production reductions** from May 2020 through April 2022, which should slow the pace of petroleum inventory builds. Although the outlook for global oil markets remains highly uncertain, April 2020 could mark the low-point for oil prices.

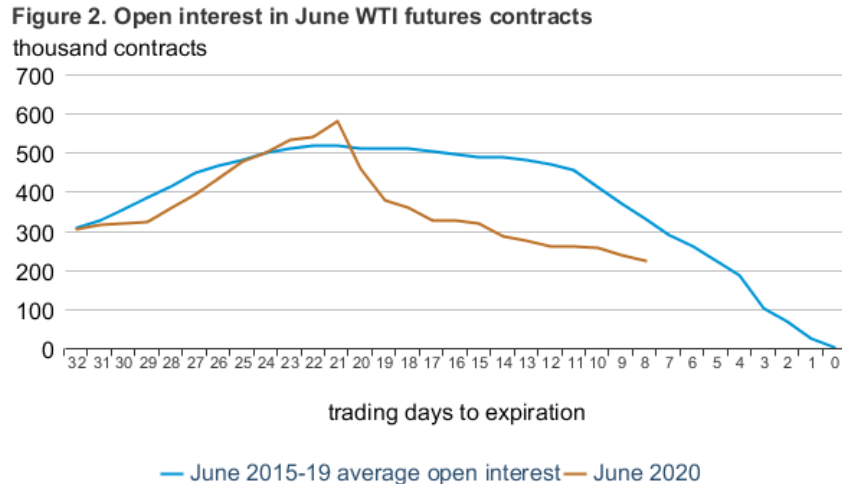
Voluntary production reductions from OPEC+ countries will not be sufficient to prevent significant inventory builds in May and June, however, as EIA expects global demand is forecast to remain subdued, albeit increasing from the lows of March and April. In the May STEO, EIA forecasts global liquid fuels inventories will increase at a pace of 10.1 million barrels per day (b/d) in May and build an additional 1.6 million b/d in June. In the United States, total commercial liquid fuels inventories increased by 2.7 million b/d in April 2020, which would be the largest build for any month since 1959 if confirmed in EIA's [Petroleum Supply Monthly](#). Although petroleum inventory data outside the United States is unavailable in real-time, EIA

estimates a combination of on-land commercial storage, floating storage, and government strategic stocks will have to be used to accommodate the significant stock builds through June 2020.

EIA forecasts inventories to begin drawing in July 2020, with draws continuing through the end of 2021. A combination of increased demand, declines in production from non-OPEC countries, and continued production restraint from OPEC and partner countries contribute to an average draw of 2.5 million b/d from July 2020 through December 2021. EIA expects continued inventory withdrawals will provide upward price pressure on crude oil prices, although the very high stock level will prevent oil prices from returning to \$60/b throughout 2021. In the May STEO, EIA has increased its Brent crude oil price forecast from an average of \$46/b in 2021 in last month's STEO to \$48/b, largely as a result of the production agreement from OPEC and partner countries and the resulting inventory withdrawals. EIA forecasts Brent crude oil prices to average \$34/b in 2020, \$1/b higher than the April STEO forecast.

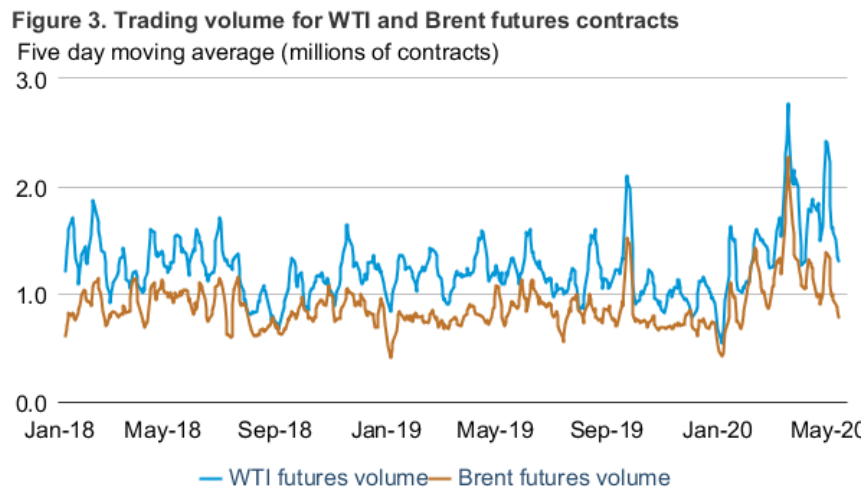
WTI open interest: Price volatility in WTI futures in recent weeks has likely been exacerbated by factors specific to the financial markets. As referenced in EIA's [This Week in Petroleum](#), market participants trading the May 2020 WTI contract ahead of expiration paid sellers to avoid taking physical delivery in Cushing, Oklahoma, and settle the contract financially. After the front-month contract rolled to WTI for June 2020 delivery, several market participants that use WTI futures for financial exposure to the crude oil market made public announcements that they would close their positions in the June contract earlier than normal. As a result, open interest (the number of outstanding contracts yet to be settled financially or through physical delivery) in the June WTI futures contract has decreased to levels lower than normal.

For example, the United States Oil Fund (USOF) is the largest [crude oil exchange-traded fund](#) (ETF) by total assets. Although the ETF typically holds about 5%–10% of the front-month WTI futures contract's open interest, its holdings increased to about 20% of the open interest by early April. To avoid similar price volatility ahead of the June contract's expiration on May 19, 2020, both USOF and several other funds that hold WTI front-month futures contracts in financial products announced they would be exiting positions in the June contract and rolling to other delivery months. As a result, open interest in the June 2020 WTI futures contract has declined significantly (**Figure 2**). The five-year (2015–19) pattern for the June WTI contract tends to see open interest remain at about 500,000 contracts until about 12–14 trading days left to expiration, when market participants begin closing positions to avoid settlement for physical delivery. In contrast, the June 2020 contract declined to 221,819 contracts as of May 7, 2020, eight trading days before expiration.



eia U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

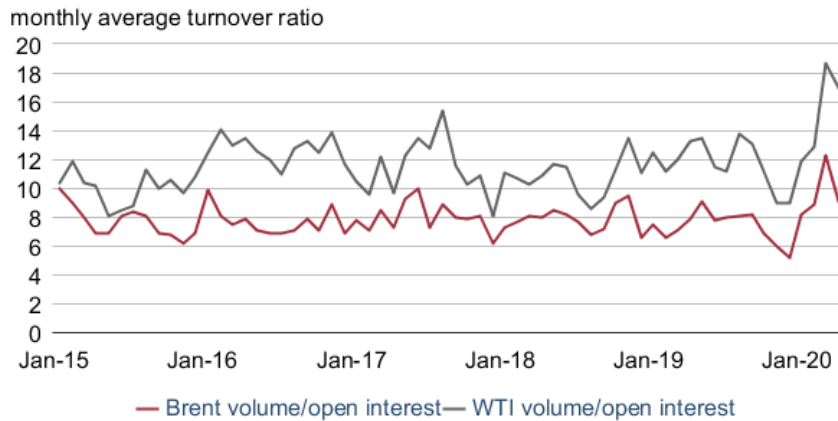
Crude oil trading volume and open interest: Trading volume for both Brent and WTI crude oil futures reached all-time high levels in March and have remained at elevated levels through the first week of May. The five-day moving average trading volume for all Brent and WTI futures contracts was 0.8 million and 1.3 million contracts, respectively, as of May 7, 2020 (**Figure 3**).



eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

One way to identify trading activity and liquidity is the turnover ratio, which measures the average number of times a futures contract trades each day. This value is calculated by dividing a given future contract's total monthly trading volume by its average daily open interest. In March and April, the turnover ratio for all WTI futures contracts increased to record high levels of 19 and 17 per day, respectively. The turnover ratio for Brent futures was lower than that for WTI and did not reach an all-time high, but it increased to the highest level since 2011 in March 2020, averaging 12 per day (**Figure 4**). Trading activity typically increases when price volatility increases.

Figure 4. Crude oil futures total monthly volume divided by average monthly open interest

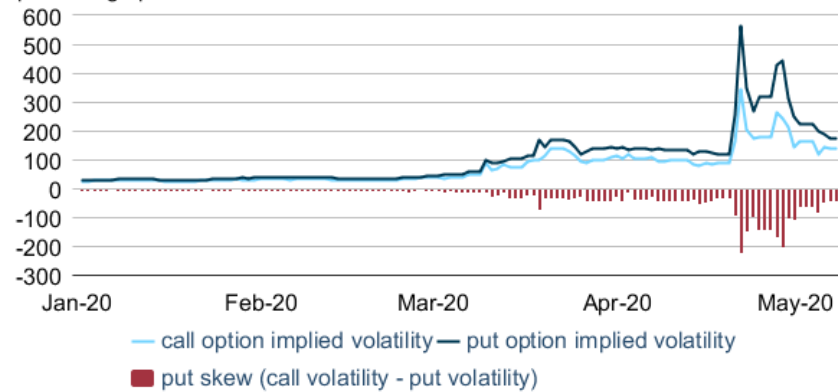


 CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.; WTI=West Texas Intermediate

Financial option volatility: The prices of financial options on WTI futures contracts deviated significantly from their usual patterns throughout much of March and April. The value of NYMEX WTI call options and put options (which give the option holder the right to buy or sell, respectively, a WTI futures contract at a given price within a set timeframe) increases when oil price volatility rises and decreases when price volatility falls. Although, theoretically, with the same strike price and expiration date, the implied volatility of WTI call options should be equal to the implied volatility of WTI put options, the latter almost always exceeds the former. The difference between call and put option volatility (known as the put skew) of front-month WTI futures averaged -2.3 percentage points between 2004 and 2019—a persistence generally attributed to the tendency of market participants to be loss-averse or to relatively prefer preventing losses over making larger gains.

The skew has grown significantly wider during the past several months (**Figure 5**). Although the implied volatility of WTI as derived from both call options and put options increased during March and April, call option volatility grew less than put option volatility, leading the put skew for the June 2020 WTI contract to fall to less than -220 percentage points on April 21. This level was the lowest put skew for the front-month WTI futures since at least 2004, the earliest year for which data are available. Much of the overall increase in volatility can be attributed to the particular circumstances surrounding the May 2020 WTI futures contract, and the reaction of market participants to negative crude oil prices—which many had believed were incapable of falling below zero. The disproportionate increase in the level of volatility implied by put options, however, suggests very high demand for protection against further downside price movements, but it also reflects the high premiums that sellers of put options require to take on this risk.

Figure 5. Volatility of financial options for the June 2020 NYMEX WTI contract
percentage points



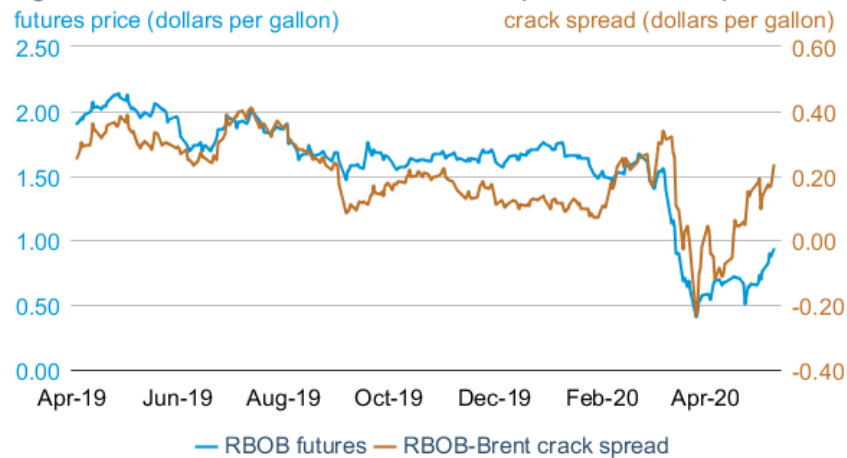
Note: Implied volatilities calculated using standard Black-Scholes assumptions (DFLT) on 25 delta calls and 25 delta puts as listed on Bloomberg.

U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at 93 cents per gallon (gal) on May 7, up 38 cents/gal from April 1, 2020 (**Figure 6**). The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 27 cents/gal to settle at 23 cents/gal during the same period. After briefly declining to negative values in late March and again in early April, the RBOB–Brent crack spread increased in the middle of April and continued to rise for the rest of the month.

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

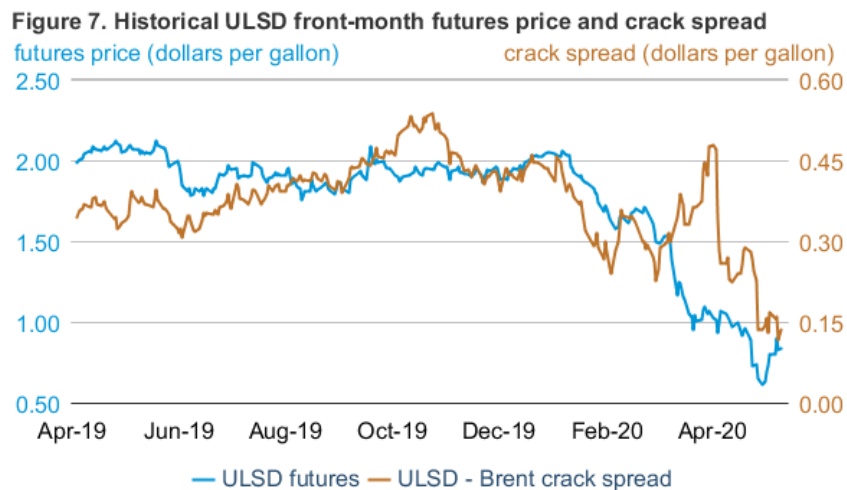


Source: CME Group, as compiled by Bloomberg L.P. Note: RBOB=reformulated blendstock for oxygenate blending

Finished motor gasoline consumption (measured by product supplied) grew to 6.7 million b/d for the week ending May 1, up from 5.1 million b/d on April 3, which contributed to the increases in RBOB front-month futures prices and the RBOB–Brent crack spread. Even with this

trend, April’s finished motor gasoline consumption of 5.6 million b/d remains 40% below the 9.4 million b/d in April 2019. Personal travel numbers matched the trend of motor gasoline consumption. According to INRIX, compared with the week ending February 29, weekly [personal travel was down 47%](#) on April 3 and was [down by 36% as of May 1](#). This lower overall consumption led to gasoline inventories reaching record levels, peaking at 263 million barrels for the week ending April 17.

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) delivered in New York Harbor settled at 84 cents/gal on May 7, 2020, down 10 cents/gal from April 1, 2020 (**Figure 7**). The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 21 cents/gal to settle at 14 cents/gal during the same period. The ULSD-Brent crack spread ended March at the highest level for that month in five years, but it declined significantly the first week of April through the end of the month.



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

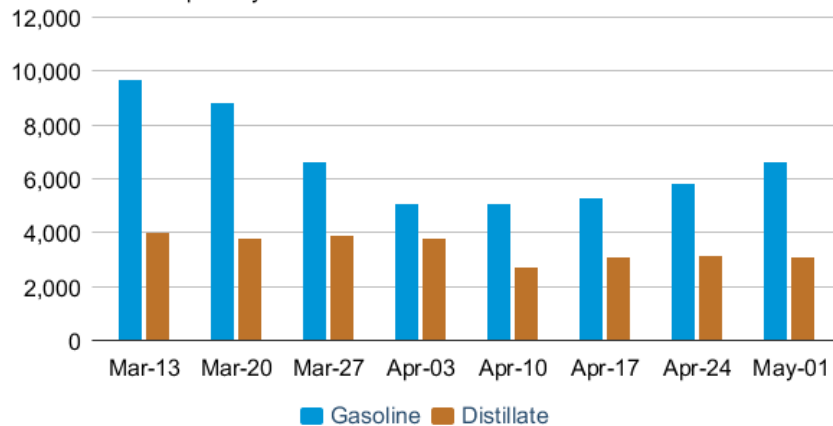
The ULSD-Brent crack spread declined as distillate consumption decreased. Although real-time data remain limited, EIA estimates that April 2020 distillate consumption was 3.0 million b/d, a decrease of 0.9 million b/d (23%) from April 2019. If confirmed in EIA’s [Petroleum Supply Monthly](#), this level will be the lowest monthly consumption level for the month of April since 1993. A possible explanation for the drop in consumption is less long-haul truck travel. For example, according to INRIX’s data, for the week ending February 29 [trucking was down 9% the week ending April 24](#). Even though distillate consumption has recently decreased, refiners have shifted more of their efforts toward refining distillate, likely because diesel demand initially decreased less than that for other fuels such as gasoline and jet fuel. The more delayed drop in distillate consumption initially supported distillate refining margins and encouraged refineries to increase distillate production. EIA estimates the [refinery distillate yield increased](#) to 39%, compared with 30% in April 2019, and refinery gasoline yield decreased to 40%, compared with 45% a year ago. As a result of the downward shift in demand and increased distillate yield,

ending stocks of distillate increased throughout the month, ending the month with 23 million more barrels (18%) than at the same time last year.

Gasoline and distillate consumption: When the [United States proclaimed a national state of emergency](#) on March 13, gasoline and distillate demand responded differently. From March 13 to April 3, gasoline consumption dropped 48%, from 9.7 million b/d to 5.1 million b/d (**Figure 8**). In that same time frame, distillate consumption dropped 5%, from 4.0 million b/d to 3.8 million b/d. The next week, from April 3 to April 10, distillate declined 1.1 million b/d (28%), while gasoline increased slightly. From April 10 to May 1, distillate consumption increased by 0.4 million b/d (13%) and gasoline consumption increased by 1.6 million b/d (31%).

Figure 8. U.S. gasoline and distillate product supplied

thousand barrels per day

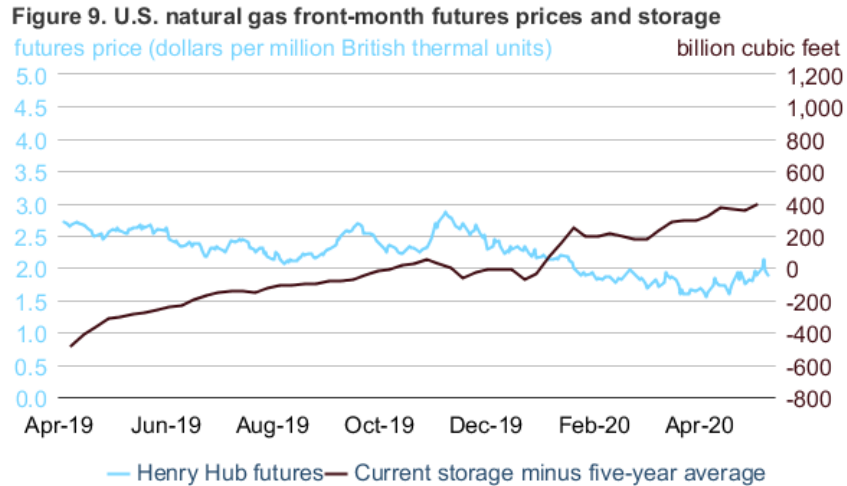


 U.S. Energy Information Administration

The lag between the decreases in demand can likely be attributed to the difference in how restrictions to limit the spread of COVID-19 affect the uses of the two fuels. Gasoline consumption depends heavily on personal travel such as commuting to work or to social gatherings that were generally suspended by restrictions. As a result, gasoline consumption decreased immediately. Distillate consumption depends more on freight movements and likely was more affected by slowing economic growth than the restrictions themselves. Distillate is also used in activities that are less directly affected by restrictions, such as the diesel engines of heavy construction equipment and as heating oil both for heating buildings and for industrial heating. The restrictions may have indirectly affected these uses over time by means of reduced economic activity that eventually led to a [decrease in consumer spending](#) for all goods. Diesel fuel is also used in oil and natural gas drilling operations, which have decreased significantly.

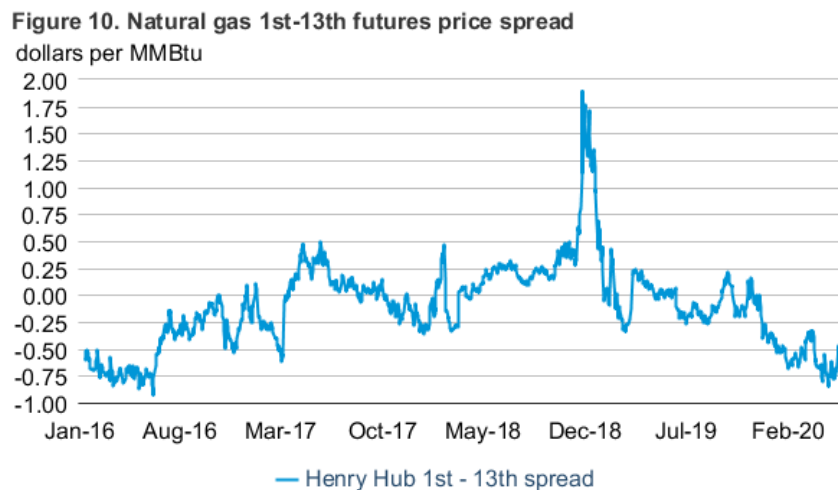
Natural Gas

Prices: The front-month natural gas futures contract for June delivery at the Henry Hub settled at \$1.89 per million British thermal units (MMBtu) on May 7, up 31 cents/MMBtu from April 1, 2020 (**Figure 9**).



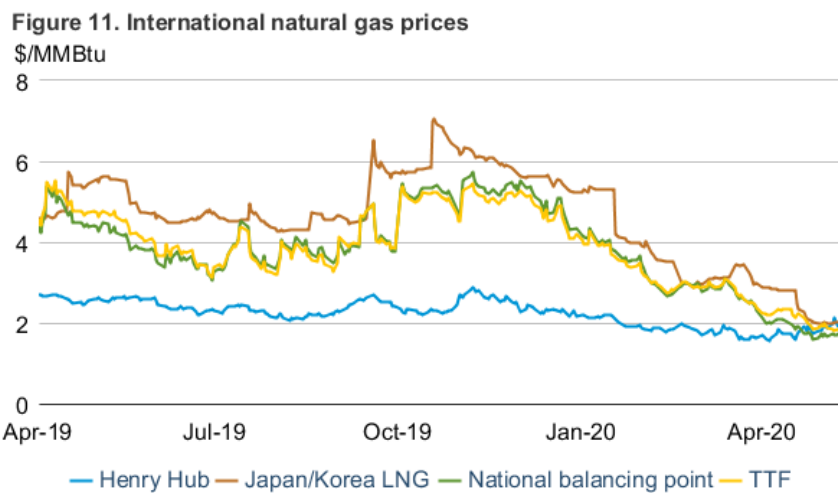
eia U.S. Energy Information Administration, CME Group, as compiled by Bloomberg L.P.

Futures price spreads: The natural gas 1st-13th price spread settled at $-\$0.67/\text{MMBtu}$ on May 7, continuing a period of contango (when near-term prices are lower than longer dated ones) which began in November 2019 (**Figure 10**). In periods of contango, there is an incentive for market participants to store natural gas and sell it later at the higher priced future month contract. The 1st-13th spread has been in contango since late 2019 because of three major factors. First, mild winter weather contributed to higher inventories relative to the five-year average. Second, reduced demand for natural gas in the power and industrial sectors related to mitigation efforts related to COVID-19 has contributed to lower front-month prices relative to 13th-month prices. Finally, EIA expects U.S. production of dry natural gas to fall by more than consumption over the next year, placing upward pressure on future prices. EIA forecasts a decline of 0.2 Bcf/d and 4.9 Bcf/d in consumption and dry gas production, respectively, between June 2020 (the current front-month futures price) and June 2021 (the current 13th-month). Inventories are forecast to decline by 331 billion cubic feet (Bcf) between the same two months.



eia CME Group

International natural gas prices: Similar to Henry Hub, major international front-month futures benchmarks in Europe (UK National Balancing Point, or NBP; Dutch Title Transfer Facility, or TTF) and Asia (Japan-Korea LNG, or JKM) experienced a significant decline in prices, with spreads between benchmarks also narrowing considerably because of a mild winter as well as the widespread international policy response related to COVID-19 (**Figure 11**). Notably, TTF and NBP prices traded lower than the corresponding Henry Hub contract. The lack of opportunities for [arbitrage](#) stemming from lower spreads between international prices has important implications for the international trade of natural gas and liquefied natural gas (LNG). EIA forecasts in the May STEO that U.S. LNG exports will average 6.0 Bcf/d in 2020 and 7.3 Bcf/d in 2021. Although these levels still represent year-over-year increases, the rate of growth in exports is expected to decline from 67.9% year-over-year in 2019 to 21.1% in 2020 and 21.2% in 2021.



eia CME Group, Bloomberg L.P.

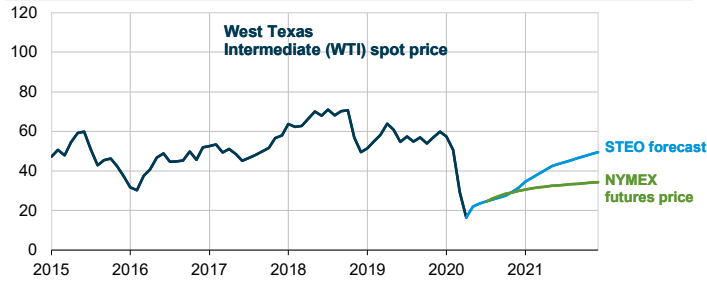
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.



Short-Term Energy Outlook

Chart Gallery for May 2020

EIA is unable to construct NYMEX confidence intervals in this STEO, because of data issues. EIA will update this figure if the data become available.

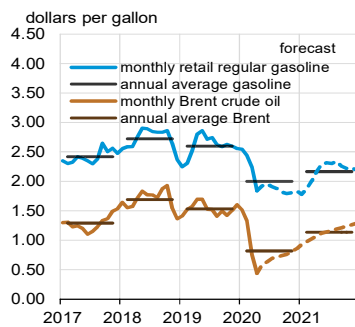


Note: Confidence interval derived from options market information for the five trading days ending May 7, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, May 2020, and CME Group

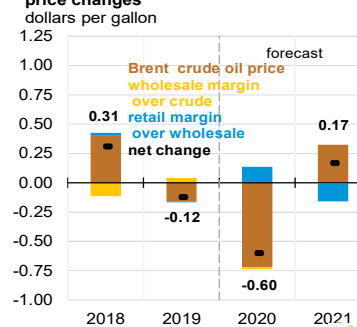


U.S. gasoline and crude oil prices

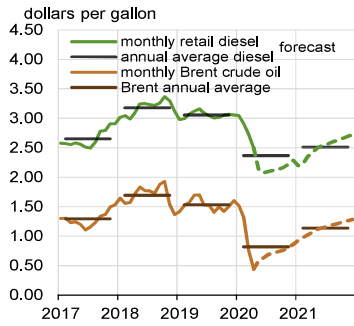


Source: Short-Term Energy Outlook, May 2020

Components of annual gasoline price changes

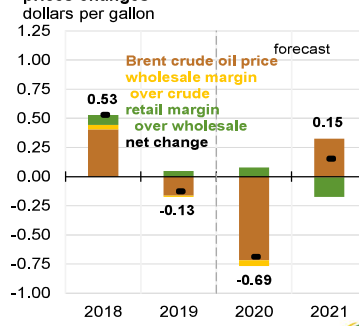


U.S. diesel and crude oil prices

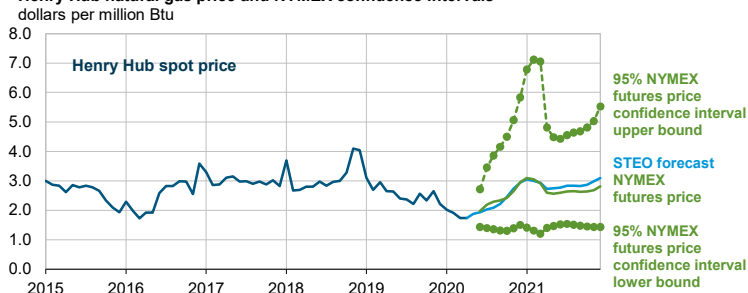


Source: Short-Term Energy Outlook, May 2020

Components of annual diesel prices changes



Henry Hub natural gas price and NYMEX confidence intervals

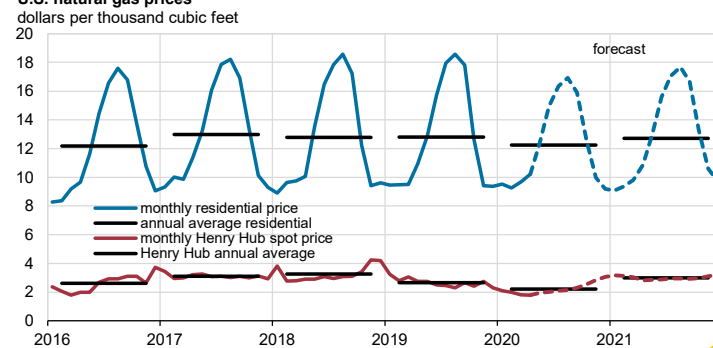


Note: Confidence interval derived from options market information for the five trading days ending May 7, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, May 2020, and CME Group



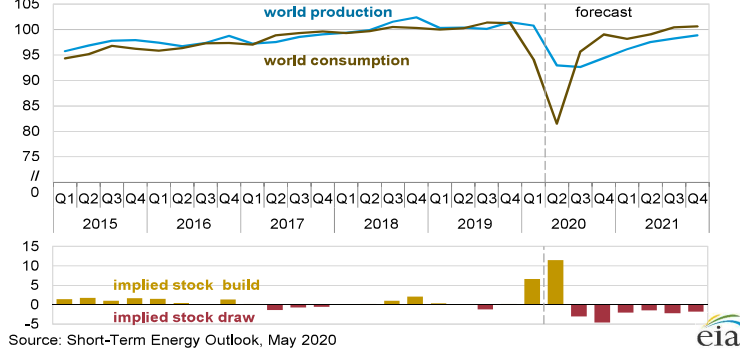
U.S. natural gas prices



Sources: Short-Term Energy Outlook, May 2020, and Refinitiv



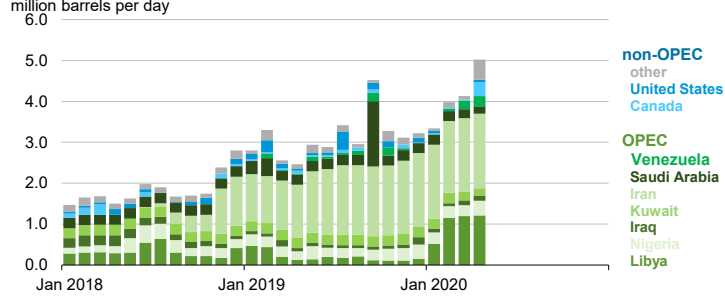
World liquid fuels production and consumption balance
million barrels per day



Source: Short-Term Energy Outlook, May 2020



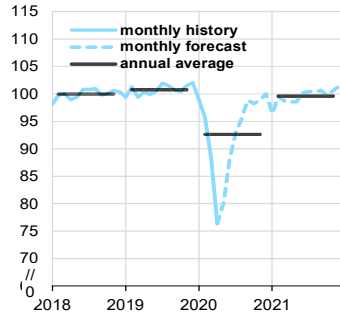
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day



Source: Short-Term Energy Outlook, May 2020

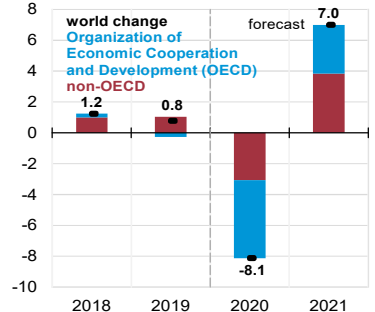


World liquid fuels consumption
million barrels per day

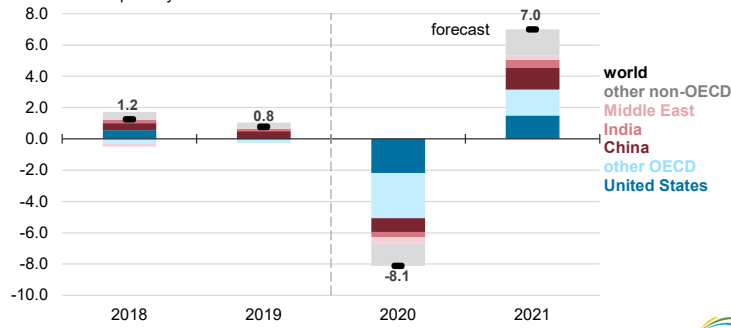


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million barrels per day



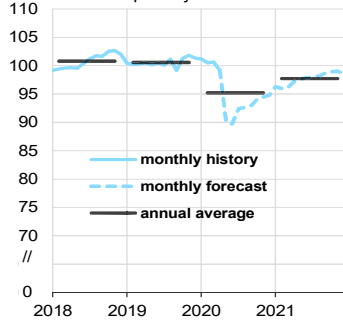
Annual change in world liquid fuels consumption
million barrels per day



Source: Short-Term Energy Outlook, May 2020

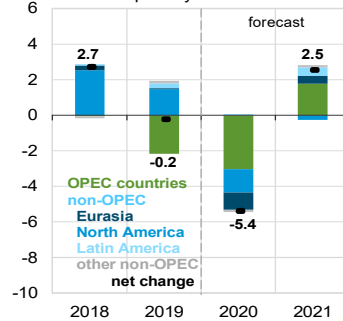


World crude oil and liquid fuels production
million barrels per day

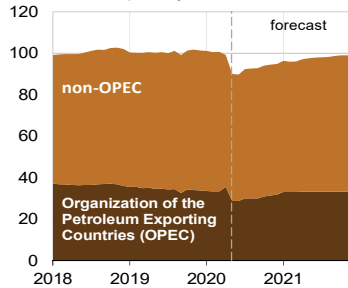


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million barrels per day

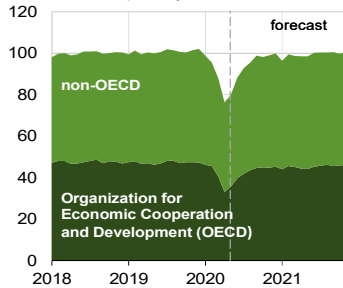


World liquid fuels production
million barrels per day

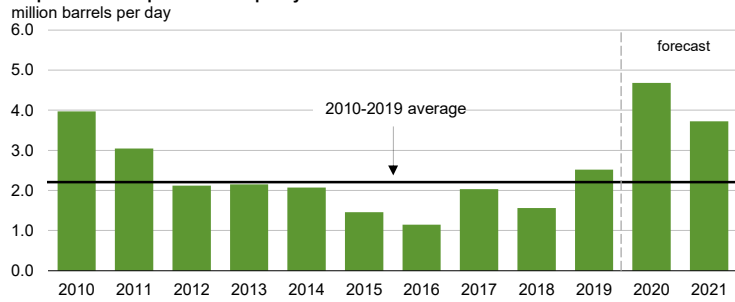


Source: Short-Term Energy Outlook, May 2020

World liquid fuels consumption
million barrels per day



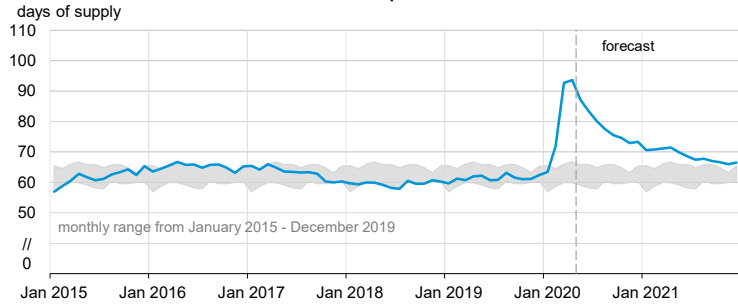
**Organization of the Petroleum Exporting Countries (OPEC)
surplus crude oil production capacity**



Note: Black line represents 2010-2019 average (2.2 million barrels per day).
Source: Short-Term Energy Outlook, May 2020



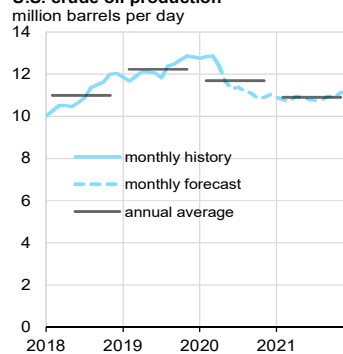
**Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids**



Source: Short-Term Energy Outlook, May 2020

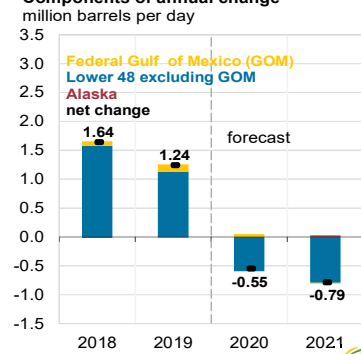


U.S. crude oil production

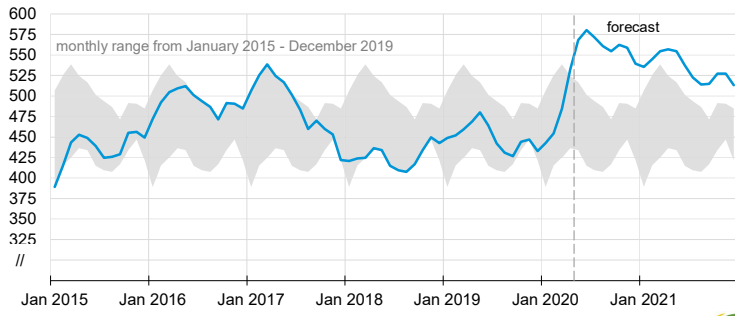


Source: Short-Term Energy Outlook, May 2020

Components of annual change



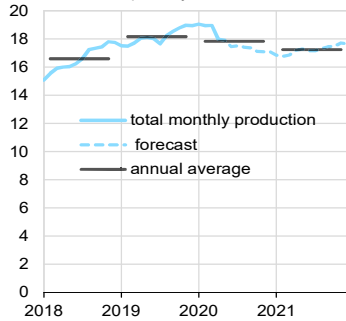
U.S. commercial crude oil inventories
million barrels



Source: Short-Term Energy Outlook, May 2020

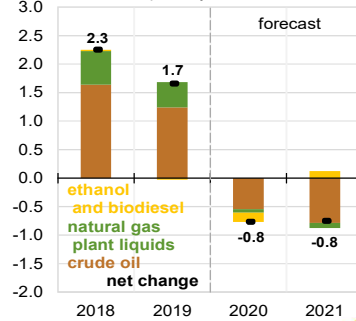


U.S. crude oil and liquid fuels production
million barrels per day

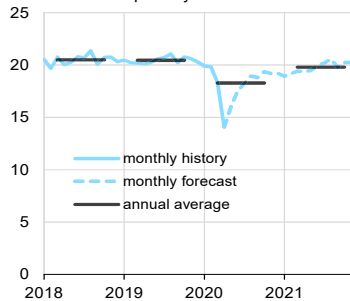


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million barrels per day

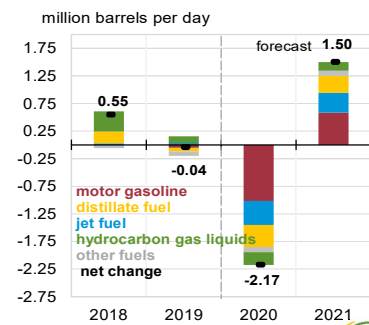


U.S. liquid fuels product supplied (consumption)
million barrels per day

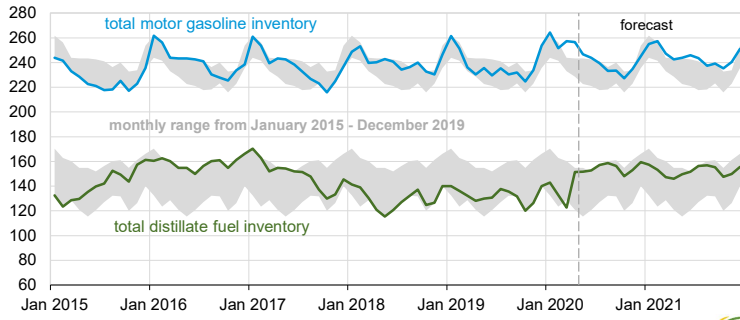


Source: Short-Term Energy Outlook, May 2020

Components of annual change



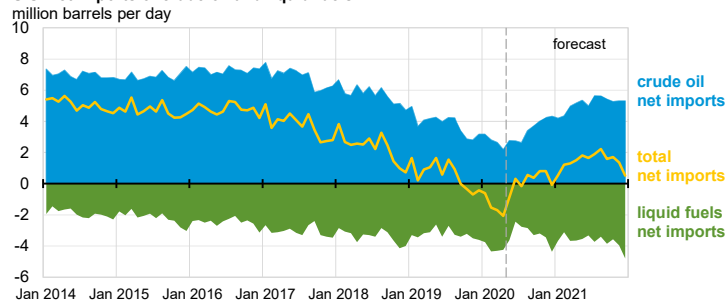
U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, May 2020



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

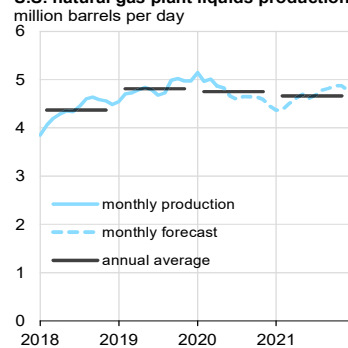


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, May 2020

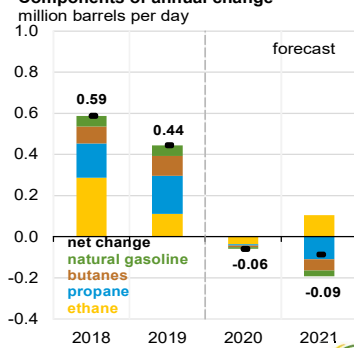


U.S. natural gas plant liquids production

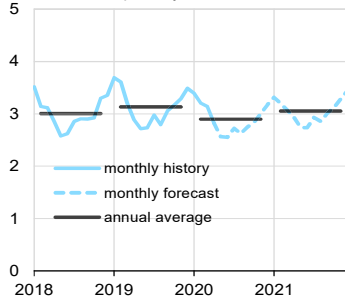


Source: Short-Term Energy Outlook, May 2020

Components of annual change

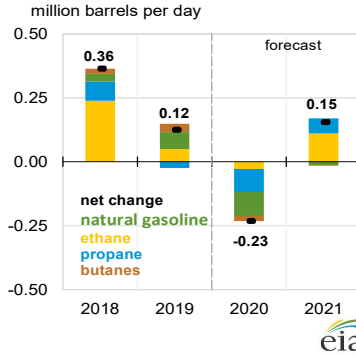


U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day

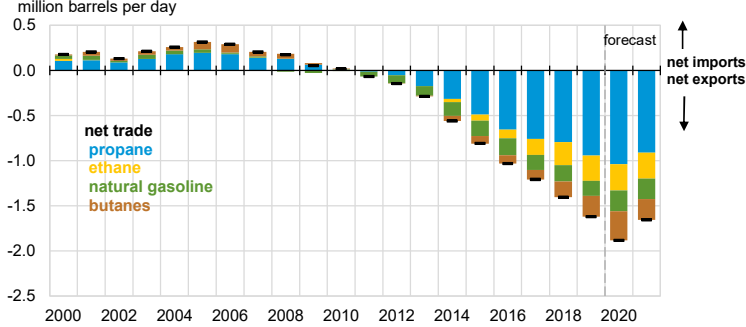


Source: Short-Term Energy Outlook, May 2020

Components of annual change



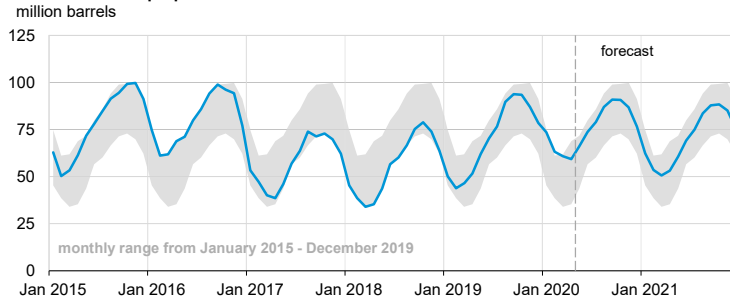
U.S. net trade of hydrocarbon gas liquids (HGL)



Source: Short-Term Energy Outlook, May 2020



U.S. commercial propane inventories

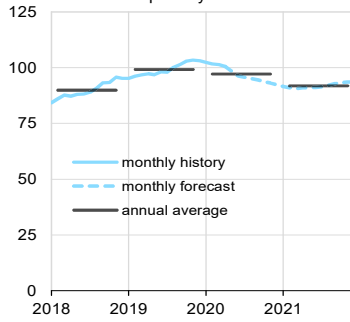


Note: Excludes refinery propylene.

Source: Short-Term Energy Outlook, May 2020

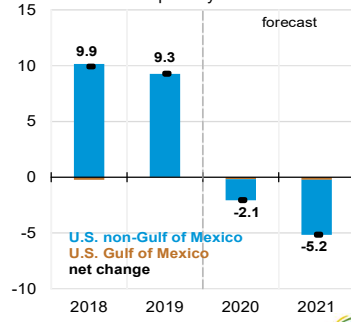


U.S. marketed natural gas production
billion cubic feet per day

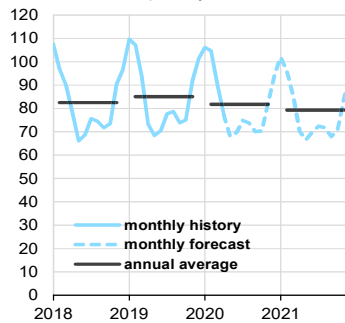


Source: Short-Term Energy Outlook, May 2020

Components of annual change
billion cubic feet per day

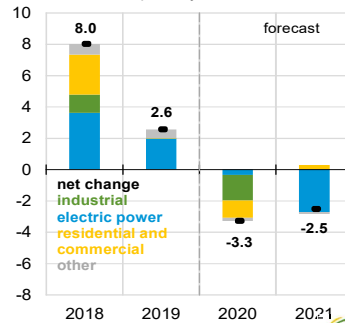


U.S. natural gas consumption
billion cubic feet per day

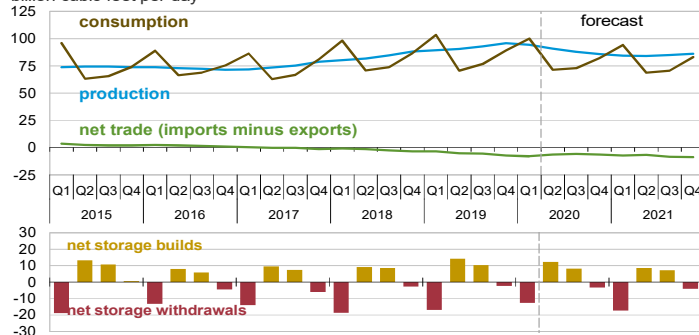


Source: Short-Term Energy Outlook, May 2020

Components of annual change
billion cubic feet per day



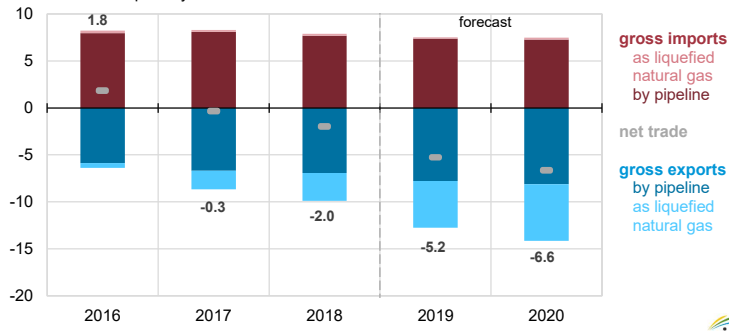
U.S. natural gas production, consumption, and net imports
billion cubic feet per day



Source: Short-Term Energy Outlook, May 2020



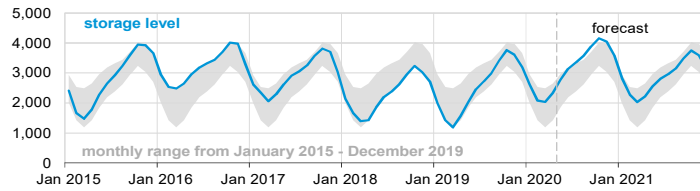
U.S. annual natural gas trade
billion cubic feet per day



Source: Short-Term Energy Outlook, May 2020



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



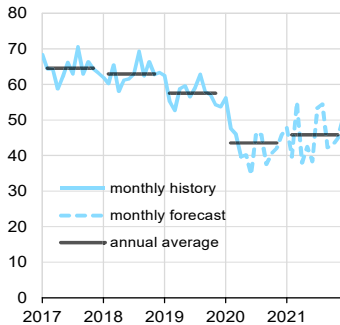
Percent deviation from 2015 - 2019 average



Source: Short-Term Energy Outlook, May 2020

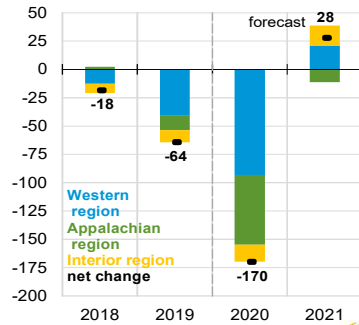


U.S. coal production
million short tons

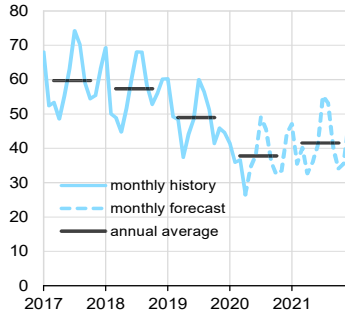


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million short tons

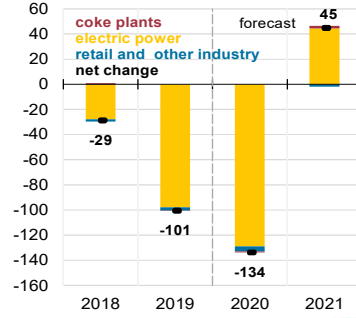


U.S. coal consumption
million short tons

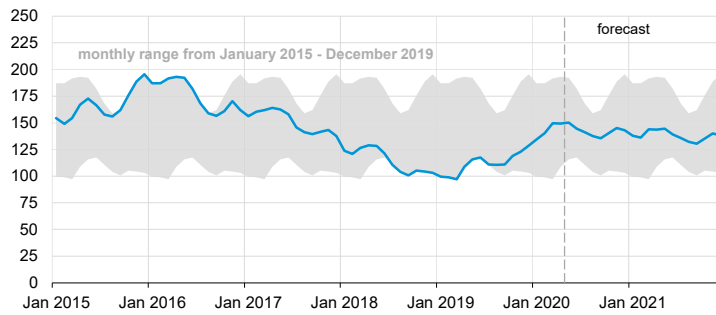


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million short tons



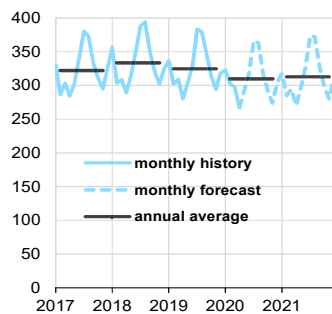
U.S. electric power coal inventories
million short tons



Source: Short-Term Energy Outlook, May 2020

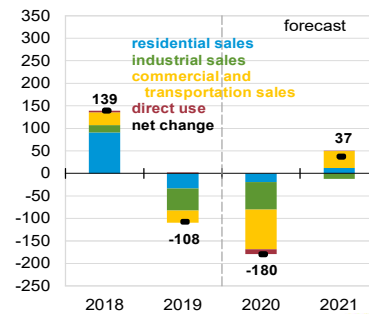


U.S. electricity consumption
billion kilowatthours

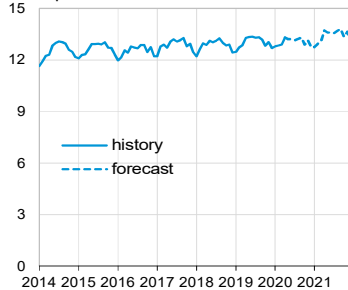


Source: Short-Term Energy Outlook, May 2020

Components of annual change
billion kilowatthours

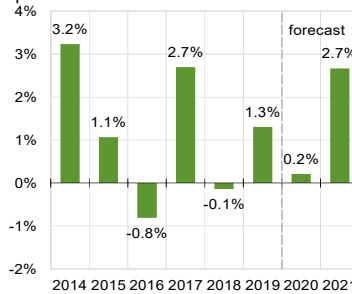


U.S. monthly residential electricity price
cents per kilowatthour

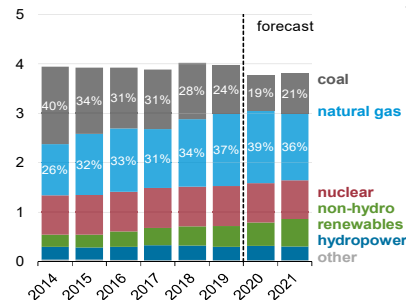


Source: Short-Term Energy Outlook, May 2020

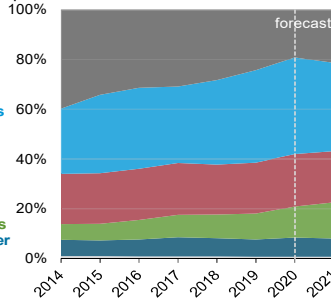
Annual growth in residential electricity prices
percent



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



percent share

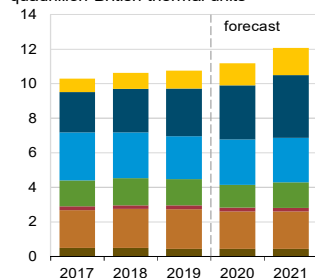


Note: Labels show percentage share of total generation provided by coal and natural gas.

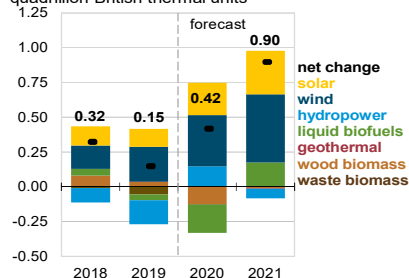
Source: Short-Term Energy Outlook, May 2020



U.S. renewable energy supply
quadrillion British thermal units



Components of annual change
quadrillion British thermal units

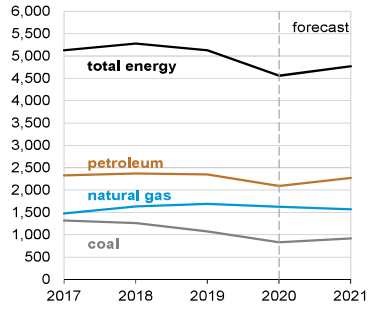


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, May 2020

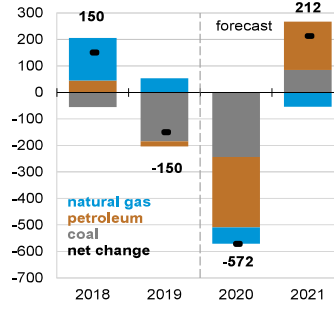


U.S. annual carbon emissions by source
million metric tons

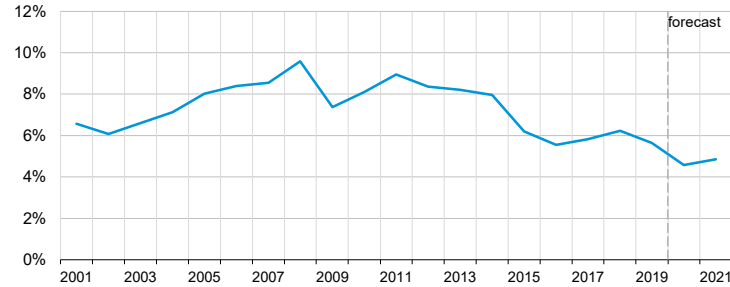


Source: Short-Term Energy Outlook, May 2020

Components of annual change
million metric tons



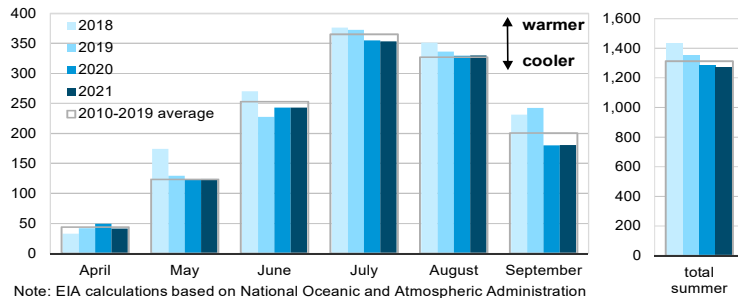
U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, May 2020



U.S. summer cooling degree days
population-weighted

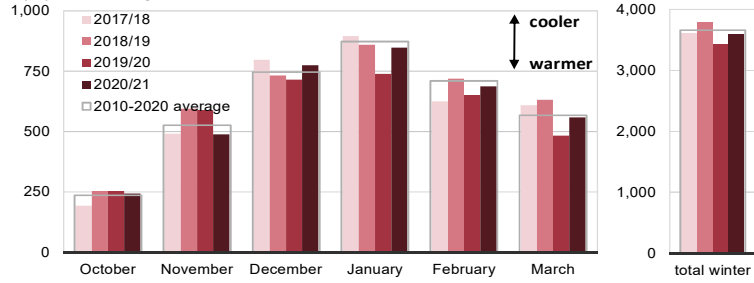


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, May 2020



U.S. winter heating degree days
population-weighted

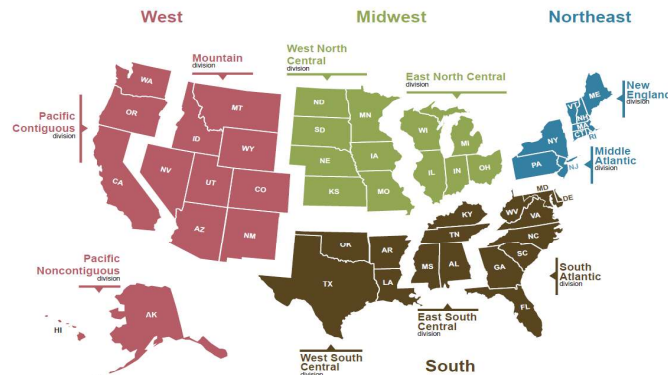


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, May 2020



U.S. Census regions and divisions



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



Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a) (million barrels per day)	11.81	12.10	12.23	12.78	12.81	<i>11.78</i>	<i>11.23</i>	<i>10.93</i>	<i>10.81</i>	<i>10.89</i>	<i>10.83</i>	<i>11.07</i>	12.23	<i>11.69</i>	<i>10.90</i>
Dry Natural Gas Production (billion cubic feet per day)	89.32	90.50	92.98	95.97	94.28	<i>91.08</i>	<i>88.03</i>	<i>86.05</i>	<i>84.21</i>	<i>84.09</i>	<i>85.03</i>	<i>86.22</i>	92.21	<i>89.84</i>	<i>84.89</i>
Coal Production (million short tons)	170	175	180	165	150	<i>114</i>	<i>130</i>	<i>129</i>	<i>142</i>	<i>119</i>	<i>150</i>	<i>138</i>	690	<i>523</i>	<i>550</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	20.30	20.31	20.67	20.57	19.35	<i>15.87</i>	<i>18.67</i>	<i>19.26</i>	<i>19.18</i>	<i>19.61</i>	<i>20.19</i>	<i>20.18</i>	20.46	<i>18.29</i>	<i>19.79</i>
Natural Gas (billion cubic feet per day)	103.32	70.74	76.74	89.33	100.04	<i>71.60</i>	<i>72.92</i>	<i>82.27</i>	<i>94.20</i>	<i>68.86</i>	<i>70.76</i>	<i>83.07</i>	84.97	<i>81.69</i>	<i>79.17</i>
Coal (b) (million short tons)	158	130	168	132	114	<i>99</i>	<i>131</i>	<i>110</i>	<i>123</i>	<i>109</i>	<i>148</i>	<i>118</i>	587	<i>453</i>	<i>498</i>
Electricity (billion kilowatt hours per day)	10.53	10.02	12.06	10.07	10.13	<i>9.64</i>	<i>11.37</i>	<i>9.46</i>	<i>9.97</i>	<i>9.82</i>	<i>11.66</i>	<i>9.67</i>	10.67	<i>10.15</i>	<i>10.28</i>
Renewables (c) (quadrillion Btu)	2.81	3.08	2.80	2.79	2.94	<i>3.06</i>	<i>2.87</i>	<i>2.92</i>	<i>3.14</i>	<i>3.39</i>	<i>3.11</i>	<i>3.12</i>	11.48	<i>11.80</i>	<i>12.76</i>
Total Energy Consumption (d) (quadrillion Btu)	26.54	23.43	24.97	25.22	25.08	<i>20.50</i>	<i>22.69</i>	<i>23.37</i>	<i>24.49</i>	<i>22.46</i>	<i>23.70</i>	<i>24.07</i>	100.17	<i>91.64</i>	<i>94.72</i>
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	54.82	59.94	56.35	56.86	45.34	<i>20.64</i>	<i>25.47</i>	<i>29.50</i>	<i>36.63</i>	<i>42.16</i>	<i>45.48</i>	<i>48.53</i>	57.02	<i>30.10</i>	<i>43.31</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	2.92	2.56	2.38	2.40	1.89	<i>1.85</i>	<i>2.11</i>	<i>2.71</i>	<i>2.99</i>	<i>2.74</i>	<i>2.83</i>	<i>2.98</i>	2.57	<i>2.14</i>	<i>2.89</i>
Coal (dollars per million Btu)	2.08	2.05	2.00	1.95	1.97	<i>2.02</i>	<i>1.98</i>	<i>1.99</i>	<i>2.02</i>	<i>2.05</i>	<i>2.03</i>	<i>2.04</i>	2.02	<i>1.99</i>	<i>2.04</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,927	19,022	19,121	19,222	19,048	<i>17,627</i>	<i>17,617</i>	<i>17,885</i>	<i>18,532</i>	<i>19,108</i>	<i>19,455</i>	<i>19,682</i>	19,073	<i>18,044</i>	<i>19,194</i>
Percent change from prior year	2.7	2.3	2.1	2.3	0.6	<i>-7.3</i>	<i>-7.9</i>	<i>-7.0</i>	<i>-2.7</i>	<i>8.4</i>	<i>10.4</i>	<i>10.1</i>	2.3	<i>-5.4</i>	<i>6.4</i>
GDP Implicit Price Deflator (Index, 2012=100)	111.5	112.2	112.7	113.0	113.5	<i>113.8</i>	<i>114.2</i>	<i>114.6</i>	<i>115.0</i>	<i>115.5</i>	<i>115.9</i>	<i>116.2</i>	112.3	<i>114.0</i>	<i>115.7</i>
Percent change from prior year	2.0	1.8	1.7	1.6	1.7	<i>1.5</i>	<i>1.4</i>	<i>1.4</i>	<i>1.4</i>	<i>1.5</i>	<i>1.5</i>	<i>1.4</i>	1.8	<i>1.5</i>	<i>1.4</i>
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	14,878	14,934	15,012	15,073	15,206	<i>15,536</i>	<i>15,609</i>	<i>15,320</i>	<i>15,442</i>	<i>15,564</i>	<i>15,662</i>	<i>15,758</i>	14,974	<i>15,418</i>	<i>15,606</i>
Percent change from prior year	3.3	3.0	2.7	2.4	2.2	<i>4.0</i>	<i>4.0</i>	<i>1.6</i>	<i>1.6</i>	<i>0.2</i>	<i>0.3</i>	<i>2.9</i>	2.9	<i>3.0</i>	<i>1.2</i>
Manufacturing Production Index (Index, 2012=100)	106.5	105.7	105.9	105.8	103.9	<i>90.0</i>	<i>84.7</i>	<i>83.1</i>	<i>86.5</i>	<i>90.4</i>	<i>92.9</i>	<i>94.6</i>	106.0	<i>90.4</i>	<i>91.1</i>
Percent change from prior year	1.6	0.1	-0.6	-1.1	-2.4	<i>-14.8</i>	<i>-20.0</i>	<i>-21.5</i>	<i>-16.7</i>	<i>0.4</i>	<i>9.7</i>	<i>13.9</i>	0.0	<i>-14.7</i>	<i>0.8</i>
Weather															
U.S. Heating Degree-Days	2,211	481	57	1,559	1,875	<i>505</i>	<i>69</i>	<i>1,506</i>	<i>2,094</i>	<i>483</i>	<i>70</i>	<i>1,504</i>	4,307	<i>3,956</i>	<i>4,151</i>
U.S. Cooling Degree-Days	45	399	952	105	71	<i>416</i>	<i>864</i>	<i>96</i>	<i>46</i>	<i>409</i>	<i>864</i>	<i>96</i>	1,501	<i>1,447</i>	<i>1,415</i>

- = no data available

Prices are not adjusted for inflation.

(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).

Notes: 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; *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.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	54.82	59.94	56.35	56.86	45.34	<i>20.64</i>	<i>25.47</i>	<i>29.50</i>	<i>36.63</i>	<i>42.16</i>	<i>45.48</i>	<i>48.53</i>	57.02	<i>30.10</i>	<i>43.31</i>
Brent Spot Average	63.14	69.07	61.90	63.30	50.00	<i>23.11</i>	<i>29.97</i>	<i>34.00</i>	<i>41.13</i>	<i>46.66</i>	<i>49.98</i>	<i>53.03</i>	64.37	<i>34.13</i>	<i>47.81</i>
U.S. Imported Average	55.25	62.98	57.30	55.57	42.88	<i>17.35</i>	<i>22.53</i>	<i>26.48</i>	<i>34.13</i>	<i>39.67</i>	<i>42.99</i>	<i>46.01</i>	57.94	<i>27.31</i>	<i>41.02</i>
U.S. Refiner Average Acquisition Cost	56.93	63.55	58.67	58.05	45.37	<i>19.61</i>	<i>24.93</i>	<i>28.99</i>	<i>35.52</i>	<i>41.20</i>	<i>44.49</i>	<i>47.53</i>	59.33	<i>30.23</i>	<i>42.34</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	167	205	189	182	148	<i>83</i>	<i>105</i>	<i>107</i>	<i>120</i>	<i>151</i>	<i>154</i>	<i>148</i>	186	<i>112</i>	<i>144</i>
Diesel Fuel	192	203	192	197	157	<i>95</i>	<i>106</i>	<i>116</i>	<i>127</i>	<i>150</i>	<i>159</i>	<i>166</i>	196	<i>119</i>	<i>151</i>
Heating Oil	189	195	184	191	155	<i>86</i>	<i>94</i>	<i>108</i>	<i>128</i>	<i>144</i>	<i>155</i>	<i>165</i>	190	<i>113</i>	<i>139</i>
Refiner Prices to End Users															
Jet Fuel	193	204	194	197	160	<i>83</i>	<i>103</i>	<i>113</i>	<i>127</i>	<i>149</i>	<i>158</i>	<i>165</i>	197	<i>120</i>	<i>151</i>
No. 6 Residual Fuel Oil (a)	153	163	155	162	161	<i>80</i>	<i>91</i>	<i>103</i>	<i>86</i>	<i>97</i>	<i>104</i>	<i>111</i>	158	<i>105</i>	<i>100</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	236	279	265	259	241	<i>191</i>	<i>187</i>	<i>181</i>	<i>189</i>	<i>226</i>	<i>230</i>	<i>222</i>	260	<i>200</i>	<i>217</i>
Gasoline All Grades (b)	245	288	274	269	250	<i>202</i>	<i>199</i>	<i>194</i>	<i>202</i>	<i>239</i>	<i>243</i>	<i>235</i>	269	<i>212</i>	<i>231</i>
On-highway Diesel Fuel	302	312	302	306	289	<i>222</i>	<i>212</i>	<i>222</i>	<i>227</i>	<i>249</i>	<i>260</i>	<i>269</i>	306	<i>237</i>	<i>252</i>
Heating Oil	300	305	290	301	282	<i>208</i>	<i>200</i>	<i>220</i>	<i>230</i>	<i>242</i>	<i>256</i>	<i>276</i>	300	<i>241</i>	<i>250</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	3.03	2.66	2.47	2.49	1.96	<i>1.92</i>	<i>2.19</i>	<i>2.81</i>	<i>3.11</i>	<i>2.85</i>	<i>2.94</i>	<i>3.09</i>	2.66	<i>2.22</i>	<i>3.00</i>
Henry Hub Spot (dollars per million Btu)	2.92	2.56	2.38	2.40	1.89	<i>1.85</i>	<i>2.11</i>	<i>2.71</i>	<i>2.99</i>	<i>2.74</i>	<i>2.83</i>	<i>2.98</i>	2.57	<i>2.14</i>	<i>2.89</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	4.67	3.74	3.30	3.74	3.48	<i>2.74</i>	<i>2.91</i>	<i>3.74</i>	<i>4.32</i>	<i>3.74</i>	<i>3.77</i>	<i>4.22</i>	3.91	<i>3.24</i>	<i>4.03</i>
Commercial Sector	7.59	7.97	8.40	7.22	7.18	<i>7.34</i>	<i>7.81</i>	<i>7.24</i>	<i>7.43</i>	<i>8.04</i>	<i>8.51</i>	<i>7.77</i>	7.62	<i>7.29</i>	<i>7.75</i>
Residential Sector	9.47	12.48	18.10	9.88	9.48	<i>11.65</i>	<i>16.37</i>	<i>10.01</i>	<i>9.38</i>	<i>12.34</i>	<i>17.10</i>	<i>10.59</i>	10.56	<i>10.52</i>	<i>10.74</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.08	2.05	2.00	1.95	1.97	<i>2.02</i>	<i>1.98</i>	<i>1.99</i>	<i>2.02</i>	<i>2.05</i>	<i>2.03</i>	<i>2.04</i>	2.02	<i>1.99</i>	<i>2.04</i>
Natural Gas	3.71	2.73	2.51	2.78	2.37	<i>1.94</i>	<i>2.08</i>	<i>2.98</i>	<i>3.53</i>	<i>2.93</i>	<i>2.96</i>	<i>3.32</i>	2.88	<i>2.31</i>	<i>3.15</i>
Residual Fuel Oil (c)	12.21	13.39	12.79	12.52	12.20	<i>7.37</i>	<i>6.13</i>	<i>6.53</i>	<i>7.46</i>	<i>9.44</i>	<i>9.47</i>	<i>9.75</i>	12.72	<i>7.91</i>	<i>8.82</i>
Distillate Fuel Oil	14.83	15.77	15.01	15.10	13.05	<i>8.06</i>	<i>8.56</i>	<i>9.37</i>	<i>10.10</i>	<i>11.80</i>	<i>12.38</i>	<i>13.05</i>	15.16	<i>9.77</i>	<i>11.83</i>
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.66	6.71	7.25	6.66	6.41	<i>6.62</i>	<i>7.28</i>	<i>6.81</i>	<i>6.71</i>	<i>6.88</i>	<i>7.52</i>	<i>6.90</i>	6.83	<i>6.78</i>	<i>7.02</i>
Commercial Sector	10.43	10.64	11.00	10.53	10.29	<i>10.47</i>	<i>10.86</i>	<i>10.50</i>	<i>10.39</i>	<i>10.72</i>	<i>11.21</i>	<i>10.84</i>	10.66	<i>10.54</i>	<i>10.81</i>
Residential Sector	12.68	13.33	13.27	12.85	12.85	<i>13.24</i>	<i>13.22</i>	<i>12.91</i>	<i>12.92</i>	<i>13.64</i>	<i>13.68</i>	<i>13.38</i>	13.04	<i>13.06</i>	<i>13.41</i>

- = no data available

Prices are not adjusted for inflation.

(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.

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

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.

WTI and Brent crude oils, and Henry Hub natural gas spot prices from Reuter's News Service (<http://www.reuters.com>).

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	31.04	31.29	31.45	32.75	32.94	<i>29.60</i>	<i>29.56</i>	<i>29.93</i>	<i>29.80</i>	<i>30.14</i>	<i>30.25</i>	<i>31.02</i>	31.64	<i>30.50</i>	<i>30.31</i>
U.S. (50 States)	18.85	19.32	19.42	20.21	20.27	<i>18.52</i>	<i>18.06</i>	<i>17.87</i>	<i>17.61</i>	<i>18.03</i>	<i>18.07</i>	<i>18.41</i>	19.45	<i>18.68</i>	<i>18.03</i>
Canada	5.44	5.47	5.47	5.62	5.65	<i>4.41</i>	<i>4.86</i>	<i>5.28</i>	<i>5.35</i>	<i>5.43</i>	<i>5.47</i>	<i>5.70</i>	5.50	<i>5.05</i>	<i>5.49</i>
Mexico	1.91	1.91	1.93	1.93	1.99	<i>1.81</i>	<i>1.77</i>	<i>1.74</i>	<i>1.79</i>	<i>1.80</i>	<i>1.76</i>	<i>1.74</i>	1.92	<i>1.83</i>	<i>1.77</i>
Other OECD	4.85	4.59	4.63	4.99	5.02	<i>4.86</i>	<i>4.86</i>	<i>5.03</i>	<i>5.06</i>	<i>4.88</i>	<i>4.95</i>	<i>5.17</i>	4.77	<i>4.94</i>	<i>5.01</i>
Non-OECD	69.27	69.08	68.68	68.74	67.84	<i>63.37</i>	<i>63.07</i>	<i>64.50</i>	<i>66.35</i>	<i>67.45</i>	<i>68.03</i>	<i>67.84</i>	68.94	<i>64.69</i>	<i>67.42</i>
OPEC	35.45	34.90	33.93	34.19	33.59	<i>31.15</i>	<i>30.09</i>	<i>31.50</i>	<i>33.21</i>	<i>33.35</i>	<i>33.39</i>	<i>33.42</i>	34.61	<i>31.58</i>	<i>33.35</i>
Crude Oil Portion	29.94	29.47	28.66	29.02	28.28	<i>26.14</i>	<i>25.23</i>	<i>26.64</i>	<i>28.26</i>	<i>28.46</i>	<i>28.51</i>	<i>28.54</i>	29.27	<i>26.57</i>	<i>28.44</i>
Other Liquids (b)	5.51	5.43	5.28	5.17	5.31	<i>5.01</i>	<i>4.87</i>	<i>4.87</i>	<i>4.95</i>	<i>4.89</i>	<i>4.88</i>	<i>4.89</i>	5.34	<i>5.01</i>	<i>4.90</i>
Eurasia	14.87	14.43	14.59	14.67	14.74	<i>13.15</i>	<i>13.26</i>	<i>13.48</i>	<i>13.85</i>	<i>14.06</i>	<i>14.22</i>	<i>14.32</i>	14.64	<i>13.66</i>	<i>14.11</i>
China	4.89	4.92	4.89	4.88	4.95	<i>4.80</i>	<i>4.80</i>	<i>4.82</i>	<i>4.82</i>	<i>4.85</i>	<i>4.85</i>	<i>4.89</i>	4.89	<i>4.84</i>	<i>4.85</i>
Other Non-OECD	14.07	14.83	15.27	15.01	14.56	<i>14.26</i>	<i>14.91</i>	<i>14.69</i>	<i>14.47</i>	<i>15.19</i>	<i>15.57</i>	<i>15.21</i>	14.80	<i>14.60</i>	<i>15.11</i>
Total World Supply	100.31	100.37	100.13	101.49	100.78	<i>92.97</i>	<i>92.63</i>	<i>94.43</i>	<i>96.15</i>	<i>97.59</i>	<i>98.27</i>	<i>98.86</i>	100.58	<i>95.19</i>	<i>97.73</i>
Non-OPEC Supply	64.87	65.47	66.20	67.30	67.19	<i>61.81</i>	<i>62.53</i>	<i>62.92</i>	<i>62.94</i>	<i>64.24</i>	<i>64.88</i>	<i>65.44</i>	65.97	<i>63.61</i>	<i>64.38</i>
Consumption (million barrels per day) (c)															
OECD	47.41	46.71	47.83	47.50	44.25	<i>36.29</i>	<i>43.44</i>	<i>45.14</i>	<i>44.96</i>	<i>44.69</i>	<i>45.97</i>	<i>46.12</i>	47.36	<i>42.29</i>	<i>45.44</i>
U.S. (50 States)	20.30	20.31	20.67	20.57	19.35	<i>15.87</i>	<i>18.67</i>	<i>19.26</i>	<i>19.18</i>	<i>19.61</i>	<i>20.19</i>	<i>20.18</i>	20.46	<i>18.29</i>	<i>19.79</i>
U.S. Territories	0.12	0.11	0.12	0.13	0.12	<i>0.11</i>	<i>0.13</i>	<i>0.14</i>	<i>0.14</i>	<i>0.12</i>	<i>0.13</i>	<i>0.13</i>	0.12	<i>0.12</i>	<i>0.13</i>
Canada	2.45	2.44	2.57	2.54	2.42	<i>1.70</i>	<i>2.19</i>	<i>2.28</i>	<i>2.38</i>	<i>2.33</i>	<i>2.43</i>	<i>2.40</i>	2.50	<i>2.15</i>	<i>2.38</i>
Europe	13.90	14.04	14.53	13.94	12.68	<i>10.85</i>	<i>13.31</i>	<i>13.66</i>	<i>13.19</i>	<i>13.38</i>	<i>13.87</i>	<i>13.58</i>	14.11	<i>12.63</i>	<i>13.51</i>
Japan	4.09	3.41	3.44	3.76	3.54	<i>2.48</i>	<i>3.12</i>	<i>3.50</i>	<i>3.77</i>	<i>3.10</i>	<i>3.18</i>	<i>3.50</i>	3.67	<i>3.16</i>	<i>3.39</i>
Other OECD	6.55	6.40	6.49	6.55	6.14	<i>5.29</i>	<i>6.02</i>	<i>6.30</i>	<i>6.31</i>	<i>6.15</i>	<i>6.18</i>	<i>6.32</i>	6.50	<i>5.94</i>	<i>6.24</i>
Non-OECD	52.58	53.54	53.55	53.81	49.89	<i>45.19</i>	<i>52.22</i>	<i>53.91</i>	<i>53.21</i>	<i>54.39</i>	<i>54.49</i>	<i>54.50</i>	53.38	<i>50.32</i>	<i>54.15</i>
Eurasia	4.83	4.90	5.17	5.12	4.77	<i>3.91</i>	<i>5.03</i>	<i>5.08</i>	<i>4.87</i>	<i>4.94</i>	<i>5.32</i>	<i>5.17</i>	5.01	<i>4.70</i>	<i>5.08</i>
Europe	0.76	0.76	0.78	0.78	0.77	<i>0.73</i>	<i>0.76</i>	<i>0.78</i>	<i>0.75</i>	<i>0.75</i>	<i>0.77</i>	<i>0.77</i>	0.77	<i>0.76</i>	<i>0.76</i>
China	14.38	14.67	14.39	14.61	12.31	<i>12.99</i>	<i>14.36</i>	<i>14.87</i>	<i>14.99</i>	<i>15.19</i>	<i>14.90</i>	<i>15.12</i>	14.51	<i>13.64</i>	<i>15.05</i>
Other Asia	13.95	13.98	13.63	13.93	13.40	<i>11.15</i>	<i>13.14</i>	<i>14.06</i>	<i>14.24</i>	<i>14.40</i>	<i>13.99</i>	<i>14.34</i>	13.87	<i>12.94</i>	<i>14.24</i>
Other Non-OECD	18.66	19.22	19.59	19.38	18.64	<i>16.40</i>	<i>18.92</i>	<i>19.12</i>	<i>18.37</i>	<i>19.10</i>	<i>19.53</i>	<i>19.10</i>	19.21	<i>18.28</i>	<i>19.03</i>
Total World Consumption	99.99	100.25	101.38	101.31	94.14	<i>81.48</i>	<i>95.66</i>	<i>99.05</i>	<i>98.18</i>	<i>99.08</i>	<i>100.46</i>	<i>100.63</i>	100.74	<i>92.61</i>	<i>99.60</i>
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	0.26	-0.64	0.05	0.29	-0.32	<i>-1.87</i>	<i>0.13</i>	<i>0.72</i>	<i>0.33</i>	<i>-0.29</i>	<i>-0.01</i>	<i>0.42</i>	-0.01	<i>-0.33</i>	<i>0.11</i>
Other OECD	-0.21	0.02	-0.16	0.26	-1.85	<i>-2.97</i>	<i>0.94</i>	<i>1.27</i>	<i>0.55</i>	<i>0.56</i>	<i>0.71</i>	<i>0.43</i>	-0.02	<i>-0.64</i>	<i>0.56</i>
Other Stock Draws and Balance	-0.38	0.50	1.36	-0.74	-4.47	<i>-6.65</i>	<i>1.97</i>	<i>2.64</i>	<i>1.14</i>	<i>1.22</i>	<i>1.50</i>	<i>0.91</i>	0.19	<i>-1.61</i>	<i>1.19</i>
Total Stock Draw	-0.33	-0.12	1.25	-0.18	-6.63	<i>-11.49</i>	<i>3.04</i>	<i>4.62</i>	<i>2.02</i>	<i>1.49</i>	<i>2.19</i>	<i>1.76</i>	0.16	<i>-2.58</i>	<i>1.87</i>
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,241	1,304	1,299	1,282	1,311	<i>1,458</i>	<i>1,446</i>	<i>1,393</i>	<i>1,376</i>	<i>1,405</i>	<i>1,408</i>	<i>1,372</i>	1,282	<i>1,393</i>	<i>1,372</i>
OECD Commercial Inventory	2,858	2,919	2,929	2,888	3,085	<i>3,502</i>	<i>3,404</i>	<i>3,235</i>	<i>3,168</i>	<i>3,146</i>	<i>3,083</i>	<i>3,007</i>	2,888	<i>3,235</i>	<i>3,007</i>

- = 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.

(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.

Notes: 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.

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	26.19	26.70	26.82	27.76	27.92	<i>24.74</i>	<i>24.69</i>	<i>24.90</i>	<i>24.75</i>	<i>25.26</i>	<i>25.30</i>	<i>25.85</i>	26.87	<i>25.56</i>	<i>25.29</i>
Canada	5.44	5.47	5.47	5.62	5.65	<i>4.41</i>	<i>4.86</i>	<i>5.28</i>	<i>5.35</i>	<i>5.43</i>	<i>5.47</i>	<i>5.70</i>	5.50	<i>5.05</i>	<i>5.49</i>
Mexico	1.91	1.91	1.93	1.93	1.99	<i>1.81</i>	<i>1.77</i>	<i>1.74</i>	<i>1.79</i>	<i>1.80</i>	<i>1.76</i>	<i>1.74</i>	1.92	<i>1.83</i>	<i>1.77</i>
United States	18.85	19.32	19.42	20.21	20.27	<i>18.52</i>	<i>18.06</i>	<i>17.87</i>	<i>17.61</i>	<i>18.03</i>	<i>18.07</i>	<i>18.41</i>	19.45	<i>18.68</i>	<i>18.03</i>
Central and South America	5.44	6.22	6.80	6.45	5.97	<i>6.05</i>	<i>6.65</i>	<i>6.33</i>	<i>6.04</i>	<i>6.82</i>	<i>7.21</i>	<i>6.87</i>	6.23	<i>6.25</i>	<i>6.74</i>
Argentina	0.66	0.70	0.70	0.70	0.67	<i>0.66</i>	<i>0.67</i>	<i>0.67</i>	<i>0.66</i>	<i>0.67</i>	<i>0.68</i>	<i>0.67</i>	0.69	<i>0.67</i>	<i>0.67</i>
Brazil	2.90	3.65	4.23	3.89	3.39	<i>3.66</i>	<i>4.08</i>	<i>3.73</i>	<i>3.44</i>	<i>4.28</i>	<i>4.65</i>	<i>4.27</i>	3.67	<i>3.71</i>	<i>4.16</i>
Colombia	0.92	0.92	0.91	0.91	0.90	<i>0.83</i>	<i>0.84</i>	<i>0.88</i>	<i>0.89</i>	<i>0.83</i>	<i>0.84</i>	<i>0.87</i>	0.92	<i>0.86</i>	<i>0.86</i>
Ecuador	0.53	0.53	0.55	0.52	0.53	<i>0.39</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	0.53	<i>0.50</i>	<i>0.53</i>
Other Central and S. America	0.42	0.41	0.42	0.43	0.48	<i>0.51</i>	<i>0.52</i>	<i>0.53</i>	<i>0.52</i>	<i>0.51</i>	<i>0.52</i>	<i>0.52</i>	0.42	<i>0.51</i>	<i>0.52</i>
Europe	4.26	3.97	3.96	4.29	4.45	<i>4.34</i>	<i>4.30</i>	<i>4.44</i>	<i>4.47</i>	<i>4.30</i>	<i>4.37</i>	<i>4.60</i>	4.12	<i>4.38</i>	<i>4.44</i>
Norway	1.79	1.58	1.66	1.96	2.05	<i>2.00</i>	<i>2.03</i>	<i>2.07</i>	<i>2.12</i>	<i>2.06</i>	<i>2.10</i>	<i>2.20</i>	1.75	<i>2.04</i>	<i>2.12</i>
United Kingdom	1.25	1.17	1.11	1.15	1.23	<i>1.22</i>	<i>1.10</i>	<i>1.18</i>	<i>1.17</i>	<i>1.08</i>	<i>1.10</i>	<i>1.23</i>	1.17	<i>1.18</i>	<i>1.15</i>
Eurasia	14.87	14.43	14.59	14.67	14.74	<i>13.15</i>	<i>13.26</i>	<i>13.48</i>	<i>13.85</i>	<i>14.06</i>	<i>14.22</i>	<i>14.32</i>	14.64	<i>13.66</i>	<i>14.11</i>
Azerbaijan	0.82	0.79	0.78	0.77	0.78	<i>0.66</i>	<i>0.69</i>	<i>0.71</i>	<i>0.74</i>	<i>0.74</i>	<i>0.74</i>	<i>0.74</i>	0.79	<i>0.71</i>	<i>0.74</i>
Kazakhstan	2.03	1.85	1.96	2.02	2.06	<i>1.78</i>	<i>1.85</i>	<i>1.89</i>	<i>1.96</i>	<i>1.88</i>	<i>1.93</i>	<i>1.95</i>	1.97	<i>1.89</i>	<i>1.93</i>
Russia	11.58	11.41	11.48	11.50	11.52	<i>10.32</i>	<i>10.34</i>	<i>10.50</i>	<i>10.79</i>	<i>11.07</i>	<i>11.18</i>	<i>11.26</i>	11.49	<i>10.67</i>	<i>11.08</i>
Turkmenistan	0.29	0.23	0.22	0.23	0.25	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	0.24	<i>0.25</i>	<i>0.24</i>
Other Eurasia	0.15	0.15	0.15	0.15	0.14	<i>0.14</i>	<i>0.14</i>	<i>0.14</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	0.15	<i>0.14</i>	<i>0.13</i>
Middle East	3.11	3.11	3.12	3.12	3.21	<i>3.09</i>	<i>3.10</i>	<i>3.13</i>	<i>3.19</i>	<i>3.19</i>	<i>3.19</i>	<i>3.19</i>	3.11	<i>3.13</i>	<i>3.19</i>
Oman	0.98	0.98	0.98	0.98	1.01	<i>0.88</i>	<i>0.89</i>	<i>0.92</i>	<i>0.94</i>	<i>0.94</i>	<i>0.94</i>	<i>0.94</i>	0.98	<i>0.93</i>	<i>0.94</i>
Qatar	2.00	2.00	2.00	2.00	2.06	<i>2.06</i>	<i>2.06</i>	<i>2.06</i>	<i>2.10</i>	<i>2.10</i>	<i>2.10</i>	<i>2.10</i>	2.00	<i>2.06</i>	<i>2.10</i>
Asia and Oceania	9.48	9.51	9.36	9.47	9.43	<i>8.98</i>	<i>9.07</i>	<i>9.20</i>	<i>9.24</i>	<i>9.22</i>	<i>9.22</i>	<i>9.24</i>	9.45	<i>9.17</i>	<i>9.23</i>
Australia	0.42	0.47	0.51	0.54	0.49	<i>0.52</i>	<i>0.53</i>	<i>0.55</i>	<i>0.54</i>	<i>0.53</i>	<i>0.53</i>	<i>0.52</i>	0.49	<i>0.52</i>	<i>0.53</i>
China	4.89	4.92	4.89	4.88	4.95	<i>4.80</i>	<i>4.80</i>	<i>4.82</i>	<i>4.82</i>	<i>4.85</i>	<i>4.85</i>	<i>4.89</i>	4.89	<i>4.84</i>	<i>4.85</i>
India	1.01	0.99	0.98	0.99	0.94	<i>0.79</i>	<i>0.81</i>	<i>0.88</i>	<i>0.92</i>	<i>0.90</i>	<i>0.92</i>	<i>0.91</i>	0.99	<i>0.86</i>	<i>0.91</i>
Indonesia	0.93	0.93	0.91	0.91	0.91	<i>0.89</i>	<i>0.89</i>	<i>0.88</i>	<i>0.86</i>	<i>0.86</i>	<i>0.85</i>	<i>0.85</i>	0.92	<i>0.89</i>	<i>0.86</i>
Malaysia	0.75	0.73	0.65	0.72	0.72	<i>0.61</i>	<i>0.65</i>	<i>0.66</i>	<i>0.68</i>	<i>0.67</i>	<i>0.67</i>	<i>0.66</i>	0.71	<i>0.66</i>	<i>0.67</i>
Vietnam	0.25	0.25	0.23	0.22	0.22	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.19</i>	0.24	<i>0.21</i>	<i>0.20</i>
Africa	1.52	1.54	1.55	1.55	1.47	<i>1.47</i>	<i>1.46</i>	<i>1.45</i>	<i>1.39</i>	<i>1.37</i>	<i>1.37</i>	<i>1.37</i>	1.54	<i>1.46</i>	<i>1.38</i>
Egypt	0.66	0.65	0.65	0.65	0.60	<i>0.60</i>	<i>0.60</i>	<i>0.60</i>	<i>0.56</i>	<i>0.56</i>	<i>0.56</i>	<i>0.56</i>	0.65	<i>0.60</i>	<i>0.56</i>
South Sudan	0.17	0.18	0.18	0.18	0.18	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	0.18	<i>0.19</i>	<i>0.19</i>
Total non-OPEC liquids	64.87	65.47	66.20	67.30	67.19	<i>61.81</i>	<i>62.53</i>	<i>62.92</i>	<i>62.94</i>	<i>64.24</i>	<i>64.88</i>	<i>65.44</i>	65.97	<i>63.61</i>	<i>64.38</i>
OPEC non-crude liquids	5.51	5.43	5.28	5.17	5.31	<i>5.01</i>	<i>4.87</i>	<i>4.87</i>	<i>4.95</i>	<i>4.89</i>	<i>4.88</i>	<i>4.89</i>	5.34	<i>5.01</i>	<i>4.90</i>
Non-OPEC + OPEC non-crude	70.37	70.90	71.48	72.47	72.50	<i>66.83</i>	<i>67.40</i>	<i>67.79</i>	<i>67.89</i>	<i>69.13</i>	<i>69.76</i>	<i>70.33</i>	71.31	<i>68.62</i>	<i>69.29</i>
Unplanned non-OPEC Production Outages	0.35	0.26	0.39	0.30	0.14	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.32	<i>n/a</i>	<i>n/a</i>

- = 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: 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.

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	1.01	1.02	1.02	1.02	1.02	-	-	-	-	-	-	-	1.02	-	-
Angola	1.50	1.43	1.40	1.36	1.36	-	-	-	-	-	-	-	1.42	-	-
Congo (Brazzaville)	0.33	0.33	0.33	0.32	0.29	-	-	-	-	-	-	-	0.32	-	-
Equatorial Guinea	0.11	0.11	0.13	0.13	0.13	-	-	-	-	-	-	-	0.12	-	-
Gabon	0.20	0.20	0.20	0.20	0.20	-	-	-	-	-	-	-	0.20	-	-
Iran	2.63	2.33	2.10	2.03	2.02	-	-	-	-	-	-	-	2.27	-	-
Iraq	4.75	4.70	4.70	4.65	4.56	-	-	-	-	-	-	-	4.70	-	-
Kuwait	2.74	2.72	2.70	2.70	2.77	-	-	-	-	-	-	-	2.72	-	-
Libya	0.93	1.14	1.13	1.17	0.35	-	-	-	-	-	-	-	1.09	-	-
Nigeria	1.58	1.65	1.71	1.67	1.71	-	-	-	-	-	-	-	1.65	-	-
Saudi Arabia	10.00	9.92	9.38	9.83	9.80	-	-	-	-	-	-	-	9.78	-	-
United Arab Emirates	3.12	3.12	3.13	3.20	3.30	-	-	-	-	-	-	-	3.14	-	-
Venezuela	1.05	0.79	0.73	0.73	0.77	-	-	-	-	-	-	-	0.83	-	-
OPEC Total	29.94	29.47	28.66	29.02	28.28	26.14	25.23	26.64	28.26	28.46	28.51	28.54	29.27	26.57	28.44
Other Liquids (a)	5.51	5.43	5.28	5.17	5.31	5.01	4.87	4.87	4.95	4.89	4.88	4.89	5.34	5.01	4.90
Total OPEC Supply	35.45	34.90	33.93	34.19	33.59	31.15	30.09	31.50	33.21	33.35	33.39	33.42	34.61	31.58	33.35
Crude Oil Production Capacity															
Middle East	25.66	25.53	24.58	24.74	25.61	26.01	26.06	26.17	26.27	26.29	26.28	26.28	25.12	25.96	26.28
Other	6.71	6.68	6.65	6.60	5.82	4.92	4.92	5.49	5.86	5.86	5.91	5.94	6.66	5.29	5.89
OPEC Total	32.37	32.22	31.22	31.34	31.43	30.93	30.98	31.66	32.13	32.15	32.19	32.22	31.78	31.25	32.17
Surplus Crude Oil Production Capacity															
Middle East	2.43	2.75	2.57	2.32	3.15	4.79	5.75	5.03	3.87	3.69	3.68	3.68	2.52	4.68	3.73
Other	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
OPEC Total	2.43	2.75	2.57	2.32	3.15	4.79	5.75	5.03	3.87	3.69	3.68	3.68	2.52	4.68	3.73
Unplanned OPEC Production Outages	2.52	2.51	3.24	2.91	3.67	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.80	n/a	n/a

- = no data available

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).

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

Notes: 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.

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				2019	2020	2021
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	24.69	24.70	25.19	24.98	23.61	<i>19.01</i>	<i>22.60</i>	<i>23.37</i>	<i>23.33</i>	<i>23.72</i>	<i>24.39</i>	<i>24.37</i>	24.89	<i>22.15</i>	<i>23.96</i>
Canada	2.45	2.44	2.57	2.54	2.42	<i>1.70</i>	<i>2.19</i>	<i>2.28</i>	<i>2.38</i>	<i>2.33</i>	<i>2.43</i>	<i>2.40</i>	2.50	<i>2.15</i>	<i>2.38</i>
Mexico	1.93	1.94	1.93	1.86	1.83	<i>1.43</i>	<i>1.73</i>	<i>1.82</i>	<i>1.76</i>	<i>1.78</i>	<i>1.77</i>	<i>1.78</i>	1.92	<i>1.70</i>	<i>1.77</i>
United States	20.30	20.31	20.67	20.57	19.35	<i>15.87</i>	<i>18.67</i>	<i>19.26</i>	<i>19.18</i>	<i>19.61</i>	<i>20.19</i>	<i>20.18</i>	20.46	<i>18.29</i>	<i>19.79</i>
Central and South America	6.67	6.86	6.91	6.93	6.68	<i>5.44</i>	<i>6.54</i>	<i>6.80</i>	<i>6.52</i>	<i>6.68</i>	<i>6.81</i>	<i>6.82</i>	6.84	<i>6.37</i>	<i>6.71</i>
Brazil	3.01	3.14	3.18	3.18	3.05	<i>2.43</i>	<i>2.99</i>	<i>3.13</i>	<i>3.00</i>	<i>3.08</i>	<i>3.18</i>	<i>3.18</i>	3.13	<i>2.90</i>	<i>3.11</i>
Europe	14.67	14.81	15.31	14.73	13.45	<i>11.58</i>	<i>14.07</i>	<i>14.44</i>	<i>13.94</i>	<i>14.14</i>	<i>14.63</i>	<i>14.35</i>	14.88	<i>13.39</i>	<i>14.27</i>
Eurasia	4.83	4.90	5.17	5.12	4.77	<i>3.91</i>	<i>5.03</i>	<i>5.08</i>	<i>4.87</i>	<i>4.94</i>	<i>5.32</i>	<i>5.17</i>	5.01	<i>4.70</i>	<i>5.08</i>
Russia	3.67	3.76	3.97	3.91	3.60	<i>2.77</i>	<i>3.79</i>	<i>3.82</i>	<i>3.66</i>	<i>3.75</i>	<i>4.07</i>	<i>3.91</i>	3.83	<i>3.49</i>	<i>3.85</i>
Middle East	8.19	8.55	8.94	8.53	8.13	<i>7.46</i>	<i>8.69</i>	<i>8.33</i>	<i>7.96</i>	<i>8.51</i>	<i>8.90</i>	<i>8.25</i>	8.55	<i>8.15</i>	<i>8.41</i>
Asia and Oceania	36.43	35.92	35.42	36.39	32.95	<i>29.91</i>	<i>34.34</i>	<i>36.35</i>	<i>36.99</i>	<i>36.51</i>	<i>35.91</i>	<i>36.96</i>	36.04	<i>33.40</i>	<i>36.59</i>
China	14.38	14.67	14.39	14.61	12.31	<i>12.99</i>	<i>14.36</i>	<i>14.87</i>	<i>14.99</i>	<i>15.19</i>	<i>14.90</i>	<i>15.12</i>	14.51	<i>13.64</i>	<i>15.05</i>
Japan	4.09	3.41	3.44	3.76	3.54	<i>2.48</i>	<i>3.12</i>	<i>3.50</i>	<i>3.77</i>	<i>3.10</i>	<i>3.18</i>	<i>3.50</i>	3.67	<i>3.16</i>	<i>3.39</i>
India	4.82	4.76	4.49	4.73	4.58	<i>3.79</i>	<i>4.29</i>	<i>4.78</i>	<i>4.91</i>	<i>4.97</i>	<i>4.64</i>	<i>4.93</i>	4.70	<i>4.36</i>	<i>4.86</i>
Africa	4.51	4.51	4.43	4.63	4.55	<i>4.17</i>	<i>4.39</i>	<i>4.68</i>	<i>4.57</i>	<i>4.58</i>	<i>4.50</i>	<i>4.70</i>	4.52	<i>4.45</i>	<i>4.59</i>
Total OECD Liquid Fuels Consumption	47.41	46.71	47.83	47.50	44.25	<i>36.29</i>	<i>43.44</i>	<i>45.14</i>	<i>44.96</i>	<i>44.69</i>	<i>45.97</i>	<i>46.12</i>	47.36	<i>42.29</i>	<i>45.44</i>
Total non-OECD Liquid Fuels Consumption	52.58	53.54	53.55	53.81	49.89	<i>45.19</i>	<i>52.22</i>	<i>53.91</i>	<i>53.21</i>	<i>54.39</i>	<i>54.49</i>	<i>54.50</i>	53.38	<i>50.32</i>	<i>54.15</i>
Total World Liquid Fuels Consumption	99.99	100.25	101.38	101.31	94.14	<i>81.48</i>	<i>95.66</i>	<i>99.05</i>	<i>98.18</i>	<i>99.08</i>	<i>100.46</i>	<i>100.63</i>	100.74	<i>92.61</i>	<i>99.60</i>
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	111.8	112.6	112.9	112.8	109.6	<i>104.7</i>	<i>107.4</i>	<i>109.8</i>	<i>112.7</i>	<i>114.8</i>	<i>116.1</i>	<i>116.8</i>	112.5	<i>107.9</i>	<i>115.1</i>
Percent change from prior year	2.2	2.1	1.9	1.7	-1.9	<i>-7.1</i>	<i>-4.8</i>	<i>-2.6</i>	<i>2.9</i>	<i>9.7</i>	<i>8.1</i>	<i>6.3</i>	2.0	<i>-4.1</i>	<i>6.7</i>
OECD Index, 2015 Q1 = 100	108.7	109.7	110.1	109.7	108.1	<i>99.0</i>	<i>101.4</i>	<i>104.3</i>	<i>107.9</i>	<i>110.7</i>	<i>112.0</i>	<i>112.2</i>	109.6	<i>103.2</i>	<i>110.7</i>
Percent change from prior year	1.8	1.8	1.8	1.6	-0.5	<i>-9.7</i>	<i>-7.9</i>	<i>-4.9</i>	<i>-0.2</i>	<i>11.7</i>	<i>10.5</i>	<i>7.6</i>	1.7	<i>-5.8</i>	<i>7.3</i>
Non-OECD Index, 2015 Q1 = 100	114.7	115.4	115.5	115.8	111.0	<i>110.2</i>	<i>113.3</i>	<i>115.3</i>	<i>117.5</i>	<i>118.9</i>	<i>120.0</i>	<i>121.2</i>	115.4	<i>112.5</i>	<i>119.4</i>
Percent change from prior year	2.6	2.4	2.0	1.8	-3.2	<i>-4.5</i>	<i>-1.9</i>	<i>-0.4</i>	<i>5.8</i>	<i>7.9</i>	<i>5.9</i>	<i>5.1</i>	2.2	<i>-2.5</i>	<i>6.2</i>
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	105.27	105.90	106.40	106.22	106.87	<i>109.37</i>	<i>109.22</i>	<i>108.43</i>	<i>107.40</i>	<i>106.70</i>	<i>106.13</i>	<i>105.25</i>	105.95	<i>108.47</i>	<i>106.37</i>
Percent change from prior year	4.6	3.1	0.8	0.0	1.5	<i>3.3</i>	<i>2.6</i>	<i>2.1</i>	<i>0.5</i>	<i>-2.4</i>	<i>-2.8</i>	<i>-2.9</i>	2.1	<i>2.4</i>	<i>-1.9</i>

- = 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.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar. GDP and exchange rate data are from Oxford Economics, and oil consumption data are from EIA.

Notes: 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.

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	11.81	12.10	12.23	12.78	12.81	<i>11.78</i>	<i>11.23</i>	<i>10.93</i>	<i>10.81</i>	<i>10.89</i>	<i>10.83</i>	<i>11.07</i>	12.23	<i>11.69</i>	<i>10.90</i>
Alaska	0.49	0.47	0.43	0.48	0.49	<i>0.44</i>	<i>0.45</i>	<i>0.49</i>	<i>0.50</i>	<i>0.50</i>	<i>0.46</i>	<i>0.49</i>	0.47	<i>0.46</i>	<i>0.49</i>
Federal Gulf of Mexico (b)	1.85	1.93	1.82	1.94	2.01	<i>1.89</i>	<i>1.91</i>	<i>1.91</i>	<i>1.97</i>	<i>1.94</i>	<i>1.86</i>	<i>1.88</i>	1.88	<i>1.93</i>	<i>1.91</i>
Lower 48 States (excl GOM)	9.47	9.70	9.98	10.36	10.32	<i>9.46</i>	<i>8.87</i>	<i>8.54</i>	<i>8.33</i>	<i>8.45</i>	<i>8.51</i>	<i>8.70</i>	9.88	<i>9.29</i>	<i>8.50</i>
Crude Oil Net Imports (c)	4.25	4.14	3.95	2.94	2.87	<i>2.56</i>	<i>3.24</i>	<i>4.18</i>	<i>4.50</i>	<i>5.16</i>	<i>5.56</i>	<i>5.29</i>	3.82	<i>3.21</i>	<i>5.13</i>
SPR Net Withdrawals	0.00	0.05	0.00	0.11	0.00	<i>-0.25</i>	<i>0.00</i>	<i>0.14</i>	<i>0.14</i>	<i>0.03</i>	<i>0.01</i>	<i>0.03</i>	0.04	<i>-0.03</i>	<i>0.05</i>
Commercial Inventory Net Withdrawals	-0.19	-0.05	0.41	-0.07	-0.57	<i>-1.05</i>	<i>0.28</i>	<i>0.17</i>	<i>-0.17</i>	<i>0.19</i>	<i>0.25</i>	<i>0.02</i>	0.03	<i>-0.29</i>	<i>0.07</i>
Crude Oil Adjustment (d)	0.33	0.53	0.38	0.56	0.66	<i>0.10</i>	<i>0.21</i>	<i>0.15</i>	<i>0.22</i>	<i>0.22</i>	<i>0.23</i>	<i>0.16</i>	0.45	<i>0.28</i>	<i>0.21</i>
Total Crude Oil Input to Refineries	16.20	16.76	16.97	16.32	15.78	<i>13.13</i>	<i>14.95</i>	<i>15.58</i>	<i>15.50</i>	<i>16.48</i>	<i>16.87</i>	<i>16.56</i>	16.56	<i>14.86</i>	<i>16.36</i>
Other Supply															
Refinery Processing Gain	1.06	1.07	1.07	1.10	1.07	<i>0.93</i>	<i>1.01</i>	<i>1.10</i>	<i>1.09</i>	<i>1.14</i>	<i>1.13</i>	<i>1.13</i>	1.08	<i>1.03</i>	<i>1.12</i>
Natural Gas Plant Liquids Production	4.66	4.81	4.80	4.99	5.04	<i>4.79</i>	<i>4.63</i>	<i>4.56</i>	<i>4.42</i>	<i>4.64</i>	<i>4.76</i>	<i>4.84</i>	4.81	<i>4.75</i>	<i>4.67</i>
Renewables and Oxygenate Production (e)	1.10	1.14	1.12	1.12	1.12	<i>0.83</i>	<i>0.99</i>	<i>1.07</i>	<i>1.09</i>	<i>1.15</i>	<i>1.14</i>	<i>1.16</i>	1.12	<i>1.00</i>	<i>1.14</i>
Fuel Ethanol Production	1.01	1.05	1.02	1.04	1.02	<i>0.69</i>	<i>0.85</i>	<i>0.93</i>	<i>0.94</i>	<i>0.97</i>	<i>0.98</i>	<i>0.99</i>	1.03	<i>0.87</i>	<i>0.97</i>
Petroleum Products Adjustment (f)	0.22	0.20	0.21	0.21	0.22	<i>0.19</i>	<i>0.20</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.22</i>	0.21	<i>0.21</i>	<i>0.21</i>
Product Net Imports (c)	-3.30	-3.04	-3.13	-3.43	-4.13	<i>-3.43</i>	<i>-2.97</i>	<i>-3.67</i>	<i>-3.49</i>	<i>-3.50</i>	<i>-3.66</i>	<i>-4.10</i>	-3.22	<i>-3.55</i>	<i>-3.69</i>
Hydrocarbon Gas Liquids	-1.33	-1.65	-1.66	-1.83	-1.99	<i>-2.01</i>	<i>-1.83</i>	<i>-1.71</i>	<i>-1.56</i>	<i>-1.69</i>	<i>-1.69</i>	<i>-1.69</i>	-1.62	<i>-1.88</i>	<i>-1.66</i>
Unfinished Oils	0.21	0.47	0.47	0.50	0.34	<i>0.20</i>	<i>0.44</i>	<i>0.37</i>	<i>0.35</i>	<i>0.45</i>	<i>0.44</i>	<i>0.32</i>	0.41	<i>0.34</i>	<i>0.39</i>
Other HC/Oxygenates	-0.08	-0.07	-0.05	-0.05	-0.12	<i>-0.09</i>	<i>-0.10</i>	<i>-0.11</i>	<i>-0.14</i>	<i>-0.12</i>	<i>-0.12</i>	<i>-0.13</i>	-0.06	<i>-0.11</i>	<i>-0.13</i>
Motor Gasoline Blend Comp.	0.43	0.79	0.70	0.46	0.42	<i>0.24</i>	<i>0.44</i>	<i>0.21</i>	<i>0.48</i>	<i>0.70</i>	<i>0.48</i>	<i>0.21</i>	0.60	<i>0.33</i>	<i>0.47</i>
Finished Motor Gasoline	-0.82	-0.63	-0.62	-0.87	-0.73	<i>-0.01</i>	<i>-0.12</i>	<i>-0.47</i>	<i>-0.89</i>	<i>-0.90</i>	<i>-0.85</i>	<i>-0.91</i>	-0.74	<i>-0.33</i>	<i>-0.88</i>
Jet Fuel	-0.08	-0.01	-0.05	-0.09	-0.08	<i>0.02</i>	<i>-0.13</i>	<i>-0.05</i>	<i>-0.05</i>	<i>-0.04</i>	<i>0.03</i>	<i>0.00</i>	-0.06	<i>-0.06</i>	<i>-0.01</i>
Distillate Fuel Oil	-0.91	-1.29	-1.30	-0.99	-1.20	<i>-1.27</i>	<i>-1.15</i>	<i>-1.15</i>	<i>-1.01</i>	<i>-1.15</i>	<i>-1.21</i>	<i>-1.09</i>	-1.12	<i>-1.19</i>	<i>-1.12</i>
Residual Fuel Oil	-0.08	-0.15	-0.08	-0.03	0.01	<i>-0.01</i>	<i>-0.02</i>	<i>0.00</i>	<i>-0.02</i>	<i>-0.11</i>	<i>-0.06</i>	<i>0.00</i>	-0.08	<i>0.00</i>	<i>-0.05</i>
Other Oils (g)	-0.64	-0.50	-0.52	-0.54	-0.78	<i>-0.50</i>	<i>-0.51</i>	<i>-0.76</i>	<i>-0.66</i>	<i>-0.64</i>	<i>-0.69</i>	<i>-0.81</i>	-0.55	<i>-0.64</i>	<i>-0.70</i>
Product Inventory Net Withdrawals	0.44	-0.64	-0.36	0.26	0.25	<i>-0.56</i>	<i>-0.15</i>	<i>0.41</i>	<i>0.36</i>	<i>-0.51</i>	<i>-0.27</i>	<i>0.37</i>	-0.07	<i>-0.01</i>	<i>-0.01</i>
Total Supply	20.38	20.31	20.67	20.57	19.35	<i>15.87</i>	<i>18.67</i>	<i>19.26</i>	<i>19.18</i>	<i>19.61</i>	<i>20.19</i>	<i>20.18</i>	20.48	<i>18.29</i>	<i>19.79</i>
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.49	2.78	2.94	3.31	3.25	<i>2.64</i>	<i>2.70</i>	<i>3.00</i>	<i>3.19</i>	<i>2.80</i>	<i>2.93</i>	<i>3.28</i>	3.13	<i>2.90</i>	<i>3.05</i>
Unfinished Oils	-0.03	0.09	0.04	0.10	0.09	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.05	<i>0.02</i>	<i>0.00</i>
Motor Gasoline	8.96	9.48	9.49	9.16	8.58	<i>6.98</i>	<i>8.67</i>	<i>8.78</i>	<i>8.44</i>	<i>8.97</i>	<i>9.06</i>	<i>8.88</i>	9.27	<i>8.26</i>	<i>8.84</i>
Fuel Ethanol blended into Motor Gasoline	0.91	0.97	0.95	0.96	0.85	<i>0.69</i>	<i>0.84</i>	<i>0.88</i>	<i>0.85</i>	<i>0.91</i>	<i>0.91</i>	<i>0.90</i>	0.95	<i>0.82</i>	<i>0.89</i>
Jet Fuel	1.65	1.78	1.79	1.74	1.57	<i>0.81</i>	<i>1.28</i>	<i>1.57</i>	<i>1.55</i>	<i>1.65</i>	<i>1.75</i>	<i>1.72</i>	1.74	<i>1.31</i>	<i>1.67</i>
Distillate Fuel Oil	4.28	4.01	3.94	4.10	3.96	<i>3.32</i>	<i>3.64</i>	<i>3.81</i>	<i>3.92</i>	<i>3.95</i>	<i>3.98</i>	<i>4.09</i>	4.08	<i>3.68</i>	<i>3.99</i>
Residual Fuel Oil	0.27	0.23	0.32	0.27	0.19	<i>0.22</i>	<i>0.31</i>	<i>0.28</i>	<i>0.29</i>	<i>0.23</i>	<i>0.31</i>	<i>0.27</i>	0.27	<i>0.25</i>	<i>0.27</i>
Other Oils (g)	1.68	1.95	2.14	1.88	1.72	<i>1.89</i>	<i>2.07</i>	<i>1.81</i>	<i>1.78</i>	<i>2.01</i>	<i>2.16</i>	<i>1.92</i>	1.91	<i>1.87</i>	<i>1.97</i>
Total Consumption	20.30	20.31	20.67	20.57	19.35	<i>15.87</i>	<i>18.67</i>	<i>19.26</i>	<i>19.18</i>	<i>19.61</i>	<i>20.19</i>	<i>20.18</i>	20.46	<i>18.29</i>	<i>19.79</i>
Total Petroleum and Other Liquids Net Imports	0.95	1.10	0.83	-0.49	-1.27	<i>-0.88</i>	<i>0.26</i>	<i>0.51</i>	<i>1.01</i>	<i>1.66</i>	<i>1.90</i>	<i>1.19</i>	0.59	<i>-0.34</i>	<i>1.44</i>
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	459.3	464.0	426.5	432.9	484.4	<i>580.3</i>	<i>554.6</i>	<i>539.2</i>	<i>554.5</i>	<i>537.4</i>	<i>514.8</i>	<i>513.1</i>	432.9	<i>539.2</i>	<i>513.1</i>
Hydrocarbon Gas Liquids	156.9	224.1	262.8	211.7	178.0	<i>223.7</i>	<i>257.9</i>	<i>214.1</i>	<i>174.5</i>	<i>221.3</i>	<i>256.5</i>	<i>214.1</i>	211.7	<i>214.1</i>	<i>214.1</i>
Unfinished Oils	92.0	95.9	92.2	89.4	100.2	<i>91.5</i>	<i>89.7</i>	<i>83.6</i>	<i>93.6</i>	<i>91.4</i>	<i>90.9</i>	<i>85.1</i>	89.4	<i>83.6</i>	<i>85.1</i>
Other HC/Oxygenates	30.8	29.0	28.4	27.8	32.9	<i>28.4</i>	<i>23.7</i>	<i>22.7</i>	<i>23.1</i>	<i>22.1</i>	<i>21.4</i>	<i>22.0</i>	27.8	<i>22.7</i>	<i>22.0</i>
Total Motor Gasoline	236.1	229.7	231.9	253.8	257.3	<i>243.9</i>	<i>233.4</i>	<i>245.2</i>	<i>247.2</i>	<i>245.8</i>	<i>239.2</i>	<i>251.2</i>	253.8	<i>245.2</i>	<i>251.2</i>
Finished Motor Gasoline	21.7	21.0	23.0	26.0	21.5	<i>25.0</i>	<i>24.8</i>	<i>25.0</i>	<i>24.1</i>	<i>22.6</i>	<i>23.5</i>	<i>24.0</i>	26.0	<i>25.0</i>	<i>24.0</i>
Motor Gasoline Blend Comp.	214.4	208.8	208.9	227.9	235.8	<i>218.9</i>	<i>208.6</i>	<i>220.2</i>	<i>223.1</i>	<i>223.3</i>	<i>215.7</i>	<i>227.2</i>	227.9	<i>220.2</i>	<i>227.2</i>
Jet Fuel	41.6	40.6	44.4	40.5	38.9	<i>40.7</i>	<i>42.6</i>	<i>41.1</i>	<i>40.5</i>	<i>41.3</i>	<i>43.4</i>	<i>40.4</i>	40.5	<i>41.1</i>	<i>40.4</i>
Distillate Fuel Oil	132.4	130.8	131.7	140.0	122.7	<i>152.7</i>	<i>156.6</i>	<i>159.3</i>	<i>147.4</i>	<i>151.6</i>	<i>155.3</i>	<i>155.7</i>	140.0	<i>159.3</i>	<i>155.7</i>
Residual Fuel Oil	28.7	30.3	29.9	30.9	36.0	<i>35.1</i>	<i>31.7</i>	<i>30.4</i>	<i>32.3</i>	<i>33.5</i>	<i>31.2</i>	<i>32.8</i>	30.9	<i>30.4</i>	<i>32.8</i>
Other Oils (g)	63.2	59.1	51.2	54.6	60.2	<i>61.5</i>	<i>55.4</i>	<i>57.3</i>	<i>62.6</i>	<i>61.1</i>	<i>55.1</i>	<i>57.2</i>	54.6	<i>57.3</i>	<i>57.2</i>
Total Commercial Inventory	1,241	1,304	1,299	1,282	1,311	<i>1,458</i>	<i>1,446</i>	<i>1,393</i>	<i>1,376</i>	<i>1,405</i>	<i>1,408</i>	<i>1,372</i>	1,282	<i>1,393</i>	<i>1,372</i>
Crude Oil in SPR	649	645	645	635	635	<i>658</i>	<i>658</i>	<i>645</i>	<i>632</i>	<i>629</i>	<i>628</i>	<i>625</i>	635	<i>645</i>	<i>625</i>

- = no data available

(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.

(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.

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 - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	1.87	1.87	1.71	1.85	1.92	1.79	1.70	1.75	1.76	1.90	1.92	2.00	1.83	1.79	1.89
Propane	1.50	1.56	1.61	1.67	1.69	1.59	1.54	1.49	1.43	1.45	1.49	1.50	1.59	1.58	1.47
Butanes	0.79	0.84	0.87	0.89	0.89	0.85	0.83	0.80	0.75	0.78	0.80	0.81	0.85	0.84	0.79
Natural Gasoline (Pentanes Plus)	0.49	0.55	0.60	0.57	0.55	0.55	0.56	0.52	0.48	0.52	0.55	0.52	0.55	0.55	0.52
Refinery and Blender Net Production															
Ethane/Ethylene	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01
Propane	0.28	0.30	0.29	0.29	0.28	0.25	0.28	0.29	0.28	0.30	0.30	0.30	0.29	0.27	0.29
Propylene (refinery-grade)	0.28	0.28	0.28	0.28	0.26	0.24	0.26	0.28	0.28	0.29	0.28	0.29	0.28	0.26	0.29
Butanes/Butylenes	-0.09	0.26	0.18	-0.23	-0.08	0.26	0.18	-0.20	-0.09	0.26	0.18	-0.20	0.03	0.04	0.04
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
HGL Net Imports															
Ethane	-0.27	-0.27	-0.28	-0.31	-0.30	-0.27	-0.28	-0.30	-0.27	-0.29	-0.30	-0.29	-0.28	-0.29	-0.29
Propane/Propylene	-0.75	-0.99	-0.97	-1.07	-1.08	-1.10	-0.97	-1.01	-0.87	-0.92	-0.88	-0.96	-0.94	-1.04	-0.91
Butanes/Butylenes	-0.14	-0.26	-0.26	-0.25	-0.31	-0.42	-0.35	-0.21	-0.19	-0.25	-0.27	-0.21	-0.23	-0.32	-0.23
Natural Gasoline (Pentanes Plus)	-0.17	-0.14	-0.15	-0.21	-0.30	-0.22	-0.23	-0.18	-0.22	-0.22	-0.24	-0.23	-0.17	-0.23	-0.23
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.46	0.29	0.33	0.54	0.45	0.16	0.25	0.48	0.39	0.29	0.32	0.51	0.40	0.34	0.38
Natural Gasoline (Pentanes Plus)	0.14	0.17	0.18	0.18	0.16	0.20	0.19	0.19	0.17	0.18	0.19	0.18	0.17	0.19	0.18
HGL Consumption															
Ethane/Ethylene	1.61	1.49	1.47	1.55	1.67	1.46	1.44	1.44	1.50	1.58	1.65	1.72	1.53	1.50	1.61
Propane	1.20	0.58	0.65	1.05	1.08	0.59	0.65	0.91	1.10	0.60	0.69	0.96	0.87	0.81	0.84
Propylene (refinery-grade)	0.29	0.30	0.29	0.31	0.27	0.25	0.27	0.29	0.30	0.30	0.30	0.30	0.30	0.27	0.30
Butanes/Butylenes	0.20	0.21	0.30	0.24	0.17	0.24	0.22	0.23	0.20	0.23	0.21	0.21	0.24	0.21	0.21
Natural Gasoline (Pentanes Plus)	0.20	0.20	0.23	0.17	0.06	0.11	0.12	0.13	0.09	0.08	0.09	0.10	0.20	0.10	0.09
HGL Inventories (million barrels)															
Ethane	48.14	56.18	56.46	58.84	53.29	58.66	58.12	59.88	57.62	60.69	59.22	60.32	54.94	57.50	59.47
Propane	46.49	70.49	93.75	78.55	60.76	73.80	90.87	76.64	50.68	69.09	87.82	75.39	78.55	76.64	75.39
Propylene (refinery-grade)	1.68	1.76	2.65	1.66	1.57	2.14	2.67	3.19	3.17	3.64	4.08	4.48	1.66	3.19	4.48
Butanes/Butylenes	42.48	66.68	84.01	48.99	40.78	67.31	84.78	55.15	44.97	69.09	86.55	56.93	48.99	55.15	56.93
Natural Gasoline (Pentanes Plus)	18.12	19.71	21.28	20.90	21.20	22.41	23.35	22.65	20.10	21.35	22.36	21.78	20.90	22.65	21.78
Refinery and Blender Net Inputs															
Crude Oil	16.20	16.76	16.97	16.32	15.78	13.13	14.95	15.58	15.50	16.48	16.87	16.56	16.56	14.86	16.36
Hydrocarbon Gas Liquids	0.59	0.46	0.51	0.72	0.61	0.36	0.44	0.67	0.57	0.47	0.51	0.69	0.57	0.52	0.56
Other Hydrocarbons/Oxygenates	1.16	1.21	1.22	1.19	1.12	0.91	1.06	1.10	1.10	1.17	1.16	1.16	1.19	1.05	1.15
Unfinished Oils	0.18	0.34	0.46	0.43	0.13	0.29	0.46	0.43	0.24	0.47	0.45	0.38	0.35	0.33	0.39
Motor Gasoline Blend Components	0.63	0.94	0.77	0.40	0.37	0.49	0.66	0.26	0.57	0.84	0.66	0.26	0.68	0.45	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	18.76	19.70	19.93	19.07	18.02	15.19	17.58	18.04	17.98	19.44	19.65	19.05	19.37	17.21	19.03
Refinery Processing Gain	1.06	1.07	1.07	1.10	1.07	0.93	1.01	1.10	1.09	1.14	1.13	1.13	1.08	1.03	1.12
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.48	0.84	0.76	0.34	0.46	0.76	0.73	0.37	0.48	0.85	0.77	0.39	0.61	0.58	0.62
Finished Motor Gasoline	9.84	10.15	10.20	10.16	9.29	7.07	8.85	9.40	9.41	9.96	9.99	9.93	10.09	8.65	9.82
Jet Fuel	1.73	1.78	1.88	1.79	1.63	0.81	1.43	1.60	1.59	1.70	1.74	1.69	1.80	1.37	1.68
Distillate Fuel	5.05	5.21	5.18	5.11	4.91	4.85	4.76	4.92	4.77	5.08	5.16	5.12	5.14	4.86	5.03
Residual Fuel	0.36	0.39	0.39	0.31	0.24	0.22	0.29	0.26	0.32	0.35	0.34	0.30	0.36	0.25	0.33
Other Oils (a)	2.37	2.40	2.58	2.46	2.57	2.40	2.52	2.59	2.50	2.63	2.78	2.76	2.45	2.52	2.67
Total Refinery and Blender Net Production	19.82	20.78	21.00	20.17	19.09	16.12	18.59	19.14	19.07	20.58	20.78	20.18	20.44	18.24	20.16
Refinery Distillation Inputs	16.48	17.14	17.44	16.86	16.36	13.66	15.44	15.93	15.83	16.71	17.12	16.80	16.98	15.35	16.62
Refinery Operable Distillation Capacity	18.78	18.80	18.81	18.81	18.98	18.98	18.98	19.00	19.00	19.00	19.00	19.03	18.80	18.98	19.01
Refinery Distillation Utilization Factor	0.88	0.91	0.93	0.90	0.86	0.72	0.81	0.84	0.83	0.88	0.90	0.88	0.90	0.81	0.87

- = no data available

(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.

Notes: 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.

Projections: EIA Regional Short-Term Energy Model.

Table 4c. U.S. Regional Motor Gasoline Prices and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	167	205	189	182	148	83	105	107	120	151	154	148	186	112	144
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	233	268	256	247	236	189	178	172	184	216	222	216	251	194	210
PADD 2	223	269	257	244	226	169	175	170	176	220	221	210	249	185	208
PADD 3	206	246	234	224	210	162	160	155	167	198	202	194	228	172	191
PADD 4	226	285	270	276	246	188	181	174	183	218	227	216	265	198	212
PADD 5	297	356	331	350	311	261	253	245	243	283	287	280	334	268	274
U.S. Average	236	279	265	259	241	191	187	181	189	226	230	222	260	200	217
Gasoline All Grades Including Taxes	245	288	274	269	250	202	199	194	202	239	243	235	269	212	231
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	62.4	59.7	64.9	65.6	70.5	64.7	59.0	62.3	66.6	68.4	62.7	67.6	65.6	62.3	67.6
PADD 2	53.9	49.6	51.0	55.0	60.5	51.9	49.7	51.5	54.2	53.4	52.8	50.4	55.0	51.5	50.4
PADD 3	82.5	82.4	81.5	91.8	81.9	89.5	88.2	92.1	88.3	87.0	86.8	93.2	91.8	92.1	93.2
PADD 4	6.9	7.5	7.7	8.3	9.4	7.7	6.9	7.2	7.6	7.9	7.5	7.9	8.3	7.2	7.9
PADD 5	30.4	30.6	26.8	33.2	34.9	30.1	29.6	32.0	30.4	29.2	29.4	32.1	33.2	32.0	32.1
U.S. Total	236.1	229.7	231.9	253.8	257.3	243.9	233.4	245.2	247.2	245.8	239.2	251.2	253.8	245.2	251.2
Finished Gasoline Inventories															
U.S. Total	21.7	21.0	23.0	26.0	21.5	25.0	24.8	25.0	24.1	22.6	23.5	24.0	26.0	25.0	24.0
Gasoline Blending Components Inventories															
U.S. Total	214.4	208.8	208.9	227.9	235.8	218.9	208.6	220.2	223.1	223.3	215.7	227.2	227.9	220.2	227.2

- = no data available

Prices are not adjusted for inflation.

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

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.

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	96.08	97.44	99.91	103.16	101.79	98.38	95.14	93.05	91.11	91.04	92.11	93.46	99.17	97.07	91.94
Alaska	0.96	0.93	0.79	0.93	0.98	0.81	0.77	0.94	1.00	0.87	0.80	0.95	0.90	0.87	0.90
Federal GOM (a)	2.80	2.75	2.51	2.72	2.73	2.44	2.47	2.41	2.43	2.34	2.20	2.16	2.69	2.51	2.28
Lower 48 States (excl GOM)	92.32	93.76	96.61	99.51	98.08	95.13	91.90	89.71	87.69	87.83	89.11	90.35	95.57	93.69	88.75
Total Dry Gas Production	89.32	90.50	92.98	95.97	94.28	91.08	88.03	86.05	84.21	84.09	85.03	86.22	92.21	89.84	84.89
LNG Gross Imports	0.28	0.03	0.06	0.20	0.26	0.10	0.18	0.20	0.32	0.18	0.18	0.20	0.14	0.18	0.22
LNG Gross Exports	4.01	4.55	4.95	6.40	7.92	5.84	4.82	5.58	7.07	6.42	7.56	8.20	4.98	6.04	7.31
Pipeline Gross Imports	8.35	6.73	7.10	7.30	7.92	6.87	6.94	7.46	8.46	7.50	7.68	8.06	7.37	7.30	7.92
Pipeline Gross Exports	7.86	7.18	7.80	8.25	8.12	7.53	8.20	8.53	8.76	7.90	8.71	8.84	7.77	8.09	8.55
Supplemental Gaseous Fuels	0.20	0.16	0.15	0.17	0.19	0.17	0.16	0.16	0.15	0.15	0.15	0.16	0.17	0.17	0.15
Net Inventory Withdrawals	16.93	-14.18	-10.41	2.44	12.71	-12.15	-8.16	3.29	17.32	-8.57	-7.31	3.97	-1.37	-1.08	1.29
Total Supply	103.21	71.52	77.14	91.43	99.31	72.70	74.13	83.04	94.63	69.03	69.47	81.58	85.77	82.28	78.62
Balancing Item (b)	0.11	-0.79	-0.39	-2.10	0.73	-1.10	-1.21	-0.77	-0.43	-0.17	1.29	1.49	-0.80	-0.59	0.55
Total Primary Supply	103.32	70.74	76.74	89.33	100.04	71.60	72.92	82.27	94.20	68.86	70.76	83.07	84.97	81.69	79.17
Consumption (billion cubic feet per day)															
Residential	27.15	7.34	3.53	17.00	23.55	8.64	3.94	16.87	25.12	7.86	3.68	16.57	13.70	13.23	13.26
Commercial	16.19	6.36	4.68	11.45	14.17	6.40	4.66	10.78	15.38	6.50	4.69	10.49	9.65	9.00	9.24
Industrial	25.12	21.74	21.31	23.79	24.65	20.42	18.89	21.45	22.36	20.39	19.87	22.91	22.98	21.35	21.38
Electric Power (c)	26.83	28.13	39.74	29.09	29.36	28.83	38.41	25.96	23.79	27.12	35.28	25.47	30.98	30.65	27.94
Lease and Plant Fuel	4.93	5.00	5.13	5.29	5.22	5.05	4.88	4.77	4.68	4.67	4.73	4.80	5.09	4.98	4.72
Pipeline and Distribution Use	2.96	2.03	2.20	2.56	2.93	2.10	1.98	2.27	2.71	2.14	2.34	2.67	2.44	2.32	2.47
Vehicle Use	0.13	0.13	0.14	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.14	0.16	0.16
Total Consumption	103.32	70.74	76.74	89.33	100.04	71.60	72.92	82.27	94.20	68.86	70.76	83.07	84.97	81.69	79.17
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,185	2,461	3,415	3,189	2,033	3,138	3,889	3,586	2,027	2,807	3,480	3,114	3,189	3,586	3,114
East Region (d)	216	537	845	764	382	670	951	834	355	587	821	659	764	834	659
Midwest Region (d)	242	579	990	885	475	761	1,097	991	435	621	933	806	885	991	806
South Central Region (d)	519	917	1,049	1,095	858	1,231	1,290	1,278	892	1,119	1,181	1,184	1,095	1,278	1,184
Mountain Region (d)	63	135	200	167	92	160	207	171	119	159	199	163	167	171	163
Pacific Region (d)	115	259	294	245	200	291	318	288	201	297	320	277	245	288	277
Alaska	30	33	37	33	24	25	25	25	25	25	25	25	33	25	25

- = no data available

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

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

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

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

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

LNG: liquefied natural gas.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly*, DOE/EIA-0130; and *Electric Power Monthly*, DOE/EIA-0226.

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	3.03	2.66	2.47	2.49	1.96	1.92	2.19	2.81	3.11	2.85	2.94	3.09	2.66	2.22	3.00
Residential Retail															
New England	14.44	15.56	19.31	14.05	13.69	13.89	16.57	12.75	12.69	13.90	16.91	13.06	14.78	13.61	13.26
Middle Atlantic	10.79	13.08	18.50	11.38	10.78	12.15	16.01	10.16	9.44	11.91	16.55	10.89	11.74	11.11	10.66
E. N. Central	7.27	10.48	19.03	7.68	6.96	9.54	15.72	7.90	7.56	10.68	16.44	8.24	8.41	8.09	8.73
W. N. Central	7.93	10.67	18.16	8.16	7.31	9.92	16.20	8.48	7.69	10.81	16.94	9.00	8.81	8.48	9.00
S. Atlantic	11.63	18.34	26.03	12.90	12.01	15.95	21.83	11.91	10.84	16.19	22.36	12.43	13.83	13.27	12.87
E. S. Central	9.64	14.84	21.40	10.43	9.68	13.81	20.83	12.68	10.56	15.34	22.09	13.51	11.05	11.58	12.69
W. S. Central	8.29	13.38	21.45	10.54	8.65	13.85	20.04	11.86	9.54	15.11	20.69	12.12	10.54	11.40	11.97
Mountain	7.73	9.46	13.40	7.75	7.48	8.93	12.70	7.76	7.79	9.76	13.58	8.50	8.37	8.15	8.77
Pacific	12.44	12.75	13.50	12.06	13.48	13.32	13.65	12.61	13.07	13.92	14.65	13.59	12.50	13.21	13.57
U.S. Average	9.47	12.48	18.10	9.88	9.48	11.65	16.37	10.01	9.38	12.34	17.10	10.59	10.56	10.52	10.74
Commercial Retail															
New England	11.21	11.42	11.61	10.13	10.32	9.48	8.67	8.60	9.00	9.23	9.51	9.75	10.95	9.61	9.36
Middle Atlantic	8.43	7.72	6.86	7.47	7.88	7.28	6.59	7.27	7.60	7.55	7.00	7.52	7.85	7.43	7.49
E. N. Central	6.27	7.19	8.85	6.04	5.74	6.54	8.10	6.37	6.44	7.59	8.94	6.93	6.51	6.23	6.95
W. N. Central	6.79	7.11	8.20	6.16	6.07	6.35	7.72	6.53	7.00	7.51	8.70	7.21	6.73	6.37	7.27
S. Atlantic	8.85	9.54	9.64	8.82	8.47	8.94	9.51	8.88	9.01	9.87	10.05	8.91	9.05	8.80	9.25
E. S. Central	8.61	9.78	10.06	8.54	8.30	8.53	8.89	8.05	7.92	9.10	9.71	8.76	8.91	8.32	8.56
W. S. Central	6.02	6.57	7.42	6.38	5.69	6.24	7.12	6.91	6.90	7.45	8.08	7.54	6.41	6.29	7.35
Mountain	6.40	6.72	7.41	6.16	6.06	6.26	7.18	6.40	6.82	7.23	8.09	7.17	6.47	6.31	7.14
Pacific	9.08	8.82	9.14	8.90	9.45	8.53	8.42	8.16	8.56	8.73	9.02	8.71	8.99	8.72	8.71
U.S. Average	7.59	7.97	8.40	7.22	7.18	7.34	7.81	7.24	7.43	8.04	8.51	7.77	7.62	7.29	7.75
Industrial Retail															
New England	9.17	8.27	6.92	7.29	8.01	7.11	6.58	7.89	8.63	7.93	7.15	7.97	8.08	7.53	8.03
Middle Atlantic	8.76	7.65	6.99	6.95	7.36	6.55	6.48	6.97	7.63	7.14	7.21	7.48	7.86	7.00	7.45
E. N. Central	5.75	5.38	5.64	5.14	4.93	4.62	4.73	5.07	5.95	5.72	5.74	5.80	5.49	4.90	5.84
W. N. Central	5.16	3.94	3.37	4.19	3.96	3.19	3.24	4.32	5.05	4.31	4.28	5.04	4.24	3.75	4.73
S. Atlantic	5.52	4.60	4.40	4.52	4.16	3.81	4.04	4.81	5.40	4.80	4.75	5.08	4.80	4.22	5.03
E. S. Central	4.93	4.04	3.59	4.07	3.88	3.52	3.74	4.57	5.04	4.54	4.45	4.88	4.20	3.94	4.75
W. S. Central	3.47	2.88	2.53	2.64	2.19	1.95	2.31	2.92	3.26	2.97	3.15	3.29	2.89	2.35	3.17
Mountain	5.31	4.80	5.00	4.72	4.45	4.34	4.76	5.08	5.48	5.29	5.62	5.73	4.96	4.66	5.54
Pacific	7.68	6.66	6.49	6.83	7.43	5.89	5.76	6.01	6.79	6.37	6.51	6.61	6.97	6.35	6.58
U.S. Average	4.67	3.74	3.30	3.74	3.48	2.74	2.91	3.74	4.32	3.74	3.77	4.22	3.91	3.24	4.03

- = no data available

Prices are not adjusted for inflation.

Notes: 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 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.

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	170.3	174.9	179.7	165.2	149.8	<i>114.5</i>	<i>129.9</i>	<i>128.5</i>	<i>142.4</i>	<i>118.8</i>	<i>150.1</i>	<i>138.4</i>	690.1	<i>522.6</i>	<i>549.6</i>
Appalachia	47.4	49.3	46.6	44.3	42.6	<i>29.2</i>	<i>28.2</i>	<i>25.9</i>	<i>28.4</i>	<i>27.2</i>	<i>31.4</i>	<i>27.9</i>	187.6	<i>125.9</i>	<i>114.9</i>
Interior	31.0	32.2	32.4	30.6	28.3	<i>22.0</i>	<i>29.0</i>	<i>31.8</i>	<i>35.8</i>	<i>28.8</i>	<i>32.1</i>	<i>32.3</i>	126.2	<i>111.1</i>	<i>129.1</i>
Western	91.9	93.4	102.4	90.3	78.8	<i>62.5</i>	<i>72.7</i>	<i>70.8</i>	<i>78.2</i>	<i>62.7</i>	<i>86.6</i>	<i>78.2</i>	378.0	<i>284.9</i>	<i>305.7</i>
Primary Inventory Withdrawals	-1.5	1.3	-1.2	-1.4	-0.2	<i>1.4</i>	<i>2.1</i>	<i>-1.9</i>	<i>-0.1</i>	<i>1.1</i>	<i>1.8</i>	<i>-2.0</i>	-2.7	<i>1.4</i>	<i>0.7</i>
Imports	1.7	1.6	1.7	1.7	1.3	<i>1.4</i>	<i>1.5</i>	<i>1.4</i>	<i>1.2</i>	<i>1.3</i>	<i>1.5</i>	<i>1.4</i>	6.7	<i>5.7</i>	<i>5.4</i>
Exports	25.2	25.3	21.9	20.4	20.0	<i>16.2</i>	<i>14.0</i>	<i>13.0</i>	<i>22.4</i>	<i>18.0</i>	<i>15.6</i>	<i>14.5</i>	92.9	<i>63.2</i>	<i>70.5</i>
Metallurgical Coal	13.9	15.1	13.5	12.6	11.7	<i>9.3</i>	<i>8.1</i>	<i>7.5</i>	<i>13.0</i>	<i>10.5</i>	<i>9.1</i>	<i>8.5</i>	55.1	<i>36.6</i>	<i>41.1</i>
Steam Coal	11.3	10.2	8.4	7.8	8.3	<i>6.9</i>	<i>5.9</i>	<i>5.5</i>	<i>9.3</i>	<i>7.5</i>	<i>6.5</i>	<i>6.0</i>	37.7	<i>26.6</i>	<i>29.4</i>
Total Primary Supply	145.3	152.4	158.3	145.2	130.9	<i>101.0</i>	<i>119.5</i>	<i>115.1</i>	<i>121.2</i>	<i>103.0</i>	<i>137.8</i>	<i>123.2</i>	601.2	<i>466.6</i>	<i>485.2</i>
Secondary Inventory Withdrawals	6.2	-21.0	6.4	-17.5	-20.9	<i>5.0</i>	<i>8.7</i>	<i>-7.2</i>	<i>-0.4</i>	<i>4.4</i>	<i>8.5</i>	<i>-7.5</i>	-26.0	<i>-14.5</i>	<i>5.1</i>
Waste Coal (a)	2.3	2.3	2.3	2.3	2.3	<i>2.3</i>	<i>2.3</i>	<i>2.3</i>	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	9.3	<i>9.2</i>	<i>8.0</i>
Total Supply	153.8	133.7	167.0	130.0	112.3	<i>108.2</i>	<i>130.6</i>	<i>110.1</i>	<i>122.7</i>	<i>109.5</i>	<i>148.3</i>	<i>117.8</i>	584.6	<i>461.2</i>	<i>498.3</i>
Consumption (million short tons)															
Coke Plants	4.5	4.7	4.5	4.3	4.9	<i>3.4</i>	<i>3.4</i>	<i>5.4</i>	<i>4.6</i>	<i>4.5</i>	<i>4.4</i>	<i>5.5</i>	17.9	<i>17.0</i>	<i>19.1</i>
Electric Power Sector (b)	145.3	118.0	156.2	119.9	101.3	<i>89.1</i>	<i>121.3</i>	<i>98.8</i>	<i>112.1</i>	<i>99.0</i>	<i>138.0</i>	<i>105.9</i>	539.4	<i>410.5</i>	<i>455.0</i>
Retail and Other Industry	8.1	7.2	7.2	7.5	7.6	<i>6.5</i>	<i>5.9</i>	<i>6.0</i>	<i>6.1</i>	<i>5.9</i>	<i>5.9</i>	<i>6.3</i>	30.0	<i>26.0</i>	<i>24.2</i>
Residential and Commercial	0.3	0.2	0.2	0.2	0.2	<i>0.2</i>	<i>0.3</i>	<i>0.4</i>	<i>0.3</i>	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>	0.9	<i>1.0</i>	<i>1.0</i>
Other Industrial	7.8	7.0	7.0	7.3	7.4	<i>6.3</i>	<i>5.6</i>	<i>5.6</i>	<i>5.7</i>	<i>5.7</i>	<i>5.7</i>	<i>6.0</i>	29.1	<i>25.0</i>	<i>23.2</i>
Total Consumption	157.9	129.9	167.8	131.8	113.8	<i>99.0</i>	<i>130.6</i>	<i>110.1</i>	<i>122.7</i>	<i>109.5</i>	<i>148.3</i>	<i>117.8</i>	587.3	<i>453.5</i>	<i>498.3</i>
Discrepancy (c)	-4.0	3.9	-0.8	-1.8	-1.5	<i>9.3</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	-2.8	<i>7.7</i>	<i>0.0</i>
End-of-period Inventories (million short tons)															
Primary Inventories (d)	23.2	21.9	23.1	24.4	24.6	<i>23.3</i>	<i>21.2</i>	<i>23.0</i>	<i>23.1</i>	<i>22.0</i>	<i>20.3</i>	<i>22.3</i>	24.4	<i>23.0</i>	<i>22.3</i>
Secondary Inventories	102.2	123.2	116.8	134.3	155.3	<i>150.3</i>	<i>141.6</i>	<i>148.8</i>	<i>149.2</i>	<i>144.8</i>	<i>136.3</i>	<i>143.8</i>	134.3	<i>148.8</i>	<i>143.8</i>
Electric Power Sector	97.1	117.7	111.0	128.5	149.7	<i>144.5</i>	<i>135.7</i>	<i>143.2</i>	<i>143.8</i>	<i>139.1</i>	<i>130.4</i>	<i>138.1</i>	128.5	<i>143.2</i>	<i>138.1</i>
Retail and General Industry	2.8	3.0	3.2	3.3	3.7	<i>3.6</i>	<i>3.6</i>	<i>3.5</i>	<i>3.7</i>	<i>3.7</i>	<i>3.7</i>	<i>3.5</i>	3.3	<i>3.5</i>	<i>3.5</i>
Coke Plants	2.0	2.3	2.5	2.3	1.7	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	<i>1.5</i>	<i>1.9</i>	<i>2.0</i>	<i>2.0</i>	2.3	<i>2.0</i>	<i>2.0</i>
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.37	6.37	6.37	6.37	6.37	<i>6.37</i>	<i>6.37</i>	<i>6.37</i>	<i>6.32</i>	<i>6.32</i>	<i>6.32</i>	<i>6.32</i>	6.37	<i>6.37</i>	<i>6.32</i>
Total Raw Steel Production															
(Million short tons per day)	0.273	0.271	0.264	0.265	0.268	<i>0.179</i>	<i>0.227</i>	<i>0.265</i>	<i>0.263</i>	<i>0.255</i>	<i>0.251</i>	<i>0.253</i>	0.268	<i>0.235</i>	<i>0.256</i>
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.08	2.05	2.00	1.95	1.97	<i>2.02</i>	<i>1.98</i>	<i>1.99</i>	<i>2.02</i>	<i>2.05</i>	<i>2.03</i>	<i>2.04</i>	2.02	<i>1.99</i>	<i>2.04</i>

- = no data available

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

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

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

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

Notes: 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*, DOE/EIA-0226.

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

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	995	974	1,173	976	963	928	1,097	911	928	947	1,115	931	4,118	3,899	3,920
Electric Power Sector (a)	955	935	1,131	934	925	899	1,068	884	899	918	1,084	901	3,956	3,775	3,801
Industrial Sector (b)	37	36	38	38	35	27	26	25	26	26	28	28	149	114	109
Commercial Sector (b)	3	3	4	3	3	2	3	2	2	2	3	2	14	11	10
Net Imports	9	9	11	10	12	13	15	11	12	13	15	11	39	50	51
Total Supply	1,004	983	1,184	986	975	940	1,111	922	940	959	1,129	942	4,157	3,949	3,971
Losses and Unaccounted for (c)	57	71	74	59	53	63	65	52	43	66	57	53	262	233	218
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	911	877	1072	889	885	844	1013	839	864	861	1037	855	3750	3581	3618
Residential Sector	361	309	434	331	344	322	430	321	356	321	431	320	1435	1416	1428
Commercial Sector	320	328	382	325	313	300	349	305	299	320	369	316	1355	1267	1304
Industrial Sector	228	238	254	232	227	220	232	211	207	218	236	217	952	890	878
Transportation Sector	2	2	2	2	2	2	2	2	2	2	2	2	8	8	8
Direct Use (d)	36	35	38	37	37	33	33	32	33	33	35	34	146	135	135
Total Consumption	948	912	1110	927	922	877	1046	871	897	894	1073	890	3896	3716	3753
Average residential electricity usage per customer (kWh)	2,677	2,290	3,213	2,450	2,525	2,364	3,154	2,357	2,596	2,342	3,143	2,338	10,631	10,400	10,420
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.08	2.05	2.00	1.95	1.97	2.02	1.98	1.99	2.02	2.05	2.03	2.04	2.02	1.99	2.04
Natural Gas	3.71	2.73	2.51	2.78	2.37	1.94	2.08	2.98	3.53	2.93	2.96	3.32	2.88	2.31	3.15
Residual Fuel Oil	12.21	13.39	12.79	12.52	12.20	7.37	6.13	6.53	7.46	9.44	9.47	9.75	12.72	7.91	8.82
Distillate Fuel Oil	14.83	15.77	15.01	15.10	13.05	8.06	8.56	9.37	10.10	11.80	12.38	13.05	15.16	9.77	11.83
Retail Prices (cents per kilowatthour)															
Residential Sector	12.68	13.33	13.27	12.85	12.85	13.24	13.22	12.91	12.92	13.64	13.68	13.38	13.04	13.06	13.41
Commercial Sector	10.43	10.64	11.00	10.53	10.29	10.47	10.86	10.50	10.39	10.72	11.21	10.84	10.66	10.54	10.81
Industrial Sector	6.66	6.71	7.25	6.66	6.41	6.62	7.28	6.81	6.71	6.88	7.52	6.90	6.83	6.78	7.02
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	28.41	28.34	139.81	28.40	23.41	28.40	32.51	29.79	30.12	30.75	34.31	31.53	56.24	28.53	31.68
CAISO SP15 zone	50.42	23.30	37.32	41.57	28.64	22.18	24.63	29.72	31.30	27.99	30.02	31.75	38.15	26.29	30.26
ISO-NE Internal hub	47.40	27.15	29.52	35.48	24.61	21.75	21.48	31.48	42.23	24.60	26.81	35.32	34.89	24.83	32.24
NYISO Hudson Valley zone	41.77	25.68	27.76	27.04	21.82	20.46	20.86	22.64	24.62	23.51	25.38	24.71	30.56	21.45	24.55
PJM Western hub	33.79	28.54	31.17	29.89	22.47	24.94	29.25	26.79	28.34	28.27	31.24	28.23	30.85	25.86	29.02
Midcontinent ISO Illinois hub	31.44	27.81	30.71	28.09	24.43	25.54	29.64	27.27	27.21	28.28	31.09	27.74	29.51	26.72	28.58
SPP ISO South hub	29.15	27.14	31.51	23.64	20.06	21.96	26.93	23.97	22.76	24.23	28.36	24.19	27.86	23.23	24.89
SERC index, Into Southern	30.74	29.87	31.08	29.31	23.58	26.71	32.36	29.74	29.82	30.78	33.84	30.61	30.25	28.10	31.26
FRCC index, Florida Reliability	30.71	29.57	30.64	29.47	26.24	26.21	27.52	29.99	30.04	29.53	30.80	32.02	30.10	27.49	30.60
Northwest index, Mid-Columbia	55.74	18.55	32.74	37.47	22.77	17.29	20.46	23.34	25.01	21.38	24.09	25.75	36.12	20.97	24.06
Southwest index, Palo Verde	44.23	18.45	42.00	36.37	22.07	21.14	22.86	25.07	27.07	26.16	27.43	26.55	35.26	22.79	26.80

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

- (a) Generation supplied by power plants with capacity of at least 1 megawatt operated by electric utilities and independent power producers.
- (b) Generation supplied by power plants with capacity of at least 1 megawatt operated by businesses in the commercial and industrial sectors, primarily for onsite use.
- (c) Includes transmission and distribution losses, data collection time-frame differences, and estimation error.
- (d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or collocated facilities for which revenue information is not available. See Table 7.6 of the EIA *Monthly Energy Review*.

Historical data sources:

- (1) Electricity supply, consumption, fuel costs, and retail electricity prices: Latest data available from U.S. Energy Information Administration databases supporting the following reports: Electric Power Monthly, DOE/EIA-0226; and Electric Power Annual, DOE/EIA-0348
 - (2) Wholesale electricity prices (except for PJM RTO price): S&P Global Market Intelligence, SNL Energy Data
 - (3) PJM ISO Western Hub wholesale electricity prices: PJM Data Miner website
- Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	12.4	9.7	13.1	10.9	11.8	10.2	13.2	10.9	12.4	10.2	13.0	10.7	46.1	46.0	46.3
Middle Atlantic	35.3	27.7	40.3	29.8	32.7	29.1	39.7	29.2	34.1	28.9	39.1	29.0	133.1	130.7	131.2
E. N. Central	50.0	38.1	54.3	43.4	47.3	40.0	52.6	42.7	49.0	40.0	52.5	42.4	185.9	182.6	183.8
W. N. Central	29.9	21.6	29.0	24.9	28.0	22.0	28.9	24.1	28.1	22.4	29.2	24.0	105.4	102.9	103.7
S. Atlantic	88.3	84.5	111.4	84.4	83.9	85.7	109.4	80.9	89.6	85.1	110.5	80.8	368.5	359.9	366.0
E. S. Central	30.6	25.9	36.9	27.8	29.0	26.2	36.3	26.1	31.1	26.4	36.7	26.1	121.1	117.5	120.3
W. S. Central	51.7	49.0	75.8	50.6	49.9	53.0	75.3	48.2	50.7	52.2	75.7	48.5	227.1	226.4	227.1
Mountain	23.1	22.0	33.0	22.1	22.9	23.9	33.5	21.9	22.7	23.8	33.4	22.1	100.2	102.1	102.0
Pacific contiguous	39.0	29.6	38.7	35.8	37.3	30.8	39.5	35.7	37.0	30.9	39.4	35.7	143.1	143.3	142.9
AK and HI	1.2	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.2	1.1	1.2	1.2	4.7	4.8	4.8
Total	361.4	309.2	433.8	330.7	343.9	321.9	429.5	320.9	355.8	321.0	430.8	320.4	1,435.1	1,416.2	1,428.1
Commercial Sector															
New England	12.8	12.1	13.9	12.4	12.1	11.3	13.2	11.9	11.7	11.4	13.2	12.0	51.2	48.4	48.3
Middle Atlantic	38.6	36.3	41.9	35.9	36.0	31.7	35.9	32.2	33.5	34.5	39.0	33.8	152.6	135.8	140.8
E. N. Central	44.6	43.1	50.4	43.5	43.3	38.7	44.9	40.6	41.3	42.0	48.2	42.6	181.6	167.5	174.1
W. N. Central	25.6	24.2	27.9	24.8	25.1	22.4	26.4	24.1	24.5	24.0	27.5	24.8	102.5	97.9	100.8
S. Atlantic	72.1	79.4	90.1	75.5	71.1	69.3	81.3	70.0	67.5	75.1	86.8	73.5	317.0	291.7	302.9
E. S. Central	21.0	22.5	27.0	21.8	20.8	21.1	25.0	20.5	20.0	22.0	26.2	21.1	92.3	87.4	89.4
W. S. Central	43.2	47.6	58.0	46.9	43.7	46.3	54.8	44.7	42.3	48.2	57.5	46.4	195.7	189.6	194.4
Mountain	22.6	23.9	28.3	23.4	22.8	23.3	26.6	22.4	21.8	24.5	28.1	23.4	98.2	95.1	97.8
Pacific contiguous	38.0	37.9	42.9	39.0	36.5	34.5	39.8	37.0	34.9	36.9	41.1	37.1	157.9	147.7	149.9
AK and HI	1.4	1.4	1.5	1.4	1.4	1.3	1.3	1.5	1.5	1.4	1.5	1.5	5.7	5.5	5.9
Total	319.9	328.2	381.8	324.6	312.7	300.0	349.1	304.8	299.0	320.1	368.9	316.2	1,354.5	1,266.6	1,304.3
Industrial Sector															
New England	3.8	3.8	4.0	3.8	3.7	3.5	3.7	3.5	3.4	3.4	3.7	3.5	15.4	14.4	14.0
Middle Atlantic	17.7	17.5	19.8	18.2	17.9	16.7	18.6	17.0	16.6	16.7	18.9	17.5	73.2	70.1	69.6
E. N. Central	44.8	45.4	47.7	43.6	42.9	38.9	40.1	36.6	36.6	36.5	38.8	35.9	181.5	158.5	147.8
W. N. Central	21.1	22.0	23.4	21.8	21.3	20.1	21.2	19.6	19.3	20.3	22.1	20.7	88.3	82.1	82.4
S. Atlantic	33.0	34.8	36.2	33.4	32.7	32.1	33.2	30.6	30.2	32.0	33.8	31.4	137.5	128.6	127.5
E. S. Central	23.4	23.9	24.5	22.9	23.0	21.8	21.9	20.4	20.7	21.6	22.5	21.2	94.7	87.1	86.0
W. S. Central	44.8	47.7	50.2	46.6	45.3	45.3	47.0	43.5	42.3	45.8	48.8	45.6	189.5	181.1	182.6
Mountain	19.2	21.1	23.5	20.2	19.8	20.7	22.8	19.6	19.2	21.0	23.5	20.3	84.1	83.1	84.1
Pacific contiguous	19.1	20.4	23.4	20.2	18.9	19.9	22.5	19.3	17.9	19.6	22.3	19.2	83.1	80.7	79.0
AK and HI	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.2	4.9	4.8	4.8
Total	228.2	237.7	254.2	232.1	226.7	220.3	232.1	211.3	207.4	218.0	235.8	216.7	952.1	890.4	877.8
Total All Sectors (a)															
New England	29.1	25.6	31.3	27.2	27.7	25.1	30.2	26.4	27.7	25.2	29.9	26.3	113.3	109.3	109.2
Middle Atlantic	92.6	82.4	103.0	84.8	87.5	78.4	95.2	79.4	85.3	81.0	98.0	81.2	362.8	340.5	345.5
E. N. Central	139.6	126.7	152.6	130.7	133.8	117.8	137.7	120.0	127.1	118.6	139.7	121.0	549.6	509.2	506.3
W. N. Central	76.7	67.7	80.4	71.5	74.3	64.5	76.4	67.9	71.9	66.7	78.8	69.6	296.2	283.0	287.0
S. Atlantic	193.7	199.0	238.1	193.6	188.0	187.5	224.2	181.8	187.6	192.5	231.5	186.1	824.3	781.5	797.7
E. S. Central	75.0	72.3	88.3	72.4	72.8	69.1	83.1	67.0	71.8	70.0	85.4	68.4	308.1	292.0	295.7
W. S. Central	139.8	144.3	184.1	144.2	138.9	144.8	177.1	136.4	135.4	146.2	182.1	140.6	612.4	597.2	604.3
Mountain	65.0	67.1	84.8	65.7	65.6	67.9	82.9	64.0	63.7	69.3	85.0	65.9	282.7	280.4	284.0
Pacific contiguous	96.3	88.1	105.2	95.2	92.9	85.5	102.0	92.2	89.9	87.6	103.0	92.2	384.9	372.5	372.8
AK and HI	3.7	3.6	4.0	4.0	3.7	3.5	3.9	4.0	3.8	3.7	4.0	3.9	15.2	15.2	15.5
Total	911.5	876.9	1,071.8	889.3	885.2	844.0	1,012.8	839.0	864.3	860.9	1,037.5	855.3	3,749.5	3,581.0	3,617.9

- = no data available

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	21.53	21.57	20.70	20.87	21.74	21.13	20.17	20.30	21.26	21.39	21.16	21.96	21.14	20.81	21.42
Middle Atlantic	15.19	16.06	16.15	15.78	15.31	15.68	15.85	15.76	15.58	16.36	16.69	16.40	15.79	15.66	16.27
E. N. Central	12.92	13.86	13.27	13.29	13.06	13.79	13.38	13.60	13.46	14.40	13.99	14.11	13.30	13.44	13.97
W. N. Central	10.71	12.78	12.93	11.24	10.94	12.96	13.27	11.70	11.39	13.50	13.80	12.10	11.87	12.20	12.69
S. Atlantic	11.70	12.17	12.11	11.87	11.78	11.98	11.91	11.70	11.52	12.10	12.15	12.05	11.97	11.85	11.96
E. S. Central	11.10	11.70	11.37	11.23	11.19	11.63	11.60	11.80	11.47	12.08	11.98	12.14	11.34	11.55	11.91
W. S. Central	10.88	11.50	11.36	11.24	10.94	11.17	11.13	11.17	10.95	11.49	11.57	11.63	11.25	11.10	11.42
Mountain	11.51	12.18	12.23	11.59	11.41	12.12	12.22	11.69	11.67	12.51	12.66	12.09	11.91	11.90	12.28
Pacific	14.86	15.88	17.31	14.64	15.67	16.59	17.61	14.62	15.76	17.18	18.08	14.99	15.68	16.14	16.51
U.S. Average	12.68	13.33	13.27	12.85	12.85	13.24	13.22	12.91	12.92	13.64	13.68	13.38	13.04	13.06	13.41
Commercial Sector															
New England	16.83	16.24	15.97	15.76	16.37	15.89	15.67	15.52	16.28	16.08	16.19	16.26	16.19	15.86	16.20
Middle Atlantic	11.57	12.18	13.03	11.97	11.48	11.55	12.30	11.56	11.43	12.02	12.93	11.97	12.21	11.73	12.12
E. N. Central	10.14	10.29	10.09	10.05	9.92	10.19	10.08	10.15	10.15	10.49	10.42	10.45	10.14	10.08	10.38
W. N. Central	8.98	10.04	10.41	9.11	9.07	10.27	10.74	9.51	9.55	10.70	11.21	9.82	9.65	9.90	10.34
S. Atlantic	9.44	9.37	9.35	9.35	9.24	9.23	9.18	9.20	9.19	9.26	9.35	9.46	9.37	9.21	9.32
E. S. Central	10.70	10.70	10.65	10.62	10.68	10.75	10.98	11.21	11.22	11.14	11.32	11.49	10.67	10.91	11.29
W. S. Central	8.12	8.00	8.30	8.06	7.90	7.80	8.16	8.03	7.97	7.90	8.31	8.12	8.13	7.98	8.09
Mountain	9.20	9.71	10.00	9.18	8.96	9.57	9.96	9.24	9.11	9.82	10.26	9.48	9.55	9.45	9.71
Pacific	12.98	14.15	16.35	14.44	13.32	14.10	16.14	14.29	13.34	14.56	16.96	15.20	14.54	14.51	15.09
U.S. Average	10.43	10.64	11.00	10.53	10.29	10.47	10.86	10.50	10.39	10.72	11.21	10.84	10.66	10.54	10.81
Industrial Sector															
New England	13.45	12.89	12.66	12.70	12.58	12.18	12.29	12.60	12.80	12.50	12.57	12.70	12.92	12.41	12.64
Middle Atlantic	6.73	6.52	6.54	6.40	6.33	6.21	6.34	6.41	6.61	6.47	6.55	6.41	6.55	6.32	6.51
E. N. Central	7.03	6.84	6.83	6.76	6.60	6.75	6.90	6.98	6.96	7.06	7.16	7.13	6.87	6.80	7.08
W. N. Central	7.13	7.33	8.09	6.87	7.00	7.57	8.46	7.23	7.39	7.86	8.72	7.41	7.37	7.57	7.87
S. Atlantic	6.22	6.28	6.72	6.18	6.02	6.09	6.58	6.17	6.15	6.26	6.74	6.21	6.36	6.22	6.35
E. S. Central	5.69	5.78	5.95	5.61	5.48	5.69	5.97	5.73	5.71	5.87	6.09	5.75	5.76	5.71	5.86
W. S. Central	5.25	5.28	6.05	5.29	5.12	5.24	6.05	5.47	5.50	5.54	6.35	5.56	5.48	5.48	5.75
Mountain	6.14	6.25	6.78	5.89	5.73	5.96	6.63	5.87	5.84	6.13	6.81	5.97	6.29	6.07	6.22
Pacific	8.65	9.45	11.26	10.16	8.81	9.56	11.47	10.48	9.20	9.97	11.96	10.85	9.95	10.14	10.57
U.S. Average	6.66	6.71	7.25	6.66	6.41	6.62	7.28	6.81	6.71	6.88	7.52	6.90	6.83	6.78	7.02
All Sectors (a)															
New England	18.35	17.72	17.50	17.34	18.11	17.47	17.19	17.07	18.05	17.72	17.86	18.06	17.73	17.46	17.92
Middle Atlantic	12.01	12.27	12.99	12.10	11.85	11.93	12.60	11.99	12.14	12.42	13.19	12.35	12.37	12.11	12.55
E. N. Central	10.13	10.12	10.20	10.03	9.96	10.28	10.41	10.41	10.50	10.75	10.86	10.74	10.12	10.26	10.71
W. N. Central	9.14	10.03	10.64	9.17	9.19	10.34	11.06	9.63	9.69	10.78	11.47	9.89	9.76	10.06	10.48
S. Atlantic	9.92	10.01	10.24	9.90	9.80	9.95	10.13	9.80	9.81	10.01	10.31	10.03	10.03	9.93	10.06
E. S. Central	9.30	9.43	9.65	9.27	9.24	9.49	9.93	9.77	9.74	9.87	10.23	9.96	9.42	9.62	9.96
W. S. Central	8.22	8.28	8.94	8.28	8.08	8.23	8.86	8.32	8.31	8.44	9.14	8.50	8.47	8.40	8.64
Mountain	9.12	9.43	9.98	8.98	8.84	9.36	9.95	9.05	9.04	9.63	10.25	9.27	9.42	9.34	9.60
Pacific	12.87	13.63	15.55	13.60	13.34	13.93	15.66	13.61	13.50	14.44	16.29	14.19	13.96	14.18	14.66
U.S. Average	10.37	10.52	11.03	10.38	10.29	10.52	11.04	10.49	10.54	10.83	11.40	10.79	10.60	10.60	10.92

- = no data available

Prices are not adjusted for inflation.

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

Notes: 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 Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

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

Projections: EIA Regional Short-Term Energy Model.

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 - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	317.1	330.9	473.7	353.0	349.3	337.1	460.2	320.1	285.9	319.3	430.6	316.3	1,474.7	1,466.7	1,352.2
Coal	257.9	208.9	279.4	213.3	177.1	157.5	214.2	175.4	199.3	174.4	246.9	189.6	959.5	724.2	810.3
Nuclear	203.5	196.5	210.2	199.2	204.2	189.1	208.2	198.3	198.4	189.6	204.3	190.1	809.4	799.8	782.4
Renewable Energy Sources:	169.9	192.9	161.3	163.9	187.8	208.2	179.4	185.6	209.1	228.2	196.3	200.2	688.0	761.0	833.8
Conventional Hydropower	71.2	81.7	60.8	58.7	74.6	83.8	68.0	62.9	72.5	81.5	64.2	62.0	272.4	289.2	280.1
Wind	74.2	78.6	66.2	80.8	85.7	87.8	72.0	94.2	103.3	101.6	83.7	104.2	299.8	339.7	392.9
Solar (a)	13.3	21.8	22.6	13.9	17.0	26.0	28.2	17.9	22.1	34.5	36.9	23.3	71.5	89.1	116.9
Biomass	7.2	7.0	7.6	6.9	6.7	6.8	7.0	7.0	7.6	6.8	7.3	7.1	28.8	27.5	28.8
Geothermal	4.0	3.9	4.1	3.6	3.8	3.8	4.3	3.6	3.5	3.8	4.2	3.6	15.6	15.5	15.1
Pumped Storage Hydropower	-1.1	-0.9	-1.9	-1.4	-1.0	-0.6	-1.8	-1.4	-1.1	-0.7	-1.8	-1.3	-5.3	-4.8	-5.0
Petroleum (b)	4.9	4.2	4.8	3.5	4.2	4.3	4.3	3.4	4.9	4.2	4.4	3.1	17.3	16.2	16.6
Other Gases	1.1	1.0	1.2	1.0	1.2	1.2	1.1	0.8	1.0	1.0	1.1	0.9	4.3	4.2	4.0
Other Nonrenewable Fuels (c)	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.7	1.7	1.9	1.8	1.7	7.7	7.4	7.0
Total Generation	955.2	935.5	1,130.7	934.4	924.6	898.7	1,067.6	883.8	899.2	917.8	1,083.6	900.6	3,955.8	3,774.7	3,801.3
New England (ISO-NE)															
Natural Gas	10.6	10.0	14.8	11.5	12.0	10.8	13.8	9.5	8.4	8.2	13.2	10.2	46.9	46.1	40.0
Coal	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.4	0.0	0.1	0.3	0.5	0.3	0.9
Nuclear	8.6	6.8	7.3	7.1	7.4	5.3	7.2	6.2	7.1	7.1	7.2	5.6	29.8	26.1	27.0
Conventional hydropower	2.1	1.9	1.5	1.6	2.1	1.9	1.5	1.6	2.0	1.8	1.4	1.5	7.0	7.1	6.7
Nonhydro renewables (d)	2.6	2.7	2.6	2.5	2.6	2.8	2.6	2.7	3.4	2.8	2.7	2.8	10.3	10.7	11.7
Other energy sources (e)	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	1.3	0.3	0.4	0.4	1.5	1.5	2.3
Total generation	24.5	21.7	26.5	23.3	24.5	21.1	25.6	20.6	22.6	20.3	25.0	20.8	96.1	91.8	88.6
Net energy for load (f)	29.5	25.8	31.9	28.0	27.6	25.4	31.1	27.1	28.4	26.4	31.3	27.6	115.2	111.2	113.7
New York (NYISO)															
Natural Gas	11.9	11.1	18.4	12.6	12.8	14.2	21.6	15.1	12.1	18.1	22.3	16.3	54.0	63.7	68.8
Coal	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Nuclear	10.4	10.8	11.8	11.8	10.8	9.4	8.8	9.1	8.8	7.5	7.1	6.8	44.9	38.1	30.3
Conventional hydropower	7.4	7.3	7.4	7.4	7.8	7.0	8.0	7.3	7.5	6.6	7.4	7.0	29.5	30.1	28.5
Nonhydro renewables (d)	1.6	1.8	1.5	1.6	1.8	1.9	1.6	1.9	2.3	2.3	2.1	2.8	6.5	7.2	9.6
Other energy sources (e)	0.4	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.9	0.6	0.6
Total generation	32.1	31.1	39.3	33.6	33.3	32.7	40.2	33.6	30.9	34.6	39.2	33.1	136.2	139.9	137.8
Net energy for load (f)	37.4	34.3	43.3	35.7	35.0	33.9	41.9	34.7	35.8	35.4	42.6	35.7	150.6	145.5	149.5
Mid-Atlantic (PJM)															
Natural Gas	69.3	64.2	90.9	70.7	75.7	69.5	98.7	66.9	66.8	72.9	92.2	65.2	295.1	310.8	297.1
Coal	53.5	39.9	52.0	38.9	35.8	24.8	29.4	30.5	47.3	28.7	41.5	37.7	184.3	120.4	155.1
Nuclear	69.6	68.5	71.7	68.1	68.6	66.9	71.0	69.4	67.6	65.7	71.8	68.2	277.9	275.9	273.2
Conventional hydropower	3.4	3.0	1.9	2.2	3.1	2.5	1.8	2.2	3.0	2.4	1.7	2.1	10.6	9.7	9.2
Nonhydro renewables (d)	8.8	9.3	7.1	8.9	9.8	10.3	8.0	10.2	11.1	11.8	9.1	10.9	34.1	38.2	42.9
Other energy sources (e)	0.9	0.7	0.5	0.4	0.7	0.9	0.4	0.3	0.7	0.8	0.4	0.3	2.5	2.3	2.2
Total generation	205.4	185.6	224.1	189.2	193.7	174.9	209.3	179.5	196.5	182.2	216.6	184.4	804.4	757.4	779.7
Net energy for load (f)	195.1	173.0	212.3	180.4	181.0	162.4	196.8	169.8	183.9	170.0	201.6	174.6	760.9	710.1	730.1
Southeast (SERC)															
Natural Gas	56.3	59.2	77.8	59.6	63.4	64.2	80.7	62.0	58.0	61.2	72.9	60.5	252.9	270.3	252.6
Coal	35.1	38.0	53.3	33.5	24.4	36.6	39.9	28.0	29.6	34.1	44.3	29.7	159.8	128.9	137.7
Nuclear	52.3	52.8	53.7	52.2	53.1	49.4	55.5	52.7	52.3	52.3	55.4	51.4	211.0	210.6	211.5
Conventional hydropower	10.9	9.3	7.1	8.2	10.5	8.0	6.8	8.0	10.0	7.4	6.4	7.6	35.5	33.2	31.4
Nonhydro renewables (d)	2.6	3.8	3.9	2.8	3.2	4.7	4.6	3.3	4.1	6.0	5.9	4.0	13.2	15.8	20.0
Other energy sources (e)	0.0	-0.2	-0.6	-0.4	0.0	0.1	-0.6	-0.4	-0.1	-0.1	-0.6	-0.4	-1.2	-0.9	-1.2
Total generation	157.2	162.9	195.2	155.8	154.5	163.0	186.8	153.6	154.0	160.9	184.2	152.9	671.1	657.9	651.9
Net energy for load (f)	163.9	158.5	197.9	157.3	159.5	163.9	190.0	154.1	158.8	158.8	187.0	153.4	677.6	667.5	658.1
Florida (FRCC)															
Natural Gas	35.5	46.4	52.6	39.9	37.3	44.5	51.5	37.1	31.7	44.1	47.7	36.7	174.4	170.4	160.3
Coal	3.7	4.8	5.3	4.8	2.5	3.6	2.1	3.4	4.7	4.1	6.0	4.4	18.6	11.7	19.2
Nuclear	7.6	6.4	7.7	7.3	7.3	7.4	7.5	7.7	7.8	7.0	7.2	7.4	29.1	29.9	29.4
Conventional hydropower	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.2
Nonhydro renewables (d)	1.5	1.7	1.6	1.4	1.7	2.3	2.1	1.9	2.2	3.0	2.8	2.3	6.2	8.0	10.3
Other energy sources (e)	0.8	0.9	0.8	0.7	0.9	0.9	0.7	0.7	0.8	0.8	0.7	0.7	3.1	3.2	3.1
Total generation	49.3	60.2	68.1	54.1	49.7	58.8	64.1	50.8	47.3	59.1	64.4	51.6	231.7	223.4	222.4
Net energy for load (f)	48.0	58.4	69.4	53.1	48.3	57.1	65.2	49.7	46.1	57.5	66.5	51.0	229.0	220.3	221.1

Notes: 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.

- (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.

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

Projections: EIA Regional Short-Term Energy Model.

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 - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	35.9	40.9	58.1	42.3	44.2	43.6	56.0	39.8	34.7	39.2	53.2	38.7	177.2	183.5	165.8
Coal	77.5	61.2	76.2	61.3	52.9	48.2	63.8	51.9	59.4	53.9	71.1	58.2	276.2	216.8	242.6
Nuclear	25.3	23.2	27.1	26.7	26.6	22.9	26.9	24.8	24.9	23.9	25.0	22.9	102.3	101.1	96.7
Conventional hydropower	2.2	2.3	1.7	1.8	2.3	2.3	1.7	1.8	2.3	2.2	1.6	1.8	8.0	8.2	7.9
Nonhydro renewables (d)	16.7	17.3	13.5	18.6	19.6	19.3	16.0	22.7	23.6	23.2	18.6	24.7	66.1	77.6	90.1
Other energy sources (e)	2.0	1.4	1.7	0.9	1.6	1.8	1.7	0.8	1.3	1.6	1.6	0.9	6.0	5.9	5.4
Total generation	159.5	146.3	178.2	151.7	147.2	138.1	166.1	141.8	146.2	144.0	171.1	147.2	635.7	593.2	608.5
Net energy for load (f)	159.6	151.5	180.6	153.8	151.7	142.0	168.3	144.6	147.6	148.1	172.1	148.4	645.6	606.6	616.2
Central (Southwest Power Pool)															
Natural Gas	14.0	15.8	26.1	15.3	16.8	13.6	22.1	12.2	9.6	10.8	20.7	11.0	71.1	64.7	52.1
Coal	27.3	19.1	27.3	19.5	19.5	8.0	23.0	12.3	15.6	10.5	22.4	12.3	93.3	62.7	60.8
Nuclear	4.4	4.4	4.1	3.4	4.4	4.4	4.4	3.5	3.9	3.3	4.4	4.4	16.2	16.7	16.0
Conventional hydropower	3.9	4.1	2.7	3.0	4.0	3.7	2.6	2.9	3.8	3.5	2.4	2.8	13.7	13.2	12.5
Nonhydro renewables (d)	18.1	18.5	17.5	20.9	20.2	19.7	17.2	23.4	25.8	24.4	21.7	26.9	75.0	80.5	98.8
Other energy sources (e)	0.2	0.3	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.3	0.0	0.1	0.8	0.6	0.5
Total generation	68.0	62.1	77.7	62.3	65.1	49.6	69.3	54.4	58.9	52.7	71.7	57.4	270.1	238.5	240.8
Net energy for load (f)	62.5	68.4	73.6	61.8	62.7	53.5	68.0	54.3	55.8	57.6	70.9	56.7	266.2	238.6	241.0
Texas (ERCOT)															
Natural Gas	34.7	43.1	62.3	40.1	36.7	40.1	50.1	28.8	22.8	30.5	47.0	26.1	180.1	155.7	126.4
Coal	18.1	18.3	21.6	17.2	13.5	12.5	19.3	14.5	14.6	17.3	20.0	16.5	75.2	59.9	68.4
Nuclear	10.4	9.8	11.0	10.2	10.5	9.4	11.0	10.0	10.7	9.8	10.3	9.4	41.3	40.8	40.2
Conventional hydropower	0.3	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.7	0.7	0.7
Nonhydro renewables (d)	19.3	21.4	19.5	20.9	22.9	26.8	23.4	24.8	26.8	31.7	29.3	28.5	81.1	97.9	116.3
Other energy sources (e)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.6	1.5	1.5
Total generation	83.2	93.2	114.9	88.9	84.3	89.4	104.2	78.6	75.6	89.9	107.1	80.9	380.2	356.5	353.5
Net energy for load (f)	83.2	93.2	114.9	88.9	84.3	89.4	104.2	78.6	75.6	89.9	107.1	80.9	380.2	356.5	353.5
Northwest															
Natural Gas	20.1	16.7	29.4	23.1	21.7	10.7	22.8	14.2	16.3	9.4	20.2	15.2	89.2	69.5	61.1
Coal	29.7	18.0	29.4	27.9	20.6	16.2	26.2	25.9	20.9	18.3	31.1	23.7	105.1	89.0	93.9
Nuclear	2.5	1.3	2.5	2.6	2.5	2.5	2.4	2.4	2.4	1.2	2.4	2.4	8.9	9.8	8.4
Conventional hydropower	30.5	36.5	24.6	26.4	35.2	41.8	30.7	30.6	34.7	42.5	29.5	31.0	118.0	138.4	137.7
Nonhydro renewables (d)	11.2	13.4	12.0	11.8	13.7	14.4	13.2	14.3	17.8	17.4	15.7	16.7	48.4	55.6	67.6
Other energy sources (e)	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.9	0.8	0.8
Total generation	94.3	86.2	98.1	92.0	93.9	85.9	95.5	87.7	92.2	88.9	99.2	89.2	370.5	363.1	369.5
Net energy for load (f)	94.5	83.1	92.2	87.7	88.4	80.0	89.6	84.2	85.1	81.4	90.3	84.7	357.4	342.2	341.4
Southwest															
Natural Gas	10.4	12.7	19.1	14.3	12.0	14.5	16.5	10.7	10.7	15.7	17.8	12.7	56.5	53.7	56.8
Coal	9.7	7.9	11.8	7.4	5.8	6.0	8.5	6.0	4.7	5.2	8.1	4.1	36.7	26.4	22.1
Nuclear	8.6	7.6	8.6	7.2	8.3	7.6	8.6	7.6	8.4	7.6	8.6	7.6	31.9	32.1	32.2
Conventional hydropower	3.0	4.3	4.0	2.6	3.0	4.0	4.2	2.6	2.9	3.5	3.9	2.5	13.9	13.8	12.7
Nonhydro renewables (d)	2.1	2.8	2.7	2.4	2.5	3.0	2.7	2.7	4.0	4.3	3.7	3.6	9.9	11.0	15.5
Other energy sources (e)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Total generation	33.8	35.3	46.1	33.7	31.6	35.1	40.6	29.7	30.6	36.2	42.2	30.4	148.9	137.1	139.4
Net energy for load (f)	18.2	23.1	34.0	22.3	22.0	26.4	33.9	22.8	21.9	27.0	34.5	23.2	97.7	105.1	106.6
California															
Natural Gas	17.7	10.2	23.4	22.9	15.9	10.7	25.6	22.9	14.0	8.6	22.6	22.8	74.2	75.2	68.1
Coal	2.2	1.2	1.9	2.2	1.4	1.1	1.5	2.3	1.6	2.0	1.9	2.3	7.5	6.3	7.8
Nuclear	3.8	4.9	4.7	2.8	4.9	3.9	4.9	4.9	4.5	4.1	4.9	3.9	16.2	18.6	17.4
Conventional hydropower	7.1	12.4	9.6	4.9	5.9	11.8	10.1	5.2	5.6	11.1	9.5	5.0	34.0	33.1	31.2
Nonhydro renewables (d)	13.8	18.3	18.5	13.1	14.9	18.8	19.6	14.2	15.0	19.4	20.0	14.6	63.7	67.5	69.0
Other energy sources (e)	-0.2	0.2	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.2	0.2	0.0	0.2	0.4	0.4
Total generation	44.4	47.2	58.3	45.9	42.9	46.6	62.0	49.5	40.6	45.4	59.1	48.8	195.8	201.1	193.9
Net energy for load (f)	59.8	62.5	76.3	61.6	58.1	61.2	74.7	60.0	56.5	62.1	75.7	60.5	260.2	253.9	254.9

Notes: 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.

(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.

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

Projections: EIA Regional Short-Term Energy Model.

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	0.037	0.035	0.037	0.033	0.035	<i>0.035</i>	<i>0.039</i>	<i>0.033</i>	<i>0.032</i>	<i>0.034</i>	<i>0.038</i>	<i>0.033</i>	0.142	<i>0.142</i>	<i>0.138</i>
Hydroelectric Power (a)	0.649	0.743	0.553	0.534	0.679	<i>0.767</i>	<i>0.611</i>	<i>0.570</i>	<i>0.666</i>	<i>0.746</i>	<i>0.583</i>	<i>0.562</i>	2.480	<i>2.627</i>	<i>2.557</i>
Solar (b)	0.122	0.201	0.208	0.128	0.157	<i>0.240</i>	<i>0.259</i>	<i>0.165</i>	<i>0.204</i>	<i>0.318</i>	<i>0.340</i>	<i>0.215</i>	0.659	<i>0.821</i>	<i>1.077</i>
Waste Biomass (c)	0.059	0.058	0.059	0.060	0.058	<i>0.056</i>	<i>0.058</i>	<i>0.058</i>	<i>0.059</i>	<i>0.057</i>	<i>0.060</i>	<i>0.059</i>	0.236	<i>0.230</i>	<i>0.235</i>
Wood Biomass	0.053	0.052	0.058	0.048	0.047	<i>0.050</i>	<i>0.051</i>	<i>0.051</i>	<i>0.060</i>	<i>0.049</i>	<i>0.055</i>	<i>0.052</i>	0.211	<i>0.199</i>	<i>0.215</i>
Wind	0.683	0.724	0.610	0.745	0.790	<i>0.809</i>	<i>0.664</i>	<i>0.868</i>	<i>0.952</i>	<i>0.936</i>	<i>0.771</i>	<i>0.960</i>	2.762	<i>3.130</i>	<i>3.620</i>
Subtotal	1.603	1.813	1.526	1.547	1.765	<i>1.956</i>	<i>1.682</i>	<i>1.744</i>	<i>1.973</i>	<i>2.141</i>	<i>1.847</i>	<i>1.880</i>	6.490	<i>7.148</i>	<i>7.841</i>
Industrial Sector															
Biofuel Losses and Co-products (d)	0.194	0.203	0.199	0.203	0.196	<i>0.133</i>	<i>0.166</i>	<i>0.182</i>	<i>0.180</i>	<i>0.189</i>	<i>0.191</i>	<i>0.195</i>	0.799	<i>0.677</i>	<i>0.754</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Hydroelectric Power (a)	0.003	0.003	0.002	0.003	0.003	<i>0.003</i>	<i>0.002</i>	<i>0.003</i>	<i>0.003</i>	<i>0.003</i>	<i>0.002</i>	<i>0.003</i>	0.010	<i>0.010</i>	<i>0.010</i>
Solar (b)	0.006	0.008	0.009	0.006	0.007	<i>0.010</i>	<i>0.010</i>	<i>0.007</i>	<i>0.007</i>	<i>0.011</i>	<i>0.011</i>	<i>0.008</i>	0.029	<i>0.033</i>	<i>0.037</i>
Waste Biomass (c)	0.042	0.038	0.037	0.043	0.042	<i>0.040</i>	<i>0.039</i>	<i>0.042</i>	<i>0.041</i>	<i>0.040</i>	<i>0.040</i>	<i>0.042</i>	0.160	<i>0.163</i>	<i>0.163</i>
Wood Biomass	0.373	0.363	0.369	0.368	0.344	<i>0.338</i>	<i>0.342</i>	<i>0.340</i>	<i>0.328</i>	<i>0.327</i>	<i>0.340</i>	<i>0.344</i>	1.473	<i>1.364</i>	<i>1.339</i>
Subtotal	0.617	0.613	0.614	0.622	0.590	<i>0.518</i>	<i>0.555</i>	<i>0.571</i>	<i>0.557</i>	<i>0.564</i>	<i>0.579</i>	<i>0.588</i>	2.466	<i>2.235</i>	<i>2.288</i>
Commercial Sector															
Geothermal	0.006	0.006	0.006	0.006	0.006	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	0.024	<i>0.023</i>	<i>0.023</i>
Solar (b)	0.022	0.032	0.032	0.022	0.026	<i>0.036</i>	<i>0.036</i>	<i>0.025</i>	<i>0.028</i>	<i>0.041</i>	<i>0.041</i>	<i>0.029</i>	0.108	<i>0.123</i>	<i>0.139</i>
Waste Biomass (c)	0.010	0.008	0.009	0.009	0.009	<i>0.008</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	0.036	<i>0.036</i>	<i>0.036</i>
Wood Biomass	0.021	0.021	0.021	0.021	0.021	<i>0.020</i>	<i>0.022</i>	<i>0.021</i>	<i>0.021</i>	<i>0.020</i>	<i>0.022</i>	<i>0.021</i>	0.084	<i>0.084</i>	<i>0.084</i>
Subtotal	0.065	0.074	0.075	0.065	0.068	<i>0.076</i>	<i>0.079</i>	<i>0.067</i>	<i>0.070</i>	<i>0.082</i>	<i>0.085</i>	<i>0.071</i>	0.280	<i>0.290</i>	<i>0.309</i>
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	0.040	<i>0.040</i>	<i>0.040</i>
Solar (e)	0.050	0.076	0.078	0.052	0.060	<i>0.089</i>	<i>0.089</i>	<i>0.061</i>	<i>0.066</i>	<i>0.100</i>	<i>0.102</i>	<i>0.070</i>	0.257	<i>0.299</i>	<i>0.337</i>
Wood Biomass	0.130	0.132	0.133	0.133	0.128	<i>0.132</i>	<i>0.133</i>	<i>0.133</i>	<i>0.128</i>	<i>0.132</i>	<i>0.133</i>	<i>0.133</i>	0.529	<i>0.526</i>	<i>0.526</i>
Subtotal	0.190	0.218	0.221	0.195	0.197	<i>0.231</i>	<i>0.232</i>	<i>0.204</i>	<i>0.203</i>	<i>0.242</i>	<i>0.245</i>	<i>0.214</i>	0.825	<i>0.865</i>	<i>0.903</i>
Transportation Sector															
Biomass-based Diesel (f)	0.058	0.071	0.070	0.066	0.067	<i>0.066</i>	<i>0.063</i>	<i>0.069</i>	<i>0.084</i>	<i>0.089</i>	<i>0.079</i>	<i>0.085</i>	0.265	<i>0.264</i>	<i>0.337</i>
Ethanol (f)	0.274	0.293	0.291	0.296	0.256	<i>0.210</i>	<i>0.260</i>	<i>0.269</i>	<i>0.254</i>	<i>0.276</i>	<i>0.280</i>	<i>0.277</i>	1.154	<i>0.995</i>	<i>1.087</i>
Subtotal	0.333	0.365	0.361	0.361	0.322	<i>0.276</i>	<i>0.323</i>	<i>0.338</i>	<i>0.338</i>	<i>0.365</i>	<i>0.358</i>	<i>0.362</i>	1.419	<i>1.259</i>	<i>1.424</i>
All Sectors Total															
Biomass-based Diesel (f)	0.058	0.071	0.070	0.066	0.067	<i>0.066</i>	<i>0.063</i>	<i>0.069</i>	<i>0.084</i>	<i>0.089</i>	<i>0.079</i>	<i>0.085</i>	0.265	<i>0.264</i>	<i>0.337</i>
Biofuel Losses and Co-products (d)	0.194	0.203	0.199	0.203	0.196	<i>0.133</i>	<i>0.166</i>	<i>0.182</i>	<i>0.180</i>	<i>0.189</i>	<i>0.191</i>	<i>0.195</i>	0.799	<i>0.677</i>	<i>0.754</i>
Ethanol (f)	0.285	0.305	0.302	0.307	0.266	<i>0.219</i>	<i>0.270</i>	<i>0.279</i>	<i>0.264</i>	<i>0.287</i>	<i>0.291</i>	<i>0.288</i>	1.199	<i>1.033</i>	<i>1.129</i>
Geothermal	0.054	0.052	0.054	0.050	0.051	<i>0.052</i>	<i>0.056</i>	<i>0.050</i>	<i>0.049</i>	<i>0.051</i>	<i>0.055</i>	<i>0.050</i>	0.209	<i>0.208</i>	<i>0.205</i>
Hydroelectric Power (a)	0.652	0.747	0.556	0.537	0.682	<i>0.770</i>	<i>0.614</i>	<i>0.573</i>	<i>0.669</i>	<i>0.749</i>	<i>0.586</i>	<i>0.565</i>	2.492	<i>2.639</i>	<i>2.569</i>
Solar (b)(e)	0.198	0.315	0.324	0.206	0.248	<i>0.375</i>	<i>0.394</i>	<i>0.257</i>	<i>0.305</i>	<i>0.469</i>	<i>0.494</i>	<i>0.322</i>	1.043	<i>1.275</i>	<i>1.590</i>
Waste Biomass (c)	0.111	0.105	0.105	0.112	0.110	<i>0.104</i>	<i>0.106</i>	<i>0.109</i>	<i>0.109</i>	<i>0.106</i>	<i>0.108</i>	<i>0.110</i>	0.433	<i>0.429</i>	<i>0.433</i>
Wood Biomass	0.578	0.568	0.582	0.570	0.540	<i>0.540</i>	<i>0.548</i>	<i>0.545</i>	<i>0.537</i>	<i>0.528</i>	<i>0.550</i>	<i>0.550</i>	2.297	<i>2.173</i>	<i>2.164</i>
Wind	0.683	0.724	0.610	0.745	0.790	<i>0.809</i>	<i>0.664</i>	<i>0.868</i>	<i>0.952</i>	<i>0.936</i>	<i>0.771</i>	<i>0.960</i>	2.762	<i>3.130</i>	<i>3.620</i>
Total Consumption	2.809	3.084	2.798	2.791	2.943	<i>3.058</i>	<i>2.871</i>	<i>2.924</i>	<i>3.142</i>	<i>3.393</i>	<i>3.113</i>	<i>3.116</i>	11.481	<i>11.797</i>	<i>12.764</i>

- = no data available

(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) distributed solar photovoltaic systems.

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

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

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

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

Notes: 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 Monthly*, DOE/EIA-0109.

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

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	6,915	6,868	6,769	6,776	6,777	6,699	6,735	6,739	6,742	6,761	6,681	6,769	6,776	6,739	6,769
Waste	4,112	4,080	4,070	4,049	4,050	3,972	4,009	4,012	4,015	4,034	3,954	4,042	4,049	4,012	4,042
Wood	2,803	2,788	2,699	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727
Conventional Hydroelectric	79,574	79,553	79,377	79,433	79,443	79,489	79,617	79,632	79,726	79,684	79,761	79,781	79,433	79,632	79,781
Geothermal	2,488	2,488	2,488	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,508	2,550	2,508	2,508	2,550
Large-Scale Solar (b)	32,664	33,129	33,789	36,870	38,692	40,722	41,969	49,573	50,244	54,329	55,782	60,633	36,870	49,573	60,633
Wind	96,610	98,085	99,661	103,451	105,620	106,839	109,819	123,845	123,857	125,144	125,670	129,095	103,451	123,845	129,095
Other Sectors (c)															
Biomass	6,569	6,518	6,518	6,452	6,460	6,456	6,456	6,456	6,462	6,409	6,409	6,409	6,452	6,456	6,409
Waste	782	784	784	784	784	800	800	800	800	799	799	799	784	800	799
Wood	5,787	5,734	5,734	5,668	5,676	5,656	5,656	5,656	5,662	5,610	5,610	5,610	5,668	5,656	5,610
Conventional Hydroelectric	289	289	289	289	289	289	289	289	289	291	289	289	289	289	289
Large-Scale Solar (b)	408	414	425	430	430	435	437	437	437	437	438	438	430	437	438
Small-Scale Solar (d)	20,284	21,137	22,103	23,211	24,216	24,543	25,195	26,211	27,229	28,400	29,738	31,151	23,211	26,211	31,151
Residential Sector	12,271	12,840	13,526	14,229	14,943	15,136	15,574	16,251	16,903	17,694	18,639	19,644	14,229	16,251	19,644
Commercial Sector	6,402	6,609	6,841	7,186	7,408	7,500	7,665	7,947	8,252	8,572	8,903	9,248	7,186	7,947	9,248
Industrial Sector	1,611	1,688	1,736	1,796	1,865	1,907	1,956	2,013	2,073	2,134	2,196	2,259	1,796	2,013	2,259
Wind	118	118	118	118	123	292	292	292	292	292	292	292	118	292	292
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	7.2	7.0	7.6	6.9	6.7	6.8	7.0	7.0	7.6	6.8	7.3	7.1	28.8	27.5	28.8
Waste	3.9	3.9	4.0	3.9	3.8	3.7	3.9	3.8	3.9	3.8	3.9	3.9	15.7	15.2	15.5
Wood	3.3	3.1	3.6	3.0	2.9	3.1	3.1	3.1	3.7	3.0	3.4	3.2	13.0	12.3	13.3
Conventional Hydroelectric	71.2	81.7	60.8	58.7	74.6	83.8	68.0	62.9	72.5	81.5	64.2	62.0	272.4	289.2	280.1
Geothermal	4.0	3.9	4.1	3.6	3.8	3.8	4.3	3.6	3.5	3.8	4.2	3.6	15.6	15.5	15.1
Large-Scale Solar (b)	13.3	21.8	22.6	13.9	17.0	26.0	28.2	17.9	22.1	34.5	36.9	23.3	71.5	89.1	116.9
Wind	74.2	78.6	66.2	80.8	85.7	87.8	72.0	94.2	103.3	101.6	83.7	104.2	299.8	339.7	392.9
Other Sectors (c)															
Biomass	7.4	7.3	7.6	7.4	7.4	7.3	7.6	7.4	7.3	7.3	7.6	7.4	29.7	29.7	29.6
Waste	0.8	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	6.7	6.6	6.9	6.6	6.7	6.6	6.9	6.6	6.6	6.6	6.9	6.6	26.8	26.9	26.8
Conventional Hydroelectric	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3	1.3	1.3	1.3
Large-Scale Solar (b)	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.7	0.7
Small-Scale Solar (d)	6.9	10.4	10.6	7.1	8.5	12.4	12.2	8.4	9.4	14.0	14.3	9.9	35.0	41.5	47.6
Residential Sector	4.0	6.2	6.4	4.3	5.1	7.5	7.5	5.1	5.7	8.6	8.8	6.1	20.9	25.2	29.2
Commercial Sector	2.3	3.3	3.3	2.2	2.7	3.8	3.7	2.6	2.9	4.3	4.3	3.0	11.1	12.7	14.5
Industrial Sector	0.6	0.9	0.9	0.6	0.7	1.0	1.0	0.7	0.8	1.1	1.2	0.8	3.0	3.5	3.9
Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.7

-- = no data available

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

- (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 one 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 one megawatt).
- (d) Solar photovoltaic systems smaller than one megawatt, as measured in alternating current.

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.

Projections: EIA-860M database, EIA-826 Solar PV database, and EIA Regional Short-Term Energy Model.

Table 9a. U.S. Macroeconomic Indicators and CO2 Emissions
 U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,927	19,022	19,121	19,222	19,048	17,627	17,617	17,885	18,532	19,108	19,455	19,682	19,073	18,044	19,194
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	13,103	13,250	13,353	13,414	13,301	12,018	12,266	12,640	12,989	13,371	13,590	13,788	13,280	12,556	13,435
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	3,349	3,337	3,330	3,326	3,305	2,943	2,780	2,780	2,901	3,040	3,151	3,226	3,336	2,952	3,080
Business Inventory Change (billion chained 2012 dollars - SAAR)	113	75	67	18	-34	-60	-356	-433	-172	23	169	222	68	-221	61
Real Government Expenditures (billion chained 2012 dollars - SAAR)	3,258	3,297	3,310	3,331	3,344	3,348	3,365	3,375	3,390	3,403	3,416	3,422	3,299	3,358	3,408
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	2,554	2,517	2,523	2,536	2,504	2,386	2,384	2,422	2,522	2,594	2,650	2,684	2,533	2,424	2,613
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	3,498	3,498	3,514	3,437	3,358	3,030	2,824	2,923	3,119	3,353	3,565	3,721	3,487	3,034	3,439
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	14,878	14,934	15,012	15,073	15,206	15,536	15,609	15,320	15,442	15,564	15,662	15,758	14,974	15,418	15,606
Non-Farm Employment (millions)	150.2	150.6	151.2	151.8	152.2	144.6	139.8	138.2	138.8	140.9	143.6	146.2	150.9	143.7	142.4
Civilian Unemployment Rate (percent)	3.9	3.6	3.6	3.5	3.8	8.7	10.1	10.6	10.0	8.8	7.4	6.2	3.7	8.3	8.1
Housing Starts (millions - SAAR)	1.21	1.26	1.28	1.44	1.47	0.98	0.95	1.02	1.07	1.13	1.17	1.22	1.30	1.10	1.15
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	109.8	109.2	109.5	109.6	107.4	96.2	91.2	89.5	92.5	95.8	98.0	99.4	109.5	96.1	96.4
Manufacturing	106.5	105.7	105.9	105.8	103.9	90.0	84.7	83.1	86.5	90.4	92.9	94.6	106.0	90.4	91.1
Food	115.1	115.3	114.6	116.0	116.8	119.3	121.0	121.2	121.3	121.4	121.6	121.8	115.3	119.6	121.5
Paper	94.2	91.8	92.6	93.6	94.1	86.5	82.3	80.7	81.4	82.8	84.1	84.8	93.0	85.9	83.3
Petroleum and Coal Products	106.3	104.9	106.7	104.8	105.5	102.0	92.8	91.6	94.2	97.1	98.5	99.8	105.7	98.0	97.4
Chemicals	101.4	99.9	100.6	100.2	99.2	97.2	97.4	98.1	99.6	101.4	102.5	103.5	100.5	98.0	101.8
Nonmetallic Mineral Products	119.7	119.0	119.7	119.1	120.5	105.4	97.9	96.4	98.1	100.2	103.6	106.9	119.4	105.0	102.2
Primary Metals	97.9	96.7	96.4	96.6	94.8	80.9	77.2	76.8	79.1	82.6	84.0	85.0	96.9	82.4	82.6
Coal-weighted Manufacturing (a)	106.9	105.6	106.0	106.3	106.3	94.8	90.0	88.8	91.1	94.1	96.4	98.1	106.2	95.0	94.9
Distillate-weighted Manufacturing (a)	98.5	97.9	98.3	98.5	98.3	89.5	84.9	83.9	85.6	87.8	89.7	91.1	98.3	89.1	88.6
Electricity-weighted Manufacturing (a)	106.5	105.3	105.6	105.9	105.0	93.8	89.9	89.3	91.8	94.8	96.7	98.2	105.8	94.5	95.4
Natural Gas-weighted Manufacturing (a)	108.7	107.7	108.0	108.2	108.0	98.4	93.9	93.3	95.7	98.8	100.6	102.1	108.1	98.4	99.3
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.53	2.55	2.56	2.58	2.59	2.54	2.56	2.58	2.60	2.62	2.64	2.64	2.56	2.57	2.63
Producer Price Index: All Commodities (index, 1982=1.00)	2.01	2.00	1.99	2.00	1.97	1.90	1.91	1.93	1.95	1.98	1.99	1.99	2.00	1.93	1.98
Producer Price Index: Petroleum (index, 1982=1.00)	1.81	2.08	1.96	1.96	1.74	1.04	1.20	1.26	1.31	1.53	1.60	1.61	1.95	1.31	1.51
GDP Implicit Price Deflator (index, 2012=100)	111.5	112.2	112.7	113.0	113.5	113.8	114.2	114.6	115.0	115.5	115.9	116.2	112.3	114.0	115.7
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,297	9,333	9,289	8,899	7,978	6,912	8,547	8,552	8,036	9,041	9,067	8,804	8,957	8,000	8,740
Air Travel Capacity (Available ton-miles/day, thousands)	643	685	707	688	599	494	706	676	679	715	754	743	681	619	723
Aircraft Utilization (Revenue ton-miles/day, thousands)	380	426	427	406	334	221	374	375	395	436	446	429	410	326	427
Airline Ticket Price Index (index, 1982-1984=100)	255.7	278.3	263.8	263.8	250.8	211.6	176.3	175.5	175.9	187.5	181.1	189.3	265.4	203.6	183.4
Raw Steel Production (million short tons per day)	0.273	0.271	0.264	0.265	0.268	0.179	0.227	0.265	0.263	0.255	0.251	0.253	0.268	0.235	0.256
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	575	587	597	596	553	441	536	558	544	562	582	583	2,354	2,088	2,270
Natural Gas	507	350	384	448	496	354	365	412	462	341	354	416	1,689	1,628	1,573
Coal	289	239	307	242	209	181	238	204	226	202	271	218	1,076	832	917
Total Energy (c)	1,374	1,178	1,291	1,288	1,261	979	1,142	1,177	1,235	1,107	1,210	1,220	5,130	4,559	4,771

- = no data available

SAAR = Seasonally-adjusted annual rate

(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.

Notes: 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 Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model. U.S. macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion \$2009)															
New England	996	999	1,004	1,009	997	919	920	935	969	998	1,018	1,031	1,002	943	1,004
Middle Atlantic	2,772	2,782	2,791	2,802	2,773	2,548	2,551	2,596	2,701	2,790	2,847	2,886	2,787	2,617	2,806
E. N. Central	2,528	2,535	2,545	2,557	2,530	2,337	2,338	2,377	2,452	2,526	2,568	2,592	2,541	2,395	2,535
W. N. Central	1,181	1,187	1,193	1,198	1,187	1,108	1,109	1,124	1,161	1,194	1,214	1,226	1,190	1,132	1,199
S. Atlantic	3,353	3,367	3,383	3,403	3,376	3,130	3,128	3,178	3,300	3,406	3,472	3,515	3,376	3,203	3,423
E. S. Central	832	835	840	844	836	777	778	790	818	843	857	865	838	795	846
W. S. Central	2,347	2,370	2,392	2,406	2,384	2,205	2,177	2,201	2,272	2,338	2,374	2,399	2,379	2,242	2,346
Mountain	1,252	1,261	1,269	1,277	1,265	1,168	1,168	1,183	1,227	1,266	1,294	1,312	1,265	1,196	1,275
Pacific	3,700	3,719	3,739	3,761	3,733	3,467	3,478	3,534	3,666	3,780	3,846	3,891	3,730	3,553	3,796
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	99.4	98.6	98.8	98.8	96.1	82.4	77.6	76.0	79.3	83.0	85.5	87.1	98.9	83.0	83.7
Middle Atlantic	99.1	98.2	98.1	98.1	96.3	83.7	78.7	77.0	80.3	83.6	85.9	87.3	98.4	83.9	84.3
E. N. Central	108.4	107.1	107.0	106.7	104.5	89.4	83.6	81.7	84.4	88.0	90.4	92.1	107.3	89.8	88.7
W. N. Central	106.0	105.2	105.3	105.2	103.0	89.1	84.2	82.9	86.7	90.7	93.3	95.0	105.4	89.8	91.4
S. Atlantic	111.0	110.3	110.8	111.1	109.0	94.7	88.8	86.9	90.5	94.4	97.1	98.8	110.8	94.8	95.2
E. S. Central	110.8	109.8	110.2	110.0	107.8	93.0	87.1	85.1	88.0	91.6	94.3	96.2	110.2	93.3	92.5
W. S. Central	101.7	101.1	101.4	101.5	100.2	87.4	82.1	80.2	83.7	87.5	89.8	91.3	101.4	87.5	88.1
Mountain	116.5	115.8	116.6	116.2	114.6	100.1	94.8	93.1	97.2	101.5	104.5	106.2	116.3	100.7	102.3
Pacific	105.1	104.2	104.1	104.3	102.7	88.8	84.3	83.1	87.0	91.1	93.8	95.4	104.4	89.7	91.8
Real Personal Income (Billion \$2009)															
New England	904	905	901	904	911	902	903	892	902	914	925	935	903	902	919
Middle Atlantic	2,302	2,315	2,312	2,317	2,333	2,311	2,311	2,277	2,309	2,341	2,366	2,388	2,312	2,308	2,351
E. N. Central	2,428	2,432	2,442	2,454	2,467	2,470	2,466	2,420	2,437	2,465	2,491	2,516	2,439	2,456	2,477
W. N. Central	1,146	1,147	1,162	1,166	1,171	1,172	1,167	1,147	1,156	1,168	1,183	1,198	1,155	1,164	1,176
S. Atlantic	3,214	3,231	3,241	3,256	3,287	3,319	3,315	3,244	3,274	3,313	3,355	3,396	3,235	3,291	3,334
E. S. Central	887	890	894	899	907	918	920	898	905	915	923	931	893	911	918
W. S. Central	1,985	1,993	2,005	2,015	2,034	2,032	2,023	1,984	2,005	2,027	2,046	2,066	1,999	2,018	2,036
Mountain	1,168	1,177	1,188	1,193	1,202	1,203	1,202	1,180	1,192	1,208	1,224	1,240	1,181	1,197	1,216
Pacific	2,807	2,834	2,828	2,842	2,865	2,848	2,848	2,807	2,843	2,883	2,921	2,956	2,828	2,842	2,901
Households (Thousands)															
New England	5,936	5,941	5,957	5,966	5,972	5,972	5,971	5,972	5,973	5,976	5,985	5,997	5,966	5,972	5,997
Middle Atlantic	16,243	16,263	16,305	16,328	16,343	16,341	16,337	16,341	16,344	16,352	16,376	16,409	16,328	16,341	16,409
E. N. Central	19,087	19,112	19,166	19,197	19,221	19,230	19,233	19,246	19,255	19,267	19,299	19,342	19,197	19,246	19,342
W. N. Central	8,688	8,708	8,740	8,760	8,776	8,782	8,787	8,797	8,803	8,813	8,833	8,857	8,760	8,797	8,857
S. Atlantic	25,689	25,762	25,877	25,965	26,046	26,098	26,144	26,201	26,257	26,320	26,406	26,510	25,965	26,201	26,510
E. S. Central	7,651	7,663	7,689	7,706	7,720	7,726	7,730	7,739	7,745	7,754	7,772	7,794	7,706	7,739	7,794
W. S. Central	14,813	14,856	14,923	14,974	15,020	15,052	15,082	15,119	15,155	15,196	15,252	15,314	14,974	15,119	15,314
Mountain	9,404	9,448	9,506	9,551	9,593	9,624	9,652	9,683	9,712	9,742	9,781	9,825	9,551	9,683	9,825
Pacific	18,903	18,932	18,994	19,034	19,070	19,090	19,111	19,147	19,182	19,220	19,275	19,336	19,034	19,147	19,336
Total Non-farm Employment (Millions)															
New England	7.5	7.5	7.5	7.5	7.6	7.2	6.9	6.9	6.9	7.0	7.1	7.3	7.5	7.1	7.1
Middle Atlantic	20.0	20.0	20.1	20.1	20.2	19.1	18.4	18.3	18.4	18.6	19.0	19.3	20.0	19.0	18.8
E. N. Central	22.3	22.3	22.3	22.3	22.3	21.2	20.5	20.3	20.3	20.6	21.0	21.3	22.3	21.1	20.8
W. N. Central	10.8	10.8	10.8	10.8	10.8	10.4	10.1	10.0	10.0	10.1	10.3	10.4	10.8	10.3	10.2
S. Atlantic	29.0	29.1	29.2	29.3	29.4	27.9	26.9	26.6	26.8	27.3	27.9	28.4	29.1	27.7	27.6
E. S. Central	8.3	8.3	8.3	8.3	8.4	8.0	7.7	7.6	7.7	7.8	7.9	8.0	8.3	7.9	7.9
W. S. Central	17.6	17.7	17.8	17.9	18.0	17.2	16.5	16.3	16.3	16.6	16.8	17.1	17.8	17.0	16.7
Mountain	11.0	11.0	11.1	11.2	11.2	10.6	10.3	10.1	10.2	10.4	10.6	10.9	11.1	10.6	10.5
Pacific	23.6	23.7	23.9	24.0	24.1	22.9	22.2	21.9	22.0	22.3	22.8	23.2	23.8	22.8	22.6

- = no data available

Notes: 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.

Projections: Macroeconomic projections 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 - May 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	3,226	896	136	2,280	2,724	893	125	2,162	3,169	881	129	2,162	6,537	5,904	6,341
Middle Atlantic	2,987	634	68	2,066	2,471	715	78	1,983	2,931	704	77	1,983	5,755	5,247	5,695
E. N. Central	3,328	762	65	2,279	2,788	804	115	2,228	3,151	732	116	2,228	6,434	5,934	6,227
W. N. Central	3,645	772	107	2,548	3,035	775	152	2,407	3,237	700	152	2,407	7,072	6,369	6,497
South Atlantic	1,334	128	2	918	1,105	215	12	951	1,378	183	12	950	2,382	2,283	2,523
E. S. Central	1,713	193	1	1,273	1,484	303	19	1,284	1,783	231	19	1,284	3,181	3,089	3,317
W. S. Central	1,208	90	0	852	973	116	4	763	1,103	77	4	763	2,151	1,856	1,947
Mountain	2,431	786	127	1,965	2,218	687	137	1,798	2,186	690	139	1,797	5,309	4,840	4,812
Pacific	1,690	578	96	1,184	1,538	513	80	1,170	1,497	578	83	1,171	3,547	3,301	3,329
U.S. Average	2,211	481	57	1,559	1,875	505	69	1,506	2,094	483	70	1,504	4,307	3,956	4,151
Heating Degree Days, Prior 10-year Average															
New England	3,166	820	111	2,122	3,152	823	105	2,128	3,132	848	108	2,116	6,218	6,207	6,204
Middle Atlantic	2,956	650	76	1,941	2,949	644	69	1,945	2,913	665	71	1,927	5,623	5,606	5,576
E. N. Central	3,196	697	112	2,198	3,198	698	102	2,197	3,157	727	104	2,183	6,203	6,195	6,170
W. N. Central	3,255	702	140	2,380	3,287	702	131	2,379	3,247	726	131	2,377	6,477	6,500	6,480
South Atlantic	1,480	176	11	964	1,459	169	10	951	1,393	177	10	922	2,631	2,589	2,501
E. S. Central	1,861	222	17	1,292	1,850	214	15	1,277	1,772	228	16	1,255	3,392	3,356	3,270
W. S. Central	1,183	85	4	808	1,199	83	3	794	1,140	87	3	789	2,079	2,079	2,019
Mountain	2,164	714	139	1,856	2,193	718	135	1,844	2,182	703	135	1,846	4,873	4,890	4,866
Pacific	1,444	582	83	1,175	1,456	580	85	1,162	1,462	551	82	1,156	3,283	3,284	3,251
U.S. Average	2,151	475	68	1,518	2,149	472	64	1,509	2,108	478	64	1,493	4,212	4,194	4,144
Cooling Degree Days															
New England	0	67	465	0	0	98	427	1	0	80	405	1	532	527	487
Middle Atlantic	0	145	629	8	0	168	553	4	0	150	540	4	782	725	695
E. N. Central	0	175	649	6	2	213	541	7	0	217	542	7	830	764	767
W. N. Central	0	223	728	2	6	254	670	11	3	266	675	11	954	941	955
South Atlantic	152	756	1,297	308	198	697	1,173	235	128	674	1,180	235	2,513	2,302	2,217
E. S. Central	28	548	1,215	87	72	490	1,047	68	30	539	1,063	68	1,878	1,677	1,699
W. S. Central	73	821	1,695	169	174	905	1,517	211	97	888	1,522	211	2,757	2,807	2,718
Mountain	10	342	985	60	9	439	949	79	19	426	941	79	1,396	1,476	1,465
Pacific	21	166	588	68	24	178	598	59	27	168	587	59	842	860	842
U.S. Average	45	399	952	105	71	416	864	96	46	409	864	96	1,501	1,447	1,415
Cooling Degree Days, Prior 10-year Average															
New England	0	79	455	1	0	83	470	1	0	80	462	1	536	554	543
Middle Atlantic	0	165	589	6	0	170	609	6	0	164	597	6	760	785	767
E. N. Central	3	242	548	7	3	240	578	8	3	234	565	7	799	829	809
W. N. Central	7	298	669	11	7	296	697	11	7	290	687	11	985	1,011	995
South Atlantic	120	684	1,180	239	127	696	1,202	247	143	688	1,190	254	2,224	2,272	2,275
E. S. Central	36	555	1,049	67	36	557	1,082	72	42	538	1,063	73	1,706	1,746	1,716
W. S. Central	103	897	1,552	205	100	892	1,576	207	114	887	1,569	210	2,758	2,775	2,780
Mountain	25	438	932	81	24	432	939	81	24	442	940	82	1,476	1,476	1,488
Pacific	31	185	631	76	31	185	624	78	31	191	636	79	923	918	936
U.S. Average	46	417	873	97	47	420	892	100	52	417	887	102	1,433	1,459	1,458

- = no data available

Notes: 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 Oceanic and Atmospheric Administration (NOAA).

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).

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