



## Short-Term Energy Outlook (STEO)

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### Forecast Highlights

- Brent crude oil spot prices averaged \$64 per barrel (b) in June, \$7/b lower than in May 2019 and \$10/b lower than the price in June of last year. The Energy Information Administration (EIA) forecasts Brent spot prices will average \$67/b in the second half of 2019 and remain at that level in 2020. EIA expects West Texas Intermediate (WTI) crude oil prices will average \$62/b in the second half of 2019 and \$63/b in 2020. EIA's forecast WTI price of \$63/b for December 2019 should be considered in the context of NYMEX WTI futures and options contract values for December 2019 delivery that traded during the five-day period ending July 3, 2019. These contracts suggest a range of \$40/b to \$84/b encompasses the market expectation for December NYMEX WTI prices at the 95% confidence level.
- EIA forecasts global oil inventories will increase by 0.1 million barrels per day (b/d) in both 2019 and 2020. Rising global oil inventories largely reflect an increasingly weak outlook for global oil demand in 2019. EIA forecasts global oil demand will rise by 1.1 million b/d in 2019, 0.2 million b/d less than forecast in the June STEO. In 2020, EIA expects demand growth to average 1.4 million b/d.
- EIA estimates that U.S. crude oil production averaged 11.0 million b/d in 2018, up 1.6 million b/d from 2017, achieving a record high for total production and year-over-year growth. EIA forecasts U.S. crude oil production will average 12.4 million b/d in 2019 and 13.3 million b/d in 2020, with most of the growth coming from the Permian region of Texas and New Mexico.
- U.S. regular gasoline retail prices averaged \$2.72 gallon (gal) in June, down 14 cents/gal from May. EIA expects monthly average gasoline prices peaked for the year in May at an average of \$2.86/gal. EIA expects regular gasoline retail prices to average \$2.65/gal in 2019 and \$2.76/gal in 2020.
- EIA forecasts that U.S. crude oil and petroleum product net imports will average 0.6 million b/d in 2019, down from an average of 2.3 million b/d in 2018. EIA forecasts the United States will be a net exporter of crude oil and petroleum products at a rate of 0.1 million b/d by the fourth quarter of 2019 and by an average of 0.5 million b/d in 2020.

- EIA forecasts that U.S. dry natural gas production will average 91.3 billion cubic feet per day (Bcf/d) in 2019, up 8.0 Bcf/d [from the previous record in 2018](#). EIA expects annual average U.S. natural gas production will rise by 1.4 Bcf/d in 2020.
- EIA forecasts that Henry Hub natural gas spot prices will average \$2.50 per million British thermal units (MMBtu) in the second half of 2019 and \$2.77/MMBtu in 2020. EIA's forecast for the second half of 2019 is 29 cents/MMBtu lower than forecast in the June STEO. The lower forecast reflects recent price declines and EIA's updated assessment of U.S. drilling activity and average well productivity. EIA's forecast for the average Henry Hub price for December 2019 of \$2.80/MMBtu should be considered in the context of NYMEX Henry Hub futures and options contract values for December 2019 delivery that traded during the five-day period ending July 3, 2019. These contracts suggest a range of \$1.64/MMBtu to \$4.03/MMBtu encompasses the market expectation for December Henry Hub natural gas prices at the 95% confidence level.
- EIA forecasts that U.S. coal production will total 684 million short tons (MMst) in 2019, down by 72 MMst (9%) from 2018. U.S. coal production will further decline by 45 MMst (7%) in 2020. This expected decrease is the result of declining coal consumption in the electric power sector and a lower forecast demand for U.S. coal exports.
- EIA expects the share of U.S. total [utility-scale electricity generation](#) from natural gas-fired power plants will rise from 35% in 2018 to 38% in 2019 and then decline slightly in 2020. EIA forecasts that the share of U.S. generation from coal will average 24% in 2019 and 23% in 2020, down from 27% in 2018. The forecast nuclear share of U.S. generation falls from 20% in 2019 to 19% in 2020, reflecting the retirement of reactors at five nuclear plants in 2019 and 2020. Hydropower averages a 7% share of total U.S. generation in the forecast for 2019 and 2020, similar to 2018. Wind, solar, and other nonhydropower renewables together provided 10% of U.S. total utility-scale generation in 2018. EIA expects they will provide 11% in 2019 and 13% in 2020.
- After rising by 2.7% in 2018, EIA forecasts that U.S. energy-related carbon dioxide (CO<sub>2</sub>) emissions will decline by 2.2% in 2019 and by 0.7% in 2020. EIA expects U.S. CO<sub>2</sub> emissions will fall in 2019 and in 2020 because its forecast (based on data from the National Oceanic and Atmospheric Administration) assumes that temperatures will return to near normal. U.S. emissions are also expected to decline because the forecast share of electricity generated from natural gas and renewables increases while the forecast share generated from coal, which is a more carbon-intensive energy source, decreases.

## Global Liquid Fuels

**Global Petroleum and Other Liquid Fuels Consumption.** EIA expects global oil consumption will grow by an average 1.1 million barrels per (b/d) in 2019. This growth is 0.2 million b/d lower than forecast in the June STEO and marks the sixth consecutive month that EIA has revised down its 2019 global consumption growth forecast. EIA expects global oil consumption to increase by 1.4 million b/d in 2020, similar to the June STEO.

The downward revision for 2019 reflects lower-than-expected oil consumption so far this year, in addition to slowing economic growth in many of the world's largest oil-consuming countries. EIA's [International Energy Statistics](#), based on data from the International Energy Agency, recently reported that oil consumption in the first quarter of 2019 among countries in the Organization for Economic Cooperation and Development (OECD) was 350,000 b/d lower than estimated in last month's STEO. Warmer-than-normal weather in OECD countries and slowing economic growth contributed to lower demand. In addition, based on forecasts from Oxford Economics, EIA lowered its 2019 global oil-weighted gross domestic product (GDP) growth projection to 2.2%, which would be the lowest annual growth rate since 2009.

EIA expects little growth in OECD liquid fuels demand in 2019. Although EIA still expects the United States to show continued increases in demand, its annual growth is forecast to slow from 0.5 million b/d in 2018 to 0.2 million b/d in 2019. EIA expects U.S. growth will be offset by declining liquid fuels consumption in Japan, Canada, and Europe.

EIA forecasts that non-OECD liquid fuels consumption will rise by 1.1 million b/d in 2019, led by China's demand growth of 550,000 b/d. China's demand growth is increasingly shifting toward hydrocarbon gas liquids (HGL) and away from transportation fuels such as gasoline and diesel. EIA raised its estimate of the HGL demand growth from new Chinese petrochemical plants in 2019 to 290,000 b/d. As a result, EIA expects more than half of China's total liquid fuels consumption growth will come from HGL. Were it not for the addition of these new petrochemical plants, China's liquid fuels demand growth would be less than 300,000 b/d in 2019. The last time that China's liquid fuels demand grew by less than 400,000 b/d was in 2008.

EIA expects global oil-weighted GDP growth to be 2.7% in 2020, leading to increased oil demand growth in both the OECD and non-OECD countries. EIA expects world liquid fuels consumption growth of 1.4 million b/d in 2020. Two-thirds of all forecast demand growth in 2020 will come from a combination of China, the United States, India, and Russia.

In addition to higher economic growth in 2020 compared with 2019, EIA expects continued global petrochemical demand growth to drive oil demand growth. In China, EIA expects overall oil demand to increase by 470,000 b/d, with about 200,000 b/d of that growth resulting from new petrochemical plants. In the United States, EIA forecasts overall oil demand to grow by 210,000 b/d, and 130,000 b/d of that growth results from higher HGL consumption (although not all for petrochemical use). In Russia, about half of EIA's forecast demand growth of 110,000 b/d is driven by rising petrochemical demand.

Marine distillate use in non-OECD countries will also likely increase in 2020, when more stringent International Maritime Organization (IMO) specifications on sulfur levels in bunkering fuel ([IMO 2020](#)) come into effect. The use of high-sulfur residual fuel oil for bunkering fuel will decline. The switch from highly energy-dense residual fuel to marine distillate will likely result in an increase in total liquid fuels consumption of about 0.1 million b/d because using less energy-dense fuel will require some increase in volume to serve an equivalent level of shipping traffic.

**Non-OPEC Petroleum and Other Liquid Fuels Supply.** EIA expects petroleum and other liquid fuels production in countries not part of the Organization of the Petroleum Exporting Countries (OPEC) to rise by 2.3 million b/d in 2019 and by 2.1 million b/d in 2020, compared with growth of 2.6 million in 2018. EIA's forecast growth in the United States contributes 2.0 million b/d in 2019 and 1.4 million b/d 2020, with Brazil providing another 0.2 million b/d in 2019 and 0.3 million b/d in 2020. EIA expects Canada and Norway to also be key contributors to non-OPEC growth in 2020.

Growth in Brazil's petroleum and other liquid fuels production is the result of at least six new floating production, storage, and offloading vessels (FPSOs) that have been added since 2018. Similarly, EIA expects up to three more planned FPSOs will continue to drive growth through 2020. EIA also expects the output from the Santos Basin, in particular the newly commissioned FPSOs in the Lula and Buzios fields, to produce enough crude oil during the next two years to offset declines in Brazil's more mature onshore and offshore areas.

EIA expects Canada's total liquid fuels production to decrease slightly in 2019 as a result of [province-level government-imposed production cuts in Alberta](#). In 2020, EIA expects Canadian production to increase by 0.2 million b/d after the cuts end in late 2019. EIA does not expect any additional production from new upstream projects to come online during the forecast period but does expect expansions of existing projects to continue. However, the uptake of crude by rail and the timing of pipeline capacity coming online remain uncertain and have the potential to temper growth in 2020.

Another source of growth for non-OPEC petroleum and other liquid fuels production in the forecast period is Norway. EIA expects that Norway's production will grow in 2020 after three years of declines. Phase 1 of the Johan Sverdrup field, scheduled to come online by the end of 2019, drives most of Norway's almost 0.2 million b/d expected production growth in 2020. The Martin Linge field and a number of smaller fields are scheduled to come online in 2020 and also contribute to the expected growth.

[On July 2, OPEC producers and several non-OPEC producers \(OPEC+\)](#), notably Russia, extended [production cuts announced in December 2018](#) through the end of the first quarter of 2020. EIA expects Russia's liquid fuels production to decline by 30,000 b/d in 2020 as a result of the cuts.

**OPEC Petroleum and Other Liquid Fuels Supply.** EIA expects OPEC crude oil production to average 30.2 million b/d in 2019, a decrease of 1.8 million b/d compared with the 2018 level, and expects that production will decrease by 0.5 million b/d in 2020. The forecast decline is the result of Saudi Arabia's over-compliance with the December 2018 OPEC+ agreement in the first

half of 2019 and rapidly decreasing crude oil production in Iran and Venezuela. Combined production in Iran and Venezuela fell to an estimated 2.8 million b/d in June 2019, a 2.4 million b/d decrease compared with June 2018. These factors contributed to OPEC's crude oil production averaging 29.9 million b/d in June, the lowest level since mid-2014.

EIA's forecast assumes the OPEC+ agreement will remain in place through the end of the first quarter of 2020, with OPEC+ continuing to target a balanced market through the forecast period. EIA expects the level of production cuts will contribute to a draw in global stocks in the third quarter of 2019, before the global market sees some inventory builds in the fourth quarter of 2019 and a generally balanced market in 2020. Compliance with production targets in the OPEC+ agreement will be a key factor for whether the level of global crude oil inventories remains higher than the five-year (2014–18) average during the forecast period.

EIA estimates that during June 2019, Saudi Arabia's crude oil production averaged an estimated 10.1 million b/d, increasing by 0.2 million b/d from May levels in response to seasonal [domestic consumption increases](#) and crude oil production declines in Iran. Saudi Arabia's crude oil production has decreased by about 0.9 million b/d since reaching its all-time high in November 2018, averaging about 10.0 million b/d in the first half of 2019.

EIA expects the United Arab Emirates (UAE) and Iraq to be the main sources of crude oil production growth among OPEC members in 2019 and that crude oil output in Iraq will grow further in 2020. Increasing production capacity at the northern Kirkuk fields and the resumption of Baghdad-administered exports through the Iraqi-Kurdistan pipeline has helped alleviate export capacity issues, allowing for increased production.

EIA estimates that Iran's crude oil and condensate production decreased by 1.7 million b/d since May 2018, when the United States announced its plan to withdraw from the [Joint Comprehensive Plan of Action](#) and reinstate sanctions in November 2018. U.S. sanctions on Iran's exports of crude oil and non-crude liquids have forced Iran to store the liquids it cannot export or consume domestically. EIA assumes that U.S. sanctions on Iran's oil exports will remain in place through the end of the forecast period.

Although Iran's crude oil production declined at an average rate of 120,000 b/d per month since May 2018, EIA expects the decline rate to slow in the second half of 2019, as domestic Iranian consumption grows with power plants switching from natural gas to crude oil for electric power generation.

As of June 2019, [Venezuela's](#) crude oil production stood at about 0.7 million b/d, its lowest level since early 2003, when production fell as a result of a general strike. [Along with the falling crude oil production](#), Venezuela's refineries have been operating at only a fraction of their nameplate capacities. Venezuela's domestic consumption has decreased in the wake of the country's deteriorating economic conditions. EIA expects Venezuela's crude oil production to continue declining through the end of 2020.

Widespread power outages, inefficient management of the country's oil industry, and U.S. sanctions directed at Venezuela's energy sector and the state-owned *Petróleos de Venezuela* (PdVSA) have accelerated declines. Venezuela's extra-heavy crude oil requires dilution with condensate or other light oils before the oil is sent by pipeline to domestic refineries or export terminals. Before the sanctions were imposed, the United States was the main source of diluent for Venezuela. The sanctions have severely restricted Venezuela's ability to procure the needed diluent to continue producing the heavy crude oil.

In addition to the lack of diluent, Venezuela's upgraders—complex processing units that upgrade the extra-heavy crude oil to help facilitate transport—have remained offline since early May, further affecting PdVSA's ability to produce crude oil. EIA expects Venezuela's production to continue decreasing through the forecast period because of deteriorating conditions within the country. EIA expects further production declines will also occur in response to [the expiration of General License 8](#) on July 27, which granted exceptions to certain U.S. companies to continue operating in Venezuela.

In OPEC Africa, Nigeria is the only country EIA expects to see production increases through the end of 2020. In February 2019, production began at Nigeria's offshore Egina project, which expects to ramp up to a peak output of 200,000 b/d by the end of 2019. EIA forecasts that Libya's production will remain near current levels through the end of 2020, but the risk of a disruption is high. Libya saw production gains in the first half of 2019 as a result of a re-start at the El-Sharara oil field in March 2019 and development of both new and previously shut-in wells. However, supply disruptions remain a significant risk through 2020 because of the tentative security situation in the country and infrastructure that needs upgrades.

After averaging 5.3 million b/d in 2018, EIA expects that OPEC non-crude oil liquids production will decrease by 70,000 b/d in 2019 and further decrease by 0.2 million b/d to 5.0 million b/d in 2020. These totals do not include Qatar, a relatively large condensate producer that left OPEC in January 2019. The decline in non-crude oil liquids, mostly condensate related to natural gas production, is mainly the result of lower expected condensate output in Iran.

EIA expects OPEC surplus production capacity to average 1.7 million b/d in 2019 and 1.8 million b/d in 2020, up from an average of 1.5 million b/d in 2018. This estimate does not include additional capacity that may be available in Iran but is offline because of U.S. sanctions on Iran's oil sales. The shut-in volumes in the Partitioned Neutral Zone, an area shared by Saudi Arabia and Kuwait, which have been offline since 2015, are also not included in the surplus production capacity totals. All of OPEC's surplus production capacity in the second half of 2019 is expected to be in Saudi Arabia and Kuwait because the UAE is expected to be operating at capacity after increasing production from its Umm Lulu field in June.

**OECD Petroleum Inventories.** EIA estimates that OECD commercial crude oil and other liquid fuels inventories totaled 2.9 billion barrels at the end of 2018, equivalent to about 61 days of consumption. EIA expects OECD inventories to increase by 2.6% through the end of 2020, when inventories would equal about 63 days of consumption.

**Crude Oil Prices.** The spot price of Brent crude oil averaged \$64 per barrel (b) in June, down from an average of \$71/b in both April and May. The recent price declines largely reflect increasing uncertainty about global oil demand growth as a result of increasingly weak global economic signals. Weakening oil demand, combined with strong supply growth in the United States, has helped build global oil inventories so far in 2019 and has limited any sustained upward pressure on oil prices. In terms of price formation in recent months, these factors have outweighed decreasing supply in Venezuela and Iran, the extension of the OPEC+ agreement through the first quarter 2020, as well as Saudi Arabia's continued over-compliance with the existing OPEC+ agreements.

EIA estimates that global petroleum and other liquid fuels inventories rose by an average of 0.7 million b/d in 2018 and by an estimated 0.2 million b/d in the first half of 2019. EIA expects that strong growth in U.S. and other non-OPEC liquid fuels production, combined with slowing global oil demand growth, will contribute to a balanced market in the second half of 2019 and inventory builds of about 0.1 million b/d in 2020.

Given the expectation of relatively balanced markets during the second half of 2019, EIA forecasts Brent crude oil prices will remain near current levels, averaging \$67/b from July through December of this year.

EIA's forecast of global oil inventory builds increasing in 2020 puts some downward pressure on oil prices. However, EIA assumes that the downward pressure will be mostly offset by upward price pressures as a result of the IMO 2020 regulations taking effect and that Brent crude oil prices will continue to average \$67/b in 2020.

Daily and monthly average crude oil prices could vary significantly from annual average forecasts because global economic developments and geopolitical events in the coming months have the potential to push oil prices higher or lower than the current STEO price forecast. EIA's forecast assumes the OPEC+ agreement will remain in place through the end of the first quarter of 2020, with OPEC+ continuing to target a balanced market through the forecast period. However, the degree of adherence to those targets will be a significant driver of oil prices. In addition, supply disruptions are an ever-present feature of oil markets and can take large volumes off the global market. Venezuela and Libya are two places where events could cause production to drop quickly. Any disruptions to shipping through the [Strait of Hormuz](#) would also cause prices to increase.

Developments regarding the rate of economic growth and its effect on global oil demand further contribute to oil price uncertainty. During the third quarter, potential run reductions by refineries in China present a downside risk to crude oil prices. Also, although EIA expects crude oil price impacts from IMO 2020 to be limited, many unknowns remain about how the global refining and shipping industries will respond to the regulation and how those responses will affect crude oil prices. Finally, the U.S. tight oil sector continues to be dynamic, and quickly evolving trends in this sector could affect both current crude oil prices and expectations for future prices.

The discount of West Texas Intermediate (WTI) crude oil prices to Brent averaged about \$10/b in May and June of 2019, but EIA expects that it will gradually fall to an average of \$4/b by the fourth quarter of 2019. EIA forecasts average WTI crude oil prices to be \$7/b lower than Brent prices in 2019 and \$4/b lower than Brent prices in 2020. The price discount of WTI to Brent in the forecast is based on the assumption that [increasing crude oil production in the Permian Basin](#) and [current constraints on the capacity to transport crude oil](#) from production areas in West Texas and from Cushing, Oklahoma, to refineries and export terminals along the U.S. Gulf Coast will persist until the second half of 2019. At that point, [EIA expects that new takeaway capacity](#) will come online from West Texas to the Gulf Coast, which will reduce current distribution bottlenecks throughout Texas and Oklahoma.

The current values of futures and options contracts suggest significant uncertainty in the oil price outlook. WTI futures contracts for December 2019 delivery that were traded during the five-day period ending July 3 averaged \$58/b, and implied volatility averaged 31%. These values established the lower and upper limits of the 95% confidence interval for the market's expectations of monthly average WTI prices in December 2019 at \$40/b and \$84/b, respectively.

## U.S. Liquid Fuels

**Consumption.** EIA forecasts total U.S. petroleum and other liquid fuels consumption will average 20.7 million barrels per day (b/d) in 2019, an increase of 250,000 b/d (1.2%) from 2018. In 2020, EIA forecasts that U.S. consumption will increase by 210,000 b/d (1.0%) to 20.9 million b/d. The growth is primarily driven by increasing consumption of hydrocarbon gas liquids (HGL).

EIA forecasts that U.S. HGL consumption will increase by 290,000 b/d (9.7%) in 2019 and average 3.3 million b/d for the year. In 2020, EIA forecasts HGL consumption will average 3.4 million b/d, an annual growth of 130,000 b/d (3.9%). Consumption of ethane, a petrochemical feedstock, is expected to drive the growth in HGL consumption. As additional petrochemical plants come online during the forecast period, EIA forecasts that ethane consumption will grow by 240,000 b/d (16.0%) to 1.7 million b/d in 2019, and increase to 1.9 million b/d in 2020.

In 2019, EIA forecasts that motor gasoline consumption in the United States will be unchanged from its 2018 level at more than 9.3 million b/d. According to the forecast, motor gasoline consumption will increase by 20,000 b/d (0.2%) in 2020, which, if realized, will set a new record at 9.34 million b/d. In 2019, EIA forecasts that the retail price for all grades of gasoline will average \$2.75 per gallon (gal), down from \$2.82/gal in 2018, supporting EIA's increase in forecast motor gasoline consumption in 2019. Motor gasoline consumption in 2019 is further supported by a forecast 2.2% growth in real disposable personal income and a forecast of rising employment. In 2020, EIA forecasts the average price of gasoline for all grades will increase to \$2.88/gal. Despite the higher price in 2020, EIA believes that motor gasoline consumption will increase. The increased consumption is supported by a forecast 2.4% increase in real disposable personal income and a 1.1% growth in employment in 2020. In both years, growth in gasoline consumption is moderated by EIA's expectation of increasing vehicle fuel efficiency.



EIA forecasts U.S. distillate consumption will average 4.1 million b/d in 2019, similar to the 2018 level. EIA forecasts distillate consumption will increase to 4.2 million b/d (1.0%) in 2020. In 2020, EIA forecasts that the U.S. gross domestic product (GDP) growth rate will be 1.8%, down from 2019. However, an increase in the use of marine diesel for bunkering purposes as a [result of International Maritime Organization \(IMO\)](#) regulations should somewhat offset the effects of the declining GDP growth rate on distillate consumption.

EIA forecasts U.S. jet fuel consumption will increase by 3.9% from the 2018 level to average nearly 1.8 million b/d in 2019. According to the forecast, in 2020, jet fuel consumption will increase by 50,000 b/d (2.9%) compared with 2019. Growth in the demand for air travel is a result, in part, of expectations of rising disposable income.

EIA forecasts that U.S. residual fuel use will decline by 7.2% in 2019 and by 9.2% in 2020. The declines in 2020 reflect a shift away from high-sulfur residual fuel oil for bunkering purposes toward marine diesel fuel.

**Crude Oil Supply.** EIA expects U.S. crude oil production, which reached a record-high 11.0 million b/d in 2018, to average 12.4 million b/d in 2019 and 13.3 million b/d in 2020. If the domestic and global forecasts are realized, the United States would maintain its status as the world's leading crude oil producer in both years.

Increased crude oil production from tight oil formations in the Permian region of Texas and New Mexico accounts for almost 1.0 million b/d of U.S. total growth expected by EIA in 2019 and 0.7 million b/d in 2020. EIA expects the remaining growth to come from Bakken, Niobrara, Anadarko, and Eagle Ford regions. The Federal Gulf of Mexico (GOM) will account for 0.2 million b/d of growth in 2019 and 0.1 million b/d in 2020.

EIA expects the Permian region to produce 5.4 million b/d of crude oil by the end of 2020. Favorable geology combined with technological and operational improvements have been responsible for making the Permian one of the most prolific regions of U.S. crude oil production. EIA expects average annual production to reach 4.4 million b/d in 2019 and 5.1 million b/d in 2020. EIA expects WTI prices to decline by \$5/b on average from 2018 to 2019. However, the WTI-Cushing and WTI-Midland spread, which averaged more than \$7/b in 2018, has come down substantially, and EIA assumes it will average about \$1/b in the second half of 2019 and through 2020. This decrease will allow producers to get better wellhead prices in the Permian region. The pipeline capacity constraints that were seen in the Permian in 2018 have been partially alleviated by the construction of the Sunrise and Seminole pipelines during the first half 2019. A downside risk to Permian crude oil production is the increased production of associated natural gas from this region. If natural gas pipeline constraints are not eased and tighter limits are put in place on flaring natural gas, drilling in areas with high concentrations of natural gas in the Permian region might be reduced.

EIA forecasts production in the Eagle Ford region to rise by 57,000 b/d from 2018 levels to 1.4 million b/d and then grow another 34,000 b/d in 2020. The Eagle Ford region covers a

significantly smaller geographic area with fewer prolific formations and fewer opportunities to drill compared with the Permian region.

EIA estimates that North Dakota's Bakken region produced 1.3 million b/d in 2018, and forecasts that Bakken production will increase by 130,000 b/d in 2019 and by 50,000 b/d in 2020. New [pipeline projects out of North Dakota](#) will further reduce pipeline constraints in the Bakken region. The downside risk to EIA's Bakken forecast is that drilling activity in the region is more susceptible to cold weather and lower crude oil prices.

EIA expects that production from the GOM will average of 1.9 million b/d in 2019 and 2.0 million b/d in 2020, up from an average of 1.7 million b/d in 2018. In 2018, 14 new projects came online, contributing to record-high production in the region. In 2019, nine more projects are expected to come online, and three more projects are expected to come online in 2020.

**Hydrocarbon Gas Liquids Supply.** EIA forecasts [HGL production at natural gas processing plants](#) will increase from an estimated 4.3 million b/d in 2018 to 5.0 million b/d in 2019 and to 5.3 million b/d in 2020. HGLs produced at natural gas plants—ethane, propane, butanes, and natural gasoline—should increase along with growth in natural gas production and natural gas processing plant capacity. EIA expects ethane to contribute more than half of the 1.0 million b/d HGL production growth between 2018 and 2020. EIA expects that higher rates of ethane recovery at natural gas processing plants will help meet growing demand for ethane as a petrochemical feedstock in the United States and abroad.

**Liquid Biofuels.** On November 30, 2018, the U.S. Environmental Protection Agency (EPA) [finalized a rule setting Renewable Fuel Standard \(RFS\)](#) volumes for 2019 and biomass-based diesel volumes for 2020. EIA used these final volumes to develop the forecasts for 2019 and 2020. EIA expects biomass-based diesel to be most affected by the current RFS targets. The RFS targets, along with recent duties placed on biodiesel imports, will continue to affect biomass-based diesel production and net imports, which help to meet the RFS targets for biomass-based diesel, advanced biofuel, and total renewable fuel. Biodiesel production averaged an estimated 119,000 b/d in 2018, and EIA forecasts that it will increase to an average of 130,000 b/d in 2019 and to 145,000 b/d in 2020. Largely because of duties imposed on foreign biodiesel imports from Argentina and Indonesia in late 2017, net imports of biomass-based diesel [fell for the second consecutive year](#) to an average of 15,000 b/d in 2018 and are expected remain near that level in 2019 and in 2020.

U.S. ethanol production averaged an estimated 1.05 million b/d in 2018, and EIA forecasts that it will average about 1.03 million b/d in 2019 as a result of low ethanol producer margins, limited domestic growth potential, and earlier production outages driven by significant flooding in the Midwest during March and April. EIA expects that U.S. ethanol production will increase to an average of 1.05 million b/d in 2020. Much of this ethanol continues to be destined for export markets. The United States exported a record amount of ethanol [for the second consecutive year in 2018](#). U.S. net exports of ethanol averaged nearly 110,000 b/d in 2018 and are forecast to fall to an average of about 90,000 b/d in 2019 and 2020, driven by both lower U.S. ethanol

production and market conditions that are less conducive to trade with Brazil, a major destination for U.S. ethanol.

On May 31, 2019, the EPA finalized a rule allowing the year-round sale of gasoline blends up to 15% fuel ethanol, or E15. EIA forecasts that the effects of this rule will be minor during the STEO forecast period. U.S. ethanol consumption averaged about 938,000 b/d in 2018, and EIA forecasts that it will increase slightly to 942,000 b/d in 2019 and to 953,000 b/d in 2020, driven by increasing motor gasoline consumption and limited E15 market penetration during the next 18 months. This level of consumption results in the ethanol share of the total gasoline pool increasing slightly from 10.1% in 2018 to 10.2% by 2020. This forecast ethanol share assumes that growth in higher-level ethanol blends is limited in the near-term by recent [Small Refinery Exemptions](#) that reduced volumes of renewable fuel required under the RFS and ongoing hurdles related to retail infrastructure and consumer demand.

**Product Prices.** EIA expects the retail price of regular gasoline in the United States to average \$2.75 per gallon (gal) during the third quarter of 2019, 9 cents/gal lower than at the same time last year, primarily reflecting lower crude oil prices and lower refinery margins. EIA expects that the U.S. monthly retail price of regular gasoline will fall from a 2019 peak of \$2.86/gal in May to \$2.72/gal in June before rising slightly to an average of \$2.77/gal in August.

EIA's forecast increase in gasoline prices during the second half of the summer is driven in part by the announcement of the [pending closure of the Philadelphia Energy Solution \(PES\) refinery](#) in Philadelphia, Pennsylvania, following an explosion. The PES refinery is one of the largest and oldest refineries in the country, and it is a major supplier of gasoline to the Mid-Atlantic and Northeast regions. EIA assumes that this development will add some upward price pressure to gasoline prices through the summer. Because of the expected closure, EIA reduced its forecast for refinery distillation inputs from July 2019 through December 2020 by 210,000 b/d compared with the June STEO. However, EIA did not reduce refining capacity and so refinery utilization in this STEO is lower.

The U.S. regular gasoline retail price, which averaged \$2.73/gal in 2018, is forecast to average \$2.65/gal in 2019 and \$2.76/gal in 2020.

EIA's regional annual average forecast prices for 2019 range from a low of \$2.34/gal in the Gulf Coast region—[Petroleum Administration for Defense District \(PADD\) 3](#)—to a high of \$3.20/gal in the West Coast region (PADD 5).

Refinery wholesale gasoline margins in the United States (the difference between the wholesale price of gasoline and the price of Brent crude oil) averaged an estimated 32 cents/gal in June. This margin was lower than the 36 cents/gal average in June 2018 and 14 cents/gal lower than the five-year (2014–18) average for June. Refinery wholesale gasoline margins averaged 28 cents/gal in 2018, which was 12 cents/gal lower than the 2017 level and 7 cents/gal lower than the 2013–17 average. EIA expects refinery wholesale gasoline margin to average 29 cents/gal in 2019 and 35 cents/gal in 2020.

The diesel fuel retail price averaged \$3.18/gal in 2018, which was 53 cents/gal higher than the average in 2017. EIA forecasts that the diesel price will average \$3.10/gal in 2019 and \$3.28/gal in 2020. The rising prices from 2019 to 2020 reflect EIA's forecast increase in crude oil prices and increasing diesel refinery margins driven by impending IMO 2020 regulations. EIA expects that IMO 2020 regulations set to begin in 2020 will drive up global demand for U.S. ultra-low sulfur diesel and contribute to gradually increasing diesel refinery margins. Diesel refinery margins based on Brent crude oil, which averaged 44 cents/gal in 2018, are expected to average 46 cents/gal in 2019 and 66 cents/gal in 2020.

## Natural Gas

**Natural Gas Consumption.** EIA estimates that total U.S. natural gas consumption averaged 82.1 billion cubic feet per day (Bcf/d) in 2018, and EIA expects it to increase by 2.5 Bcf/d (3.1%) in 2019 and then remain almost flat in 2020.

The largest natural gas-consuming sector in the United States is the electric power sector. In 2019, EIA forecasts natural gas consumption by the electric power sector to increase by 1.1 Bcf/d (3.8%) from 2018 levels as a result of favorable natural gas prices and coal-to-gas switching. Natural gas consumption in the electric power sector increased by 14.7% in 2018 because of warm summer temperatures and new natural gas-fired electric generation capacity. EIA forecasts power sector consumption of natural gas to decline by 0.8% in 2020 as natural gas prices are expected to rise.

In 2019, EIA expects residential and commercial natural gas consumption to average 13.7 Bcf/d and 9.7 Bcf/d, respectively, similar to 2018 levels. EIA expects consumption growth to be flat in 2019 mainly because its estimate of total heating degree days (HDD), based on historical data and forecasts by the National Oceanic and Atmospheric Administration (NOAA), will remain relatively unchanged from 2018. However, EIA expects 2.8% fewer HDD in 2020, mainly because of a forecast milder first quarter compared with the same period in 2019. EIA forecasts a 1.2% decline in residential natural gas consumption in 2020 and a 4.5% decline in the commercial sector.

EIA forecasts that industrial sector consumption of natural gas will grow steadily with an increase of 2.5% in 2019 and 2.3% in 2020. Most of the increase in the forecast reflects new chemical projects entering service. Low natural gas prices in recent years have made it economical to use natural gas as feedstock in fertilizer, methanol, ethylene, propylene, and polyethylene facilities.

**Natural Gas Production and Trade.** Natural gas production has consistently reached new record-high levels in recent months. However, EIA expects production growth will begin to decelerate in the coming months. During the first half of 2019, EIA estimates that dry natural gas production averaged 89.9 Bcf/d, a 12.2% increase from levels in the first half of 2018. In the second half of 2019, EIA expects dry natural gas production to average 92.7 Bcf/d, a 7.1% increase from the second half of 2018. The slowdown in production growth reflects lower forecast prices. Slowing demand growth from 2018 levels has reduced the need for natural gas

production to grow at the pace experienced during the past year, contributing to a lower market-clearing price. However, even though growth is expected to slow, EIA expects growth in natural gas production through the remainder of 2019, largely in response to improved drilling efficiency, year-over-year cost reductions, and higher associated gas production from oil-directed rigs. EIA expects flat production in 2020, with annual growth forecast at 1.6%, and production in the fourth quarter of 2020 at 93.2 Bcf/d, compared with 93.3 Bcf/d in the fourth quarter of 2019.

Increased takeaway pipeline capacity from the highly productive Appalachia and Permian production regions is helping facilitate production. In particular, Kinder Morgan's 2.0 Bcf/d Gulf Coast Express pipeline is scheduled to enter service in October 2019, providing the Permian Basin with much-needed infrastructure to deliver supplies to the growing Gulf Coast market. Anticipated natural gas production growth is supported by planned expansions in liquefied natural gas (LNG) capacity and increased pipeline exports to Mexico. However, pipeline capacity remains regionally constrained during time of peak demand into the Northeast, particularly New York City and New England.

The United States exported more natural gas than it imported in 2018 and the first half of 2019, with net exports during those periods averaging 2.0 Bcf/d and an estimated 3.9 Bcf/d, respectively. Rising LNG exports and pipeline exports have contributed to a shift in the United States' status from a net importer to a net exporter of natural gas on an annual basis since 2017. Total U.S. gross exports of natural gas averaged 9.9 Bcf/d in 2018. EIA forecasts that these volumes will rise by 28% to 12.6 Bcf/d in 2019, then further by 23% to 15.6 Bcf/d in 2020. In the summer months (June through September) of 2019, gross exports are expected to outpace demand from the residential and commercial sectors by an average of 3.7 Bcf/d as trade becomes a more significant share of the U.S. demand profile.

EIA expects U.S. LNG exports to increase by 63% to 4.8 Bcf/d in 2019 and by 42% to 6.9 Bcf/d in 2020, as [three new liquefaction projects](#) come online. EIA forecasts that U.S. LNG export capacity will increase by almost 50% by the end of 2019 to 6.3 Bcf/d baseload capacity as new trains at Corpus Christi, Cameron, Freeport, and Elba Island LNG are commissioned, making U.S. LNG export capacity the third-largest in the world behind Australia and Qatar. Beyond the STEO forecast period, by mid-2021, EIA expects U.S. LNG export capacity to reach 9.5 Bcf/d baseload once the third train at Corpus Christi LNG comes online.

U.S. natural gas exports to Mexico via pipeline have also increased as a result of new infrastructure to transport natural gas both to and within Mexico. U.S. pipeline exports to Mexico through April averaged 4.8 Bcf/d in 2019. Exports to Mexico should continue to increase as more natural gas-fired power plants come online in Mexico and more pipeline infrastructure, such as the Wahalajara project in Mexico, is built. EIA expects total U.S. gross pipeline exports to average 7.8 Bcf/d and 8.7 Bcf/d in 2019 and 2020, respectively. In addition, the 2.6 Bcf/d Texas-Tuxpan pipeline was recently completed in Mexico; however, it is not expected to begin flowing substantial volumes of natural gas until additional pipeline infrastructure within Mexico is built.

EIA expects U.S. net natural gas pipeline imports (mostly from Canada) to decline in 2019 as Appalachian production growth displaces some Canadian natural gas imports in the U.S. Midwest markets. EIA forecasts that pipeline imports will be mostly unchanged in 2020.

**Natural Gas Inventories.** U.S. natural gas inventories were 3.2 trillion cubic feet (Tcf) at the end of October 2018 (the heating season is typically November through March). This level was 0.6 Tcf lower than October 2017 levels. Inventories ended March 2019 at 1.2 Tcf, which was 0.2 Tcf lower than March 2018 levels and 0.5 Tcf lower than the five-year (2014–18) average. Although the 2019 injection season started at the lowest storage level since 2014, injections have outpaced the five-year average during the second quarter of 2019. Relatively mild temperatures moderated demand for heating in the United States early in the quarter and for cooling during June and strong production growth continued. For much of May and June, weekly injections were more than 0.1 Tcf. Based on NOAA’s forecast of relatively normal U.S. temperatures in the third quarter and a forecast of growing natural gas production, EIA forecasts that U.S. inventories will reach 3.8 Bcf at the end of October, which would be 17% higher than October 2018 levels and 2% higher than the five-year average.

**Natural Gas Prices.** EIA forecasts that Henry Hub natural gas spot prices will average \$2.50 per million British thermal units (MMBtu) in the second half of 2019 (\$2.62/MMBtu for all of 2019) and \$2.77/MMBtu in 2020.

Henry Hub spot prices dropped from an average of \$2.64/MMBtu in May to an average of \$2.40/MMBtu in June, with some daily prices in June falling below \$2.30/MMBtu. The recent price declines reflect relatively mild weather in June that led to lower-than-expected natural gas-fired electricity generation (compared with EIA’s June STEO) and allowed natural gas inventory injections to outpace the five-year average rate.

EIA expects that monthly average prices will remain lower than \$2.40/MMBtu through September 2019, when EIA expects storage injections to continue to outpace the five-year average. EIA expects that as supply growth begins to moderate in late-2019 and in 2020, it will put some upward pressure on prices. However, the forecast is temperature dependent. In the near term, warmer-than-forecast temperatures in the third quarter that increase natural gas-fired electricity generation could cause prices to be higher than EIA’s forecast. Similarly, although EIA forecasts Henry Hub prices will rise to an average of \$3.05/MMBtu in January 2020, severely cold winter temperatures could cause prices to spike much higher, although a mild winter could keep prices at less than \$3/MMBtu.

Natural gas futures contracts for December 2019 delivery that were traded during the five-day period ending July 3 averaged \$2.57/MMBtu. Current options and futures prices indicate that market participants place the lower and upper bounds for the 95% confidence interval for December 2019 contracts at \$1.64/MMBtu and \$4.03/MMBtu, respectively.

## Coal

**Coal Supply.** EIA forecasts that U.S. coal production will decline by 72 million short tons (MMst) (9%) in 2019. Coal supply is expected to decline across all regions of the United States in 2019. EIA forecasts production in the [Appalachia](#) region will decline by 7% this year as a result of falling export demand. Appalachia was the only U.S. region where production grew in 2018 as a result of strong export demand. EIA forecasts that interior and Western region production will decline by 6% and 12%, respectively, in 2019, primarily as a result of lower domestic consumption. The 2019 forecast production of 684 MMst would be the first time U.S. production would be less than 700 MMst in more than 40 years. In 2020, EIA expects total U.S. coal production to decline by 45 MMst (7%) because both exports and domestic consumption are expected to continue to weaken.

**Coal Consumption.** EIA estimates that total U.S. coal consumption for 2019 will decline by 98 MMst (14%) from 2018 levels and will decline by a further 22 MMst (4%) in 2020. [Nearly all coal consumed in the United States is for electric power.](#) The decrease in coal consumption reflects increases in the share of electricity generation from other energy sources, particularly from natural gas and renewables.

**Coal Trade.** U.S. coal exports in [2018](#) were 116 MMst, 19% higher than in 2017. EIA expects that some global market conditions that recently favored U.S. coal exports will diminish, contributing to U.S. exports falling to 96 MMst in 2019 and to 88 MMst in 2020.

The top five destinations for U.S. coal exports in 2018 were India, South Korea, [Japan](#), Brazil, and the Netherlands. Exports to these countries accounted for 50% of the coal exported in 2018. EIA assumes coal exports to Asia will remain robust, as a result of strong demand in the region. Shipments to India, Japan, and South Korea accounted for 35% of exports in the first quarter of 2019. Comparatively, EIA expects coal exports to North America to be sluggish, with Canada and Mexico accounting for only 4% of total exports to date.

EIA forecasts that U.S. coal imports will be almost 7 MMst in 2019, which would be a 10% increase over 2018. Hotter temperatures in the Southeast have likely contributed to a marginal increase in electricity demand for thermal coal, met by competitively priced shipments from South America (particularly Colombia). EIA expects that coal imports will decline through 2020. EIA forecasts that coal imports will total about 5 MMst in 2020.

**Coal Prices.** EIA estimates the delivered coal price to U.S. electricity generators averaged \$2.06 per million British thermal units (MMBtu) in 2018. EIA forecasts that coal prices will be \$2.10/MMBtu in 2019 and \$2.12/MMBtu in 2020.

## Electricity

**Electricity Consumption.** After declining an estimated 1.6% during the first half of the year compared with the same period in 2018, EIA expects total U.S. retail sales of electricity during the third quarter of 2019 (July–September) to be 2.9% lower than the same period last year.

This lower expected level of electricity consumption during the upcoming months is primarily attributed to a forecast of cooler summer temperatures, which reduces air conditioning use in the residential and commercial sectors.

The National Oceanic and Atmospheric Administration (NOAA) forecasts that total U.S. cooling degree days (CDD) during the third quarter of 2019 will be 14% lower than in 2018 and 5% lower than the previous 10-year (2014–18) average. Compared with the same period last year, EIA forecasts residential retail electricity sales in the third quarter of 2019 will decline by 5% and commercial electricity sales will decline by 2%.

Retail sales of electricity in the U.S. industrial sector increased by an estimated 0.6% during the first half of 2019 compared with the same period last year. This increase was driven by strong growth in industrial production during the first quarter, when the U.S. electricity-weighted manufacturing index grew 1.7% year over year. Projected slowdowns in industrial production during the remainder of the year, especially in primary metals, contribute to EIA's forecast of a 1.0% drop in industrial sector electricity sales during the second half of 2019 compared with the second half of 2018.

For all of 2019, EIA expects total U.S. retail sales of electricity will be 1.9% lower than annual sales last year. Forecast annual sales of electricity to the residential sector decline by 3.6% in 2019, and commercial electricity sales fall by 1.2%. EIA expects annual U.S. industrial electricity sales to remain flat this year. EIA expects total electricity sales across all sectors to increase by 0.4% in 2020.

**Electricity Generation.** EIA expects total U.S. electricity generation to decline 2.2% in 2019 to an average of 11.2 gigawatthours per day (GWh/d) as a result of lower than expected demand for electricity. Forecast total U.S. electricity generation in 2020 is relatively unchanged from this year.

Electricity generation from coal-fired power plants accounts for 24% of EIA's forecast total U.S. generation in 2019, down from 27% last year. Recent retirements of coal-fired generating capacity are a primary factor behind EIA's forecast decline in coal generation. The U.S. electricity industry has retired almost 18 gigawatts (GW) of coal-fired generating capacity since the beginning of 2018, with an additional 4 GW planned to retire by the end of this year and 3 GW in 2020. These recent retirements represent 10% of the U.S. coal-fired generating capacity that was operating at the end of 2017.

EIA's forecast reduction in coal-fired electricity generation is offset by increased generation from natural gas-fired power plants and renewable energy. EIA expects the share of total U.S. electricity generation fueled by natural gas to average 38% in 2019, up from 35% in 2018. Some of the forecast increase in natural gas generation is driven by a projected 19% decline in the cost of natural gas delivered to electric generators. Natural gas fuel prices have been relatively low for a number of years, with the delivered fuel price averaging \$3.54 per million British thermal units (MMBtu) in 2018 compared with \$4.98/MMBtu in 2014. EIA expects the delivered natural gas price to average \$2.87/MMBtu in 2019.



The sustained low cost of natural gas in the United States has encouraged the electricity industry to continue adding new natural gas-fired generating capacity. In 2018, the total [natural gas combined-cycle capacity](#) in the United States surpassed the amount of capacity fueled by coal. Many of these new natural gas power plants use [advanced designs](#) that permit greater capacity than coal-fired power plants. The industry added more than 17 GW of natural gas combined-cycle capacity in the United States in 2018, which was the largest addition since 2004. Almost 14 GW of new U.S. combined-cycle capacity is scheduled to come online in 2019 and 2020.

The Oyster Creek nuclear power plant retired in September 2018, and the Pilgrim Nuclear power station retired in May 2019. Reactors at four other nuclear power plants in the United States are scheduled to retire by the end of 2020. These capacity retirements account for a little less than 5% of the nuclear capacity that was operating at the end of 2017. Despite these closures, overall U.S. nuclear generation is not declining as fast as capacity because some power plants are undergoing uprates in capacity and the time needed for refueling and maintenance has declined in recent years. EIA expects nuclear power's share of U.S. total generation to average 20% in 2019 and 19% in 2020.

**Renewables Generation and Capacity.** Renewable generation provided 17% of total electricity generation in 2018, and EIA expects the share of generation from renewable sources to increase to 18% in 2019 and to 20% in 2020. Hydropower was 7% of total generation in 2018, and EIA forecasts that it will be about that share in 2019 and in 2020. EIA forecasts that the share of total generation for renewables other than hydropower, which was 10% in 2018, will rise to 11% in 2019 and to 13% in 2020 with wind providing more generation than hydropower in 2019 and 2020 for the first time on record.

Based on the most recent data reported to EIA, almost 6 GW of utility-scale solar photovoltaic (PV) capacity will be added in the United States in 2019 and about 9 GW in 2020. Much of this new capacity is planned in the southeast United States, particularly Florida and the Carolinas, as well as Texas. In these regions, solar production matches summer peak demand. EIA also expects nearly 10 GW of small-scale solar PV capacity to be installed during 2019 and 2020, mostly in the residential sector.

Domestic PV markets continue to adjust to several factors. Tariffs on PV modules imported into the United States started at 30% in January 2018 and are scheduled to decline five percentage points annually as they phase out over four years and expire completely after 2021. In addition, revised PV installation targets in China produced a near-term surplus of PV modules that the international market is still rebalancing. The Internal Revenue Service published a safe-harbor provision for PV installations to qualify for a 30% investment tax credit, which allows for a four-year construction period upon project initiation (considered to be the start of physical construction or the expenditure of 5% of project value).

EIA expects U.S. wind generating capacity to increase from 94 GW at the end of 2018 to almost 108 GW at the end of 2019 and to 118 GW by the end of 2020. Because wind capacity often

comes online at the end of the calendar year, increases in generation generally occur in the following year.

The construction of new U.S. wind capacity through 2020 is strongly affected by the phase-out of the federal Production Tax Credit (PTC) for wind, which began with projects under construction starting after December 2016. Such projects take several years to complete, and the last group of projects eligible for the full \$24 per megawatthour tax credit will start to enter service in significant numbers in 2019. Congress has discussed extending the tax credits. If the tax credit is not extended, construction activity will likely taper off after 2020 as projects started in 2016 approach the limit of their safe harbor provisions. The construction pipeline will begin to shrink a result of reduced PTC pay offs for projects beginning construction in 2017 and later.

**Electricity Retail Prices.** EIA's forecast U.S. retail electricity price for the residential sector averages 13.1 cents per kilowatthour in 2019, which is 1.5% higher than the average retail price in 2018. Forecast residential prices increase by an additional 1.1% in 2020. EIA expects commercial sector electricity prices to increase by 0.2% in 2019 and by 0.3% in 2020 and forecast industrial prices to decline by 1.2% this year and then rise by 1.3% in 2020.

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

**Production, Income, and Employment.** EIA used the June 2019 version of the IHS Markit macroeconomic model with EIA's energy price forecasts as model inputs to develop the economic forecasts in STEO.

Using the IHS Markit model, EIA forecasts real gross domestic product (GDP) to grow by 2.5% in 2019 and by 1.8% in 2020, compared with 2.9% growth in 2018. EIA forecasts that total industrial production will increase 1.2% in 2019 and 1.0% in 2020— down from 3.9% growth in 2018. Nonfarm employment, which grew by 1.7% in 2018, is forecast by EIA to increase by 1.6% in 2019 and by 1.1% in 2020.

**Expenditures.** EIA forecasts private real fixed investment to grow by 1.4% in both 2019 and 2020, compared with 5.2% growth for 2018. Real consumption expenditures, which grew by 2.6% in 2018, are forecast by EIA to grow by 2.4% in 2019 and by 2.2% in 2020.

Using the IHS Markit model, EIA forecasts U.S. exports to grow by 1.3% in 2019 and by 2.9% in 2020, compared with 4.0% growth in 2018. Imports are forecast by EIA to grow by 0.7% in 2019 and by 2.8% in 2020, compared with 4.5% growth in 2018. Total government expenditures are forecast by EIA to increase by 2.2% in 2019 and by 1.5% in 2020, compared with an increase of 1.5% in 2018.

**Energy-Related Carbon Dioxide Emissions.** After increasing by 2.7% in 2018, EIA forecasts that energy-related carbon dioxide (CO<sub>2</sub>) emissions will decrease by 2.2% in 2019 and further decrease by 0.7% in 2020. Energy-related CO<sub>2</sub> emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix. In 2018, the winter was colder and the summer hotter than in 2017, and the economy grew by almost 3%, contributing to higher CO<sub>2</sub> emissions.

Energy-related CO2 emissions for the first quarter of 2019 were up slightly compared to the first quarter of 2018—1 million metric tons—with increases from natural gas offset by reductions from coal and petroleum. For the rest of the year, as forecast weather is closer to normal and economic growth moderates, EIA forecasts that emissions will decline. The change in fuel mix for electricity generation also helps to moderate CO2 emissions growth in 2019 and 2020.

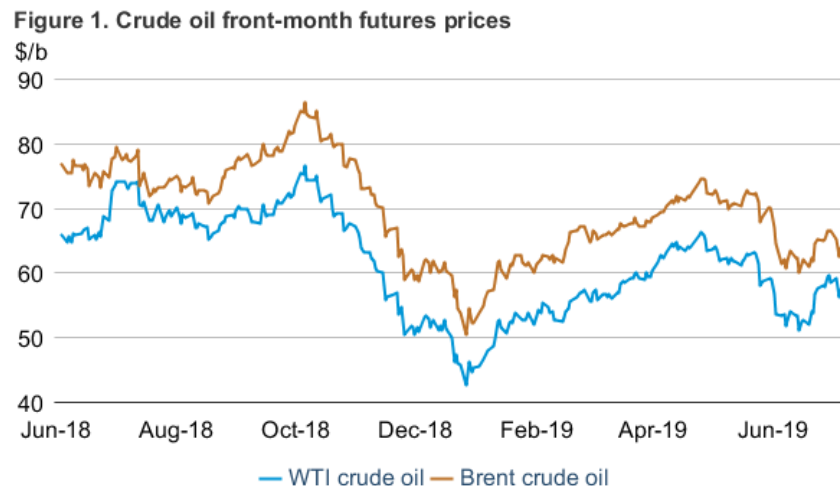
### **Notable forecast changes**

- For more information, see the [detailed table of forecast changes](#).

## Petroleum and natural gas markets review

### Crude oil

**Prices:** The front-month futures price for Brent crude oil settled at \$63.82 per barrel (b) on July 3, 2019, an increase of \$2.54/b from June 3. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by \$4.09/b during the same period, settling at \$57.34/b on July 3 (**Figure 1**).

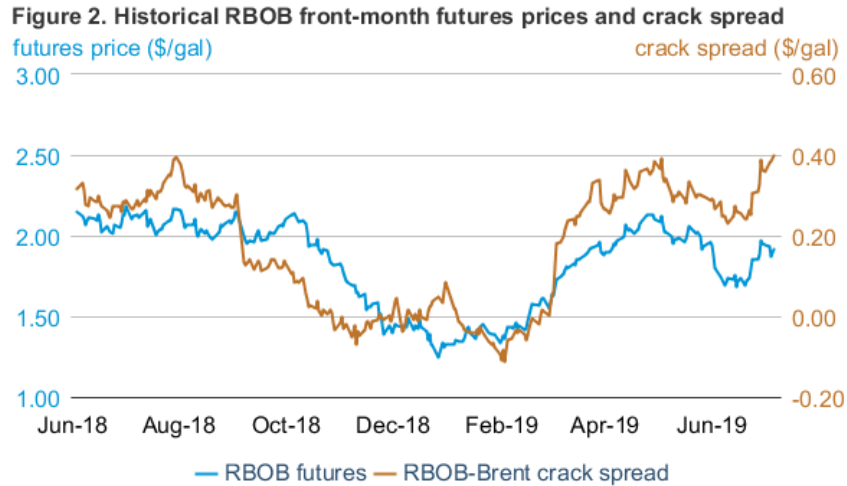


eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Concerns over conflict in the Middle East as well as large [inventory declines](#) in the United States likely put upward pressure on crude oil prices. Prices increased on June 20 following an Iranian attack on a U.S. military drone near the [Strait of Hormuz](#), where, a week before, two oil tankers were attacked in the region. In addition to risks of crude oil supply disruption, members of the Organization of the Petroleum Exporting Countries (OPEC), along with several non-OPEC countries, met in Vienna and agreed to extend their existing voluntary production cuts [through March 2020](#). The outlook for global economic growth, however, continues to decline along with expectations for petroleum demand growth.

### Petroleum products

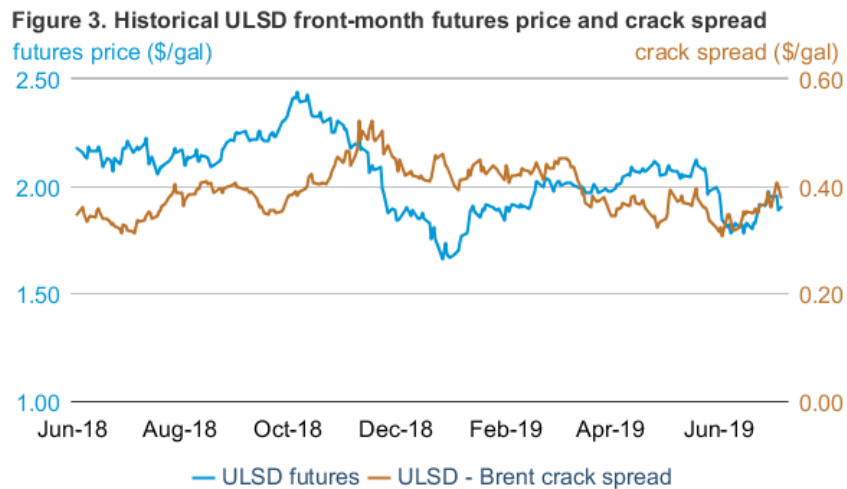
**Gasoline prices:** The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at \$1.92 per gallon (gal) on July 3, up 18 cents/gal from June 3 (**Figure 2**). The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) increased by 11 cents/gal during the same period.



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

The RBOB–Brent crack spread averaged 28 cents/gal in June, the lowest for that month since 2011. However, the crack spread increased at the end of the month following explosions at, and subsequent [planned closure](#) of, the Philadelphia Energy Solutions’ refinery, the largest refinery by [total operable capacity](#) on the East Coast. From June 21, the date of the refinery’s most recent outage, to June 26, the date of the announcement of the refinery’s planned closure, the crack spread increased 8 cents/gal. The late-month increase brought the monthly average RBOB–Brent crack spread for June equal to the five-year (2014–18) average.

**Ultra-low sulfur diesel prices:** The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at \$1.90/gal on July 3, an increase of 9 cents/gal from June 3 (**Figure 3**). The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased by 3 cents/gal to settle at 38 cents/gal during the same period.

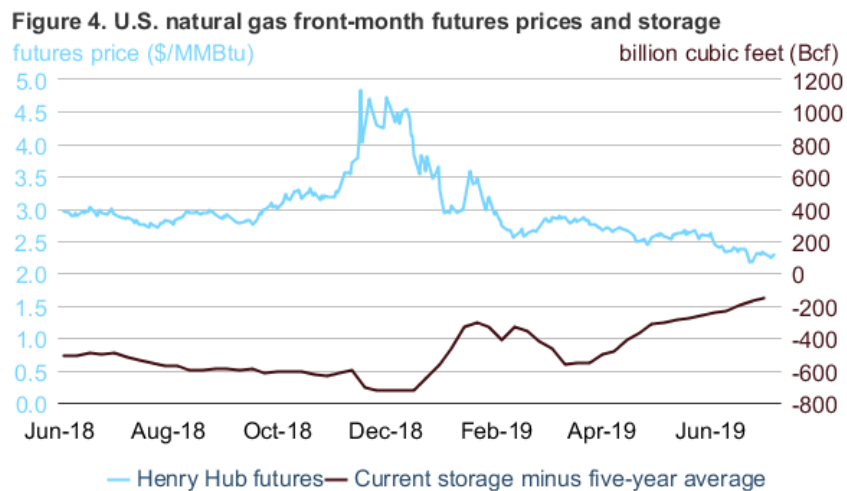


eia CME Group, as compiled by Bloomberg L.P., ULSD=ultra-low sulfur diesel

ULSD–Brent crack spreads remained higher than the five-year average during June and higher than the 2018 average for the first time in three months. EIA estimates that U.S. distillate consumption in June 2019 was 4.0 million b/d, 84,000 b/d higher than the previous year. The higher consumption in June could indicate a return to seasonal levels from previous months of low demand; distillate consumption in the second quarter remained 156,000 b/d lower than in 2018, at 4.0 million b/d, as flooding in the Midwest [delayed](#) seasonal agricultural activity.

## Natural Gas

**Prices:** The front-month natural gas futures contract for delivery at the Henry Hub settled at \$2.29 per million British thermal units (MMBtu) on July 3, a decrease of 11 cents/MMBtu from June 3 (**Figure 4**). EIA estimates that U.S. natural gas production reached record levels again in May and June 2019, contributing to several weeks of higher-than-average injections into natural gas storage. EIA estimates that working natural gas inventories surpassed 2.4 trillion cubic feet (Tcf) at the end of June 2019, 6% lower than the five-year (2014–18) average. This difference to the five-year average is the smallest since November 2017, which has contributed to the front-month natural gas futures price declining to the lowest level in more than three years.



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

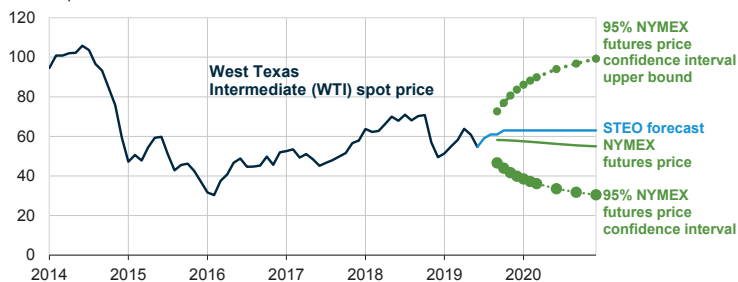
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views 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 July 2019

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

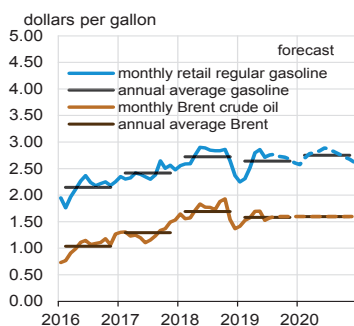


Note: Confidence interval derived from options market information for the five trading days ending Jul 3, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, July 2019, and CME Group

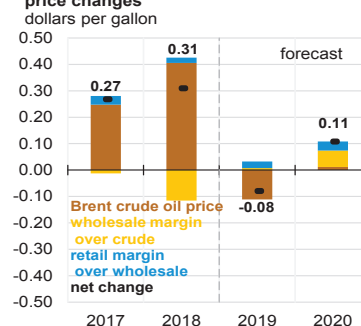


**U.S. gasoline and crude oil prices**

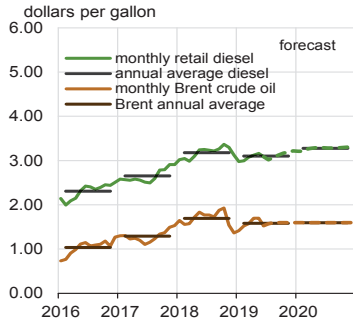


Source: Short-Term Energy Outlook, July 2019

**Components of annual gasoline price changes**

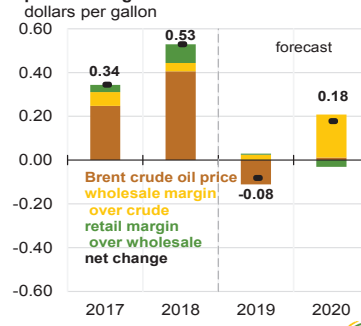


### U.S. diesel and crude oil prices



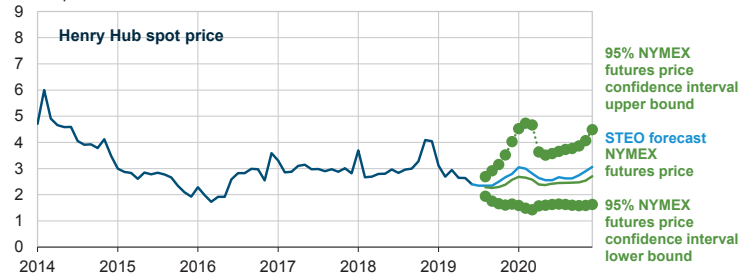
Source: Short-Term Energy Outlook, July 2019

### Components of annual diesel prices changes



### Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu



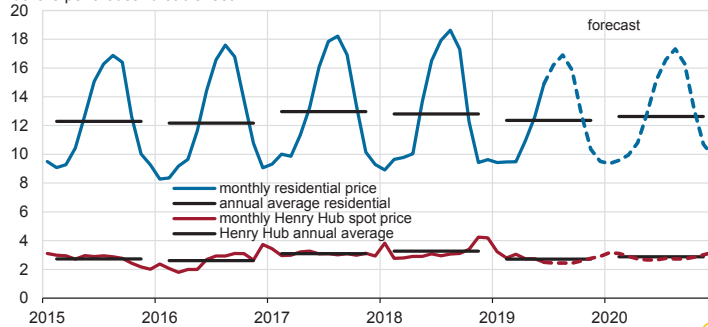
Note: Confidence interval derived from options market information for the five trading days ending Jul 3, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Sources: Short-Term Energy Outlook, July 2019, and CME Group



### U.S. natural gas prices

dollars per thousand cubic feet

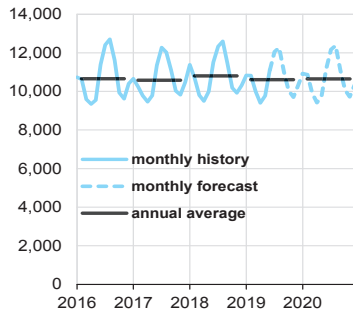


Sources: Short-Term Energy Outlook, July 2019, and Refinitiv



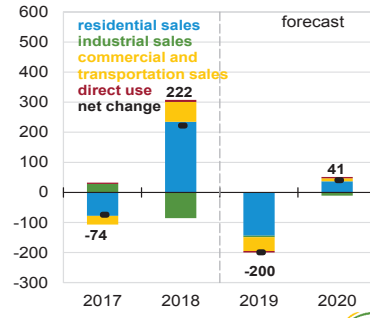


**U.S. electricity consumption**  
million kilowatthours per day

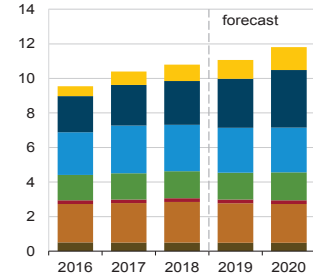


Source: Short-Term Energy Outlook, July 2019

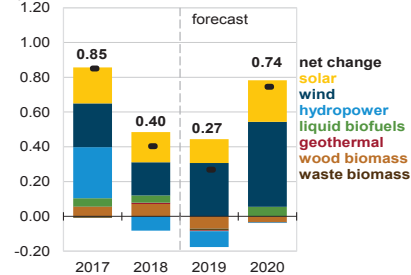
**Components of annual change**  
million kilowatthours per day



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



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

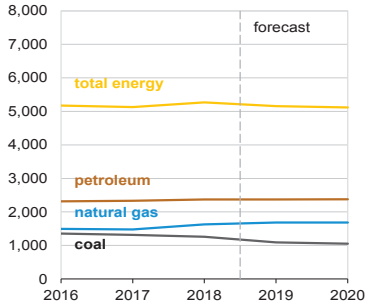


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, July 2019

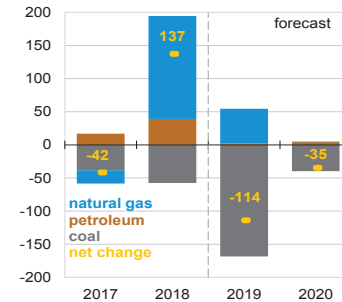


**U.S. annual carbon emissions by source**  
million metric tons



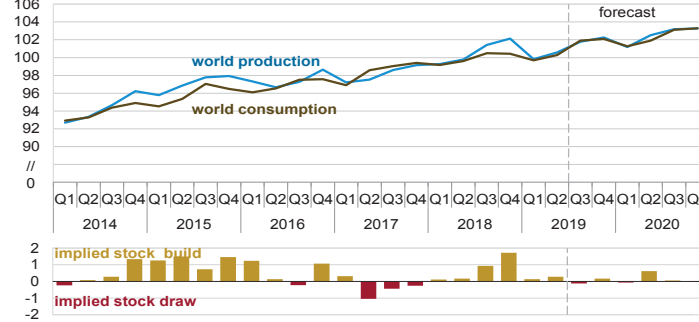
Source: Short-Term Energy Outlook, July 2019

**Components of annual change**  
million metric tons



**World liquid fuels production and consumption balance**

million barrels per day

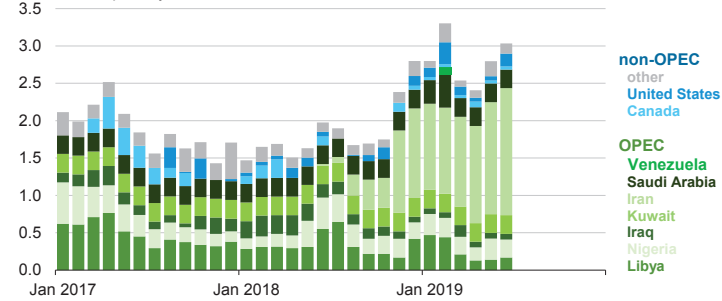


Source: Short-Term Energy Outlook, July 2019



**Estimated unplanned liquid fuels production outages**

million barrels per day

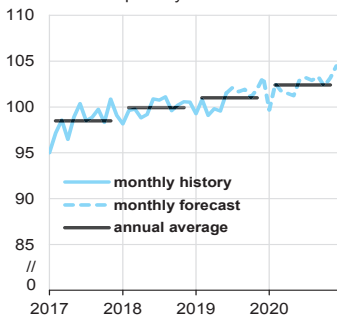


Source: Short-Term Energy Outlook, July 2019



**World liquid fuels consumption**

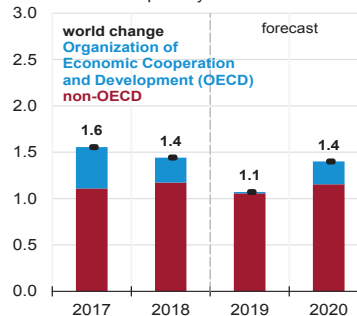
million barrels per day



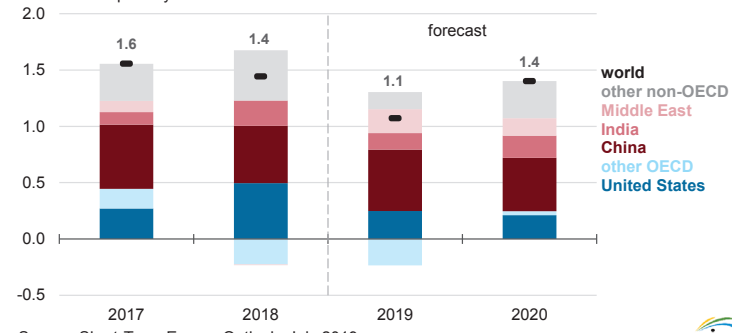
Source: Short-Term Energy Outlook, July 2019

**Components of annual change**

million barrels per day



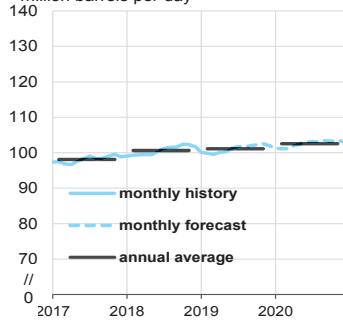
**Annual change in world liquid fuels consumption**  
million barrels per day



Source: Short-Term Energy Outlook, July 2019

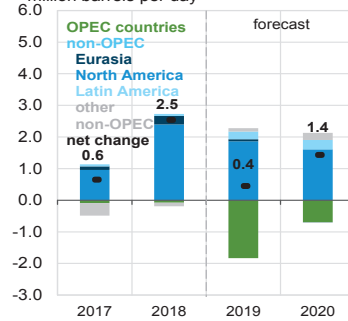


**World crude oil and liquid fuels production**  
million barrels per day

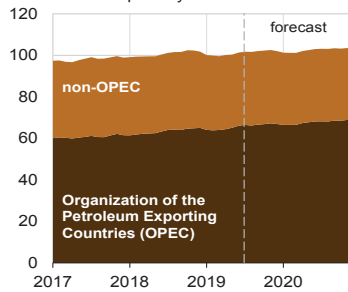


Source: Short-Term Energy Outlook, July 2019

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

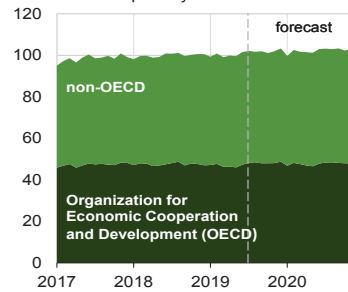


**World liquid fuels production**  
million barrels per day

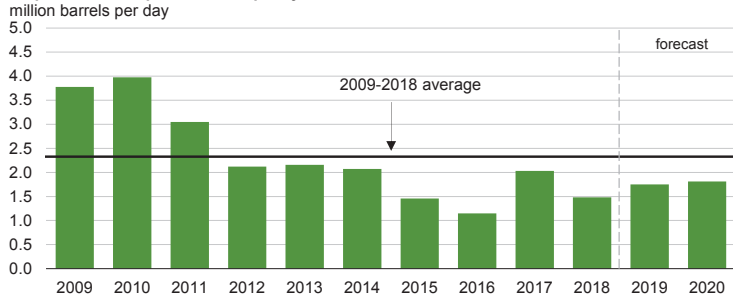


Source: Short-Term Energy Outlook, July 2019

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



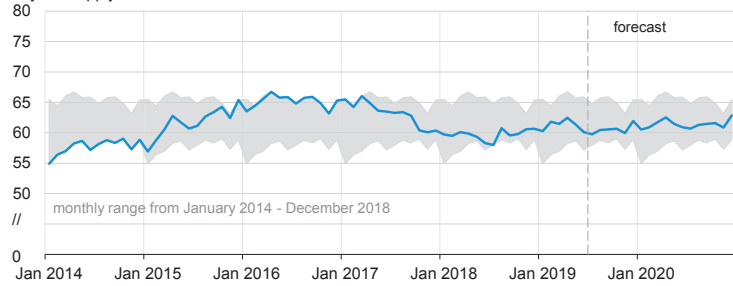
**Organization of the Petroleum Exporting Countries (OPEC)  
surplus crude oil production capacity**



Note: Black line represents 2009-2018 average (2.3 million barrels per day).  
Source: Short-Term Energy Outlook, July 2019



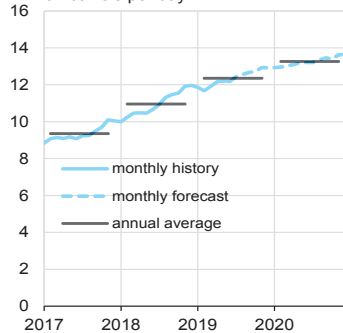
**Organization for Economic Cooperation and Development (OECD)  
commercial inventories of crude oil and other liquids**



Source: Short-Term Energy Outlook, July 2019

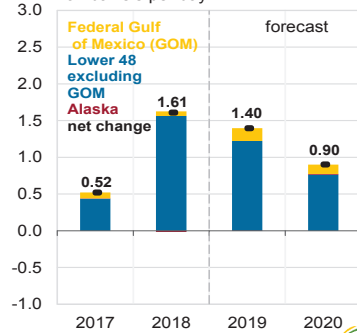


**U.S. crude oil production**

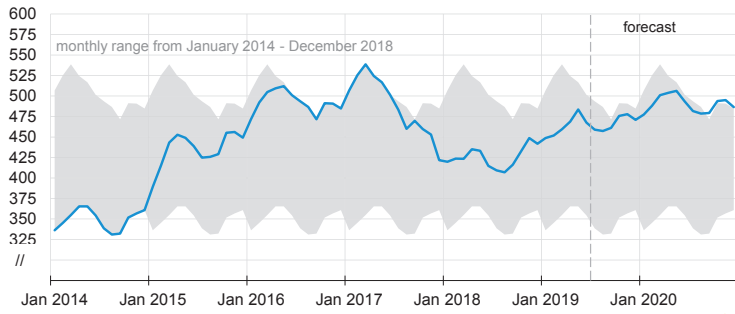


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**



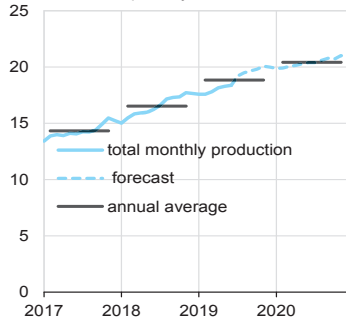
**U.S. commercial crude oil inventories**  
million barrels



Source: Short-Term Energy Outlook, July 2019

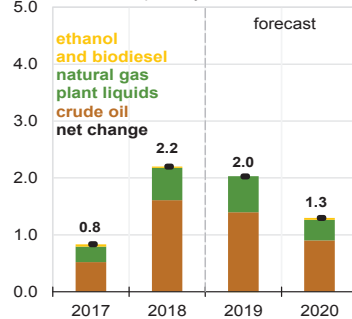


**U.S. crude oil and liquid fuels production**  
million barrels per day

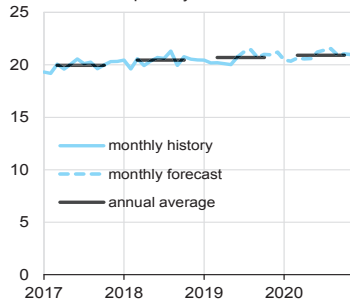


Source: Short-Term Energy Outlook, July 2019

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

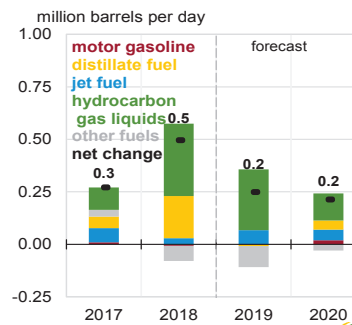


**U.S. liquid fuels product supplied (consumption)**  
million barrels per day

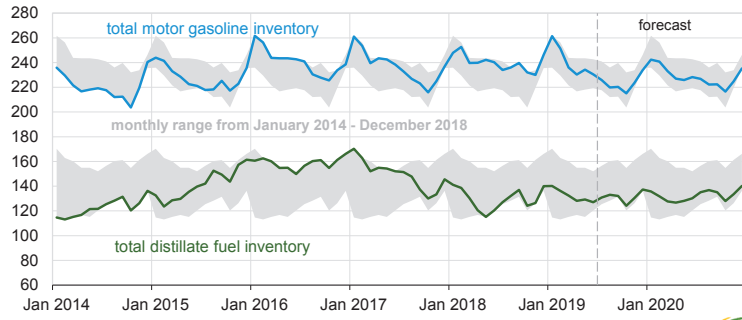


Source: Short-Term Energy Outlook, July 2019

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



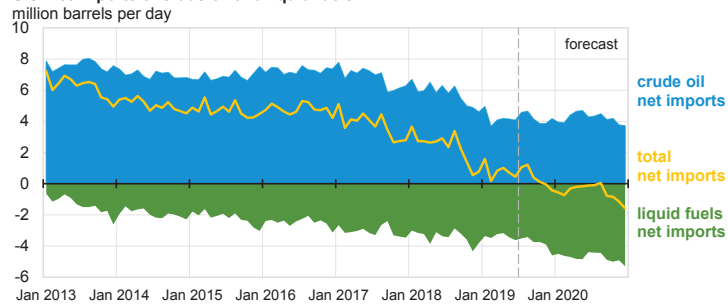
**U.S. gasoline and distillate inventories**  
million barrels



Source: Short-Term Energy Outlook, July 2019



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

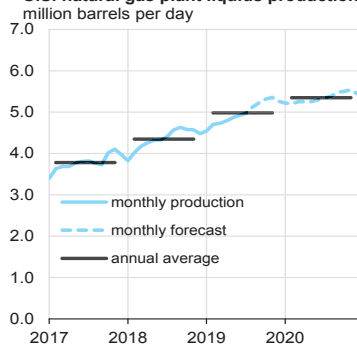


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, July 2019

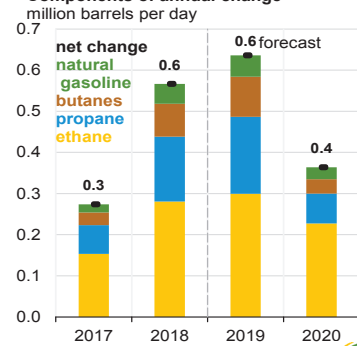


**U.S. natural gas plant liquids production**

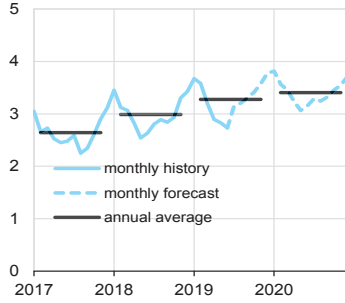


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**

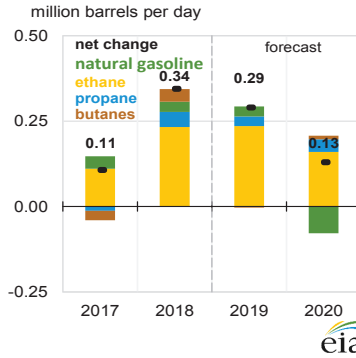


**U.S. hydrocarbon gas liquids product supplied (consumption)**  
million barrels per day

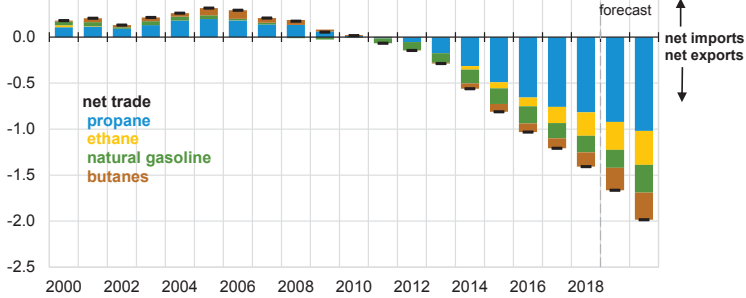


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**



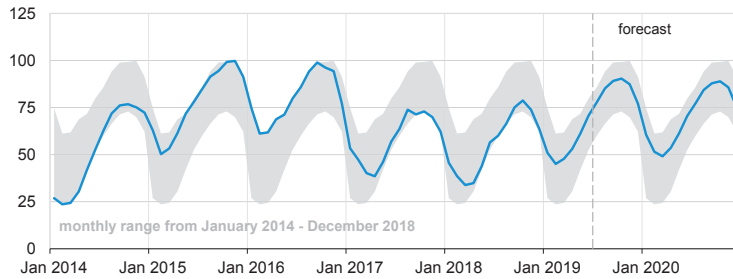
**U.S. net trade of hydrocarbon gas liquids (HGL)**  
million barrels per day



Source: Short-Term Energy Outlook, July 2019



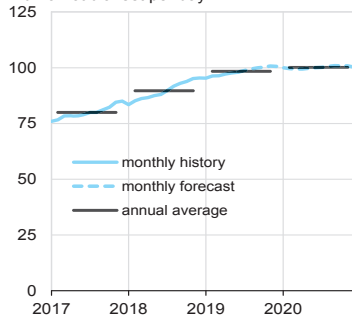
**U.S. commercial propane inventories**  
million barrels



Source: Short-Term Energy Outlook, July 2019

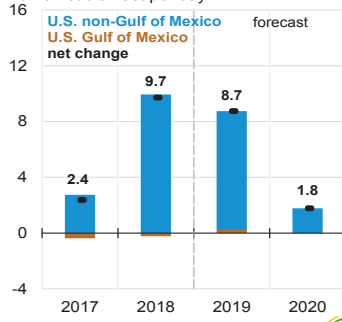


**U.S. marketed natural gas production**  
billion cubic feet per day

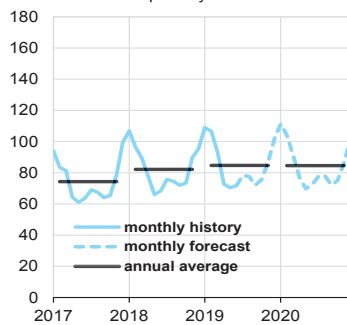


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**  
billion cubic feet per day

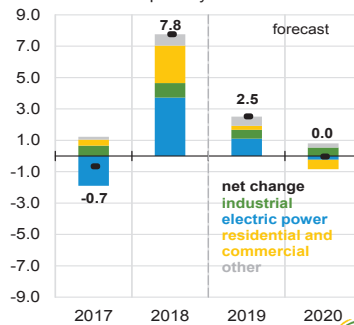


**U.S. natural gas consumption**  
billion cubic feet per day

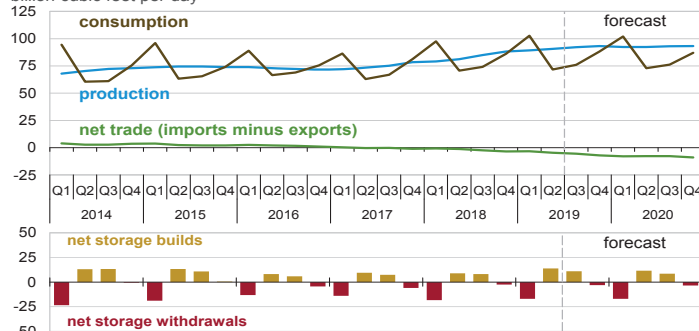


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**  
billion cubic feet per day



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

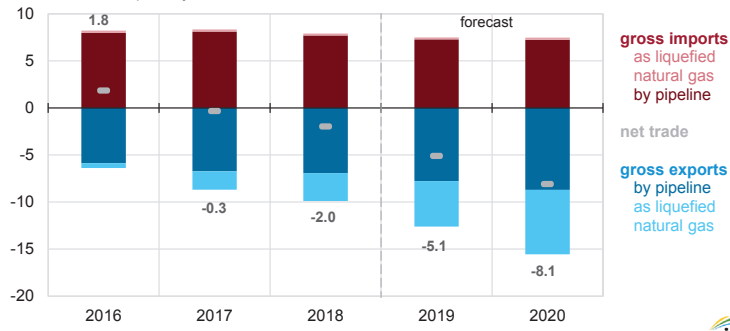


Source: Short-Term Energy Outlook, July 2019





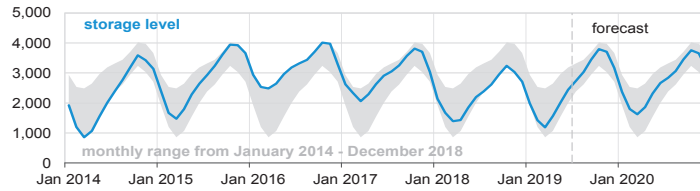
**Annual natural gas trade**  
billion cubic feet per day



Source: Short-Term Energy Outlook, July 2019



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



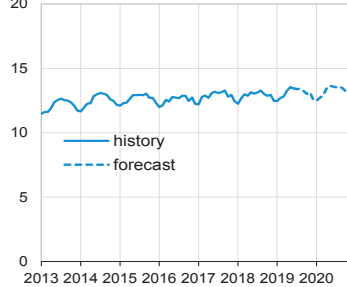
**Percent deviation from 2014 - 2018 average**



Source: Short-Term Energy Outlook, July 2019

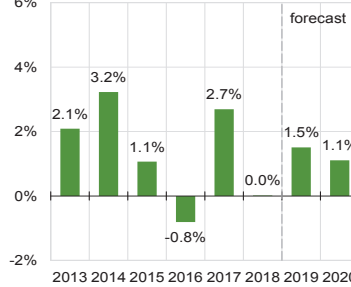


**U.S. monthly residential electricity price**  
cents per kilowatthour

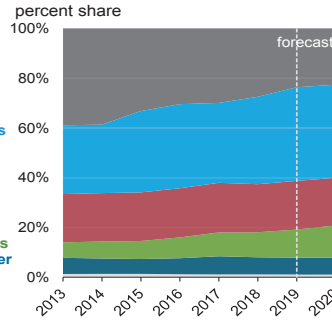
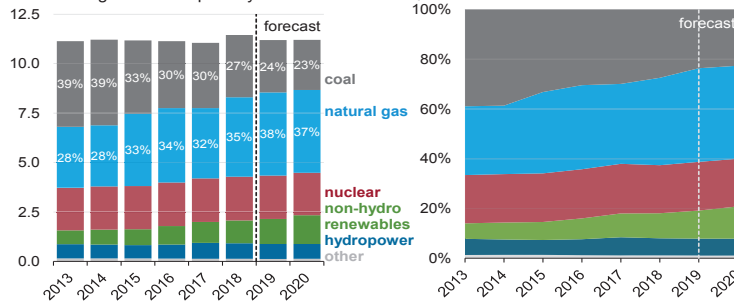


Source: Short-Term Energy Outlook, July 2019

**Annual growth in residential electricity prices**  
percent



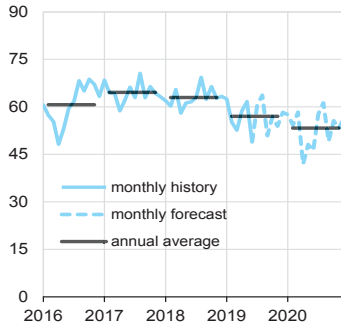
**U.S. electricity generation by fuel, all sectors**  
million megawatthours per day



Note: Labels show percentage share of total generation provided by coal and natural gas.  
Source: Short-Term Energy Outlook, July 2019

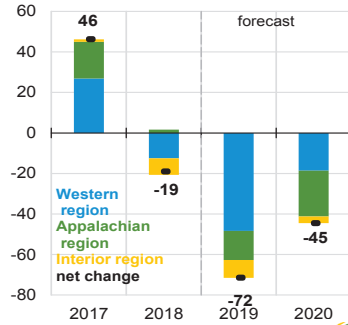


**U.S. coal production**  
million short tons

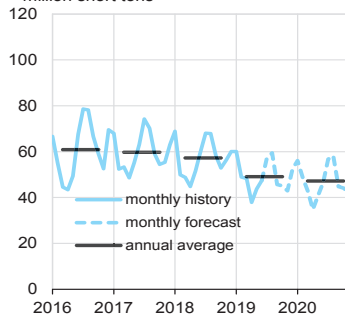


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**  
million short tons

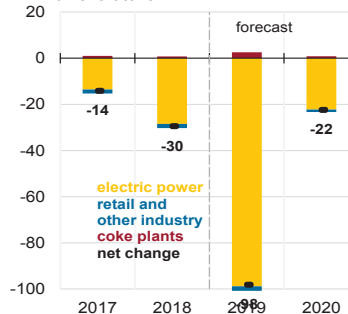


**U.S. coal consumption**  
million short tons

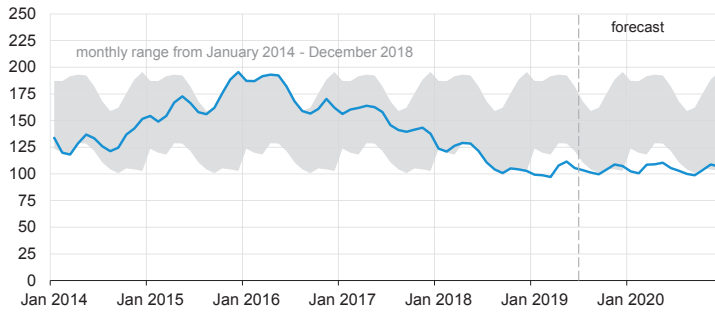


Source: Short-Term Energy Outlook, July 2019

**Components of annual change**  
million short tons



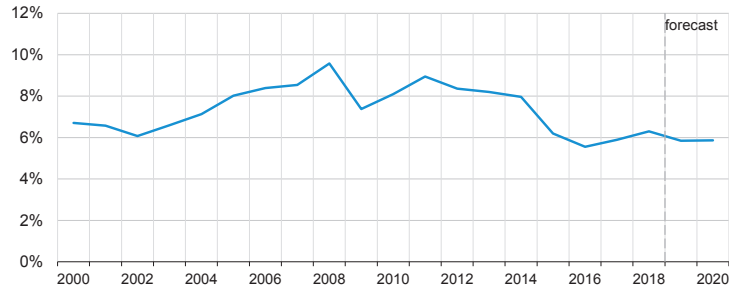
**U.S. electric power coal inventories**  
million short tons



Source: Short-Term Energy Outlook, February 2019



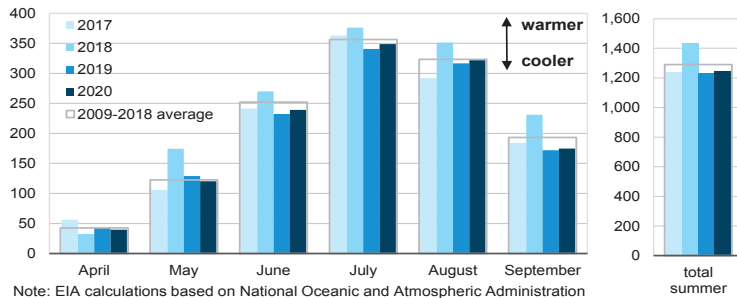
**U.S. annual energy expenditures**  
share of gross domestic product



Source: Short-Term Energy Outlook, July 2019



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

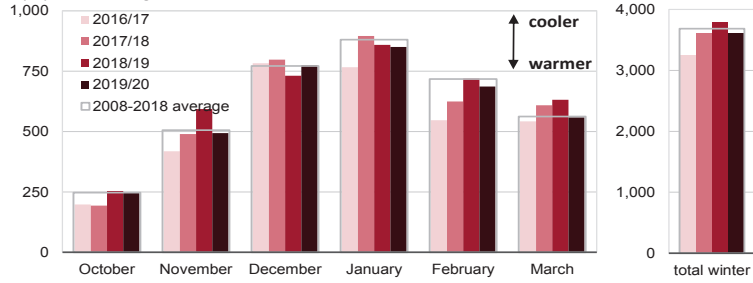


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2019



**U.S. winter heating degree days**  
population-weighted

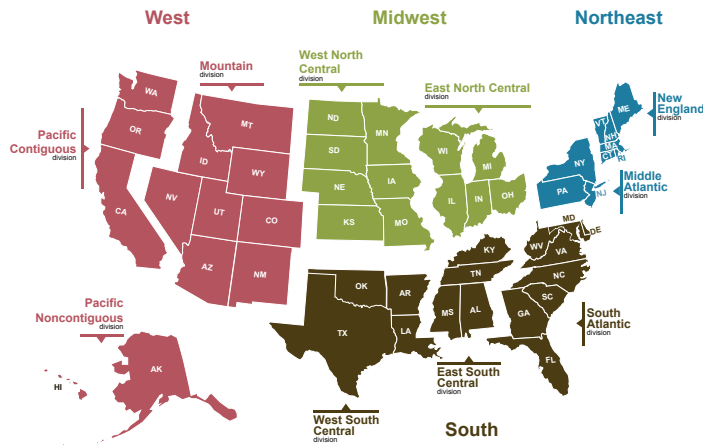


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2019



**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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Energy Supply</b>															
Crude Oil Production (a) (million barrels per day) .....	10.23	10.54	11.24	11.81	11.82	12.19	12.55	12.86	12.97	13.17	13.34	13.56	10.96	12.36	13.26
Dry Natural Gas Production (billion cubic feet per day) .....	79.13	81.17	84.95	88.21	89.24	90.62	92.21	93.26	92.41	92.43	93.13	93.16	83.39	91.35	92.79
Coal Production (million short tons) .....	188	181	195	192	170	169	175	169	170	136	168	165	756	684	639
<b>Energy Consumption</b>															
Liquid Fuels (million barrels per day) .....	20.24	20.33	20.63	20.60	20.29	20.30	21.14	21.06	20.49	20.80	21.29	21.06	20.45	20.70	20.91
Natural Gas (billion cubic feet per day) .....	97.60	70.70	74.09	86.12	102.73	71.64	76.06	88.16	101.96	73.00	76.16		82.07	84.59	84.54
Coal (b) (million short tons) .....	168	157	194	169	157	129	162	140	147	122	160	137	687	589	567
Electricity (billion kilowatt hours per day) .....	10.62	10.33	12.14	10.14	10.54	10.10	11.78	10.02	10.57	10.10	11.88	10.04	10.81	10.61	10.65
Renewables (c) (quadrillion Btu) .....	2.92	3.10	2.72	2.74	2.83	3.16	2.82	2.95	3.05	3.32	3.02	3.12	11.48	11.76	12.51
Total Energy Consumption (d) (quadrillion Btu) .....	26.42	24.05	25.16	25.61	26.55	23.55	24.71	25.31	26.48	23.57	24.86	25.29	101.24	100.11	100.19
<b>Energy Prices</b>															
Crude Oil West Texas Intermediate Spot (dollars per barrel) .....	62.90	68.07	69.69	59.59	54.82	59.94	60.31	63.00	63.00	63.00	63.00	63.00	65.06	59.58	63.00
Natural Gas Henry Hub Spot (dollars per million Btu) .....	3.02	2.85	2.93	3.80	2.92	2.56	2.35	2.65	2.95	2.58	2.64	2.90	3.15	2.62	2.77
Coal (dollars per million Btu) .....	2.06	2.06	2.06	2.08	2.08	2.10	2.10	2.11	2.13	2.14	2.11	2.11	2.06	2.10	2.12
<b>Macroeconomic</b>															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR) .....	18,324	18,512	18,665	18,765	18,908	18,981	19,069	19,166	19,252	19,333	19,408	19,481	18,566	19,031	19,368
Percent change from prior year .....	2.6	2.9	3.0	3.0	3.2	2.5	2.2	2.1	1.8	1.9	1.8	1.6	2.9	2.5	1.8
GDP Implicit Price Deflator (Index, 2012=100) .....	109.3	110.2	110.7	111.1	111.3	111.9	112.6	113.1	113.8	114.5	115.1	115.8	110.3	112.2	114.8
Percent change from prior year .....	2.0	2.4	2.3	2.1	1.8	1.6	1.7	1.8	2.2	2.3	2.3	2.4	2.2	1.7	2.3
Real Disposable Personal Income (billion chained 2012 dollars - SAAR) .....	14,220	14,282	14,375	14,489	14,569	14,606	14,686	14,764	14,857	14,967	15,064	15,146	14,341	14,656	15,008
Percent change from prior year .....	2.8	2.7	2.8	3.0	2.5	2.3	2.2	1.9	2.0	2.5	2.6	2.6	2.8	2.2	2.4
Manufacturing Production Index (Index, 2012=100) .....	104.8	105.5	106.6	107.0	106.4	105.9	106.5	107.1	107.5	107.6	107.8	108.1	106.0	106.5	107.7
Percent change from prior year .....	2.4	2.2	3.6	2.5	1.5	0.4	-0.1	0.1	1.0	1.6	1.3	0.9	2.7	0.5	1.2
<b>Weather</b>															
U.S. Heating Degree-Days .....	2,129	522	48	1,577	2,210	478	78	1,519	2,096	478	76	1,517	4,277	4,286	4,166
U.S. Cooling Degree-Days .....	52	477	959	98	46	404	829	90	43	399	846	90	1,586	1,369	1,378

- = 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. 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Crude Oil</b> (dollars per barrel)															
West Texas Intermediate Spot Average .....	<b>62.90</b>	<b>68.07</b>	<b>69.69</b>	<b>59.59</b>	<b>54.82</b>	<b>59.94</b>	<i>60.31</i>	<i>63.00</i>	<i>63.00</i>	<i>63.00</i>	<i>63.00</i>	<i>63.00</i>	<b>65.06</b>	<i>59.58</i>	<i>63.00</i>
Brent Spot Average .....	<b>66.84</b>	<b>74.53</b>	<b>75.02</b>	<b>68.29</b>	<b>63.14</b>	<b>69.07</b>	<i>66.66</i>	<i>67.00</i>	<i>67.00</i>	<i>67.00</i>	<i>67.00</i>	<i>67.00</i>	<b>71.19</b>	<i>66.51</i>	<i>67.00</i>
U.S. Imported Average .....	<b>58.25</b>	<b>64.59</b>	<b>66.23</b>	<b>55.35</b>	<b>55.27</b>	<b>59.87</b>	<i>58.33</i>	<i>58.72</i>	<i>57.56</i>	<i>57.56</i>	<i>57.56</i>	<i>57.56</i>	<b>61.38</b>	<i>58.04</i>	<i>57.56</i>
U.S. Refiner Average Acquisition Cost .....	<b>61.94</b>	<b>67.27</b>	<b>69.08</b>	<b>59.39</b>	<b>56.83</b>	<b>58.26</b>	<i>58.69</i>	<i>60.83</i>	<i>60.36</i>	<i>60.36</i>	<i>60.36</i>	<i>60.36</i>	<b>64.48</b>	<i>58.68</i>	<i>60.36</i>
<b>U.S. Liquid Fuels</b> (cents per gallon)															
<b>Refiner Prices for Resale</b>															
Gasoline .....	<b>186</b>	<b>213</b>	<b>213</b>	<b>178</b>	<b>167</b>	<b>201</b>	<i>195</i>	<i>185</i>	<i>192</i>	<i>203</i>	<i>199</i>	<i>184</i>	<b>198</b>	<i>187</i>	<i>195</i>
Diesel Fuel .....	<b>199</b>	<b>219</b>	<b>222</b>	<b>212</b>	<b>192</b>	<b>203</b>	<i>207</i>	<i>216</i>	<i>222</i>	<i>227</i>	<i>226</i>	<i>226</i>	<b>213</b>	<i>205</i>	<i>225</i>
Heating Oil .....	<b>193</b>	<b>205</b>	<b>214</b>	<b>201</b>	<b>189</b>	<b>195</b>	<i>199</i>	<i>209</i>	<i>218</i>	<i>217</i>	<i>217</i>	<i>218</i>	<b>200</b>	<i>198</i>	<i>217</i>
<b>Refiner Prices to End Users</b>															
Jet Fuel .....	<b>197</b>	<b>217</b>	<b>220</b>	<b>212</b>	<b>193</b>	<b>201</b>	<i>205</i>	<i>213</i>	<i>220</i>	<i>224</i>	<i>223</i>	<i>222</i>	<b>212</b>	<i>203</i>	<i>222</i>
No. 6 Residual Fuel Oil (a) .....	<b>149</b>	<b>162</b>	<b>176</b>	<b>175</b>	<b>153</b>	<b>151</b>	<i>143</i>	<i>136</i>	<i>113</i>	<i>116</i>	<i>118</i>	<i>117</i>	<b>166</b>	<i>145</i>	<i>116</i>
<b>Retail Prices Including Taxes</b>															
Gasoline Regular Grade (b) .....	<b>258</b>	<b>285</b>	<b>284</b>	<b>262</b>	<b>236</b>	<b>279</b>	<i>275</i>	<i>266</i>	<i>269</i>	<i>284</i>	<i>282</i>	<i>267</i>	<b>273</b>	<i>265</i>	<i>276</i>
Gasoline All Grades (b) .....	<b>270</b>	<b>294</b>	<b>292</b>	<b>271</b>	<b>245</b>	<b>288</b>	<i>286</i>	<i>278</i>	<i>281</i>	<i>296</i>	<i>294</i>	<i>280</i>	<b>282</b>	<i>275</i>	<i>288</i>
On-highway Diesel Fuel .....	<b>302</b>	<b>320</b>	<b>324</b>	<b>327</b>	<b>302</b>	<b>312</b>	<i>307</i>	<i>319</i>	<i>323</i>	<i>329</i>	<i>329</i>	<i>331</i>	<b>318</b>	<i>310</i>	<i>328</i>
Heating Oil .....	<b>287</b>	<b>298</b>	<b>325</b>	<b>316</b>	<b>300</b>	<b>302</b>	<i>291</i>	<i>303</i>	<i>315</i>	<i>307</i>	<i>306</i>	<i>314</i>	<b>301</b>	<i>300</i>	<i>312</i>
<b>Natural Gas</b>															
Henry Hub Spot (dollars per thousand cubic feet) .....	<b>3.13</b>	<b>2.96</b>	<b>3.04</b>	<b>3.94</b>	<b>3.02</b>	<b>2.66</b>	<i>2.43</i>	<i>2.75</i>	<i>3.06</i>	<i>2.68</i>	<i>2.74</i>	<i>3.01</i>	<b>3.27</b>	<i>2.72</i>	<i>2.87</i>
Henry Hub Spot (dollars per million Btu) .....	<b>3.02</b>	<b>2.85</b>	<b>2.93</b>	<b>3.80</b>	<b>2.92</b>	<b>2.56</b>	<i>2.35</i>	<i>2.65</i>	<i>2.95</i>	<i>2.58</i>	<i>2.64</i>	<i>2.90</i>	<b>3.15</b>	<i>2.62</i>	<i>2.77</i>
<b>U.S. Retail Prices</b> (dollars per thousand cubic feet)															
Industrial Sector .....	<b>4.44</b>	<b>3.83</b>	<b>3.73</b>	<b>4.71</b>	<b>4.68</b>	<b>3.73</b>	<i>3.35</i>	<i>3.85</i>	<i>4.41</i>	<i>3.67</i>	<i>3.61</i>	<i>4.10</i>	<b>4.20</b>	<i>3.92</i>	<i>3.97</i>
Commercial Sector .....	<b>7.64</b>	<b>8.08</b>	<b>8.77</b>	<b>7.61</b>	<b>7.62</b>	<b>7.97</b>	<i>8.22</i>	<i>7.44</i>	<i>7.47</i>	<i>8.00</i>	<i>8.38</i>	<i>7.67</i>	<b>7.82</b>	<i>7.69</i>	<i>7.72</i>
Residential Sector .....	<b>9.37</b>	<b>11.93</b>	<b>17.93</b>	<b>9.97</b>	<b>9.46</b>	<b>12.17</b>	<i>16.28</i>	<i>10.34</i>	<i>9.58</i>	<i>12.12</i>	<i>16.69</i>	<i>10.70</i>	<b>10.49</b>	<i>10.53</i>	<i>10.73</i>
<b>U.S. Electricity</b>															
<b>Power Generation Fuel Costs</b> (dollars per million Btu)															
Coal .....	<b>2.06</b>	<b>2.06</b>	<b>2.06</b>	<b>2.08</b>	<b>2.08</b>	<b>2.10</b>	<i>2.10</i>	<i>2.11</i>	<i>2.13</i>	<i>2.14</i>	<i>2.11</i>	<i>2.11</i>	<b>2.06</b>	<i>2.10</i>	<i>2.12</i>
Natural Gas .....	<b>3.96</b>	<b>3.09</b>	<b>3.23</b>	<b>4.05</b>	<b>3.71</b>	<b>2.68</b>	<i>2.38</i>	<i>2.95</i>	<i>3.43</i>	<i>2.73</i>	<i>2.69</i>	<i>3.23</i>	<b>3.54</b>	<i>2.87</i>	<i>2.98</i>
Residual Fuel Oil (c) .....	<b>11.47</b>	<b>13.02</b>	<b>14.02</b>	<b>14.49</b>	<b>12.22</b>	<b>13.99</b>	<i>12.79</i>	<i>12.55</i>	<i>12.95</i>	<i>13.71</i>	<i>13.01</i>	<i>12.78</i>	<b>12.95</b>	<i>12.87</i>	<i>13.09</i>
Distillate Fuel Oil .....	<b>15.77</b>	<b>16.61</b>	<b>16.82</b>	<b>16.01</b>	<b>14.85</b>	<b>15.79</b>	<i>15.84</i>	<i>16.76</i>	<i>17.16</i>	<i>17.58</i>	<i>17.44</i>	<i>17.51</i>	<b>16.13</b>	<i>15.82</i>	<i>17.40</i>
<b>Retail Prices</b> (cents per kilowatthour)															
Industrial Sector .....	<b>6.81</b>	<b>6.87</b>	<b>7.22</b>	<b>6.82</b>	<b>6.66</b>	<b>6.84</b>	<i>7.14</i>	<i>6.74</i>	<i>6.70</i>	<i>6.92</i>	<i>7.27</i>	<i>6.84</i>	<b>6.93</b>	<i>6.85</i>	<i>6.94</i>
Commercial Sector .....	<b>10.54</b>	<b>10.60</b>	<b>10.89</b>	<b>10.55</b>	<b>10.41</b>	<b>10.73</b>	<i>10.96</i>	<i>10.54</i>	<i>10.36</i>	<i>10.72</i>	<i>11.02</i>	<i>10.68</i>	<b>10.66</b>	<i>10.67</i>	<i>10.71</i>
Residential Sector .....	<b>12.59</b>	<b>13.03</b>	<b>13.15</b>	<b>12.75</b>	<b>12.66</b>	<b>13.42</b>	<i>13.36</i>	<i>12.89</i>	<i>12.69</i>	<i>13.56</i>	<i>13.53</i>	<i>13.13</i>	<b>12.89</b>	<i>13.08</i>	<i>13.23</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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Supply (million barrels per day) (a)</b>															
OECD .....	<b>29.14</b>	<b>29.32</b>	<b>30.46</b>	<b>31.20</b>	<b>30.73</b>	<b>31.39</b>	<i>32.14</i>	<i>32.91</i>	<i>33.04</i>	<i>33.41</i>	<i>33.69</i>	<i>34.34</i>	<b>30.04</b>	<i>31.80</i>	<i>33.62</i>
U.S. (50 States) .....	<b>16.77</b>	<b>17.39</b>	<b>18.40</b>	<b>18.96</b>	<b>18.92</b>	<b>19.60</b>	<i>20.19</i>	<i>20.76</i>	<i>20.79</i>	<i>21.16</i>	<i>21.46</i>	<i>21.78</i>	<b>17.89</b>	<i>19.87</i>	<i>21.30</i>
Canada .....	<b>5.32</b>	<b>5.10</b>	<b>5.33</b>	<b>5.42</b>	<b>5.09</b>	<b>5.17</b>	<i>5.37</i>	<i>5.39</i>	<i>5.43</i>	<i>5.42</i>	<i>5.47</i>	<i>5.52</i>	<b>5.30</b>	<i>5.25</i>	<i>5.46</i>
Mexico .....	<b>2.17</b>	<b>2.13</b>	<b>2.09</b>	<b>1.95</b>	<b>1.91</b>	<b>2.02</b>	<i>2.05</i>	<i>2.03</i>	<i>2.01</i>	<i>1.99</i>	<i>1.97</i>	<i>1.95</i>	<b>2.08</b>	<i>2.00</i>	<i>1.98</i>
Other OECD .....	<b>4.88</b>	<b>4.69</b>	<b>4.64</b>	<b>4.87</b>	<b>4.81</b>	<b>4.60</b>	<i>4.53</i>	<i>4.74</i>	<i>4.81</i>	<i>4.84</i>	<i>4.80</i>	<i>5.08</i>	<b>4.77</b>	<i>4.67</i>	<i>4.88</i>
Non-OECD .....	<b>70.14</b>	<b>70.47</b>	<b>70.96</b>	<b>70.94</b>	<b>69.09</b>	<b>69.19</b>	<i>69.63</i>	<i>69.34</i>	<i>68.15</i>	<i>69.11</i>	<i>69.49</i>	<i>68.94</i>	<b>70.63</b>	<i>69.31</i>	<i>68.92</i>
OPEC .....	<b>37.46</b>	<b>37.07</b>	<b>37.34</b>	<b>37.29</b>	<b>35.83</b>	<b>35.38</b>	<i>35.36</i>	<i>35.27</i>	<i>34.71</i>	<i>34.75</i>	<i>34.91</i>	<i>34.67</i>	<b>37.29</b>	<i>35.46</i>	<i>34.76</i>
Crude Oil Portion .....	<b>32.10</b>	<b>31.78</b>	<b>32.02</b>	<b>31.93</b>	<b>30.47</b>	<b>30.01</b>	<i>30.21</i>	<i>30.10</i>	<i>29.68</i>	<i>29.74</i>	<i>29.89</i>	<i>29.62</i>	<b>31.96</b>	<i>30.19</i>	<i>29.73</i>
Other Liquids (b) .....	<b>5.36</b>	<b>5.29</b>	<b>5.33</b>	<b>5.36</b>	<b>5.36</b>	<b>5.37</b>	<i>5.15</i>	<i>5.17</i>	<i>5.04</i>	<i>5.01</i>	<i>5.02</i>	<i>5.05</i>	<b>5.33</b>	<i>5.26</i>	<i>5.03</i>
Eurasia .....	<b>14.44</b>	<b>14.44</b>	<b>14.63</b>	<b>14.89</b>	<b>14.83</b>	<b>14.49</b>	<i>14.61</i>	<i>14.74</i>	<i>14.66</i>	<i>14.61</i>	<i>14.64</i>	<i>14.69</i>	<b>14.60</b>	<i>14.67</i>	<i>14.65</i>
China .....	<b>4.79</b>	<b>4.84</b>	<b>4.78</b>	<b>4.86</b>	<b>4.92</b>	<b>4.91</b>	<i>4.87</i>	<i>4.92</i>	<i>4.89</i>	<i>4.92</i>	<i>4.93</i>	<i>4.97</i>	<b>4.82</b>	<i>4.90</i>	<i>4.93</i>
Other Non-OECD .....	<b>13.45</b>	<b>14.12</b>	<b>14.20</b>	<b>13.90</b>	<b>13.51</b>	<b>14.41</b>	<i>14.79</i>	<i>14.41</i>	<i>13.88</i>	<i>14.81</i>	<i>15.02</i>	<i>14.61</i>	<b>13.92</b>	<i>14.28</i>	<i>14.58</i>
Total World Supply .....	<b>99.27</b>	<b>99.78</b>	<b>101.43</b>	<b>102.14</b>	<b>99.82</b>	<b>100.58</b>	<i>101.77</i>	<i>102.26</i>	<i>101.19</i>	<i>102.52</i>	<i>103.19</i>	<i>103.27</i>	<b>100.67</b>	<i>101.11</i>	<i>102.55</i>
Non-OPEC Supply .....	<b>61.81</b>	<b>62.71</b>	<b>64.08</b>	<b>64.86</b>	<b>63.99</b>	<b>65.20</b>	<i>66.41</i>	<i>66.99</i>	<i>66.48</i>	<i>67.76</i>	<i>68.28</i>	<i>68.60</i>	<b>63.38</b>	<i>65.66</i>	<i>67.78</i>
<b>Consumption (million barrels per day) (c)</b>															
OECD .....	<b>47.62</b>	<b>47.03</b>	<b>47.93</b>	<b>47.54</b>	<b>47.04</b>	<b>46.60</b>	<i>48.24</i>	<i>48.28</i>	<i>47.50</i>	<i>47.09</i>	<i>48.31</i>	<i>48.25</i>	<b>47.53</b>	<i>47.54</i>	<i>47.79</i>
U.S. (50 States) .....	<b>20.24</b>	<b>20.33</b>	<b>20.63</b>	<b>20.60</b>	<b>20.29</b>	<b>20.30</b>	<i>21.14</i>	<i>21.06</i>	<i>20.49</i>	<i>20.80</i>	<i>21.29</i>	<i>21.06</i>	<b>20.45</b>	<i>20.70</i>	<i>20.91</i>
U.S. Territories .....	<b>0.10</b>	<b>0.08</b>	<b>0.09</b>	<b>0.11</b>	<b>0.12</b>	<b>0.11</b>	<i>0.12</i>	<i>0.13</i>	<i>0.12</i>	<i>0.11</i>	<i>0.12</i>	<i>0.13</i>	<b>0.10</b>	<i>0.12</i>	<i>0.12</i>
Canada .....	<b>2.32</b>	<b>2.34</b>	<b>2.56</b>	<b>2.49</b>	<b>2.20</b>	<b>2.30</b>	<i>2.49</i>	<i>2.46</i>	<i>2.37</i>	<i>2.31</i>	<i>2.41</i>	<i>2.39</i>	<b>2.43</b>	<i>2.36</i>	<i>2.37</i>
Europe .....	<b>14.09</b>	<b>14.27</b>	<b>14.69</b>	<b>14.13</b>	<b>13.93</b>	<b>14.14</b>	<i>14.64</i>	<i>14.34</i>	<i>13.96</i>	<i>14.16</i>	<i>14.67</i>	<i>14.37</i>	<b>14.30</b>	<i>14.26</i>	<i>14.29</i>
Japan .....	<b>4.27</b>	<b>3.43</b>	<b>3.53</b>	<b>3.89</b>	<b>4.05</b>	<b>3.38</b>	<i>3.45</i>	<i>3.77</i>	<i>4.05</i>	<i>3.32</i>	<i>3.39</i>	<i>3.73</i>	<b>3.78</b>	<i>3.66</i>	<i>3.62</i>
Other OECD .....	<b>6.60</b>	<b>6.57</b>	<b>6.42</b>	<b>6.32</b>	<b>6.45</b>	<b>6.38</b>	<i>6.41</i>	<i>6.51</i>	<i>6.52</i>	<i>6.39</i>	<i>6.42</i>	<i>6.57</i>	<b>6.48</b>	<i>6.44</i>	<i>6.48</i>
Non-OECD .....	<b>51.54</b>	<b>52.59</b>	<b>52.56</b>	<b>52.89</b>	<b>52.65</b>	<b>53.69</b>	<i>53.66</i>	<i>53.81</i>	<i>53.76</i>	<i>54.81</i>	<i>54.83</i>	<i>55.05</i>	<b>52.40</b>	<i>53.46</i>	<i>54.61</i>
Eurasia .....	<b>4.78</b>	<b>4.83</b>	<b>5.11</b>	<b>4.98</b>	<b>4.79</b>	<b>4.86</b>	<i>5.13</i>	<i>5.08</i>	<i>4.85</i>	<i>4.94</i>	<i>5.32</i>	<i>5.22</i>	<b>4.93</b>	<i>4.97</i>	<i>5.08</i>
Europe .....	<b>0.75</b>	<b>0.74</b>	<b>0.76</b>	<b>0.76</b>	<b>0.75</b>	<b>0.75</b>	<i>0.77</i>	<i>0.77</i>	<i>0.76</i>	<i>0.76</i>	<i>0.78</i>	<i>0.78</i>	<b>0.75</b>	<i>0.76</i>	<i>0.77</i>
China .....	<b>13.80</b>	<b>14.00</b>	<b>13.73</b>	<b>13.95</b>	<b>14.28</b>	<b>14.57</b>	<i>14.30</i>	<i>14.51</i>	<i>14.83</i>	<i>15.03</i>	<i>14.74</i>	<i>14.97</i>	<b>13.87</b>	<i>14.42</i>	<i>14.89</i>
Other Asia .....	<b>13.77</b>	<b>14.02</b>	<b>13.60</b>	<b>14.00</b>	<b>14.12</b>	<b>14.18</b>	<i>13.89</i>	<i>14.24</i>	<i>14.40</i>	<i>14.56</i>	<i>14.13</i>	<i>14.49</i>	<b>13.85</b>	<i>14.11</i>	<i>14.40</i>
Other Non-OECD .....	<b>18.44</b>	<b>19.00</b>	<b>19.36</b>	<b>19.20</b>	<b>18.70</b>	<b>19.33</b>	<i>19.58</i>	<i>19.21</i>	<i>18.92</i>	<i>19.52</i>	<i>19.86</i>	<i>19.59</i>	<b>19.00</b>	<i>19.21</i>	<i>19.47</i>
Total World Consumption .....	<b>99.16</b>	<b>99.62</b>	<b>100.50</b>	<b>100.43</b>	<b>99.69</b>	<b>100.29</b>	<i>101.90</i>	<i>102.09</i>	<i>101.27</i>	<i>101.90</i>	<i>103.13</i>	<i>103.30</i>	<b>99.93</b>	<i>101.00</i>	<i>102.40</i>
<b>Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)</b>															
U.S. (50 States) .....	<b>0.36</b>	<b>-0.06</b>	<b>-0.70</b>	<b>0.22</b>	<b>0.15</b>	<b>-0.53</b>	<i>-0.15</i>	<i>0.27</i>	<i>0.04</i>	<i>-0.38</i>	<i>-0.10</i>	<i>0.31</i>	<b>-0.05</b>	<i>-0.06</i>	<i>-0.03</i>
Other OECD .....	<b>-0.01</b>	<b>0.12</b>	<b>0.18</b>	<b>-0.08</b>	<b>-0.14</b>	<b>0.08</b>	<i>0.09</i>	<i>-0.15</i>	<i>0.01</i>	<i>-0.08</i>	<i>0.02</i>	<i>-0.10</i>	<b>0.05</b>	<i>-0.03</i>	<i>-0.04</i>
Other Stock Draws and Balance .....	<b>-0.47</b>	<b>-0.22</b>	<b>-0.42</b>	<b>-1.85</b>	<b>-0.14</b>	<b>0.17</b>	<i>0.19</i>	<i>-0.29</i>	<i>0.02</i>	<i>-0.16</i>	<i>0.03</i>	<i>-0.19</i>	<b>-0.74</b>	<i>-0.02</i>	<i>-0.07</i>
Total Stock Draw .....	<b>-0.11</b>	<b>-0.16</b>	<b>-0.93</b>	<b>-1.71</b>	<b>-0.13</b>	<b>-0.28</b>	<i>0.13</i>	<i>-0.17</i>	<i>0.07</i>	<i>-0.62</i>	<i>-0.05</i>	<i>0.03</i>	<b>-0.73</b>	<i>-0.11</i>	<i>-0.14</i>
<b>End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)</b>															
U.S. Commercial Inventory .....	<b>1,196</b>	<b>1,207</b>	<b>1,272</b>	<b>1,262</b>	<b>1,249</b>	<b>1,301</b>	<i>1,315</i>	<i>1,293</i>	<i>1,293</i>	<i>1,332</i>	<i>1,342</i>	<i>1,316</i>	<b>1,262</b>	<i>1,293</i>	<i>1,316</i>
OECD Commercial Inventory .....	<b>2,805</b>	<b>2,805</b>	<b>2,856</b>	<b>2,861</b>	<b>2,857</b>	<b>2,902</b>	<i>2,907</i>	<i>2,899</i>	<i>2,897</i>	<i>2,943</i>	<i>2,952</i>	<i>2,934</i>	<b>2,861</b>	<i>2,899</i>	<i>2,934</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, 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), Ecuador, 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>North America</b> .....	<b>24.25</b>	<b>24.63</b>	<b>25.82</b>	<b>26.33</b>	<b>25.92</b>	<b>26.79</b>	<i>27.61</i>	<i>28.17</i>	<i>28.23</i>	<i>28.57</i>	<i>28.90</i>	<i>29.25</i>	<b>25.27</b>	<i>27.13</i>	<i>28.74</i>
Canada .....	<b>5.32</b>	<b>5.10</b>	<b>5.33</b>	<b>5.42</b>	<b>5.09</b>	<b>5.17</b>	<i>5.37</i>	<i>5.39</i>	<i>5.43</i>	<i>5.42</i>	<i>5.47</i>	<i>5.52</i>	<b>5.30</b>	<i>5.25</i>	<i>5.46</i>
Mexico .....	<b>2.17</b>	<b>2.13</b>	<b>2.09</b>	<b>1.95</b>	<b>1.91</b>	<b>2.02</b>	<i>2.05</i>	<i>2.03</i>	<i>2.01</i>	<i>1.99</i>	<i>1.97</i>	<i>1.95</i>	<b>2.08</b>	<i>2.00</i>	<i>1.98</i>
United States .....	<b>16.77</b>	<b>17.39</b>	<b>18.40</b>	<b>18.96</b>	<b>18.92</b>	<b>19.60</b>	<i>20.19</i>	<i>20.76</i>	<i>20.79</i>	<i>21.16</i>	<i>21.46</i>	<i>21.78</i>	<b>17.89</b>	<i>19.87</i>	<i>21.30</i>
<b>Central and South America</b> .....	<b>4.90</b>	<b>5.65</b>	<b>5.72</b>	<b>5.37</b>	<b>4.92</b>	<b>5.76</b>	<i>6.17</i>	<i>5.75</i>	<i>5.23</i>	<i>6.18</i>	<i>6.40</i>	<i>6.00</i>	<b>5.41</b>	<i>5.65</i>	<i>5.95</i>
Argentina .....	<b>0.67</b>	<b>0.69</b>	<b>0.68</b>	<b>0.68</b>	<b>0.68</b>	<b>0.69</b>	<i>0.67</i>	<i>0.67</i>	<i>0.69</i>	<i>0.70</i>	<i>0.69</i>	<i>0.69</i>	<b>0.68</b>	<i>0.68</i>	<i>0.69</i>
Brazil .....	<b>2.95</b>	<b>3.64</b>	<b>3.75</b>	<b>3.36</b>	<b>2.91</b>	<b>3.77</b>	<i>4.22</i>	<i>3.77</i>	<i>3.22</i>	<i>4.19</i>	<i>4.44</i>	<i>4.01</i>	<b>3.43</b>	<i>3.67</i>	<i>3.97</i>
Colombia .....	<b>0.86</b>	<b>0.89</b>	<b>0.89</b>	<b>0.91</b>	<b>0.92</b>	<b>0.90</b>	<i>0.89</i>	<i>0.90</i>	<i>0.91</i>	<i>0.89</i>	<i>0.88</i>	<i>0.90</i>	<b>0.89</b>	<i>0.90</i>	<i>0.90</i>
Other Central and S. America .....	<b>0.42</b>	<b>0.43</b>	<b>0.40</b>	<b>0.41</b>	<b>0.42</b>	<b>0.40</b>	<i>0.39</i>	<i>0.40</i>	<i>0.40</i>	<i>0.40</i>	<i>0.39</i>	<i>0.40</i>	<b>0.41</b>	<i>0.40</i>	<i>0.40</i>
<b>Europe</b> .....	<b>4.37</b>	<b>4.20</b>	<b>4.12</b>	<b>4.32</b>	<b>4.26</b>	<b>4.11</b>	<i>4.02</i>	<i>4.22</i>	<i>4.27</i>	<i>4.29</i>	<i>4.24</i>	<i>4.53</i>	<b>4.25</b>	<i>4.15</i>	<i>4.34</i>
Norway .....	<b>1.97</b>	<b>1.80</b>	<b>1.81</b>	<b>1.87</b>	<b>1.79</b>	<b>1.70</b>	<i>1.69</i>	<i>1.74</i>	<i>1.80</i>	<i>1.82</i>	<i>1.89</i>	<i>2.07</i>	<b>1.86</b>	<i>1.73</i>	<i>1.89</i>
United Kingdom .....	<b>1.16</b>	<b>1.17</b>	<b>1.10</b>	<b>1.22</b>	<b>1.26</b>	<b>1.21</b>	<i>1.13</i>	<i>1.25</i>	<i>1.25</i>	<i>1.26</i>	<i>1.14</i>	<i>1.24</i>	<b>1.16</b>	<i>1.21</i>	<i>1.22</i>
<b>Eurasia</b> .....	<b>14.44</b>	<b>14.44</b>	<b>14.63</b>	<b>14.89</b>	<b>14.83</b>	<b>14.49</b>	<i>14.61</i>	<i>14.74</i>	<i>14.66</i>	<i>14.61</i>	<i>14.64</i>	<i>14.69</i>	<b>14.60</b>	<i>14.67</i>	<i>14.65</i>
Azerbaijan .....	<b>0.81</b>	<b>0.81</b>	<b>0.80</b>	<b>0.81</b>	<b>0.82</b>	<b>0.79</b>	<i>0.77</i>	<i>0.78</i>	<i>0.77</i>	<i>0.76</i>	<i>0.75</i>	<i>0.75</i>	<b>0.81</b>	<i>0.79</i>	<i>0.76</i>
Kazakhstan .....	<b>1.98</b>	<b>1.96</b>	<b>1.90</b>	<b>2.00</b>	<b>2.03</b>	<b>1.89</b>	<i>1.99</i>	<i>2.12</i>	<i>2.08</i>	<i>2.04</i>	<i>2.07</i>	<i>2.12</i>	<b>1.96</b>	<i>2.01</i>	<i>2.08</i>
Russia .....	<b>11.20</b>	<b>11.24</b>	<b>11.50</b>	<b>11.66</b>	<b>11.58</b>	<b>11.40</b>	<i>11.44</i>	<i>11.43</i>	<i>11.42</i>	<i>11.42</i>	<i>11.43</i>	<i>11.44</i>	<b>11.40</b>	<i>11.46</i>	<i>11.43</i>
Turkmenistan .....	<b>0.30</b>	<b>0.28</b>	<b>0.28</b>	<b>0.27</b>	<b>0.25</b>	<b>0.26</b>	<i>0.26</i>	<i>0.26</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<b>0.28</b>	<i>0.26</i>	<i>0.24</i>
Other Eurasia .....	<b>0.15</b>	<b>0.15</b>	<b>0.15</b>	<b>0.16</b>	<b>0.16</b>	<b>0.16</b>	<i>0.16</i>	<i>0.16</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<b>0.15</b>	<i>0.16</i>	<i>0.15</i>
<b>Middle East</b> .....	<b>3.02</b>	<b>3.03</b>	<b>3.04</b>	<b>3.05</b>	<b>3.07</b>	<b>3.15</b>	<i>3.16</i>	<i>3.16</i>	<i>3.22</i>	<i>3.23</i>	<i>3.23</i>	<i>3.23</i>	<b>3.04</b>	<i>3.14</i>	<i>3.23</i>
Oman .....	<b>0.98</b>	<b>0.98</b>	<b>0.99</b>	<b>1.01</b>	<b>0.98</b>	<b>0.99</b>	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>1.01</i>	<i>1.01</i>	<i>1.01</i>	<b>0.99</b>	<i>0.99</i>	<i>1.01</i>
Qatar .....	<b>1.94</b>	<b>1.94</b>	<b>1.95</b>	<b>1.94</b>	<b>1.99</b>	<b>2.00</b>	<i>2.00</i>	<i>2.00</i>	<i>2.06</i>	<i>2.06</i>	<i>2.06</i>	<i>2.06</i>	<b>1.94</b>	<i>2.00</i>	<i>2.06</i>
<b>Asia and Oceania</b> .....	<b>9.31</b>	<b>9.26</b>	<b>9.19</b>	<b>9.34</b>	<b>9.39</b>	<b>9.34</b>	<i>9.30</i>	<i>9.40</i>	<i>9.36</i>	<i>9.37</i>	<i>9.37</i>	<i>9.39</i>	<b>9.28</b>	<i>9.36</i>	<i>9.37</i>
Australia .....	<b>0.36</b>	<b>0.34</b>	<b>0.37</b>	<b>0.40</b>	<b>0.40</b>	<b>0.44</b>	<i>0.46</i>	<i>0.47</i>	<i>0.49</i>	<i>0.50</i>	<i>0.50</i>	<i>0.50</i>	<b>0.37</b>	<i>0.44</i>	<i>0.50</i>
China .....	<b>4.79</b>	<b>4.84</b>	<b>4.78</b>	<b>4.86</b>	<b>4.92</b>	<b>4.91</b>	<i>4.87</i>	<i>4.92</i>	<i>4.89</i>	<i>4.92</i>	<i>4.93</i>	<i>4.97</i>	<b>4.82</b>	<i>4.90</i>	<i>4.93</i>
India .....	<b>1.03</b>	<b>1.02</b>	<b>1.01</b>	<b>1.00</b>	<b>1.00</b>	<b>0.97</b>	<i>0.97</i>	<i>0.97</i>	<i>0.97</i>	<i>0.96</i>	<i>0.97</i>	<i>0.97</i>	<b>1.01</b>	<i>0.98</i>	<i>0.97</i>
Indonesia .....	<b>0.90</b>	<b>0.90</b>	<b>0.88</b>	<b>0.89</b>	<b>0.88</b>	<b>0.84</b>	<i>0.84</i>	<i>0.83</i>	<i>0.82</i>	<i>0.82</i>	<i>0.81</i>	<i>0.81</i>	<b>0.89</b>	<i>0.85</i>	<i>0.82</i>
Malaysia .....	<b>0.77</b>	<b>0.75</b>	<b>0.73</b>	<b>0.75</b>	<b>0.75</b>	<b>0.72</b>	<i>0.70</i>	<i>0.74</i>	<i>0.72</i>	<i>0.71</i>	<i>0.70</i>	<i>0.69</i>	<b>0.75</b>	<i>0.73</i>	<i>0.71</i>
Vietnam .....	<b>0.27</b>	<b>0.25</b>	<b>0.25</b>	<b>0.25</b>	<b>0.25</b>	<b>0.24</b>	<i>0.25</i>	<i>0.25</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<b>0.25</b>	<i>0.25</i>	<i>0.24</i>
<b>Africa</b> .....	<b>1.52</b>	<b>1.51</b>	<b>1.55</b>	<b>1.56</b>	<b>1.59</b>	<b>1.56</b>	<i>1.54</i>	<i>1.55</i>	<i>1.51</i>	<i>1.51</i>	<i>1.51</i>	<i>1.51</i>	<b>1.53</b>	<i>1.56</i>	<i>1.51</i>
Egypt .....	<b>0.67</b>	<b>0.66</b>	<b>0.67</b>	<b>0.67</b>	<b>0.66</b>	<b>0.63</b>	<i>0.62</i>	<i>0.62</i>	<i>0.59</i>	<i>0.59</i>	<i>0.59</i>	<i>0.59</i>	<b>0.67</b>	<i>0.63</i>	<i>0.59</i>
South Sudan .....	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<b>0.14</b>	<b>0.17</b>	<b>0.18</b>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<b>0.13</b>	<i>0.18</i>	<i>0.18</i>
<b>Total non-OPEC liquids</b> .....	<b>61.81</b>	<b>62.71</b>	<b>64.08</b>	<b>64.86</b>	<b>63.99</b>	<b>65.20</b>	<i>66.41</i>	<i>66.99</i>	<i>66.48</i>	<i>67.76</i>	<i>68.28</i>	<i>68.60</i>	<b>63.38</b>	<i>65.66</i>	<i>67.78</i>
<b>OPEC non-crude liquids</b> .....	<b>5.36</b>	<b>5.29</b>	<b>5.33</b>	<b>5.36</b>	<b>5.36</b>	<b>5.37</b>	<i>5.15</i>	<i>5.17</i>	<i>5.04</i>	<i>5.01</i>	<i>5.02</i>	<i>5.05</i>	<b>5.33</b>	<i>5.26</i>	<i>5.03</i>
<b>Non-OPEC + OPEC non-crude</b> .....	<b>67.18</b>	<b>68.00</b>	<b>69.41</b>	<b>70.21</b>	<b>69.35</b>	<b>70.57</b>	<i>71.56</i>	<i>72.16</i>	<i>71.52</i>	<i>72.78</i>	<i>73.30</i>	<i>73.66</i>	<b>68.71</b>	<i>70.92</i>	<i>72.82</i>
<b>Unplanned non-OPEC Production Outages</b> .....	<b>0.40</b>	<b>0.27</b>	<b>0.17</b>	<b>0.31</b>	<b>0.35</b>	<b>0.29</b>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<b>0.29</b>	<i>n/a</i>	<i>n/a</i>

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Ecuador, 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Crude Oil</b>															
Algeria .....	1.02	1.02	1.03	1.00	1.01	1.02	-	-	-	-	-	-	1.02	-	-
Angola .....	1.59	1.56	1.56	1.57	1.50	1.45	-	-	-	-	-	-	1.57	-	-
Congo (Brazzaville) .....	0.34	0.35	0.33	0.31	0.33	0.33	-	-	-	-	-	-	0.33	-	-
Ecuador .....	0.51	0.52	0.52	0.52	0.52	0.53	-	-	-	-	-	-	0.52	-	-
Equatorial Guinea .....	0.14	0.13	0.14	0.12	0.11	0.11	-	-	-	-	-	-	0.13	-	-
Gabon .....	0.20	0.20	0.19	0.19	0.20	0.19	-	-	-	-	-	-	0.20	-	-
Iran .....	3.83	3.80	3.55	2.90	2.63	2.30	-	-	-	-	-	-	3.52	-	-
Iraq .....	4.46	4.50	4.66	4.77	4.75	4.75	-	-	-	-	-	-	4.60	-	-
Kuwait .....	2.71	2.71	2.80	2.80	2.74	2.72	-	-	-	-	-	-	2.76	-	-
Libya .....	1.00	0.92	0.91	1.03	0.93	1.15	-	-	-	-	-	-	0.96	-	-
Nigeria .....	1.72	1.53	1.55	1.60	1.58	1.63	-	-	-	-	-	-	1.60	-	-
Saudi Arabia .....	10.10	10.20	10.47	10.74	10.00	9.95	-	-	-	-	-	-	10.38	-	-
United Arab Emirates .....	2.88	2.86	2.94	3.11	3.12	3.12	-	-	-	-	-	-	2.95	-	-
Venezuela .....	1.60	1.49	1.36	1.27	1.05	0.75	-	-	-	-	-	-	1.43	-	-
OPEC Total .....	32.10	31.78	32.02	31.93	30.47	30.01	30.21	30.10	29.68	29.74	29.89	29.62	31.96	30.19	29.73
<b>Other Liquids (a) .....</b>	<b>5.36</b>	<b>5.29</b>	<b>5.33</b>	<b>5.36</b>	<b>5.36</b>	<b>5.37</b>	<i>5.15</i>	<i>5.17</i>	<i>5.04</i>	<i>5.01</i>	<i>5.02</i>	<i>5.05</i>	<b>5.33</b>	<i>5.26</i>	<i>5.03</i>
<b>Total OPEC Supply .....</b>	<b>37.46</b>	<b>37.07</b>	<b>37.34</b>	<b>37.29</b>	<b>35.83</b>	<b>35.38</b>	<i>35.36</i>	<i>35.27</i>	<i>34.71</i>	<i>34.75</i>	<i>34.91</i>	<i>34.67</i>	<b>37.29</b>	<i>35.46</i>	<i>34.76</i>
<b>Crude Oil Production Capacity</b>															
Africa .....	6.00	5.70	5.71	5.83	5.66	5.89	5.78	5.83	5.89	5.90	5.92	5.93	5.81	5.79	5.91
Middle East .....	25.84	25.85	25.76	25.29	25.28	24.95	24.70	24.70	24.72	24.76	24.77	24.78	25.68	24.91	24.76
South America .....	2.11	2.01	1.89	1.79	1.58	1.28	1.12	1.03	0.96	0.90	0.85	0.80	1.95	1.25	0.87
OPEC Total .....	33.95	33.56	33.36	32.90	32.52	32.12	31.60	31.55	31.56	31.56	31.54	31.50	33.44	31.94	31.54
<b>Surplus Crude Oil Production Capacity</b>															
Africa .....	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
Middle East .....	1.86	1.78	1.34	0.97	2.05	2.11	1.39	1.45	1.89	1.82	1.65	1.89	1.48	1.75	1.81
South America .....	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 .....	1.86	1.78	1.34	0.97	2.05	2.11	1.39	1.45	1.89	1.82	1.65	1.89	1.48	1.75	1.81
<b>Unplanned OPEC Production Outages .....</b>	<b>1.21</b>	<b>1.43</b>	<b>1.59</b>	<b>2.01</b>	<b>2.51</b>	<b>2.45</b>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<b>1.56</b>	<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, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Saudi Arabia, and the United Arab Emirates (Middle East).

(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 - July 2019

	2018				2019				2020				2018	2019	2020
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
<b>North America</b> .....	<b>24.56</b>	<b>24.71</b>	<b>25.17</b>	<b>24.98</b>	<b>24.44</b>	<b>24.58</b>	<i>25.61</i>	<i>25.48</i>	<i>24.80</i>	<i>25.09</i>	<i>25.68</i>	<i>25.44</i>	<b>24.86</b>	<i>25.03</i>	<i>25.26</i>
Canada .....	<b>2.32</b>	<b>2.34</b>	<b>2.56</b>	<b>2.49</b>	<b>2.20</b>	<b>2.30</b>	<i>2.49</i>	<i>2.46</i>	<i>2.37</i>	<i>2.31</i>	<i>2.41</i>	<i>2.39</i>	<b>2.43</b>	<i>2.36</i>	<i>2.37</i>
Mexico .....	<b>1.99</b>	<b>2.02</b>	<b>1.97</b>	<b>1.88</b>	<b>1.94</b>	<b>1.97</b>	<i>1.97</i>	<i>1.95</i>	<i>1.94</i>	<i>1.97</i>	<i>1.97</i>	<i>1.98</i>	<b>1.97</b>	<i>1.96</i>	<i>1.96</i>
United States .....	<b>20.24</b>	<b>20.33</b>	<b>20.63</b>	<b>20.60</b>	<b>20.29</b>	<b>20.30</b>	<i>21.14</i>	<i>21.06</i>	<i>20.49</i>	<i>20.80</i>	<i>21.29</i>	<i>21.06</i>	<b>20.45</b>	<i>20.70</i>	<i>20.91</i>
<b>Central and South America</b> .....	<b>6.72</b>	<b>6.76</b>	<b>6.94</b>	<b>6.95</b>	<b>6.65</b>	<b>6.76</b>	<i>6.84</i>	<i>6.83</i>	<i>6.62</i>	<i>6.76</i>	<i>6.89</i>	<i>6.91</i>	<b>6.84</b>	<i>6.77</i>	<i>6.80</i>
Brazil .....	<b>2.98</b>	<b>2.95</b>	<b>3.11</b>	<b>3.11</b>	<b>3.02</b>	<b>3.07</b>	<i>3.11</i>	<i>3.10</i>	<i>3.01</i>	<i>3.08</i>	<i>3.17</i>	<i>3.17</i>	<b>3.04</b>	<i>3.08</i>	<i>3.11</i>
<b>Europe</b> .....	<b>14.84</b>	<b>15.01</b>	<b>15.45</b>	<b>14.89</b>	<b>14.69</b>	<b>14.89</b>	<i>15.41</i>	<i>15.12</i>	<i>14.72</i>	<i>14.93</i>	<i>15.45</i>	<i>15.16</i>	<b>15.05</b>	<i>15.03</i>	<i>15.07</i>
<b>Eurasia</b> .....	<b>4.78</b>	<b>4.83</b>	<b>5.11</b>	<b>4.98</b>	<b>4.79</b>	<b>4.86</b>	<i>5.13</i>	<i>5.08</i>	<i>4.85</i>	<i>4.94</i>	<i>5.32</i>	<i>5.22</i>	<b>4.93</b>	<i>4.97</i>	<i>5.08</i>
Russia .....	<b>3.63</b>	<b>3.70</b>	<b>3.91</b>	<b>3.78</b>	<b>3.63</b>	<b>3.72</b>	<i>3.93</i>	<i>3.87</i>	<i>3.68</i>	<i>3.79</i>	<i>4.11</i>	<i>4.00</i>	<b>3.75</b>	<i>3.79</i>	<i>3.90</i>
<b>Middle East</b> .....	<b>8.00</b>	<b>8.53</b>	<b>8.79</b>	<b>8.43</b>	<b>8.28</b>	<b>8.78</b>	<i>9.05</i>	<i>8.49</i>	<i>8.44</i>	<i>8.88</i>	<i>9.19</i>	<i>8.71</i>	<b>8.44</b>	<i>8.65</i>	<i>8.81</i>
<b>Asia and Oceania</b> .....	<b>35.88</b>	<b>35.40</b>	<b>34.74</b>	<b>35.71</b>	<b>36.39</b>	<b>35.97</b>	<i>35.48</i>	<i>36.52</i>	<i>37.29</i>	<i>36.75</i>	<i>36.12</i>	<i>37.20</i>	<b>35.43</b>	<i>36.09</i>	<i>36.84</i>
China .....	<b>13.80</b>	<b>14.00</b>	<b>13.73</b>	<b>13.95</b>	<b>14.28</b>	<b>14.57</b>	<i>14.30</i>	<i>14.51</i>	<i>14.83</i>	<i>15.03</i>	<i>14.74</i>	<i>14.97</i>	<b>13.87</b>	<i>14.42</i>	<i>14.89</i>
Japan .....	<b>4.27</b>	<b>3.43</b>	<b>3.53</b>	<b>3.89</b>	<b>4.05</b>	<b>3.38</b>	<i>3.45</i>	<i>3.77</i>	<i>4.05</i>	<i>3.32</i>	<i>3.39</i>	<i>3.73</i>	<b>3.78</b>	<i>3.66</i>	<i>3.62</i>
India .....	<b>4.73</b>	<b>4.89</b>	<b>4.57</b>	<b>4.92</b>	<b>4.99</b>	<b>4.94</b>	<i>4.74</i>	<i>5.03</i>	<i>5.17</i>	<i>5.23</i>	<i>4.89</i>	<i>5.20</i>	<b>4.78</b>	<i>4.92</i>	<i>5.12</i>
<b>Africa</b> .....	<b>4.38</b>	<b>4.38</b>	<b>4.28</b>	<b>4.49</b>	<b>4.45</b>	<b>4.45</b>	<i>4.38</i>	<i>4.57</i>	<i>4.55</i>	<i>4.55</i>	<i>4.47</i>	<i>4.66</i>	<b>4.38</b>	<i>4.46</i>	<i>4.56</i>
<b>Total OECD Liquid Fuels Consumption</b> .....	<b>47.62</b>	<b>47.03</b>	<b>47.93</b>	<b>47.54</b>	<b>47.04</b>	<b>46.60</b>	<i>48.24</i>	<i>48.28</i>	<i>47.50</i>	<i>47.09</i>	<i>48.31</i>	<i>48.25</i>	<b>47.53</b>	<i>47.54</i>	<i>47.79</i>
<b>Total non-OECD Liquid Fuels Consumption</b> .....	<b>51.54</b>	<b>52.59</b>	<b>52.56</b>	<b>52.89</b>	<b>52.65</b>	<b>53.69</b>	<i>53.66</i>	<i>53.81</i>	<i>53.76</i>	<i>54.81</i>	<i>54.83</i>	<i>55.05</i>	<b>52.40</b>	<i>53.46</i>	<i>54.61</i>
<b>Total World Liquid Fuels Consumption</b> .....	<b>99.16</b>	<b>99.62</b>	<b>100.50</b>	<b>100.43</b>	<b>99.69</b>	<b>100.29</b>	<i>101.90</i>	<i>102.09</i>	<i>101.27</i>	<i>101.90</i>	<i>103.13</i>	<i>103.30</i>	<b>99.93</b>	<i>101.00</i>	<i>102.40</i>
<b>Oil-weighted Real Gross Domestic Product (a)</b>															
World Index, 2015 Q1 = 100 .....	<b>109.2</b>	<b>109.8</b>	<b>110.4</b>	<b>111.1</b>	<b>111.7</b>	<b>112.1</b>	<i>112.8</i>	<i>113.4</i>	<i>113.7</i>	<i>115.4</i>	<i>116.1</i>	<i>117.1</i>	<b>110.1</b>	<i>112.5</i>	<i>115.6</i>
Percent change from prior year .....	<b>3.2</b>	<b>3.2</b>	<b>2.9</b>	<b>2.7</b>	<b>2.3</b>	<b>2.1</b>	<i>2.1</i>	<i>2.1</i>	<i>1.8</i>	<i>2.9</i>	<i>3.0</i>	<i>3.2</i>	<b>3.0</b>	<i>2.2</i>	<i>2.7</i>
OECD Index, 2015 Q1 = 100 .....	<b>106.6</b>	<b>107.1</b>	<b>107.5</b>	<b>108.0</b>	<b>108.7</b>	<b>108.9</b>	<i>109.4</i>	<i>109.8</i>	<i>109.4</i>	<i>111.0</i>	<i>111.4</i>	<i>111.9</i>	<b>107.3</b>	<i>109.2</i>	<i>110.9</i>
Percent change from prior year .....	<b>2.5</b>	<b>2.5</b>	<b>2.3</b>	<b>2.1</b>	<b>2.0</b>	<b>1.7</b>	<i>1.7</i>	<i>1.7</i>	<i>0.6</i>	<i>1.9</i>	<i>1.8</i>	<i>1.9</i>	<b>2.3</b>	<i>1.8</i>	<i>1.6</i>
Non-OECD Index, 2015 Q1 = 100 .....	<b>111.7</b>	<b>112.4</b>	<b>113.2</b>	<b>114.0</b>	<b>114.6</b>	<b>115.2</b>	<i>116.0</i>	<i>116.9</i>	<i>117.9</i>	<i>119.7</i>	<i>120.8</i>	<i>122.1</i>	<b>112.8</b>	<i>115.7</i>	<i>120.1</i>
Percent change from prior year .....	<b>3.9</b>	<b>3.7</b>	<b>3.4</b>	<b>3.3</b>	<b>2.6</b>	<b>2.5</b>	<i>2.5</i>	<i>2.5</i>	<i>2.8</i>	<i>3.9</i>	<i>4.1</i>	<i>4.5</i>	<b>3.6</b>	<i>2.5</i>	<i>3.8</i>
<b>Real U.S. Dollar Exchange Rate (a)</b>															
Index, 2015 Q1 = 100 .....	<b>100.73</b>	<b>102.79</b>	<b>105.52</b>	<b>106.18</b>	<b>105.13</b>	<b>105.68</b>	<i>105.66</i>	<i>105.12</i>	<i>104.60</i>	<i>104.01</i>	<i>103.43</i>	<i>102.91</i>	<b>103.81</b>	<i>105.40</i>	<i>103.74</i>
Percent change from prior year .....	<b>-4.0</b>	<b>-0.7</b>	<b>3.4</b>	<b>3.7</b>	<b>4.4</b>	<b>2.8</b>	<i>0.1</i>	<i>-1.0</i>	<i>-0.5</i>	<i>-1.6</i>	<i>-2.1</i>	<i>-2.1</i>	<b>0.6</b>	<i>1.5</i>	<i>-1.6</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, 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Supply (million barrels per day)</b>															
Crude Oil Supply															
Domestic Production (a) .....	10.23	10.54	11.24	11.81	11.82	12.19	12.55	12.86	12.97	13.17	13.34	13.56	10.96	12.36	13.26
Alaska .....	0.51	0.48	0.43	0.49	0.49	0.48	0.45	0.49	0.51	0.49	0.46	0.49	0.48	0.48	0.49
Federal Gulf of Mexico (b) .....	1.67	1.58	1.85	1.86	1.85	1.90	1.90	2.00	2.08	2.08	2.00	2.01	1.74	1.91	2.04
Lower 48 States (excl GOM) .....	8.05	8.47	8.96	9.46	9.49	9.80	10.20	10.36	10.38	10.60	10.87	11.06	8.74	9.97	10.73
Crude Oil Net Imports (c) .....	6.18	6.19	5.84	4.82	4.25	4.13	4.45	3.96	4.08	4.52	4.30	3.89	5.75	4.20	4.20
SPR Net Withdrawals .....	-0.03	0.06	0.00	0.12	0.00	0.05	0.00	0.04	0.04	0.04	0.01	0.03	0.04	0.02	0.03
Commercial Inventory Net Withdrawals .....	-0.02	0.09	-0.01	-0.28	-0.19	-0.09	0.07	-0.11	-0.33	0.08	0.15	-0.08	-0.06	-0.08	-0.04
Crude Oil Adjustment (d) .....	0.05	0.26	0.25	0.52	0.32	0.51	0.21	0.15	0.19	0.19	0.21	0.15	0.27	0.30	0.19
Total Crude Oil Input to Refineries .....	16.41	17.14	17.32	16.99	16.20	16.78	17.28	16.90	16.95	18.00	18.02	17.55	16.97	16.79	17.63
Other Supply															
Refinery Processing Gain .....	1.11	1.12	1.17	1.16	1.06	1.11	1.13	1.17	1.18	1.24	1.26	1.27	1.14	1.12	1.24
Natural Gas Plant Liquids Production .....	4.01	4.30	4.54	4.54	4.66	4.86	5.10	5.31	5.23	5.27	5.40	5.50	4.35	4.98	5.35
Renewables and Oxygenate Production (e) .....	1.21	1.22	1.25	1.22	1.18	1.23	1.19	1.20	1.19	1.24	1.23	1.23	1.23	1.20	1.22
Fuel Ethanol Production .....	1.05	1.04	1.06	1.04	1.01	1.06	1.02	1.03	1.03	1.06	1.05	1.05	1.05	1.03	1.05
Petroleum Products Adjustment (f) .....	0.21	0.21	0.21	0.22	0.20	0.21	0.22	0.23	0.22	0.24	0.24	0.24	0.21	0.21	0.23
Product Net Imports (c) .....	-3.13	-3.44	-3.17	-3.91	-3.35	-3.41	-3.56	-4.08	-4.61	-4.69	-4.58	-5.07	-3.41	-3.60	-4.74
Hydrocarbon Gas Liquids .....	-1.22	-1.53	-1.49	-1.38	-1.33	-1.75	-1.72	-1.86	-1.94	-1.94	-1.97	-2.09	-1.41	-1.66	-1.98
Unfinished Oils .....	0.39	0.32	0.35	0.28	0.21	0.44	0.34	0.35	0.50	0.61	0.61	0.51	0.33	0.33	0.56
Other HC/Oxygenates .....	-0.18	-0.15	-0.13	-0.15	-0.13	-0.12	-0.12	-0.10	-0.13	-0.12	-0.12	-0.12	-0.15	-0.12	-0.12
Motor Gasoline Blend Comp. ....	0.50	0.78	0.66	0.37	0.43	0.73	0.43	0.45	0.44	0.65	0.49	0.45	0.58	0.51	0.51
Finished Motor Gasoline .....	-0.94	-0.71	-0.72	-1.00	-0.82	-0.65	-0.53	-0.89	-1.13	-0.95	-0.81	-1.20	-0.84	-0.72	-1.02
Jet Fuel .....	-0.10	-0.10	-0.06	-0.13	-0.08	-0.03	0.00	0.02	0.01	-0.05	-0.06	-0.04	-0.10	-0.02	-0.03
Distillate Fuel Oil .....	-0.87	-1.30	-1.14	-1.19	-0.91	-1.35	-1.26	-1.21	-1.43	-1.88	-1.82	-1.58	-1.13	-1.18	-1.68
Residual Fuel Oil .....	-0.10	-0.14	-0.10	-0.09	-0.08	-0.10	-0.04	-0.06	-0.03	-0.14	-0.04	-0.06	-0.11	-0.07	-0.07
Other Oils (g) .....	-0.62	-0.61	-0.53	-0.61	-0.64	-0.56	-0.67	-0.77	-0.90	-0.88	-0.86	-0.94	-0.59	-0.66	-0.89
Product Inventory Net Withdrawals .....	0.41	-0.21	-0.69	0.38	0.34	-0.49	-0.22	0.34	0.33	-0.50	-0.27	0.36	-0.03	0.00	-0.02
Total Supply .....	20.23	20.33	20.63	20.60	20.29	20.30	21.14	21.06	20.49	20.80	21.29	21.06	20.45	20.70	20.91
<b>Consumption (million barrels per day)</b>															
Hydrocarbon Gas Liquids .....	3.22	2.67	2.85	3.22	3.48	2.82	3.22	3.59	3.61	3.15	3.29	3.57	2.99	3.28	3.41
Unfinished Oils .....	0.13	-0.04	-0.10	0.00	-0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor Gasoline .....	9.01	9.51	9.51	9.25	8.96	9.48	9.54	9.28	8.93	9.57	9.59	9.26	9.32	9.32	9.34
Fuel Ethanol blended into Motor Gasoline .....	0.91	0.94	0.96	0.94	0.91	0.97	0.95	0.93	0.91	0.98	0.98	0.95	0.94	0.94	0.95
Jet Fuel .....	1.64	1.73	1.78	1.70	1.65	1.78	1.86	1.83	1.76	1.83	1.88	1.85	1.71	1.78	1.83
Distillate Fuel Oil .....	4.18	4.13	4.05	4.18	4.28	3.97	4.08	4.18	4.21	4.08	4.16	4.24	4.13	4.13	4.17
Residual Fuel Oil .....	0.28	0.32	0.34	0.34	0.27	0.26	0.35	0.31	0.28	0.23	0.31	0.27	0.32	0.30	0.27
Other Oils (g) .....	1.78	2.01	2.22	1.91	1.68	1.95	2.11	1.88	1.70	1.95	2.08	1.88	1.98	1.90	1.90
Total Consumption .....	20.24	20.33	20.63	20.60	20.29	20.30	21.14	21.06	20.49	20.80	21.29	21.06	20.45	20.70	20.91
<b>Total Petroleum and Other Liquids Net Imports</b> .....	<b>3.05</b>	<b>2.75</b>	<b>2.67</b>	<b>0.91</b>	<b>0.89</b>	<b>0.72</b>	<b>0.89</b>	<b>-0.12</b>	<b>-0.53</b>	<b>-0.16</b>	<b>-0.27</b>	<b>-1.19</b>	<b>2.34</b>	<b>0.59</b>	<b>-0.54</b>
<b>End-of-period Inventories (million barrels)</b>															
Commercial Inventory															
Crude Oil (excluding SPR) .....	423.4	414.8	416.1	441.8	459.3	467.5	461.0	471.0	500.9	493.3	479.4	486.5	441.8	471.0	486.5
Hydrocarbon Gas Liquids .....	139.3	180.8	224.8	188.5	163.0	220.6	257.2	213.8	173.8	222.9	258.1	213.4	188.5	213.8	213.4
Unfinished Oils .....	98.3	92.6	92.0	85.9	92.0	97.0	89.8	82.0	92.5	92.3	89.4	82.4	85.9	82.0	82.4
Other HC/Oxygenates .....	30.5	28.8	30.5	31.4	32.8	32.3	31.6	32.3	34.0	33.0	32.3	32.9	31.4	32.3	32.9
Total Motor Gasoline .....	239.6	240.3	239.7	246.3	236.1	230.5	220.3	233.9	233.0	228.2	222.4	235.3	246.3	233.9	235.3
Finished Motor Gasoline .....	23.1	24.7	24.8	25.7	21.7	22.3	23.6	24.4	23.7	22.5	23.4	23.7	25.7	24.4	23.7
Motor Gasoline Blend Comp. ....	216.5	215.6	214.9	220.5	214.4	208.1	196.7	209.5	209.3	205.7	199.0	211.5	220.5	209.5	211.5
Jet Fuel .....	40.4	40.8	46.9	41.6	41.6	39.4	41.7	40.2	40.5	42.2	43.7	41.8	41.6	40.2	41.8
Distillate Fuel Oil .....	130.4	120.4	137.1	140.0	132.4	127.0	132.2	137.4	127.7	130.2	135.1	140.2	140.0	137.4	140.2
Residual Fuel Oil .....	35.0	30.0	28.6	28.3	28.7	28.8	28.8	28.3	30.9	31.1	29.2	29.0	28.3	28.3	29.0
Other Oils (g) .....	59.3	58.8	56.1	58.7	63.2	58.4	52.4	54.6	60.0	58.6	52.7	54.9	58.7	54.6	54.9
Total Commercial Inventory .....	1,196	1,207	1,272	1,262	1,249	1,301	1,315	1,293	1,293	1,332	1,342	1,316	1,262	1,293	1,316
Crude Oil in SPR .....	665	660	660	649	649	645	645	641	638	635	633	630	649	641	630

- = 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.

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

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

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

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

**Projections:** EIA Regional Short-Term Energy Model.

**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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>HGL Production</b>															
<b>Natural Gas Processing Plants</b>															
Ethane .....	1.59	1.70	1.76	1.77	1.87	1.91	2.04	2.20	2.22	2.19	2.22	2.31	1.71	2.01	2.23
Propane .....	1.29	1.37	1.44	1.47	1.50	1.56	1.61	1.65	1.61	1.63	1.68	1.69	1.39	1.58	1.65
Butanes .....	0.69	0.74	0.78	0.79	0.79	0.84	0.86	0.88	0.85	0.87	0.90	0.90	0.75	0.84	0.88
Natural Gasoline (Pentanes Plus) .....	0.44	0.50	0.55	0.51	0.49	0.55	0.59	0.58	0.55	0.58	0.61	0.59	0.50	0.55	0.58
<b>Refinery and Blender Net Production</b>															
Ethane/Ethylene .....	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Propane .....	0.30	0.31	0.31	0.29	0.28	0.30	0.29	0.29	0.28	0.31	0.30	0.30	0.30	0.29	0.30
Propylene (refinery-grade) .....	0.28	0.29	0.29	0.31	0.28	0.28	0.28	0.29	0.28	0.29	0.29	0.29	0.29	0.28	0.29
Butanes/Butylenes .....	-0.11	0.24	0.19	-0.20	-0.09	0.26	0.19	-0.20	-0.08	0.26	0.19	-0.20	0.03	0.04	0.04
<b>Renewable Fuels and Oxygenate Plant Net Production</b>															
Natural Gasoline (Pentanes Plus) .....	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
<b>HGL Net Imports</b>															
Ethane .....	-0.22	-0.29	-0.26	-0.25	-0.27	-0.29	-0.31	-0.34	-0.36	-0.36	-0.36	-0.40	-0.26	-0.30	-0.37
Propane/Propylene .....	-0.72	-0.81	-0.87	-0.86	-0.75	-0.99	-0.92	-1.04	-0.99	-0.99	-1.00	-1.10	-0.82	-0.92	-1.02
Butanes/Butylenes .....	-0.10	-0.20	-0.19	-0.13	-0.14	-0.26	-0.28	-0.29	-0.28	-0.30	-0.30	-0.29	-0.15	-0.24	-0.29
Natural Gasoline (Pentanes Plus) .....	-0.18	-0.23	-0.17	-0.14	-0.17	-0.21	-0.21	-0.20	-0.30	-0.29	-0.31	-0.30	-0.18	-0.20	-0.30
<b>HGL Refinery and Blender Net Inputs</b>															
Butanes/Butylenes .....	0.45	0.30	0.32	0.55	0.46	0.31	0.33	0.51	0.43	0.31	0.34	0.52	0.41	0.40	0.40
Natural Gasoline (Pentanes Plus) .....	0.15	0.16	0.18	0.17	0.14	0.17	0.18	0.18	0.16	0.17	0.18	0.17	0.17	0.17	0.17
<b>HGL Consumption</b>															
Ethane/Ethylene .....	1.44	1.45	1.51	1.50	1.61	1.59	1.76	1.89	1.85	1.80	1.88	1.94	1.47	1.71	1.87
Propane .....	1.16	0.60	0.65	1.01	1.20	0.59	0.77	1.02	1.19	0.69	0.77	1.01	0.86	0.89	0.92
Propylene (refinery-grade) .....	0.32	0.31	0.31	0.29	0.28	0.31	0.30	0.29	0.31	0.32	0.31	0.30	0.30	0.30	0.31
Butanes/Butylenes .....	0.20	0.21	0.21	0.25	0.20	0.21	0.24	0.22	0.19	0.26	0.24	0.22	0.22	0.22	0.23
Natural Gasoline (Pentanes Plus) .....	0.10	0.09	0.16	0.18	0.20	0.12	0.16	0.18	0.08	0.07	0.08	0.10	0.13	0.16	0.08
<b>HGL Inventories (million barrels)</b>															
Ethane .....	51.41	47.90	46.07	50.15	48.14	52.83	51.55	51.02	49.44	52.62	50.74	50.22	48.87	50.90	50.75
Propane .....	33.83	56.51	75.16	63.67	47.77	70.72	89.12	77.12	49.09	70.54	87.87	75.14	63.67	77.12	75.14
Propylene (refinery-grade) .....	3.82	3.64	3.86	6.93	7.82	7.47	7.37	8.47	8.53	8.08	8.08	8.86	6.93	8.47	8.86
Butanes/Butylenes .....	32.02	55.37	78.52	47.44	39.30	68.50	86.94	56.32	44.52	68.20	86.64	56.01	47.44	56.32	56.01
Natural Gasoline (Pentanes Plus) .....	19.36	18.59	20.34	20.84	18.12	20.38	22.30	22.44	21.22	23.42	24.84	24.66	20.84	22.44	24.66
<b>Refinery and Blender Net Inputs</b>															
Crude Oil .....	16.41	17.14	17.32	16.99	16.20	16.78	17.28	16.90	16.95	18.00	18.02	17.55	16.97	16.79	17.63
Hydrocarbon Gas Liquids .....	0.61	0.47	0.50	0.72	0.59	0.48	0.51	0.69	0.59	0.48	0.52	0.70	0.57	0.57	0.57
Other Hydrocarbons/Oxygenates .....	1.16	1.23	1.22	1.20	1.16	1.23	1.22	1.23	1.21	1.30	1.27	1.26	1.20	1.21	1.26
Unfinished Oils .....	0.12	0.42	0.45	0.34	0.18	0.35	0.42	0.43	0.38	0.61	0.65	0.59	0.33	0.35	0.56
Motor Gasoline Blend Components .....	0.34	0.70	0.58	0.26	0.63	0.88	0.65	0.49	0.57	0.84	0.66	0.49	0.47	0.66	0.64
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 .....	18.63	19.96	20.08	19.51	18.76	19.72	20.09	19.74	19.71	21.24	21.11	20.58	19.55	19.58	20.66
<b>Refinery Processing Gain</b>															
.....	1.11	1.12	1.17	1.16	1.06	1.11	1.13	1.17	1.18	1.24	1.26	1.27	1.14	1.12	1.24
<b>Refinery and Blender Net Production</b>															
Hydrocarbon Gas Liquids .....	0.48	0.84	0.80	0.41	0.48	0.85	0.76	0.38	0.49	0.87	0.78	0.39	0.63	0.62	0.63
Finished Motor Gasoline .....	9.79	10.14	10.11	10.19	9.84	10.18	10.17	10.33	10.16	10.61	10.48	10.60	10.06	10.13	10.46
Jet Fuel .....	1.72	1.83	1.90	1.77	1.73	1.79	1.88	1.79	1.76	1.90	1.95	1.87	1.81	1.80	1.87
Distillate Fuel .....	4.81	5.25	5.29	5.32	5.05	5.19	5.31	5.38	5.50	5.92	5.96	5.81	5.17	5.23	5.79
Residual Fuel .....	0.44	0.40	0.42	0.43	0.36	0.37	0.39	0.36	0.34	0.37	0.33	0.34	0.42	0.37	0.34
Other Oils (a) .....	2.49	2.61	2.72	2.55	2.37	2.45	2.71	2.67	2.65	2.82	2.87	2.83	2.59	2.55	2.80
Total Refinery and Blender Net Production .....	19.74	21.08	21.25	20.67	19.82	20.83	21.21	20.91	20.90	22.48	22.37	21.84	20.69	20.70	21.90
<b>Refinery Distillation Inputs</b>															
.....	16.76	17.50	17.69	17.33	16.48	17.13	17.48	17.10	16.98	17.92	18.01	17.57	17.32	17.05	17.62
<b>Refinery Operable Distillation Capacity</b>															
.....	18.57	18.60	18.60	18.60	18.78	18.80	18.81	18.82	18.82	18.82	18.82	18.85	18.59	18.80	18.83
<b>Refinery Distillation Utilization Factor</b>															
.....	0.90	0.94	0.95	0.93	0.88	0.91	0.93	0.91	0.90	0.95	0.96	0.93	0.93	0.91	0.94

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Prices (cents per gallon)</b>															
<b>Refiner Wholesale Price</b> .....	<b>186</b>	<b>213</b>	<b>213</b>	<b>178</b>	<b>167</b>	<b>201</b>	<b>195</b>	<b>185</b>	<b>192</b>	<b>203</b>	<b>199</b>	<b>184</b>	<b>198</b>	<b>187</b>	<b>195</b>
<b>Gasoline Regular Grade Retail Prices Including Taxes</b>															
PADD 1 .....	<b>255</b>	<b>279</b>	<b>278</b>	<b>257</b>	<b>233</b>	<b>268</b>	<b>271</b>	<b>268</b>	<b>269</b>	<b>280</b>	<b>278</b>	<b>269</b>	<b>268</b>	<b>260</b>	<b>274</b>
PADD 2 .....	<b>246</b>	<b>274</b>	<b>276</b>	<b>245</b>	<b>223</b>	<b>269</b>	<b>270</b>	<b>260</b>	<b>263</b>	<b>277</b>	<b>275</b>	<b>260</b>	<b>261</b>	<b>256</b>	<b>269</b>
PADD 3 .....	<b>230</b>	<b>261</b>	<b>258</b>	<b>231</b>	<b>206</b>	<b>246</b>	<b>243</b>	<b>235</b>	<b>241</b>	<b>254</b>	<b>249</b>	<b>235</b>	<b>245</b>	<b>234</b>	<b>245</b>
PADD 4 .....	<b>247</b>	<b>288</b>	<b>297</b>	<b>281</b>	<b>226</b>	<b>285</b>	<b>275</b>	<b>260</b>	<b>250</b>	<b>272</b>	<b>279</b>	<b>262</b>	<b>279</b>	<b>262</b>	<b>266</b>
PADD 5 .....	<b>312</b>	<b>342</b>	<b>335</b>	<b>333</b>	<b>297</b>	<b>356</b>	<b>322</b>	<b>304</b>	<b>307</b>	<b>336</b>	<b>332</b>	<b>306</b>	<b>330</b>	<b>320</b>	<b>321</b>
U.S. Average .....	<b>258</b>	<b>285</b>	<b>284</b>	<b>262</b>	<b>236</b>	<b>279</b>	<b>275</b>	<b>266</b>	<b>269</b>	<b>284</b>	<b>282</b>	<b>267</b>	<b>273</b>	<b>265</b>	<b>276</b>
<b>Gasoline All Grades Including Taxes</b>	<b>270</b>	<b>294</b>	<b>292</b>	<b>271</b>	<b>245</b>	<b>288</b>	<b>286</b>	<b>278</b>	<b>281</b>	<b>296</b>	<b>294</b>	<b>280</b>	<b>282</b>	<b>275</b>	<b>288</b>
<b>End-of-period Inventories (million barrels)</b>															
<b>Total Gasoline Inventories</b>															
PADD 1 .....	<b>58.4</b>	<b>66.5</b>	<b>70.2</b>	<b>62.9</b>	<b>62.4</b>	<b>58.4</b>	<b>54.5</b>	<b>59.3</b>	<b>58.8</b>	<b>59.5</b>	<b>56.4</b>	<b>60.2</b>	<b>62.9</b>	<b>59.3</b>	<b>60.2</b>
PADD 2 .....	<b>57.3</b>	<b>53.5</b>	<b>53.1</b>	<b>56.1</b>	<b>53.9</b>	<b>49.3</b>	<b>48.2</b>	<b>50.3</b>	<b>53.0</b>	<b>50.0</b>	<b>48.9</b>	<b>50.9</b>	<b>56.1</b>	<b>50.3</b>	<b>50.9</b>
PADD 3 .....	<b>84.2</b>	<b>82.3</b>	<b>80.5</b>	<b>90.6</b>	<b>82.5</b>	<b>84.6</b>	<b>81.2</b>	<b>84.8</b>	<b>83.5</b>	<b>82.6</b>	<b>81.3</b>	<b>85.0</b>	<b>90.6</b>	<b>84.8</b>	<b>85.0</b>
PADD 4 .....	<b>7.7</b>	<b>7.3</b>	<b>7.0</b>	<b>7.3</b>	<b>6.9</b>	<b>7.6</b>	<b>7.0</b>	<b>7.5</b>	<b>7.3</b>	<b>7.3</b>	<b>6.8</b>	<b>7.2</b>	<b>7.3</b>	<b>7.5</b>	<b>7.2</b>
PADD 5 .....	<b>32.0</b>	<b>30.7</b>	<b>28.8</b>	<b>29.4</b>	<b>30.4</b>	<b>30.5</b>	<b>29.3</b>	<b>32.0</b>	<b>30.4</b>	<b>28.9</b>	<b>29.1</b>	<b>32.0</b>	<b>29.4</b>	<b>32.0</b>	<b>32.0</b>
U.S. Total .....	<b>239.6</b>	<b>240.3</b>	<b>239.7</b>	<b>246.3</b>	<b>236.1</b>	<b>230.5</b>	<b>220.3</b>	<b>233.9</b>	<b>233.0</b>	<b>228.2</b>	<b>222.4</b>	<b>235.3</b>	<b>246.3</b>	<b>233.9</b>	<b>235.3</b>
<b>Finished Gasoline Inventories</b>															
U.S. Total .....	<b>23.1</b>	<b>24.7</b>	<b>24.8</b>	<b>25.7</b>	<b>21.7</b>	<b>22.3</b>	<b>23.6</b>	<b>24.4</b>	<b>23.7</b>	<b>22.5</b>	<b>23.4</b>	<b>23.7</b>	<b>25.7</b>	<b>24.4</b>	<b>23.7</b>
<b>Gasoline Blending Components Inventories</b>															
U.S. Total .....	<b>216.5</b>	<b>215.6</b>	<b>214.9</b>	<b>220.5</b>	<b>214.4</b>	<b>208.1</b>	<b>196.7</b>	<b>209.5</b>	<b>209.3</b>	<b>205.7</b>	<b>199.0</b>	<b>211.5</b>	<b>220.5</b>	<b>209.5</b>	<b>211.5</b>

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Supply (billion cubic feet per day)</b>															
Total Marketed Production .....	<b>84.93</b>	<b>87.39</b>	<b>91.50</b>	<b>94.79</b>	<b>96.00</b>	<b>97.59</b>	<i>99.35</i>	<i>100.54</i>	<i>99.68</i>	<i>99.75</i>	<i>100.56</i>	<i>100.65</i>	<b>89.69</b>	<i>98.39</i>	<i>100.16</i>
Alaska .....	<b>1.00</b>	<b>0.92</b>	<b>0.86</b>	<b>0.96</b>	<b>0.96</b>	<b>0.88</b>	<i>0.78</i>	<i>0.95</i>	<i>1.00</i>	<i>0.86</i>	<i>0.79</i>	<i>0.95</i>	<b>0.94</b>	<i>0.89</i>	<i>0.90</i>
Federal GOM (a) .....	<b>2.57</b>	<b>2.48</b>	<b>2.86</b>	<b>2.77</b>	<b>2.80</b>	<b>2.93</b>	<i>2.92</i>	<i>2.91</i>	<i>3.00</i>	<i>2.95</i>	<i>2.81</i>	<i>2.79</i>	<b>2.67</b>	<i>2.89</i>	<i>2.89</i>
Lower 48 States (excl GOM) .....	<b>81.37</b>	<b>83.98</b>	<b>87.79</b>	<b>91.05</b>	<b>92.24</b>	<b>93.78</b>	<i>95.64</i>	<i>96.69</i>	<i>95.68</i>	<i>95.94</i>	<i>96.96</i>	<i>96.91</i>	<b>86.08</b>	<i>94.60</i>	<i>96.37</i>
Total Dry Gas Production .....	<b>79.13</b>	<b>81.17</b>	<b>84.95</b>	<b>88.21</b>	<b>89.24</b>	<b>90.62</b>	<i>92.21</i>	<i>93.26</i>	<i>92.41</i>	<i>92.43</i>	<i>93.13</i>	<i>93.16</i>	<b>83.39</b>	<i>91.35</i>	<i>92.79</i>
LNG Gross Imports .....	<b>0.33</b>	<b>0.10</b>	<b>0.15</b>	<b>0.26</b>	<b>0.28</b>	<b>0.15</b>	<i>0.17</i>	<i>0.21</i>	<i>0.32</i>	<i>0.18</i>	<i>0.18</i>	<i>0.20</i>	<b>0.21</b>	<i>0.20</i>	<i>0.22</i>
LNG Gross Exports .....	<b>2.64</b>	<b>2.79</b>	<b>2.95</b>	<b>3.48</b>	<b>4.01</b>	<b>4.39</b>	<i>4.82</i>	<i>6.08</i>	<i>6.61</i>	<i>6.14</i>	<i>6.75</i>	<i>7.91</i>	<b>2.97</b>	<i>4.83</i>	<i>6.86</i>
Pipeline Gross Imports .....	<b>8.65</b>	<b>7.57</b>	<b>7.43</b>	<b>7.19</b>	<b>8.35</b>	<b>6.72</b>	<i>6.76</i>	<i>7.35</i>	<i>8.23</i>	<i>6.67</i>	<i>6.78</i>	<i>7.32</i>	<b>7.70</b>	<i>7.29</i>	<i>7.25</i>
Pipeline Gross Exports .....	<b>7.00</b>	<b>6.14</b>	<b>7.04</b>	<b>7.47</b>	<b>7.84</b>	<b>7.13</b>	<i>7.63</i>	<i>8.51</i>	<i>9.84</i>	<i>8.44</i>	<i>8.01</i>	<i>8.50</i>	<b>6.92</b>	<i>7.78</i>	<i>8.70</i>
Supplemental Gaseous Fuels .....	<b>0.21</b>	<b>0.17</b>	<b>0.19</b>	<b>0.18</b>	<b>0.19</b>	<b>0.19</b>	<i>0.19</i>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<b>0.19</b>	<i>0.19</i>	<i>0.20</i>
Net Inventory Withdrawals .....	<b>18.31</b>	<b>-8.85</b>	<b>-8.23</b>	<b>2.58</b>	<b>16.94</b>	<b>-13.90</b>	<i>-10.93</i>	<i>3.00</i>	<i>17.05</i>	<i>-11.50</i>	<i>-8.55</i>	<i>3.48</i>	<b>0.88</b>	<i>-1.29</i>	<i>0.10</i>
Total Supply .....	<b>96.99</b>	<b>71.22</b>	<b>74.50</b>	<b>87.46</b>	<b>103.16</b>	<b>72.26</b>	<i>75.96</i>	<i>89.44</i>	<i>101.75</i>	<i>73.39</i>	<i>76.97</i>	<i>87.93</i>	<b>82.49</b>	<i>85.14</i>	<i>85.00</i>
Balancing Item (b) .....	<b>0.61</b>	<b>-0.52</b>	<b>-0.41</b>	<b>-1.34</b>	<b>-0.43</b>	<b>-0.61</b>	<i>0.10</i>	<i>-1.27</i>	<i>0.21</i>	<i>-0.40</i>	<i>-0.81</i>	<i>-0.83</i>	<b>-0.42</b>	<i>-0.55</i>	<i>-0.46</i>
Total Primary Supply .....	<b>97.60</b>	<b>70.70</b>	<b>74.09</b>	<b>86.12</b>	<b>102.73</b>	<b>71.64</b>	<i>76.06</i>	<i>88.16</i>	<i>101.96</i>	<i>73.00</i>	<i>76.16</i>	<i>87.10</i>	<b>82.07</b>	<i>84.59</i>	<i>84.54</i>
<b>Consumption (billion cubic feet per day)</b>															
Residential .....	<b>25.77</b>	<b>7.97</b>	<b>3.44</b>	<b>17.53</b>	<b>27.12</b>	<b>7.19</b>	<i>3.51</i>	<i>17.12</i>	<i>26.74</i>	<i>7.41</i>	<i>3.48</i>	<i>16.48</i>	<b>13.63</b>	<i>13.68</i>	<i>13.51</i>
Commercial .....	<b>15.36</b>	<b>6.60</b>	<b>4.58</b>	<b>11.65</b>	<b>16.07</b>	<b>6.65</b>	<i>5.01</i>	<i>11.27</i>	<i>14.96</i>	<i>6.61</i>	<i>4.94</i>	<i>10.67</i>	<b>9.52</b>	<i>9.72</i>	<i>9.29</i>
Industrial .....	<b>24.30</b>	<b>21.82</b>	<b>21.30</b>	<b>23.41</b>	<b>24.91</b>	<b>22.07</b>	<i>21.69</i>	<i>24.40</i>	<i>25.41</i>	<i>22.74</i>	<i>22.00</i>	<i>25.07</i>	<b>22.70</b>	<i>23.26</i>	<i>23.80</i>
Electric Power (c) .....	<b>24.91</b>	<b>27.62</b>	<b>37.78</b>	<b>26.04</b>	<b>26.62</b>	<b>28.44</b>	<i>38.32</i>	<i>27.40</i>	<i>26.55</i>	<i>28.62</i>	<i>37.97</i>	<i>26.73</i>	<b>29.11</b>	<i>30.22</i>	<i>29.98</i>
Lease and Plant Fuel .....	<b>4.55</b>	<b>4.68</b>	<b>4.90</b>	<b>5.08</b>	<b>5.14</b>	<b>5.23</b>	<i>5.32</i>	<i>5.39</i>	<i>5.34</i>	<i>5.34</i>	<i>5.39</i>	<i>5.39</i>	<b>4.81</b>	<i>5.27</i>	<i>5.37</i>
Pipeline and Distribution Use .....	<b>2.60</b>	<b>1.88</b>	<b>1.97</b>	<b>2.29</b>	<b>2.73</b>	<b>1.93</b>	<i>2.07</i>	<i>2.46</i>	<i>2.82</i>	<i>2.13</i>	<i>2.25</i>	<i>2.62</i>	<b>2.18</b>	<i>2.29</i>	<i>2.45</i>
Vehicle Use .....	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<b>0.13</b>	<b>0.13</b>	<i>0.13</i>	<i>0.13</i>	<i>0.14</i>	<i>0.14</i>	<i>0.14</i>	<i>0.14</i>	<b>0.12</b>	<i>0.13</i>	<i>0.14</i>
Total Consumption .....	<b>97.60</b>	<b>70.70</b>	<b>74.09</b>	<b>86.12</b>	<b>102.73</b>	<b>71.64</b>	<i>76.06</i>	<i>88.16</i>	<i>101.96</i>	<i>73.00</i>	<i>76.16</i>	<i>87.10</i>	<b>82.07</b>	<i>84.59</i>	<i>84.54</i>
<b>End-of-period Inventories (billion cubic feet)</b>															
Working Gas Inventory .....	<b>1,391</b>	<b>2,196</b>	<b>2,951</b>	<b>2,709</b>	<b>1,185</b>	<b>2,443</b>	<i>3,448</i>	<i>3,172</i>	<i>1,621</i>	<i>2,667</i>	<i>3,454</i>	<i>3,135</i>	<b>2,709</b>	<i>3,172</i>	<i>3,135</i>
East Region (d) .....	<b>229</b>	<b>465</b>	<b>778</b>	<b>659</b>	<b>216</b>	<b>533</b>	<i>893</i>	<i>798</i>	<i>297</i>	<i>627</i>	<i>889</i>	<i>777</i>	<b>659</b>	<i>798</i>	<i>777</i>
Midwest Region (d) .....	<b>261</b>	<b>459</b>	<b>846</b>	<b>777</b>	<b>242</b>	<b>576</b>	<i>992</i>	<i>855</i>	<i>298</i>	<i>569</i>	<i>926</i>	<i>795</i>	<b>777</b>	<i>855</i>	<i>795</i>
South Central Region (d) .....	<b>614</b>	<b>846</b>	<b>846</b>	<b>880</b>	<b>520</b>	<b>910</b>	<i>1,057</i>	<i>1,068</i>	<i>697</i>	<i>995</i>	<i>1,096</i>	<i>1,093</i>	<b>880</b>	<i>1,068</i>	<i>1,093</i>
Mountain Region (d) .....	<b>87</b>	<b>140</b>	<b>179</b>	<b>141</b>	<b>63</b>	<b>135</b>	<i>191</i>	<i>162</i>	<i>116</i>	<i>157</i>	<i>197</i>	<i>161</i>	<b>141</b>	<i>162</i>	<i>161</i>
Pacific Region (d) .....	<b>169</b>	<b>253</b>	<b>263</b>	<b>214</b>	<b>115</b>	<b>256</b>	<i>284</i>	<i>257</i>	<i>180</i>	<i>286</i>	<i>314</i>	<i>275</i>	<b>214</b>	<i>257</i>	<i>275</i>
Alaska .....	<b>31</b>	<b>33</b>	<b>38</b>	<b>37</b>	<b>30</b>	<b>33</b>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<b>37</b>	<i>33</i>	<i>33</i>

- = 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/ngs/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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Wholesale/Spot</b>															
Henry Hub Spot Price .....	<b>3.13</b>	<b>2.96</b>	<b>3.04</b>	<b>3.94</b>	<b>3.02</b>	<b>2.66</b>	<i>2.43</i>	<i>2.75</i>	<i>3.06</i>	<i>2.68</i>	<i>2.74</i>	<i>3.01</i>	<b>3.27</b>	<i>2.72</i>	<i>2.87</i>
<b>Residential Retail</b>															
New England .....	<b>14.38</b>	<b>16.60</b>	<b>19.08</b>	<b>14.42</b>	<b>14.43</b>	<b>15.05</b>	<i>16.86</i>	<i>13.20</i>	<i>12.86</i>	<i>13.83</i>	<i>16.96</i>	<i>13.43</i>	<b>15.00</b>	<i>14.35</i>	<i>13.44</i>
Middle Atlantic .....	<b>10.17</b>	<b>11.92</b>	<b>18.30</b>	<b>11.39</b>	<b>10.77</b>	<b>12.71</b>	<i>16.16</i>	<i>11.01</i>	<i>10.31</i>	<i>12.25</i>	<i>16.70</i>	<i>11.24</i>	<b>11.30</b>	<i>11.43</i>	<i>11.30</i>
E. N. Central .....	<b>7.20</b>	<b>9.77</b>	<b>18.40</b>	<b>8.02</b>	<b>7.27</b>	<b>10.26</b>	<i>16.13</i>	<i>8.49</i>	<i>7.73</i>	<i>10.62</i>	<i>16.33</i>	<i>8.70</i>	<b>8.42</b>	<i>8.48</i>	<i>8.97</i>
W. N. Central .....	<b>8.15</b>	<b>10.48</b>	<b>18.55</b>	<b>9.06</b>	<b>7.92</b>	<b>10.57</b>	<i>16.76</i>	<i>8.82</i>	<i>8.08</i>	<i>11.03</i>	<i>16.90</i>	<i>9.21</i>	<b>9.29</b>	<i>8.96</i>	<i>9.34</i>
S. Atlantic .....	<b>11.07</b>	<b>15.63</b>	<b>24.88</b>	<b>12.47</b>	<b>11.60</b>	<b>17.03</b>	<i>22.18</i>	<i>12.81</i>	<i>11.48</i>	<i>16.42</i>	<i>22.53</i>	<i>13.05</i>	<b>12.98</b>	<i>13.40</i>	<i>13.42</i>
E. S. Central .....	<b>9.62</b>	<b>12.77</b>	<b>21.53</b>	<b>10.58</b>	<b>9.58</b>	<b>13.86</b>	<i>20.15</i>	<i>12.61</i>	<i>10.42</i>	<i>15.09</i>	<i>21.29</i>	<i>13.54</i>	<b>10.90</b>	<i>11.43</i>	<i>12.55</i>
W. S. Central .....	<b>9.27</b>	<b>14.25</b>	<b>22.03</b>	<b>10.19</b>	<b>8.26</b>	<b>13.23</b>	<i>19.72</i>	<i>11.68</i>	<i>8.71</i>	<i>14.33</i>	<i>20.49</i>	<i>12.21</i>	<b>10.98</b>	<i>10.92</i>	<i>11.38</i>
Mountain .....	<b>8.22</b>	<b>10.38</b>	<b>14.03</b>	<b>7.69</b>	<b>7.72</b>	<b>9.28</b>	<i>13.11</i>	<i>8.55</i>	<i>8.46</i>	<i>9.90</i>	<i>13.57</i>	<i>8.97</i>	<b>8.74</b>	<i>8.55</i>	<i>9.26</i>
Pacific .....	<b>11.62</b>	<b>12.02</b>	<b>12.88</b>	<b>11.75</b>	<b>12.43</b>	<b>12.67</b>	<i>12.48</i>	<i>11.19</i>	<i>12.34</i>	<i>12.66</i>	<i>12.94</i>	<i>11.85</i>	<b>11.87</b>	<i>12.12</i>	<i>12.31</i>
U.S. Average .....	<b>9.37</b>	<b>11.93</b>	<b>17.93</b>	<b>9.97</b>	<b>9.46</b>	<b>12.17</b>	<i>16.28</i>	<i>10.34</i>	<i>9.58</i>	<i>12.12</i>	<i>16.69</i>	<i>10.70</i>	<b>10.49</b>	<i>10.53</i>	<i>10.73</i>
<b>Commercial Retail</b>															
New England .....	<b>11.05</b>	<b>11.73</b>	<b>10.85</b>	<b>10.56</b>	<b>11.07</b>	<b>11.01</b>	<i>9.95</i>	<i>9.30</i>	<i>9.40</i>	<i>9.43</i>	<i>9.29</i>	<i>9.29</i>	<b>10.99</b>	<i>10.41</i>	<i>9.36</i>
Middle Atlantic .....	<b>8.13</b>	<b>7.67</b>	<b>7.47</b>	<b>7.86</b>	<b>8.46</b>	<b>7.50</b>	<i>6.71</i>	<i>7.27</i>	<i>7.55</i>	<i>7.46</i>	<i>6.90</i>	<i>7.50</i>	<b>7.89</b>	<i>7.75</i>	<i>7.44</i>
E. N. Central .....	<b>6.19</b>	<b>6.95</b>	<b>9.01</b>	<b>6.55</b>	<b>6.27</b>	<b>7.17</b>	<i>8.58</i>	<i>6.58</i>	<i>6.39</i>	<i>7.43</i>	<i>8.74</i>	<i>6.79</i>	<b>6.62</b>	<i>6.66</i>	<i>6.84</i>
W. N. Central .....	<b>6.96</b>	<b>7.30</b>	<b>8.91</b>	<b>7.11</b>	<b>6.80</b>	<b>7.09</b>	<i>8.33</i>	<i>6.80</i>	<i>7.15</i>	<i>7.55</i>	<i>8.58</i>	<i>7.08</i>	<b>7.20</b>	<i>6.95</i>	<i>7.30</i>
S. Atlantic .....	<b>8.29</b>	<b>9.35</b>	<b>9.73</b>	<b>8.70</b>	<b>8.82</b>	<b>9.55</b>	<i>9.54</i>	<i>8.72</i>	<i>8.79</i>	<i>9.67</i>	<i>10.00</i>	<i>9.02</i>	<b>8.75</b>	<i>8.99</i>	<i>9.15</i>
E. S. Central .....	<b>8.62</b>	<b>9.34</b>	<b>10.51</b>	<b>8.84</b>	<b>8.52</b>	<b>9.33</b>	<i>9.70</i>	<i>8.50</i>	<i>8.15</i>	<i>9.21</i>	<i>9.67</i>	<i>8.62</i>	<b>8.99</b>	<i>8.76</i>	<i>8.62</i>
W. S. Central .....	<b>7.21</b>	<b>7.90</b>	<b>8.55</b>	<b>6.99</b>	<b>6.41</b>	<b>7.02</b>	<i>7.76</i>	<i>7.10</i>	<i>6.88</i>	<i>7.41</i>	<i>7.92</i>	<i>7.34</i>	<b>7.44</b>	<i>6.88</i>	<i>7.25</i>
Mountain .....	<b>6.99</b>	<b>7.48</b>	<b>7.92</b>	<b>6.24</b>	<b>6.38</b>	<b>6.62</b>	<i>7.55</i>	<i>6.62</i>	<i>6.93</i>	<i>7.27</i>	<i>8.03</i>	<i>7.01</i>	<b>6.91</b>	<i>6.61</i>	<i>7.13</i>
Pacific .....	<b>8.90</b>	<b>8.58</b>	<b>9.11</b>	<b>8.68</b>	<b>9.06</b>	<b>9.06</b>	<i>8.79</i>	<i>8.25</i>	<i>8.51</i>	<i>8.62</i>	<i>8.84</i>	<i>8.52</i>	<b>8.80</b>	<i>8.79</i>	<i>8.59</i>
U.S. Average .....	<b>7.64</b>	<b>8.08</b>	<b>8.77</b>	<b>7.61</b>	<b>7.62</b>	<b>7.97</b>	<i>8.22</i>	<i>7.44</i>	<i>7.47</i>	<i>8.00</i>	<i>8.38</i>	<i>7.67</i>	<b>7.82</b>	<i>7.69</i>	<i>7.72</i>
<b>Industrial Retail</b>															
New England .....	<b>8.95</b>	<b>8.62</b>	<b>6.49</b>	<b>7.91</b>	<b>9.03</b>	<b>8.09</b>	<i>6.82</i>	<i>7.78</i>	<i>8.43</i>	<i>7.73</i>	<i>7.08</i>	<i>8.04</i>	<b>8.17</b>	<i>8.08</i>	<i>7.94</i>
Middle Atlantic .....	<b>8.33</b>	<b>8.07</b>	<b>7.73</b>	<b>7.89</b>	<b>8.75</b>	<b>7.67</b>	<i>7.17</i>	<i>7.23</i>	<i>7.68</i>	<i>7.08</i>	<i>7.07</i>	<i>7.36</i>	<b>8.11</b>	<i>7.93</i>	<i>7.42</i>
E. N. Central .....	<b>5.69</b>	<b>5.02</b>	<b>5.20</b>	<b>5.74</b>	<b>5.69</b>	<b>5.42</b>	<i>5.38</i>	<i>5.31</i>	<i>6.03</i>	<i>5.68</i>	<i>5.51</i>	<i>5.55</i>	<b>5.53</b>	<i>5.50</i>	<i>5.77</i>
W. N. Central .....	<b>5.05</b>	<b>4.23</b>	<b>4.21</b>	<b>5.05</b>	<b>5.09</b>	<b>4.07</b>	<i>3.94</i>	<i>4.57</i>	<i>5.23</i>	<i>4.38</i>	<i>4.16</i>	<i>4.88</i>	<b>4.69</b>	<i>4.50</i>	<i>4.72</i>
S. Atlantic .....	<b>5.34</b>	<b>4.67</b>	<b>4.68</b>	<b>5.42</b>	<b>5.48</b>	<b>4.65</b>	<i>4.27</i>	<i>4.79</i>	<i>5.32</i>	<i>4.66</i>	<i>4.59</i>	<i>5.03</i>	<b>5.06</b>	<i>4.84</i>	<i>4.93</i>
E. S. Central .....	<b>4.93</b>	<b>4.21</b>	<b>4.14</b>	<b>4.90</b>	<b>4.92</b>	<b>4.21</b>	<i>3.84</i>	<i>4.42</i>	<i>4.82</i>	<i>4.28</i>	<i>4.20</i>	<i>4.73</i>	<b>4.59</b>	<i>4.38</i>	<i>4.53</i>
W. S. Central .....	<b>3.32</b>	<b>3.09</b>	<b>3.12</b>	<b>4.02</b>	<b>3.48</b>	<b>2.91</b>	<i>2.70</i>	<i>2.93</i>	<i>3.25</i>	<i>2.85</i>	<i>2.96</i>	<i>3.17</i>	<b>3.38</b>	<i>2.98</i>	<i>3.06</i>
Mountain .....	<b>5.43</b>	<b>5.36</b>	<b>4.72</b>	<b>4.79</b>	<b>5.33</b>	<b>5.00</b>	<i>5.39</i>	<i>5.48</i>	<i>5.70</i>	<i>5.39</i>	<i>5.58</i>	<i>5.65</i>	<b>5.09</b>	<i>5.31</i>	<i>5.60</i>
Pacific .....	<b>6.97</b>	<b>6.03</b>	<b>6.72</b>	<b>6.65</b>	<b>7.61</b>	<b>6.65</b>	<i>6.22</i>	<i>6.14</i>	<i>6.73</i>	<i>6.24</i>	<i>6.32</i>	<i>6.42</i>	<b>6.61</b>	<i>6.65</i>	<i>6.45</i>
U.S. Average .....	<b>4.44</b>	<b>3.83</b>	<b>3.73</b>	<b>4.71</b>	<b>4.68</b>	<b>3.73</b>	<i>3.35</i>	<i>3.85</i>	<i>4.41</i>	<i>3.67</i>	<i>3.61</i>	<i>4.10</i>	<b>4.20</b>	<i>3.92</i>	<i>3.97</i>

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Supply (million short tons)</b>															
Production .....	187.6	180.8	194.7	192.4	170.3	169.4	175.2	169.1	170.0	136.2	168.1	165.1	755.5	684.0	639.4
Appalachia .....	50.0	51.6	49.0	49.5	47.4	46.2	46.9	45.2	43.0	38.4	41.4	40.3	200.1	185.7	163.0
Interior .....	34.0	34.6	34.7	33.9	31.0	31.8	32.7	32.7	33.5	25.9	32.4	33.1	137.1	128.3	125.0
Western .....	103.7	94.6	111.0	109.0	91.9	91.4	95.6	91.1	93.6	71.9	94.3	91.7	418.3	370.0	351.4
Primary Inventory Withdrawals .....	-2.8	2.3	1.1	-0.6	0.8	0.6	0.7	-1.9	-0.1	0.9	2.3	-2.8	0.0	0.2	0.3
Imports .....	1.4	1.5	1.4	1.6	1.7	1.7	1.7	1.5	1.2	1.3	1.5	1.4	6.0	6.6	5.4
Exports .....	27.2	30.9	29.1	28.5	25.2	24.6	23.3	22.9	24.9	21.3	20.9	20.6	115.6	96.1	87.8
Metallurgical Coal .....	14.9	16.9	14.5	15.2	13.9	13.4	12.2	12.0	13.3	11.8	12.0	11.7	61.5	51.4	48.8
Steam Coal .....	12.3	13.9	14.5	13.3	11.3	11.2	11.2	11.0	11.6	9.6	8.9	8.9	54.1	44.6	39.0
Total Primary Supply .....	159.0	153.7	168.1	165.0	147.6	147.0	154.3	145.7	146.2	117.0	151.0	143.1	645.9	594.7	557.3
Secondary Inventory Withdrawals .....	11.8	4.9	20.4	-2.3	5.8	-8.8	5.7	-7.7	-1.1	2.8	6.5	-8.0	34.8	-5.0	0.2
Waste Coal (a) .....	2.8	2.3	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	10.1	9.3	9.2
Total Supply .....	173.5	160.9	191.2	165.2	155.8	140.6	162.4	140.3	147.4	122.0	159.8	137.4	690.8	599.0	566.7
<b>Consumption (million short tons)</b>															
Coke Plants .....	4.2	4.6	4.7	4.7	4.2	4.9	5.6	6.2	5.2	5.1	5.1	6.3	18.3	20.9	21.8
Electric Power Sector (b) .....	154.8	144.2	181.6	155.9	145.0	116.6	149.4	126.6	134.5	109.6	147.6	123.8	636.5	537.7	515.4
Retail and Other Industry .....	8.5	7.9	7.7	8.4	8.1	7.6	7.4	7.5	7.7	7.3	7.2	7.3	32.5	30.6	29.5
Residential and Commercial .....	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	1.0	0.7	0.7
Other Industrial .....	8.2	7.7	7.5	8.2	7.9	7.5	7.2	7.3	7.6	7.2	7.0	7.1	31.6	29.8	28.8
Total Consumption .....	167.6	156.6	194.1	169.1	157.3	129.1	162.4	140.3	147.4	122.0	159.8	137.4	687.3	589.1	566.7
Discrepancy (c) .....	5.9	4.3	-2.9	-3.8	-1.6	11.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	9.9	0.0
<b>End-of-period Inventories (million short tons)</b>															
Primary Inventories (d) .....	26.8	24.5	23.4	24.0	23.2	22.6	21.8	23.8	23.9	23.0	20.6	23.5	24.0	23.8	23.5
Secondary Inventories .....	131.2	126.3	105.9	108.1	102.3	111.1	105.3	113.1	114.2	111.4	104.9	112.9	108.1	113.1	112.9
Electric Power Sector .....	126.5	121.5	100.8	102.8	97.1	105.5	99.6	107.4	108.7	105.6	98.8	107.0	102.8	107.4	107.0
Retail and General Industry .....	2.9	2.9	3.0	3.3	3.6	3.5	3.6	3.4	3.7	3.6	3.7	3.5	3.3	3.4	3.5
Coke Plants .....	1.5	1.6	1.8	1.8	1.4	1.8	2.0	2.1	1.6	2.0	2.2	2.2	1.8	2.1	2.2
<b>Coal Market Indicators</b>															
Coal Miner Productivity															
(Tons per hour) .....	6.10	6.10	6.10	6.10	6.02	6.02	6.02	6.02	6.01	6.01	6.01	6.01	6.10	6.02	6.01
Total Raw Steel Production															
(Million short tons per day) .....	0.251	0.253	0.263	0.270	0.273	0.271	0.264	0.263	0.267	0.269	0.266	0.268	0.259	0.268	0.268
Cost of Coal to Electric Utilities															
(Dollars per million Btu) .....	2.06	2.06	2.06	2.08	2.1	2.1	2.10	2.11	2.13	2.14	2.11	2.11	2.06	2.10	2.12

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Electricity Supply (billion kilowatthours per day)</b>															
Electricity Generation .....	<b>11.13</b>	<b>11.14</b>	<b>12.80</b>	<b>10.71</b>	<b>11.05</b>	<b>10.81</b>	<i>12.34</i>	<i>10.56</i>	<i>11.00</i>	<i>10.77</i>	<i>12.44</i>	<i>10.58</i>	<b>11.45</b>	<i>11.19</i>	<i>11.20</i>
Electric Power Sector (a) .....	<b>10.69</b>	<b>10.71</b>	<b>12.35</b>	<b>10.27</b>	<b>10.61</b>	<b>10.39</b>	<i>11.90</i>	<i>10.13</i>	<i>10.56</i>	<i>10.34</i>	<i>11.99</i>	<i>10.15</i>	<b>11.01</b>	<i>10.76</i>	<i>10.76</i>
Comm. and Indus. Sectors (b) .....	<b>0.43</b>	<b>0.43</b>	<b>0.45</b>	<b>0.44</b>	<b>0.44</b>	<b>0.43</b>	<i>0.44</i>	<i>0.42</i>	<i>0.43</i>	<i>0.43</i>	<i>0.45</i>	<i>0.43</i>	<b>0.44</b>	<i>0.43</i>	<i>0.44</i>
Net Imports .....	<b>0.13</b>	<b>0.12</b>	<b>0.14</b>	<b>0.09</b>	<b>0.14</b>	<b>0.14</b>	<i>0.17</i>	<i>0.13</i>	<i>0.15</i>	<i>0.15</i>	<i>0.17</i>	<i>0.13</i>	<b>0.12</b>	<i>0.15</i>	<i>0.15</i>
Total Supply .....	<b>11.26</b>	<b>11.26</b>	<b>12.93</b>	<b>10.80</b>	<b>11.18</b>	<b>10.96</b>	<i>12.51</i>	<i>10.69</i>	<i>11.15</i>	<i>10.93</i>	<i>12.61</i>	<i>10.72</i>	<b>11.57</b>	<i>11.34</i>	<i>11.35</i>
Losses and Unaccounted for (c) .....	<b>0.64</b>	<b>0.93</b>	<b>0.80</b>	<b>0.66</b>	<b>0.64</b>	<b>0.86</b>	<i>0.73</i>	<i>0.67</i>	<i>0.58</i>	<i>0.82</i>	<i>0.73</i>	<i>0.67</i>	<b>0.76</b>	<i>0.73</i>	<i>0.70</i>
<b>Electricity Consumption (billion kilowatthours per day unless noted)</b>															
Retail Sales .....	<b>10.23</b>	<b>9.95</b>	<b>11.73</b>	<b>9.75</b>	<b>10.14</b>	<b>9.71</b>	<i>11.39</i>	<i>9.64</i>	<i>10.17</i>	<i>9.72</i>	<i>11.48</i>	<i>9.65</i>	<b>10.42</b>	<i>10.22</i>	<i>10.26</i>
Residential Sector .....	<b>4.10</b>	<b>3.60</b>	<b>4.72</b>	<b>3.62</b>	<b>4.02</b>	<b>3.42</b>	<i>4.49</i>	<i>3.55</i>	<i>4.06</i>	<i>3.43</i>	<i>4.56</i>	<i>3.57</i>	<b>4.01</b>	<i>3.87</i>	<i>3.91</i>
Commercial Sector .....	<b>3.61</b>	<b>3.70</b>	<b>4.21</b>	<b>3.57</b>	<b>3.57</b>	<b>3.65</b>	<i>4.12</i>	<i>3.56</i>	<i>3.58</i>	<i>3.66</i>	<i>4.14</i>	<i>3.56</i>	<b>3.77</b>	<i>3.73</i>	<i>3.74</i>
Industrial Sector .....	<b>2.50</b>	<b>2.62</b>	<b>2.78</b>	<b>2.55</b>	<b>2.53</b>	<b>2.62</b>	<i>2.76</i>	<i>2.51</i>	<i>2.51</i>	<i>2.61</i>	<i>2.75</i>	<i>2.50</i>	<b>2.61</b>	<i>2.61</i>	<i>2.60</i>
Transportation Sector .....	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<b>0.02</b>	<i>0.02</i>	<i>0.02</i>
Direct Use (d) .....	<b>0.39</b>	<b>0.38</b>	<b>0.41</b>	<b>0.39</b>	<b>0.40</b>	<b>0.38</b>	<i>0.39</i>	<i>0.38</i>	<i>0.39</i>	<i>0.39</i>	<i>0.40</i>	<i>0.39</i>	<b>0.39</b>	<i>0.39</i>	<i>0.39</i>
Total Consumption .....	<b>10.62</b>	<b>10.33</b>	<b>12.14</b>	<b>10.14</b>	<b>10.54</b>	<b>10.10</b>	<i>11.78</i>	<i>10.02</i>	<i>10.57</i>	<i>10.10</i>	<i>11.88</i>	<i>10.04</i>	<b>10.81</b>	<i>10.61</i>	<i>10.65</i>
Average residential electricity usage per customer (kWh) .....	<b>2,754</b>	<b>2,446</b>	<b>3,240</b>	<b>2,481</b>	<b>2,668</b>	<b>2,299</b>	<i>3,046</i>	<i>2,405</i>	<i>2,696</i>	<i>2,275</i>	<i>3,063</i>	<i>2,395</i>	<b>10,920</b>	<i>10,418</i>	<i>10,429</i>
<b>Prices</b>															
<b>Power Generation Fuel Costs (dollars per million Btu)</b>															
Coal .....	<b>2.06</b>	<b>2.06</b>	<b>2.06</b>	<b>2.08</b>	<b>2.08</b>	<b>2.10</b>	<i>2.10</i>	<i>2.11</i>	<i>2.13</i>	<i>2.14</i>	<i>2.11</i>	<i>2.11</i>	<b>2.06</b>	<i>2.10</i>	<i>2.12</i>
Natural Gas .....	<b>3.96</b>	<b>3.09</b>	<b>3.23</b>	<b>4.05</b>	<b>3.71</b>	<b>2.68</b>	<i>2.38</i>	<i>2.95</i>	<i>3.43</i>	<i>2.73</i>	<i>2.69</i>	<i>3.23</i>	<b>3.54</b>	<i>2.87</i>	<i>2.98</i>
Residual Fuel Oil .....	<b>11.47</b>	<b>13.02</b>	<b>14.02</b>	<b>14.49</b>	<b>12.22</b>	<b>13.99</b>	<i>12.79</i>	<i>12.55</i>	<i>12.95</i>	<i>13.71</i>	<i>13.01</i>	<i>12.78</i>	<b>12.95</b>	<i>12.87</i>	<i>13.09</i>
Distillate Fuel Oil .....	<b>15.77</b>	<b>16.61</b>	<b>16.82</b>	<b>16.01</b>	<b>14.85</b>	<b>15.79</b>	<i>15.84</i>	<i>16.76</i>	<i>17.16</i>	<i>17.58</i>	<i>17.44</i>	<i>17.51</i>	<b>16.13</b>	<i>15.82</i>	<i>17.40</i>
<b>Retail Prices (cents per kilowatthour)</b>															
Residential Sector .....	<b>12.59</b>	<b>13.03</b>	<b>13.15</b>	<b>12.75</b>	<b>12.66</b>	<b>13.42</b>	<i>13.36</i>	<i>12.89</i>	<i>12.69</i>	<i>13.56</i>	<i>13.53</i>	<i>13.13</i>	<b>12.89</b>	<i>13.08</i>	<i>13.23</i>
Commercial Sector .....	<b>10.54</b>	<b>10.60</b>	<b>10.89</b>	<b>10.55</b>	<b>10.41</b>	<b>10.73</b>	<i>10.96</i>	<i>10.54</i>	<i>10.36</i>	<i>10.72</i>	<i>11.02</i>	<i>10.68</i>	<b>10.66</b>	<i>10.67</i>	<i>10.71</i>
Industrial Sector .....	<b>6.81</b>	<b>6.87</b>	<b>7.22</b>	<b>6.82</b>	<b>6.66</b>	<b>6.84</b>	<i>7.14</i>	<i>6.74</i>	<i>6.70</i>	<i>6.92</i>	<i>7.27</i>	<i>6.84</i>	<b>6.93</b>	<i>6.85</i>	<i>6.94</i>

- = no data available. kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

(a) Generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities and independent power producers.

(b) Generation supplied by CHP and electricity-only plants 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*.

**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: *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 7b. U.S. Regional Electricity Retail Sales (Million Kilowatthours per Day)**

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Residential Sector</b>															
New England .....	140	111	153	120	139	110	138	118	140	111	141	119	131	126	127
Middle Atlantic .....	394	323	453	338	392	307	414	331	392	309	420	331	377	361	363
E. N. Central .....	552	480	603	482	556	431	566	474	548	440	574	475	530	507	509
W. N. Central .....	327	274	318	272	333	237	310	269	323	240	316	270	297	287	287
S. Atlantic .....	1,040	920	1,184	939	981	905	1,148	904	1,019	875	1,160	911	1,021	984	991
E. S. Central .....	368	301	396	307	339	285	379	292	359	280	382	292	343	324	328
W. S. Central .....	608	582	803	534	576	550	764	527	588	564	788	535	632	604	619
Mountain .....	239	263	360	235	257	250	348	237	255	265	357	240	274	273	279
Pacific contiguous .....	422	339	439	376	433	331	411	381	424	333	414	383	394	389	389
AK and HI .....	14	12	13	13	13	12	12	13	13	11	12	13	13	13	12
Total .....	4,103	3,604	4,722	3,616	4,019	3,418	4,489	3,545	4,061	3,426	4,563	3,568	4,012	3,868	3,905
<b>Commercial Sector</b>															
New England .....	141	136	159	136	142	135	151	134	139	131	146	129	143	140	136
Middle Atlantic .....	431	412	479	410	429	401	458	403	424	397	458	402	433	423	420
E. N. Central .....	499	501	556	484	495	485	543	483	492	489	545	482	510	501	502
W. N. Central .....	282	282	307	272	284	268	306	273	283	271	309	274	286	283	284
S. Atlantic .....	811	862	975	819	801	864	957	809	800	846	960	810	867	858	854
E. S. Central .....	242	253	296	240	234	252	289	237	236	250	291	237	258	253	254
W. S. Central .....	501	549	637	517	500	548	633	525	513	562	649	533	551	552	564
Mountain .....	248	269	309	252	252	266	305	254	253	274	309	257	270	269	273
Pacific contiguous .....	434	424	472	423	423	419	462	423	423	422	463	424	439	432	433
AK and HI .....	16	15	16	16	15	15	16	15	15	15	16	15	16	15	15
Total .....	3,606	3,704	4,206	3,567	3,575	3,651	4,121	3,556	3,580	3,658	4,144	3,562	3,772	3,727	3,737
<b>Industrial Sector</b>															
New England .....	42	43	47	44	42	43	46	43	42	43	45	43	44	44	43
Middle Atlantic .....	196	194	214	195	197	191	211	193	195	190	210	192	200	198	197
E. N. Central .....	499	517	530	493	498	515	523	483	493	510	518	478	510	505	499
W. N. Central .....	232	242	257	239	235	243	256	239	237	247	260	241	242	243	246
S. Atlantic .....	366	388	404	370	367	377	391	357	357	368	382	348	382	373	364
E. S. Central .....	257	261	286	261	260	262	279	253	254	256	272	247	266	264	257
W. S. Central .....	467	500	520	486	492	515	526	486	497	522	534	493	493	505	511
Mountain .....	209	229	251	219	214	233	255	221	215	235	258	223	227	231	233
Pacific contiguous .....	216	231	258	226	211	230	257	225	210	230	258	226	233	231	231
AK and HI .....	13	13	14	14	12	13	14	14	12	13	14	14	13	13	13
Total .....	2,498	2,618	2,781	2,545	2,527	2,622	2,758	2,515	2,513	2,613	2,750	2,504	2,611	2,606	2,595
<b>Total All Sectors (a)</b>															
New England .....	325	292	361	301	324	290	336	297	322	286	334	292	320	312	308
Middle Atlantic .....	1,033	939	1,157	954	1,029	908	1,093	937	1,022	905	1,098	934	1,021	992	990
E. N. Central .....	1,552	1,500	1,691	1,461	1,551	1,432	1,634	1,442	1,535	1,440	1,637	1,436	1,551	1,515	1,512
W. N. Central .....	841	798	882	782	852	748	873	781	843	758	884	785	826	813	818
S. Atlantic .....	2,220	2,173	2,567	2,131	2,152	2,150	2,500	2,073	2,179	2,092	2,505	2,072	2,273	2,219	2,213
E. S. Central .....	867	815	979	808	834	798	947	782	850	786	944	777	867	840	839
W. S. Central .....	1,577	1,632	1,961	1,537	1,568	1,614	1,923	1,538	1,599	1,648	1,971	1,561	1,677	1,661	1,695
Mountain .....	697	762	920	706	723	749	909	713	725	775	925	720	772	774	786
Pacific contiguous .....	1,075	996	1,172	1,028	1,069	983	1,132	1,031	1,060	987	1,137	1,035	1,068	1,054	1,055
AK and HI .....	42	41	42	42	41	40	42	42	40	40	42	42	42	41	41
Total .....	10,229	9,947	11,731	9,749	10,143	9,711	11,388	9,636	10,175	9,717	11,478	9,654	10,416	10,221	10,258

- = 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 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 Kilowatt-hour)**  
U.S. Energy Information Administration | Short-Term Energy Outlook - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Residential Sector</b>															
New England .....	<b>20.56</b>	<b>20.57</b>	<b>20.39</b>	<b>20.64</b>	<b>21.05</b>	<b>21.50</b>	<i>21.37</i>	<i>21.25</i>	<i>21.38</i>	<i>21.61</i>	<i>21.43</i>	<i>21.54</i>	<b>20.53</b>	<i>21.28</i>	<i>21.48</i>
Middle Atlantic .....	<b>15.62</b>	<b>16.21</b>	<b>16.34</b>	<b>15.80</b>	<b>15.20</b>	<b>16.28</b>	<i>16.31</i>	<i>15.50</i>	<i>14.93</i>	<i>16.21</i>	<i>16.51</i>	<i>15.87</i>	<b>16.00</b>	<i>15.82</i>	<i>15.88</i>
E. N. Central .....	<b>12.94</b>	<b>13.48</b>	<b>13.09</b>	<b>13.19</b>	<b>12.93</b>	<b>13.88</b>	<i>13.46</i>	<i>13.46</i>	<i>13.22</i>	<i>14.22</i>	<i>13.88</i>	<i>13.91</i>	<b>13.16</b>	<i>13.41</i>	<i>13.78</i>
W. N. Central .....	<b>10.90</b>	<b>12.63</b>	<b>13.10</b>	<b>11.39</b>	<b>10.71</b>	<b>13.28</b>	<i>13.54</i>	<i>11.71</i>	<i>11.09</i>	<i>13.74</i>	<i>14.03</i>	<i>12.16</i>	<b>12.00</b>	<i>12.24</i>	<i>12.71</i>
S. Atlantic .....	<b>11.66</b>	<b>11.90</b>	<b>11.82</b>	<b>11.62</b>	<b>11.71</b>	<b>12.17</b>	<i>11.96</i>	<i>11.69</i>	<i>11.60</i>	<i>12.15</i>	<i>11.93</i>	<i>11.77</i>	<b>11.75</b>	<i>11.88</i>	<i>11.86</i>
E. S. Central .....	<b>10.86</b>	<b>11.40</b>	<b>11.16</b>	<b>11.17</b>	<b>11.11</b>	<b>11.80</b>	<i>11.53</i>	<i>11.52</i>	<i>11.23</i>	<i>12.06</i>	<i>11.74</i>	<i>11.77</i>	<b>11.14</b>	<i>11.48</i>	<i>11.68</i>
W. S. Central .....	<b>10.52</b>	<b>11.01</b>	<b>10.97</b>	<b>10.83</b>	<b>10.79</b>	<b>11.43</b>	<i>11.18</i>	<i>10.76</i>	<i>10.58</i>	<i>11.26</i>	<i>11.12</i>	<i>10.85</i>	<b>10.85</b>	<i>11.05</i>	<i>10.96</i>
Mountain .....	<b>11.58</b>	<b>12.24</b>	<b>12.26</b>	<b>11.76</b>	<b>11.52</b>	<b>12.23</b>	<i>12.36</i>	<i>11.89</i>	<i>11.67</i>	<i>12.47</i>	<i>12.66</i>	<i>12.21</i>	<b>12.00</b>	<i>12.03</i>	<i>12.29</i>
Pacific .....	<b>14.88</b>	<b>15.27</b>	<b>17.07</b>	<b>14.77</b>	<b>14.86</b>	<b>15.95</b>	<i>17.43</i>	<i>15.03</i>	<i>15.21</i>	<i>16.56</i>	<i>17.91</i>	<i>15.35</i>	<b>15.55</b>	<i>15.81</i>	<i>16.25</i>
U.S. Average .....	<b>12.59</b>	<b>13.03</b>	<b>13.15</b>	<b>12.75</b>	<b>12.66</b>	<b>13.42</b>	<i>13.36</i>	<i>12.89</i>	<i>12.69</i>	<i>13.56</i>	<i>13.53</i>	<i>13.13</i>	<b>12.89</b>	<i>13.08</i>	<i>13.23</i>
<b>Commercial Sector</b>															
New England .....	<b>16.59</b>	<b>15.92</b>	<b>16.19</b>	<b>16.44</b>	<b>16.72</b>	<b>16.23</b>	<i>16.54</i>	<i>16.66</i>	<i>16.83</i>	<i>16.27</i>	<i>16.63</i>	<i>16.90</i>	<b>16.28</b>	<i>16.54</i>	<i>16.66</i>
Middle Atlantic .....	<b>12.10</b>	<b>12.22</b>	<b>13.17</b>	<b>12.08</b>	<b>11.56</b>	<b>12.25</b>	<i>12.91</i>	<i>11.67</i>	<i>11.16</i>	<i>12.00</i>	<i>12.88</i>	<i>11.77</i>	<b>12.42</b>	<i>12.12</i>	<i>11.97</i>
E. N. Central .....	<b>10.10</b>	<b>10.15</b>	<b>10.08</b>	<b>10.10</b>	<b>10.14</b>	<b>10.31</b>	<i>10.19</i>	<i>10.12</i>	<i>10.16</i>	<i>10.38</i>	<i>10.34</i>	<i>10.32</i>	<b>10.11</b>	<i>10.19</i>	<i>10.30</i>
W. N. Central .....	<b>9.18</b>	<b>10.03</b>	<b>10.38</b>	<b>9.23</b>	<b>8.97</b>	<b>10.20</b>	<i>10.56</i>	<i>9.38</i>	<i>9.20</i>	<i>10.53</i>	<i>10.98</i>	<i>9.78</i>	<b>9.73</b>	<i>9.79</i>	<i>10.14</i>
S. Atlantic .....	<b>9.61</b>	<b>9.30</b>	<b>9.18</b>	<b>9.41</b>	<b>9.45</b>	<b>9.38</b>	<i>9.22</i>	<i>9.37</i>	<i>9.33</i>	<i>9.27</i>	<i>9.15</i>	<i>9.38</i>	<b>9.36</b>	<i>9.35</i>	<i>9.28</i>
E. S. Central .....	<b>10.51</b>	<b>10.48</b>	<b>10.34</b>	<b>10.54</b>	<b>10.71</b>	<b>10.72</b>	<i>10.60</i>	<i>10.76</i>	<i>10.89</i>	<i>10.94</i>	<i>10.82</i>	<i>11.03</i>	<b>10.46</b>	<i>10.69</i>	<i>10.91</i>
W. S. Central .....	<b>8.37</b>	<b>8.17</b>	<b>8.12</b>	<b>7.94</b>	<b>8.15</b>	<b>8.32</b>	<i>8.09</i>	<i>7.74</i>	<i>7.92</i>	<i>8.17</i>	<i>8.05</i>	<i>7.77</i>	<b>8.15</b>	<i>8.08</i>	<i>7.98</i>
Mountain .....	<b>9.27</b>	<b>9.88</b>	<b>10.01</b>	<b>9.36</b>	<b>9.20</b>	<b>9.73</b>	<i>9.98</i>	<i>9.35</i>	<i>9.22</i>	<i>9.82</i>	<i>10.13</i>	<i>9.53</i>	<b>9.66</b>	<i>9.59</i>	<i>9.70</i>
Pacific .....	<b>12.91</b>	<b>14.02</b>	<b>15.81</b>	<b>14.10</b>	<b>12.99</b>	<b>14.31</b>	<i>16.26</i>	<i>14.47</i>	<i>13.22</i>	<i>14.51</i>	<i>16.50</i>	<i>14.80</i>	<b>14.25</b>	<i>14.56</i>	<i>14.80</i>
U.S. Average .....	<b>10.54</b>	<b>10.60</b>	<b>10.89</b>	<b>10.55</b>	<b>10.41</b>	<b>10.73</b>	<i>10.96</i>	<i>10.54</i>	<i>10.36</i>	<i>10.72</i>	<i>11.02</i>	<i>10.68</i>	<b>10.66</b>	<i>10.67</i>	<i>10.71</i>
<b>Industrial Sector</b>															
New England .....	<b>13.46</b>	<b>12.60</b>	<b>12.83</b>	<b>12.98</b>	<b>13.31</b>	<b>12.80</b>	<i>12.72</i>	<i>12.81</i>	<i>13.30</i>	<i>12.84</i>	<i>12.85</i>	<i>12.92</i>	<b>12.96</b>	<i>12.90</i>	<i>12.97</i>
Middle Atlantic .....	<b>7.26</b>	<b>6.82</b>	<b>6.86</b>	<b>6.79</b>	<b>6.73</b>	<b>6.64</b>	<i>6.52</i>	<i>6.45</i>	<i>6.59</i>	<i>6.57</i>	<i>6.55</i>	<i>6.45</i>	<b>6.93</b>	<i>6.58</i>	<i>6.54</i>
E. N. Central .....	<b>7.10</b>	<b>6.96</b>	<b>6.99</b>	<b>7.01</b>	<b>7.02</b>	<b>6.97</b>	<i>6.94</i>	<i>6.96</i>	<i>7.07</i>	<i>7.07</i>	<i>7.07</i>	<i>7.07</i>	<b>7.01</b>	<i>6.97</i>	<i>7.07</i>
W. N. Central .....	<b>7.04</b>	<b>7.38</b>	<b>7.99</b>	<b>6.93</b>	<b>7.13</b>	<b>7.52</b>	<i>8.20</i>	<i>7.12</i>	<i>7.34</i>	<i>7.75</i>	<i>8.46</i>	<i>7.34</i>	<b>7.35</b>	<i>7.51</i>	<i>7.74</i>
S. Atlantic .....	<b>6.54</b>	<b>6.40</b>	<b>6.60</b>	<b>6.39</b>	<b>6.22</b>	<b>6.24</b>	<i>6.43</i>	<i>6.23</i>	<i>6.16</i>	<i>6.23</i>	<i>6.47</i>	<i>6.25</i>	<b>6.48</b>	<i>6.28</i>	<i>6.28</i>
E. S. Central .....	<b>5.74</b>	<b>5.92</b>	<b>5.87</b>	<b>5.88</b>	<b>5.71</b>	<b>5.93</b>	<i>5.80</i>	<i>5.79</i>	<i>5.71</i>	<i>5.97</i>	<i>5.87</i>	<i>5.86</i>	<b>5.86</b>	<i>5.81</i>	<i>5.85</i>
W. S. Central .....	<b>5.42</b>	<b>5.41</b>	<b>5.65</b>	<b>5.27</b>	<b>5.25</b>	<b>5.38</b>	<i>5.50</i>	<i>5.11</i>	<i>5.24</i>	<i>5.42</i>	<i>5.58</i>	<i>5.16</i>	<b>5.44</b>	<i>5.31</i>	<i>5.35</i>
Mountain .....	<b>6.10</b>	<b>6.48</b>	<b>6.93</b>	<b>6.05</b>	<b>6.13</b>	<b>6.43</b>	<i>6.84</i>	<i>5.98</i>	<i>6.15</i>	<i>6.48</i>	<i>6.93</i>	<i>6.05</i>	<b>6.41</b>	<i>6.37</i>	<i>6.42</i>
Pacific .....	<b>8.63</b>	<b>9.52</b>	<b>11.17</b>	<b>9.89</b>	<b>8.68</b>	<b>9.55</b>	<i>11.27</i>	<i>10.03</i>	<i>8.91</i>	<i>9.84</i>	<i>11.63</i>	<i>10.33</i>	<b>9.87</b>	<i>9.95</i>	<i>10.25</i>
U.S. Average .....	<b>6.81</b>	<b>6.87</b>	<b>7.22</b>	<b>6.82</b>	<b>6.66</b>	<b>6.84</b>	<i>7.14</i>	<i>6.74</i>	<i>6.70</i>	<i>6.92</i>	<i>7.27</i>	<i>6.84</i>	<b>6.93</b>	<i>6.85</i>	<i>6.94</i>
<b>All Sectors (a)</b>															
New England .....	<b>17.86</b>	<b>17.16</b>	<b>17.49</b>	<b>17.58</b>	<b>18.11</b>	<b>17.68</b>	<i>17.97</i>	<i>17.89</i>	<i>18.31</i>	<i>17.79</i>	<i>18.11</i>	<i>18.17</i>	<b>17.53</b>	<i>17.92</i>	<i>18.10</i>
Middle Atlantic .....	<b>12.50</b>	<b>12.47</b>	<b>13.23</b>	<b>12.30</b>	<b>12.01</b>	<b>12.43</b>	<i>12.95</i>	<i>11.94</i>	<i>11.73</i>	<i>12.29</i>	<i>13.05</i>	<i>12.12</i>	<b>12.65</b>	<i>12.35</i>	<i>12.32</i>
E. N. Central .....	<b>10.14</b>	<b>10.11</b>	<b>10.18</b>	<b>10.07</b>	<b>10.13</b>	<b>10.18</b>	<i>10.28</i>	<i>10.15</i>	<i>10.26</i>	<i>10.38</i>	<i>10.54</i>	<i>10.42</i>	<b>10.13</b>	<i>10.19</i>	<i>10.40</i>
W. N. Central .....	<b>9.26</b>	<b>10.12</b>	<b>10.66</b>	<b>9.27</b>	<b>9.14</b>	<b>10.29</b>	<i>10.92</i>	<i>9.49</i>	<i>9.40</i>	<i>10.64</i>	<i>11.33</i>	<i>9.84</i>	<b>9.85</b>	<i>9.97</i>	<i>10.32</i>
S. Atlantic .....	<b>10.06</b>	<b>9.88</b>	<b>9.99</b>	<b>9.86</b>	<b>9.92</b>	<b>10.01</b>	<i>10.04</i>	<i>9.84</i>	<i>9.87</i>	<i>9.94</i>	<i>10.03</i>	<i>9.90</i>	<b>9.95</b>	<i>9.96</i>	<i>9.94</i>
E. S. Central .....	<b>9.25</b>	<b>9.36</b>	<b>9.36</b>	<b>9.27</b>	<b>9.31</b>	<b>9.52</b>	<i>9.56</i>	<i>9.43</i>	<i>9.48</i>	<i>9.72</i>	<i>9.77</i>	<i>9.66</i>	<b>9.31</b>	<i>9.46</i>	<i>9.66</i>
W. S. Central .....	<b>8.33</b>	<b>8.34</b>	<b>8.63</b>	<b>8.10</b>	<b>8.21</b>	<b>8.43</b>	<i>8.61</i>	<i>7.94</i>	<i>8.07</i>	<i>8.35</i>	<i>8.61</i>	<i>8.00</i>	<b>8.37</b>	<i>8.32</i>	<i>8.28</i>
Mountain .....	<b>9.12</b>	<b>9.68</b>	<b>10.05</b>	<b>9.13</b>	<b>9.12</b>	<b>9.54</b>	<i>10.01</i>	<i>9.15</i>	<i>9.17</i>	<i>9.71</i>	<i>10.21</i>	<i>9.34</i>	<b>9.54</b>	<i>9.49</i>	<i>9.65</i>
Pacific .....	<b>12.81</b>	<b>13.39</b>	<b>15.25</b>	<b>13.40</b>	<b>12.88</b>	<b>13.74</b>	<i>15.54</i>	<i>13.69</i>	<i>13.15</i>	<i>14.09</i>	<i>15.89</i>	<i>14.01</i>	<b>13.76</b>	<i>14.00</i>	<i>14.33</i>
U.S. Average .....	<b>10.45</b>	<b>10.50</b>	<b>10.93</b>	<b>10.39</b>	<b>10.36</b>	<b>10.62</b>	<i>10.98</i>	<i>10.41</i>	<i>10.38</i>	<i>10.70</i>	<i>11.12</i>	<i>10.59</i>	<b>10.58</b>	<i>10.61</i>	<i>10.71</i>

- = 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. U.S. Regional Electricity Generation, All Sectors (Thousand megawatthours per day)**

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>United States</b>															
Coal .....	3,127	2,859	3,559	3,014	2,883	2,307	2,917	2,457	2,672	2,171	2,877	2,394	3,141	2,641	2,529
Natural Gas .....	3,455	3,806	5,135	3,677	3,799	3,957	5,217	3,866	3,770	3,991	5,201	3,800	4,022	4,213	4,192
Petroleum (a) .....	102	53	62	53	57	50	61	54	66	54	61	54	67	55	59
Other Gases .....	34	32	36	31	35	33	37	31	35	33	37	31	33	34	34
Nuclear .....	2,294	2,155	2,277	2,120	2,261	2,160	2,247	2,101	2,229	2,070	2,203	2,076	2,211	2,192	2,144
Renewable Energy Sources:	2,093	2,212	1,718	1,794	1,989	2,280	1,842	2,028	2,206	2,432	2,041	2,205	1,953	2,034	2,221
Conventional Hydropower .....	856	944	697	703	800	902	697	686	770	872	742	689	799	771	768
Wind .....	869	822	582	744	825	919	680	954	1,038	1,052	773	1,084	753	844	987
Wood Biomass .....	119	112	115	108	110	110	119	113	112	111	119	114	113	113	114
Waste Biomass .....	61	58	57	58	56	55	57	57	56	56	56	56	59	56	56
Geothermal .....	46	44	46	47	47	43	43	44	44	43	44	46	46	44	44
Solar .....	141	232	222	134	151	251	246	174	186	297	306	217	182	205	252
Pumped Storage Hydropower .....	-15	-13	-22	-15	-12	-8	-17	-14	-14	-12	-18	-14	-16	-13	-15
Other Nonrenewable Fuels (b) .....	36	35	32	36	34	35	36	36	35	35	36	36	35	35	35
Total Generation .....	11,127	11,141	12,796	10,710	11,046	10,814	12,340	10,558	10,999	10,774	12,437	10,583	11,446	11,191	11,200
<b>Northeast Census Region</b>															
Coal .....	149	120	132	115	141	113	76	95	155	85	87	94	129	106	105
Natural Gas .....	500	527	783	562	592	566	778	613	609	632	791	609	594	638	660
Petroleum (a) .....	32	3	3	2	6	2	4	4	9	2	4	5	10	4	5
Other Gases .....	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Nuclear .....	552	507	525	497	534	481	501	455	483	438	463	437	520	492	455
Hydropower (c) .....	108	114	106	121	119	116	107	106	103	103	102	103	112	112	103
Other Renewables (d) .....	80	76	71	72	74	77	70	84	87	79	72	86	75	76	81
Other Nonrenewable Fuels (b) .....	11	10	11	11	11	11	11	12	11	12	12	12	11	11	11
Total Generation .....	1,435	1,359	1,634	1,381	1,480	1,367	1,550	1,370	1,458	1,352	1,532	1,347	1,452	1,442	1,423
<b>South Census Region</b>															
Coal .....	1,262	1,260	1,529	1,213	1,051	1,006	1,257	982	1,000	894	1,202	917	1,316	1,074	1,003
Natural Gas .....	2,049	2,345	2,932	2,081	2,133	2,396	2,969	2,151	2,122	2,398	2,997	2,158	2,353	2,414	2,419
Petroleum (a) .....	39	21	26	20	21	21	26	22	28	24	27	21	26	22	25
Other Gases .....	13	12	14	12	14	13	14	12	13	13	14	12	13	13	13
Nuclear .....	1,008	952	1,010	936	997	982	1,023	964	1,023	960	1,031	971	976	991	996
Hydropower (c) .....	114	127	112	165	168	137	113	143	144	119	107	139	130	140	128
Other Renewables (d) .....	451	494	375	402	444	519	432	496	551	617	519	573	430	473	565
Other Nonrenewable Fuels (b) .....	16	16	11	15	15	15	15	15	15	14	14	15	15	15	15
Total Generation .....	4,952	5,227	6,008	4,844	4,844	5,089	5,848	4,784	4,895	5,038	5,911	4,807	5,260	5,143	5,164
<b>Midwest Census Region</b>															
Coal .....	1,303	1,140	1,386	1,188	1,221	866	1,136	948	1,088	889	1,170	958	1,255	1,042	1,026
Natural Gas .....	403	441	549	389	460	492	638	453	440	448	607	402	446	511	474
Petroleum (a) .....	10	7	9	8	9	7	9	8	9	9	10	7	8	8	9
Other Gases .....	13	12	14	12	14	12	14	12	15	12	15	12	13	13	13
Nuclear .....	571	539	569	535	564	545	556	524	556	515	540	509	553	548	530
Hydropower (c) .....	57	58	36	40	46	58	38	35	39	51	36	34	48	44	40
Other Renewables (d) .....	367	303	234	320	357	369	274	443	470	439	321	516	306	361	437
Other Nonrenewable Fuels (b) .....	4	3	4	4	3	3	4	4	4	4	4	4	4	4	4
Total Generation .....	2,727	2,505	2,802	2,495	2,674	2,353	2,669	2,426	2,620	2,367	2,703	2,442	2,632	2,530	2,534
<b>West Census Region</b>															
Coal .....	413	339	512	497	470	323	449	431	429	304	417	426	441	418	394
Natural Gas .....	503	493	870	644	614	503	833	650	599	514	807	632	629	650	638
Petroleum (a) .....	21	21	24	24	21	20	21	21	20	19	20	20	23	21	20
Other Gases .....	7	7	7	6	5	6	6	6	5	6	6	6	6	6	6
Nuclear .....	164	158	173	152	166	152	167	158	167	157	169	159	162	161	163
Hydropower (c) .....	562	632	420	363	455	583	421	388	470	585	478	399	493	462	483
Other Renewables (d) .....	338	395	340	297	314	414	369	319	329	425	387	340	343	354	370
Other Nonrenewable Fuels (b) .....	6	6	6	6	5	6	6	6	5	6	6	6	6	6	6
Total Generation .....	2,013	2,050	2,352	1,990	2,050	2,006	2,272	1,979	2,026	2,016	2,291	1,987	2,102	2,077	2,080

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

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

(c) Conventional hydroelectric and pumped storage generation.

(d) Wind, biomass, geothermal, and solar generation.

**Notes:** Data reflect generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities, independent power producers, and the commercial and industrial sectors. 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. Energy Information Administration *Electric Power Monthly* and *Electric Power Annual*.

**Projections:** EIA Regional Short-Term Energy Model.

**Table 7e. U.S. Regional Fuel Consumption for Electricity Generation, All Sectors**

U.S. Energy Information Administration | Short-Term Energy Outlook - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Fuel Consumption for Electricity Generation, All Sectors</b>															
<b>United States</b>															
Coal (thousand st/d) .....	1,717	1,583	1,972	1,693	1,608	1,278	1,620	1,372	1,472	1,200	1,599	1,340	1,742	1,469	1,403
Natural Gas (million cf/d) .....	<b>25,476</b>	<b>28,253</b>	<b>38,432</b>	<b>26,691</b>	<b>27,232</b>	<b>29,121</b>	<i>38,948</i>	<i>28,039</i>	<i>27,227</i>	<i>29,340</i>	<i>38,655</i>	<i>27,425</i>	<b>29,740</b>	<i>30,860</i>	<i>30,675</i>
Petroleum (thousand b/d) .....	180	96	111	94	102	90	110	97	120	97	111	98	120	100	106
Residual Fuel Oil .....	51	27	31	26	24	22	26	23	29	22	25	24	33	24	25
Distillate Fuel Oil .....	71	26	22	24	26	23	23	26	32	23	24	26	36	24	26
Petroleum Coke (a) .....	48	40	54	40	46	41	57	44	53	49	57	43	45	47	51
Other Petroleum Liquids (b) ....	9	4	5	5	6	4	4	4	6	3	4	4	6	5	4
<b>Northeast Census Region</b>															
Coal (thousand st/d) .....	77	63	69	60	71	57	40	50	81	44	46	49	67	55	55
Natural Gas (million cf/d) .....	<b>3,815</b>	<b>3,894</b>	<b>5,824</b>	<b>4,051</b>	<b>4,184</b>	<b>4,035</b>	<i>5,706</i>	<i>4,352</i>	<i>4,373</i>	<i>4,555</i>	<i>5,810</i>	<i>4,333</i>	<b>4,400</b>	<i>4,573</i>	<i>4,769</i>
Petroleum (thousand b/d) .....	53	6	6	4	10	4	6	6	16	4	7	8	17	7	9
<b>South Census Region</b>															
Coal (thousand st/d) .....	659	670	821	658	571	542	672	529	525	475	643	495	702	579	534
Natural Gas (million cf/d) .....	<b>14,737</b>	<b>17,259</b>	<b>21,766</b>	<b>15,053</b>	<b>15,166</b>	<b>17,692</b>	<i>22,130</i>	<i>15,597</i>	<i>15,215</i>	<i>17,619</i>	<i>22,227</i>	<i>15,559</i>	<b>17,217</b>	<i>17,660</i>	<i>17,662</i>
Petroleum (thousand b/d) .....	72	39	48	37	39	40	49	41	52	44	50	40	49	42	47
<b>Midwest Census Region</b>															
Coal (thousand st/d) .....	743	654	793	693	699	495	650	542	618	507	670	548	721	596	586
Natural Gas (million cf/d) .....	<b>3,135</b>	<b>3,415</b>	<b>4,307</b>	<b>2,910</b>	<b>3,365</b>	<b>3,632</b>	<i>4,885</i>	<i>3,313</i>	<i>3,219</i>	<i>3,331</i>	<i>4,627</i>	<i>2,923</i>	<b>3,443</b>	<i>3,801</i>	<i>3,527</i>
Petroleum (thousand b/d) .....	19	15	17	14	17	13	19	15	18	17	19	15	16	16	18
<b>West Census Region</b>															
Coal (thousand st/d) .....	239	195	290	281	267	184	257	250	249	175	241	248	252	240	228
Natural Gas (million cf/d) .....	<b>3,789</b>	<b>3,685</b>	<b>6,535</b>	<b>4,678</b>	<b>4,517</b>	<b>3,762</b>	<i>6,228</i>	<i>4,777</i>	<i>4,420</i>	<i>3,835</i>	<i>5,992</i>	<i>4,609</i>	<b>4,679</b>	<i>4,826</i>	<i>4,717</i>
Petroleum (thousand b/d) .....	36	36	40	39	35	33	36	35	34	31	34	34	38	35	33
<b>End-of-period U.S. Fuel Inventories Held by Electric Power Sector</b>															
Coal (million short tons) .....	126.5	121.5	100.8	102.8	97.1	105.5	99.6	107.4	108.7	105.6	98.8	107.0	102.8	107.4	107.0
Residual Fuel Oil (mmb) .....	10.1	9.9	8.4	8.6	8.7	9.1	9.5	10.3	10.2	10.2	10.1	10.5	8.6	10.3	10.5
Distillate Fuel Oil (mmb) .....	15.1	14.9	14.4	14.9	14.7	14.9	14.9	15.3	15.5	15.4	15.3	15.5	14.9	15.3	15.5
Petroleum Coke (mmb) .....	3.6	2.9	2.9	2.7	2.5	2.6	2.7	2.7	2.8	2.9	2.9	3.0	2.7	2.7	3.0

(a) Petroleum coke consumption converted from short tons to barrels by multiplying by five.

(b) Other petroleum liquids include jet fuel, kerosene, and waste oil.

**Notes:** Data reflect generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities, independent power producers, and the commercial and industrial sectors. Data include fuel consumed only for generation of electricity. Values do not include consumption by CHP plants for useful thermal output.

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

Physical Units: st/d = short tons per day; b/d = barrels per day; cf/d = cubic feet per day; mmb = million barrels.

**Historical data:** Latest data available from U.S. Energy Information Administration *Electric Power Monthly* and *Electric Power Annual*.

**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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Electric Power Sector</b>															
Geothermal .....	0.038	0.037	0.039	0.039	0.038	0.036	0.036	0.037	0.037	0.036	0.037	0.039	0.154	0.148	0.148
Hydroelectric Power (a) .....	0.706	0.787	0.587	0.592	0.660	0.754	0.589	0.579	0.643	0.729	0.626	0.581	2.673	2.582	2.580
Solar (b) .....	0.116	0.193	0.186	0.113	0.124	0.209	0.206	0.145	0.154	0.247	0.257	0.182	0.608	0.685	0.840
Waste Biomass (c) .....	0.073	0.070	0.067	0.069	0.066	0.066	0.069	0.068	0.066	0.067	0.068	0.067	0.280	0.268	0.269
Wood Biomass .....	0.057	0.052	0.055	0.051	0.054	0.051	0.064	0.058	0.058	0.053	0.064	0.058	0.215	0.226	0.234
Wind .....	0.722	0.689	0.494	0.631	0.685	0.772	0.577	0.810	0.872	0.883	0.656	0.920	2.536	2.842	3.331
Subtotal .....	1.712	1.830	1.428	1.495	1.627	1.888	1.540	1.697	1.830	2.015	1.709	1.847	6.465	6.752	7.402
<b>Industrial Sector</b>															
Biofuel Losses and Co-products (d) .....	0.202	0.204	0.211	0.206	0.194	0.206	0.202	0.203	0.201	0.206	0.207	0.207	0.823	0.804	0.822
Geothermal .....	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Hydroelectric Power (a) .....	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.013	0.012	0.012
Solar (b) .....	0.005	0.007	0.008	0.005	0.006	0.008	0.009	0.006	0.007	0.010	0.010	0.007	0.025	0.029	0.033
Waste Biomass (c) .....	0.044	0.041	0.039	0.044	0.043	0.041	0.041	0.043	0.042	0.041	0.041	0.043	0.168	0.168	0.167
Wood Biomass .....	0.382	0.382	0.389	0.388	0.371	0.356	0.358	0.357	0.345	0.342	0.353	0.355	1.540	1.443	1.394
Subtotal .....	0.637	0.635	0.648	0.648	0.616	0.612	0.610	0.612	0.597	0.598	0.610	0.614	2.567	2.450	2.418
<b>Commercial Sector</b>															
Geothermal .....	0.005	0.005	0.005	0.005	0.006	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.020	0.023	0.022
Solar (b) .....	0.019	0.029	0.029	0.020	0.022	0.033	0.034	0.025	0.028	0.041	0.041	0.030	0.096	0.114	0.140
Waste Biomass (c) .....	0.011	0.011	0.010	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.044	0.044	0.044
Wood Biomass .....	0.021	0.021	0.021	0.021	0.021	0.021	0.022	0.021	0.021	0.021	0.022	0.021	0.084	0.084	0.084
Subtotal .....	0.063	0.072	0.072	0.064	0.067	0.077	0.079	0.069	0.073	0.085	0.087	0.074	0.271	0.292	0.318
<b>Residential Sector</b>															
Geothermal .....	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.040	0.040
Solar (e) .....	0.044	0.067	0.067	0.046	0.051	0.078	0.080	0.056	0.061	0.093	0.095	0.066	0.224	0.265	0.314
Wood Biomass .....	0.128	0.129	0.130	0.130	0.131	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.517	0.536	0.540
Subtotal .....	0.181	0.206	0.207	0.186	0.191	0.224	0.225	0.201	0.206	0.238	0.240	0.211	0.780	0.840	0.894
<b>Transportation Sector</b>															
Biomass-based Diesel (f) .....	0.054	0.068	0.071	0.063	0.058	0.071	0.072	0.085	0.072	0.085	0.078	0.082	0.256	0.286	0.317
Ethanol (f) .....	0.273	0.287	0.294	0.289	0.274	0.296	0.292	0.286	0.275	0.297	0.299	0.292	1.142	1.149	1.164
Subtotal .....	0.327	0.355	0.365	0.351	0.333	0.368	0.364	0.371	0.347	0.382	0.377	0.374	1.398	1.436	1.480
<b>All Sectors Total</b>															
Biomass-based Diesel (f) .....	0.054	0.068	0.071	0.063	0.058	0.071	0.072	0.085	0.072	0.085	0.078	0.082	0.256	0.286	0.317
Biofuel Losses and Co-products (d) .....	0.202	0.204	0.211	0.206	0.194	0.206	0.202	0.203	0.201	0.206	0.207	0.207	0.823	0.804	0.822
Ethanol (f) .....	0.283	0.297	0.305	0.300	0.285	0.306	0.303	0.297	0.285	0.309	0.311	0.303	1.185	1.190	1.207
Geothermal .....	0.054	0.053	0.055	0.055	0.055	0.053	0.053	0.054	0.053	0.053	0.054	0.055	0.218	0.215	0.215
Hydroelectric Power (a) .....	0.710	0.791	0.590	0.596	0.663	0.758	0.592	0.583	0.646	0.732	0.630	0.585	2.688	2.597	2.594
Solar (b)(e) .....	0.184	0.295	0.289	0.184	0.202	0.326	0.329	0.232	0.250	0.390	0.403	0.285	0.951	1.089	1.328
Waste Biomass (c) .....	0.128	0.122	0.117	0.125	0.120	0.118	0.120	0.123	0.119	0.119	0.120	0.121	0.492	0.481	0.480
Wood Biomass .....	0.587	0.584	0.596	0.590	0.577	0.561	0.579	0.571	0.559	0.551	0.574	0.569	2.357	2.287	2.252
Wind .....	0.722	0.689	0.494	0.631	0.685	0.772	0.577	0.810	0.872	0.883	0.656	0.920	2.536	2.842	3.331
<b>Total Consumption</b> .....	<b>2.920</b>	<b>3.097</b>	<b>2.721</b>	<b>2.745</b>	<b>2.833</b>	<b>3.162</b>	<b>2.818</b>	<b>2.950</b>	<b>3.052</b>	<b>3.318</b>	<b>3.023</b>	<b>3.120</b>	<b>11.482</b>	<b>11.764</b>	<b>12.513</b>

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Renewable Energy Electric Generating Capacity (megawatts, end of period)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	7,247	7,220	7,213	7,154	6,989	7,120	7,025	7,021	7,019	6,955	6,955	6,999	7,154	7,021	6,999
Waste .....	4,209	4,181	4,174	4,170	4,136	4,123	4,118	4,113	4,111	4,047	4,047	4,049	4,170	4,113	4,049
Wood .....	3,039	3,039	3,039	2,984	2,854	2,997	2,908	2,908	2,908	2,908	2,908	2,950	2,984	2,908	2,950
Conventional Hydroelectric .....	79,499	79,460	79,468	79,587	79,610	79,629	79,532	79,550	79,631	79,653	79,776	79,795	79,587	79,550	79,795
Geothermal .....	2,396	2,396	2,396	2,398	2,395	2,403	2,403	2,403	2,403	2,403	2,493	2,518	2,398	2,403	2,518
Large-Scale Solar (b) .....	28,048	28,903	29,423	31,526	32,576	33,437	34,264	37,276	38,807	42,191	42,880	46,229	31,526	37,276	46,229
Wind .....	88,446	88,895	89,803	94,296	96,540	98,179	100,244	107,473	108,777	110,026	111,260	118,320	94,296	107,473	118,320
<b>Other Sectors (c)</b>															
Biomass .....	6,684	6,678	6,666	6,665	6,597	6,555	6,555	6,577	6,577	6,577	6,577	6,569	6,665	6,577	6,569
Waste .....	855	853	849	849	849	850	850	866	866	866	866	866	849	866	866
Wood .....	5,830	5,825	5,816	5,816	5,749	5,705	5,705	5,711	5,711	5,711	5,711	5,703	5,816	5,711	5,703
Conventional Hydroelectric .....	284	284	284	284	290	290	290	290	290	289	289	289	284	290	289
Large-Scale Solar (b) .....	358	365	372	378	381	385	395	397	397	400	400	400	378	397	400
Small-Scale Solar (d) .....	17,048	17,887	18,712	19,521	20,585	21,584	22,690	23,858	25,097	26,411	27,817	29,314	19,521	23,858	29,314
Residential Sector .....	10,155	10,660	11,179	11,664	12,440	13,060	13,767	14,518	15,321	16,179	17,106	18,103	11,664	14,518	18,103
Commercial Sector .....	5,501	5,778	6,026	6,286	6,533	6,841	7,176	7,528	7,897	8,285	8,693	9,120	6,286	7,528	9,120
Industrial Sector .....	1,391	1,449	1,507	1,571	1,612	1,683	1,747	1,812	1,879	1,947	2,018	2,091	1,571	1,812	2,091
Wind .....	113	110	116	116	116	121	121	121	121	121	121	121	116	121	121
<b>Renewable Electricity Generation (thousand megawatthours per day)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	92	85	86	82	83	80	90	86	85	83	90	86	86	85	86
Waste .....	52	49	48	49	47	46	48	48	47	48	48	47	50	47	48
Wood .....	40	35	37	33	36	34	42	38	38	35	42	38	37	37	38
Conventional Hydroelectric .....	852	939	692	698	796	898	693	682	766	867	738	684	795	767	763
Geothermal .....	46	44	46	46	46	43	43	44	44	43	44	46	46	44	44
Large-Scale Solar (b) .....	140	230	219	133	149	249	243	171	183	294	303	214	180	203	249
Wind .....	868	821	581	743	824	918	679	953	1,038	1,051	773	1,083	752	844	986
<b>Other Sectors (c)</b>															
Biomass .....	87	86	86	84	83	85	86	84	83	85	86	84	86	84	84
Waste .....	78	77	77	75	74	76	77	75	74	76	77	75	77	76	76
Wood .....	9	9	8	9	9	9	8	9	9	9	8	9	9	9	9
Conventional Hydroelectric .....	5	5	4	5	4	4	4	5	4	4	4	5	5	4	4
Large-Scale Solar (b) .....	1	3	3	1	2	2	3	3	3	3	3	3	2	2	3
Small-Scale Solar (d) .....	64	97	96	66	78	117	118	83	95	143	144	102	81	99	121
Residential Sector .....	37	57	56	38	46	70	70	49	56	86	87	62	47	59	73
Commercial Sector .....	22	32	32	22	25	38	38	26	31	45	46	32	27	32	39
Industrial Sector .....	6	8	9	6	7	10	10	7	8	11	12	8	7	8	10
Wind .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

-- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Macroeconomic</b>															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR) .....	<b>18,324</b>	<b>18,512</b>	<b>18,665</b>	<b>18,765</b>	<b>18,908</b>	<b>18,981</b>	<i>19,069</i>	<i>19,166</i>	<i>19,252</i>	<i>19,333</i>	<i>19,408</i>	<i>19,481</i>	<b>18,566</b>	<b>19,031</b>	<b>19,368</b>
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR) .....	<b>12,723</b>	<b>12,842</b>	<b>12,953</b>	<b>13,032</b>	<b>13,075</b>	<b>13,171</b>	<i>13,230</i>	<i>13,310</i>	<i>13,379</i>	<i>13,452</i>	<i>13,529</i>	<i>13,608</i>	<b>12,888</b>	<b>13,197</b>	<b>13,492</b>
Real Private Fixed Investment (billion chained 2012 dollars - SAAR) .....	<b>3,271</b>	<b>3,322</b>	<b>3,332</b>	<b>3,357</b>	<b>3,366</b>	<b>3,351</b>	<i>3,369</i>	<i>3,389</i>	<i>3,402</i>	<i>3,409</i>	<i>3,421</i>	<i>3,435</i>	<b>3,321</b>	<b>3,369</b>	<b>3,417</b>
Business Inventory Change (billion chained 2012 dollars - SAAR) .....	<b>36</b>	<b>-10</b>	<b>93</b>	<b>107</b>	<b>124</b>	<b>80</b>	<i>72</i>	<i>58</i>	<i>56</i>	<i>46</i>	<i>42</i>	<i>37</i>	<b>57</b>	<b>83</b>	<b>45</b>
Real Government Expenditures (billion chained 2012 dollars - SAAR) .....	<b>3,152</b>	<b>3,172</b>	<b>3,192</b>	<b>3,189</b>	<b>3,208</b>	<b>3,247</b>	<i>3,259</i>	<i>3,268</i>	<i>3,279</i>	<i>3,298</i>	<i>3,299</i>	<i>3,300</i>	<b>3,176</b>	<b>3,246</b>	<b>3,294</b>
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR) .....	<b>2,518</b>	<b>2,574</b>	<b>2,542</b>	<b>2,553</b>	<b>2,584</b>	<b>2,556</b>	<i>2,580</i>	<i>2,603</i>	<i>2,627</i>	<i>2,646</i>	<i>2,665</i>	<i>2,681</i>	<b>2,547</b>	<b>2,581</b>	<b>2,655</b>
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR) .....	<b>3,420</b>	<b>3,415</b>	<b>3,492</b>	<b>3,509</b>	<b>3,487</b>	<b>3,461</b>	<i>3,480</i>	<i>3,500</i>	<i>3,530</i>	<i>3,561</i>	<i>3,593</i>	<i>3,629</i>	<b>3,459</b>	<b>3,482</b>	<b>3,578</b>
Real Disposable Personal Income (billion chained 2012 dollars - SAAR) .....	<b>14,220</b>	<b>14,282</b>	<b>14,375</b>	<b>14,489</b>	<b>14,569</b>	<b>14,606</b>	<i>14,686</i>	<i>14,764</i>	<i>14,857</i>	<i>14,967</i>	<i>15,064</i>	<i>15,146</i>	<b>14,341</b>	<b>14,656</b>	<b>15,008</b>
Non-Farm Employment (millions) .....	<b>148.0</b>	<b>148.7</b>	<b>149.4</b>	<b>150.1</b>	<b>150.7</b>	<b>151.2</b>	<i>151.8</i>	<i>152.2</i>	<i>152.7</i>	<i>153.2</i>	<i>153.3</i>	<i>153.4</i>	<b>149.1</b>	<b>151.5</b>	<b>153.1</b>
Civilian Unemployment Rate (percent) .....	<b>4.1</b>	<b>3.9</b>	<b>3.8</b>	<b>3.8</b>	<b>3.9</b>	<b>3.6</b>	<i>3.5</i>	<i>3.5</i>	<i>3.5</i>	<i>3.6</i>	<i>3.7</i>	<i>3.7</i>	<b>3.9</b>	<b>3.6</b>	<b>3.6</b>
Housing Starts (millions - SAAR) .....	<b>1.32</b>	<b>1.26</b>	<b>1.23</b>	<b>1.19</b>	<b>1.21</b>	<b>1.26</b>	<i>1.21</i>	<i>1.22</i>	<i>1.23</i>	<i>1.22</i>	<i>1.23</i>	<i>1.23</i>	<b>1.25</b>	<b>1.23</b>	<b>1.23</b>
<b>Industrial Production Indices (Index, 2012=100)</b>															
Total Industrial Production .....	<b>106.7</b>	<b>107.9</b>	<b>109.3</b>	<b>110.3</b>	<b>109.7</b>	<b>109.4</b>	<i>109.9</i>	<i>110.4</i>	<i>110.6</i>	<i>110.9</i>	<i>111.1</i>	<i>111.4</i>	<b>108.6</b>	<b>109.9</b>	<b>111.0</b>
Manufacturing .....	<b>104.8</b>	<b>105.5</b>	<b>106.6</b>	<b>107.0</b>	<b>106.4</b>	<b>105.9</b>	<i>106.5</i>	<i>107.1</i>	<i>107.5</i>	<i>107.6</i>	<i>107.8</i>	<i>108.1</i>	<b>106.0</b>	<b>106.5</b>	<b>107.7</b>
Food .....	<b>113.3</b>	<b>114.3</b>	<b>114.9</b>	<b>113.2</b>	<b>115.0</b>	<b>115.1</b>	<i>116.0</i>	<i>116.6</i>	<i>117.0</i>	<i>117.5</i>	<i>118.0</i>	<i>118.5</i>	<b>113.9</b>	<b>115.7</b>	<b>117.8</b>
Paper .....	<b>96.0</b>	<b>95.9</b>	<b>96.0</b>	<b>96.0</b>	<b>94.1</b>	<b>93.2</b>	<i>93.0</i>	<i>92.8</i>	<i>92.5</i>	<i>92.2</i>	<i>91.9</i>	<i>91.6</i>	<b>96.0</b>	<b>93.3</b>	<b>92.1</b>
Petroleum and Coal Products .....	<b>106.7</b>	<b>106.8</b>	<b>107.5</b>	<b>106.7</b>	<b>106.2</b>	<b>105.0</b>	<i>105.1</i>	<i>105.4</i>	<i>105.6</i>	<i>105.8</i>	<i>105.9</i>	<i>105.9</i>	<b>106.9</b>	<b>105.4</b>	<b>105.8</b>
Chemicals .....	<b>98.4</b>	<b>100.2</b>	<b>101.3</b>	<b>101.8</b>	<b>101.4</b>	<b>101.7</b>	<i>101.9</i>	<i>102.5</i>	<i>103.1</i>	<i>103.6</i>	<i>104.3</i>	<i>104.9</i>	<b>100.4</b>	<b>101.9</b>	<b>104.0</b>
Nonmetallic Mineral Products .....	<b>119.1</b>	<b>120.4</b>	<b>119.0</b>	<b>119.9</b>	<b>119.8</b>	<b>118.6</b>	<i>118.2</i>	<i>118.5</i>	<i>118.7</i>	<i>118.9</i>	<i>119.2</i>	<i>119.4</i>	<b>119.6</b>	<b>118.8</b>	<b>119.1</b>
Primary Metals .....	<b>95.8</b>	<b>96.2</b>	<b>97.5</b>	<b>100.7</b>	<b>98.0</b>	<b>98.1</b>	<i>98.5</i>	<i>98.6</i>	<i>97.8</i>	<i>96.8</i>	<i>95.8</i>	<i>94.5</i>	<b>97.6</b>	<b>98.3</b>	<b>96.2</b>
Coal-weighted Manufacturing (a) .....	<b>103.6</b>	<b>104.7</b>	<b>105.3</b>	<b>106.0</b>	<b>105.0</b>	<b>104.8</b>	<i>105.0</i>	<i>105.3</i>	<i>105.2</i>	<i>105.0</i>	<i>104.9</i>	<i>104.7</i>	<b>104.9</b>	<b>105.0</b>	<b>105.0</b>
Distillate-weighted Manufacturing (a) .....	<b>111.3</b>	<b>111.8</b>	<b>112.2</b>	<b>112.0</b>	<b>111.6</b>	<b>110.7</b>	<i>110.8</i>	<i>111.2</i>	<i>111.3</i>	<i>111.4</i>	<i>111.5</i>	<i>111.6</i>	<b>111.8</b>	<b>111.1</b>	<b>111.5</b>
Electricity-weighted Manufacturing (a) .....	<b>104.5</b>	<b>105.4</b>	<b>106.5</b>	<b>107.1</b>	<b>106.3</b>	<b>106.0</b>	<i>106.2</i>	<i>106.5</i>	<i>106.7</i>	<i>106.7</i>	<i>106.8</i>	<i>106.8</i>	<b>105.9</b>	<b>106.2</b>	<b>106.7</b>
Natural Gas-weighted Manufacturing (a) ...	<b>104.3</b>	<b>105.8</b>	<b>106.8</b>	<b>107.0</b>	<b>106.1</b>	<b>105.9</b>	<i>106.2</i>	<i>106.6</i>	<i>106.8</i>	<i>106.9</i>	<i>107.1</i>	<i>107.2</i>	<b>106.0</b>	<b>106.2</b>	<b>107.0</b>
<b>Price Indexes</b>															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00) .....	<b>2.49</b>	<b>2.51</b>	<b>2.52</b>	<b>2.53</b>	<b>2.53</b>	<b>2.55</b>	<i>2.56</i>	<i>2.58</i>	<i>2.60</i>	<i>2.61</i>	<i>2.62</i>	<i>2.63</i>	<b>2.51</b>	<b>2.56</b>	<b>2.61</b>
Producer Price Index: All Commodities (index, 1982=1.00) .....	<b>2.00</b>	<b>2.01</b>	<b>2.03</b>	<b>2.04</b>	<b>2.00</b>	<b>2.01</b>	<i>2.01</i>	<i>2.03</i>	<i>2.03</i>	<i>2.03</i>	<i>2.03</i>	<i>2.04</i>	<b>2.02</b>	<b>2.01</b>	<b>2.03</b>
Producer Price Index: Petroleum (index, 1982=1.00) .....	<b>1.98</b>	<b>2.22</b>	<b>2.26</b>	<b>2.10</b>	<b>1.84</b>	<b>2.06</b>	<i>2.01</i>	<i>1.98</i>	<i>1.96</i>	<i>2.03</i>	<i>2.02</i>	<i>1.96</i>	<b>2.14</b>	<b>1.97</b>	<b>1.99</b>
GDP Implicit Price Deflator (index, 2012=100) .....	<b>109.3</b>	<b>110.2</b>	<b>110.7</b>	<b>111.1</b>	<b>111.3</b>	<b>111.9</b>	<i>112.6</i>	<i>113.1</i>	<i>113.8</i>	<i>114.5</i>	<i>115.1</i>	<i>115.8</i>	<b>110.3</b>	<b>112.2</b>	<b>114.8</b>
<b>Miscellaneous</b>															
Vehicle Miles Traveled (b) (million miles/day) .....	<b>8,198</b>	<b>9,192</b>	<b>9,114</b>	<b>8,810</b>	<b>8,330</b>	<b>9,322</b>	<i>9,239</i>	<i>8,933</i>	<i>8,413</i>	<i>9,421</i>	<i>9,320</i>	<i>9,010</i>	<b>8,831</b>	<b>8,959</b>	<b>9,042</b>
Air Travel Capacity (Available ton-miles/day, thousands) .....	<b>603</b>	<b>664</b>	<b>667</b>	<b>661</b>	<b>641</b>	<b>673</b>	<i>679</i>	<i>655</i>	<i>635</i>	<i>667</i>	<i>676</i>	<i>653</i>	<b>649</b>	<b>662</b>	<b>658</b>
Aircraft Utilization (Revenue ton-miles/day, thousands) .....	<b>368</b>	<b>414</b>	<b>418</b>	<b>394</b>	<b>379</b>	<b>428</b>	<i>435</i>	<i>413</i>	<i>394</i>	<i>428</i>	<i>434</i>	<i>413</i>	<b>398</b>	<b>414</b>	<b>417</b>
Airline Ticket Price Index (index, 1982-1984=100) .....	<b>262.8</b>	<b>277.9</b>	<b>259.7</b>	<b>259.3</b>	<b>255.7</b>	<b>276.7</b>	<i>258.8</i>	<i>274.9</i>	<i>295.5</i>	<i>317.5</i>	<i>289.8</i>	<i>302.1</i>	<b>264.9</b>	<b>266.5</b>	<b>301.2</b>
Raw Steel Production (million short tons per day) .....	<b>0.251</b>	<b>0.253</b>	<b>0.263</b>	<b>0.270</b>	<b>0.273</b>	<b>0.271</b>	<i>0.264</i>	<i>0.263</i>	<i>0.267</i>	<i>0.269</i>	<i>0.266</i>	<i>0.268</i>	<b>0.259</b>	<b>0.268</b>	<b>0.268</b>
<b>Carbon Dioxide (CO2) Emissions (million metric tons)</b>															
Petroleum .....	<b>578</b>	<b>591</b>	<b>601</b>	<b>599</b>	<b>572</b>	<b>592</b>	<i>606</i>	<i>601</i>	<i>577</i>	<i>588</i>	<i>608</i>	<i>601</i>	<b>2,369</b>	<b>2,371</b>	<b>2,375</b>
Natural Gas .....	<b>478</b>	<b>349</b>	<b>370</b>	<b>431</b>	<b>504</b>	<b>357</b>	<i>380</i>	<i>441</i>	<i>506</i>	<i>361</i>	<i>381</i>	<i>436</i>	<b>1,629</b>	<b>1,682</b>	<b>1,683</b>
Coal .....	<b>307</b>	<b>287</b>	<b>355</b>	<b>310</b>	<b>288</b>	<b>241</b>	<i>300</i>	<i>261</i>	<i>273</i>	<i>226</i>	<i>295</i>	<i>256</i>	<b>1,259</b>	<b>1,090</b>	<b>1,050</b>
Total Energy (c) .....	<b>1,366</b>	<b>1,231</b>	<b>1,329</b>	<b>1,342</b>	<b>1,367</b>	<b>1,192</b>	<i>1,289</i>	<i>1,306</i>	<i>1,359</i>	<i>1,178</i>	<i>1,287</i>	<i>1,295</i>	<b>5,268</b>	<b>5,154</b>	<b>5,119</b>

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Real Gross State Product (Billion \$2009)</b>															
New England .....	971	973	981	985	993	996	1,000	1,004	1,008	1,012	1,016	1,019	978	998	1,014
Middle Atlantic .....	2,720	2,748	2,768	2,776	2,796	2,807	2,816	2,829	2,839	2,849	2,857	2,866	2,753	2,812	2,853
E. N. Central .....	2,483	2,494	2,519	2,528	2,543	2,547	2,554	2,565	2,575	2,580	2,584	2,589	2,506	2,553	2,582
W. N. Central .....	1,150	1,168	1,173	1,177	1,184	1,186	1,190	1,195	1,199	1,202	1,207	1,211	1,167	1,189	1,205
S. Atlantic .....	3,259	3,286	3,325	3,339	3,366	3,380	3,398	3,416	3,434	3,451	3,467	3,484	3,302	3,390	3,459
E. S. Central .....	812	821	827	831	836	838	842	845	848	851	854	857	823	840	853
W. S. Central .....	2,225	2,248	2,263	2,294	2,313	2,323	2,336	2,350	2,362	2,377	2,391	2,402	2,258	2,330	2,383
Mountain .....	1,197	1,210	1,224	1,234	1,245	1,251	1,258	1,266	1,273	1,280	1,287	1,293	1,216	1,255	1,283
Pacific .....	3,540	3,597	3,616	3,636	3,667	3,685	3,709	3,730	3,748	3,765	3,780	3,795	3,597	3,698	3,772
<b>Industrial Output, Manufacturing (Index, Year 2012=100)</b>															
New England .....	98.8	99.2	99.7	99.5	98.3	97.8	98.2	98.6	98.7	98.7	98.9	99.0	99.3	98.2	98.8
Middle Atlantic .....	98.6	99.0	99.6	99.8	98.5	97.9	98.4	98.8	99.1	99.0	99.2	99.3	99.3	98.4	99.1
E. N. Central .....	107.6	108.2	109.2	109.3	108.2	107.5	107.9	108.5	108.9	108.9	108.9	109.1	108.6	108.0	109.0
W. N. Central .....	104.2	104.9	106.2	106.7	106.1	105.6	106.1	106.8	107.2	107.3	107.6	107.9	105.5	106.1	107.5
S. Atlantic .....	108.8	109.7	110.7	110.9	110.8	110.3	110.8	111.4	111.7	111.8	112.0	112.2	110.0	110.8	111.9
E. S. Central .....	109.8	110.2	111.2	111.7	111.0	110.5	111.1	111.7	112.1	112.1	112.3	112.5	110.7	111.1	112.2
W. S. Central .....	98.7	99.7	100.9	101.6	101.9	101.7	102.4	103.1	103.6	103.9	104.2	104.6	100.2	102.3	104.1
Mountain .....	112.2	113.5	115.3	116.4	116.1	115.6	116.4	117.3	117.8	118.2	118.7	119.1	114.3	116.3	118.4
Pacific .....	104.5	105.1	105.7	106.4	106.2	105.8	106.4	107.0	107.4	107.5	107.9	108.1	105.4	106.4	107.7
<b>Real Personal Income (Billion \$2009)</b>															
New England .....	861	858	864	868	875	878	883	887	891	897	902	906	863	881	899
Middle Atlantic .....	2,223	2,233	2,246	2,252	2,268	2,277	2,287	2,297	2,308	2,322	2,333	2,342	2,239	2,282	2,326
E. N. Central .....	2,350	2,349	2,367	2,382	2,400	2,407	2,418	2,430	2,444	2,459	2,471	2,480	2,362	2,414	2,463
W. N. Central .....	1,087	1,096	1,098	1,111	1,115	1,117	1,123	1,128	1,136	1,145	1,153	1,160	1,098	1,121	1,149
S. Atlantic .....	3,069	3,076	3,108	3,126	3,153	3,169	3,191	3,212	3,235	3,263	3,287	3,309	3,095	3,181	3,274
E. S. Central .....	861	864	870	874	882	885	889	892	898	904	908	912	867	887	905
W. S. Central .....	1,875	1,884	1,896	1,912	1,926	1,936	1,947	1,959	1,974	1,991	2,005	2,017	1,892	1,942	1,997
Mountain .....	1,100	1,103	1,115	1,124	1,134	1,140	1,148	1,155	1,164	1,175	1,185	1,193	1,111	1,144	1,179
Pacific .....	2,663	2,682	2,696	2,712	2,725	2,739	2,754	2,770	2,787	2,809	2,829	2,844	2,688	2,747	2,817
<b>Households (Thousands)</b>															
New England .....	5,914	5,926	5,944	5,955	5,965	5,971	5,982	5,992	6,002	6,014	6,021	6,029	5,955	5,992	6,029
Middle Atlantic .....	16,210	16,249	16,300	16,331	16,355	16,371	16,396	16,423	16,449	16,479	16,498	16,518	16,331	16,423	16,518
E. N. Central .....	19,003	19,037	19,090	19,121	19,149	19,170	19,200	19,233	19,264	19,308	19,339	19,371	19,121	19,233	19,371
W. N. Central .....	8,604	8,627	8,658	8,680	8,701	8,719	8,740	8,763	8,784	8,809	8,828	8,848	8,680	8,763	8,848
S. Atlantic .....	25,469	25,561	25,679	25,771	25,862	25,946	26,036	26,129	26,223	26,324	26,410	26,495	25,771	26,129	26,495
E. S. Central .....	7,626	7,641	7,665	7,682	7,699	7,715	7,733	7,752	7,771	7,791	7,808	7,825	7,682	7,752	7,825
W. S. Central .....	14,686	14,731	14,793	14,843	14,891	14,938	14,989	15,043	15,098	15,157	15,209	15,260	14,843	15,043	15,260
Mountain .....	9,244	9,292	9,349	9,394	9,437	9,476	9,518	9,559	9,600	9,644	9,683	9,721	9,394	9,559	9,721
Pacific .....	18,859	18,903	18,966	19,010	19,055	19,096	19,147	19,201	19,257	19,316	19,365	19,415	19,010	19,201	19,415
<b>Total Non-farm Employment (Millions)</b>															
New England .....	7.4	7.4	7.5	7.5	7.5	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.5	7.5	7.6
Middle Atlantic .....	19.7	19.8	19.9	19.9	20.0	20.1	20.1	20.2	20.2	20.3	20.3	20.2	19.8	20.1	20.2
E. N. Central .....	22.1	22.2	22.2	22.3	22.4	22.4	22.5	22.5	22.6	22.6	22.6	22.6	22.2	22.5	22.6
W. N. Central .....	10.7	10.7	10.8	10.8	10.8	10.8	10.8	10.9	10.9	10.9	10.9	10.9	10.7	10.8	10.9
S. Atlantic .....	28.5	28.6	28.7	28.9	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.7	28.7	29.2	29.6
E. S. Central .....	8.1	8.2	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.4	8.4	8.4	8.2	8.3	8.4
W. S. Central .....	17.3	17.4	17.5	17.6	17.6	17.7	17.8	17.9	18.0	18.0	18.1	18.1	17.4	17.8	18.0
Mountain .....	10.7	10.8	10.9	10.9	11.0	11.1	11.1	11.2	11.2	11.3	11.3	11.3	10.8	11.1	11.3
Pacific .....	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0	24.1	24.2	24.2	24.2	23.5	23.9	24.2

- = 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 - July 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
<b>Heating Degree Days</b>															
New England .....	<b>3,050</b>	<b>905</b>	<b>71</b>	<b>2,304</b>	<b>3,228</b>	<b>915</b>	<i>135</i>	<i>2,129</i>	<i>3,148</i>	<i>854</i>	<i>134</i>	<i>2,129</i>	<b>6,330</b>	<i>6,407</i>	<i>6,265</i>
Middle Atlantic .....	<b>2,938</b>	<b>755</b>	<b>37</b>	<b>2,050</b>	<b>2,987</b>	<b>632</b>	<i>93</i>	<i>1,956</i>	<i>2,905</i>	<i>681</i>	<i>81</i>	<i>1,956</i>	<b>5,780</b>	<i>5,668</i>	<i>5,623</i>
E. N. Central .....	<b>3,211</b>	<b>826</b>	<b>60</b>	<b>2,336</b>	<b>3,329</b>	<b>771</b>	<i>135</i>	<i>2,218</i>	<i>3,114</i>	<i>718</i>	<i>131</i>	<i>2,218</i>	<b>6,433</b>	<i>6,453</i>	<i>6,181</i>
W. N. Central .....	<b>3,422</b>	<b>828</b>	<b>121</b>	<b>2,602</b>	<b>3,646</b>	<b>769</b>	<i>169</i>	<i>2,401</i>	<i>3,198</i>	<i>695</i>	<i>169</i>	<i>2,401</i>	<b>6,973</b>	<i>6,985</i>	<i>6,464</i>
South Atlantic .....	<b>1,442</b>	<b>218</b>	<b>2</b>	<b>967</b>	<b>1,336</b>	<b>129</b>	<i>14</i>	<i>968</i>	<i>1,406</i>	<i>191</i>	<i>13</i>	<i>967</i>	<b>2,629</b>	<i>2,448</i>	<i>2,577</i>
E. S. Central .....	<b>1,815</b>	<b>324</b>	<b>2</b>	<b>1,338</b>	<b>1,715</b>	<b>200</b>	<i>22</i>	<i>1,308</i>	<i>1,805</i>	<i>238</i>	<i>22</i>	<i>1,308</i>	<b>3,480</b>	<i>3,246</i>	<i>3,374</i>
W. S. Central .....	<b>1,192</b>	<b>142</b>	<b>3</b>	<b>910</b>	<b>1,209</b>	<b>89</b>	<i>5</i>	<i>823</i>	<i>1,155</i>	<i>80</i>	<i>5</i>	<i>822</i>	<b>2,247</b>	<i>2,126</i>	<i>2,063</i>
Mountain .....	<b>2,124</b>	<b>601</b>	<b>124</b>	<b>1,960</b>	<b>2,434</b>	<b>757</b>	<i>151</i>	<i>1,832</i>	<i>2,195</i>	<i>689</i>	<i>154</i>	<i>1,831</i>	<b>4,808</b>	<i>5,174</i>	<i>4,869</i>
Pacific .....	<b>1,439</b>	<b>540</b>	<b>83</b>	<b>1,098</b>	<b>1,683</b>	<b>558</b>	<i>86</i>	<i>1,191</i>	<i>1,481</i>	<i>564</i>	<i>86</i>	<i>1,191</i>	<b>3,161</b>	<i>3,517</i>	<i>3,322</i>
U.S. Average .....	<b>2,129</b>	<b>522</b>	<b>48</b>	<b>1,577</b>	<b>2,210</b>	<b>478</b>	<i>78</i>	<i>1,519</i>	<i>2,096</i>	<i>478</i>	<i>76</i>	<i>1,517</i>	<b>4,277</b>	<i>4,286</i>	<i>4,166</i>
<b>Heating Degree Days, Prior 10-year Average</b>															
New England .....	<b>3,172</b>	<b>817</b>	<b>119</b>	<b>2,121</b>	<b>3,165</b>	<b>820</b>	<i>111</i>	<i>2,122</i>	<i>3,152</i>	<i>825</i>	<i>105</i>	<i>2,113</i>	<b>6,229</b>	<i>6,218</i>	<i>6,194</i>
Middle Atlantic .....	<b>2,947</b>	<b>646</b>	<b>81</b>	<b>1,949</b>	<b>2,956</b>	<b>650</b>	<i>76</i>	<i>1,941</i>	<i>2,948</i>	<i>644</i>	<i>72</i>	<i>1,933</i>	<b>5,623</b>	<i>5,623</i>	<i>5,597</i>
E. N. Central .....	<b>3,209</b>	<b>692</b>	<b>116</b>	<b>2,210</b>	<b>3,196</b>	<b>697</b>	<i>112</i>	<i>2,198</i>	<i>3,198</i>	<i>699</i>	<i>109</i>	<i>2,191</i>	<b>6,228</b>	<i>6,203</i>	<i>6,197</i>
W. N. Central .....	<b>3,264</b>	<b>705</b>	<b>144</b>	<b>2,379</b>	<b>3,255</b>	<b>702</b>	<i>140</i>	<i>2,380</i>	<i>3,287</i>	<i>702</i>	<i>138</i>	<i>2,365</i>	<b>6,492</b>	<i>6,477</i>	<i>6,492</i>
South Atlantic .....	<b>1,476</b>	<b>177</b>	<b>12</b>	<b>974</b>	<b>1,480</b>	<b>176</b>	<i>11</i>	<i>964</i>	<i>1,459</i>	<i>169</i>	<i>11</i>	<i>956</i>	<b>2,639</b>	<i>2,631</i>	<i>2,595</i>
E. S. Central .....	<b>1,868</b>	<b>217</b>	<b>18</b>	<b>1,301</b>	<b>1,862</b>	<b>221</b>	<i>17</i>	<i>1,292</i>	<i>1,850</i>	<i>215</i>	<i>17</i>	<i>1,281</i>	<b>3,404</b>	<i>3,392</i>	<i>3,363</i>
W. S. Central .....	<b>1,181</b>	<b>80</b>	<b>4</b>	<b>801</b>	<b>1,183</b>	<b>85</b>	<i>4</i>	<i>807</i>	<i>1,199</i>	<i>83</i>	<i>3</i>	<i>791</i>	<b>2,066</b>	<i>2,079</i>	<i>2,076</i>
Mountain .....	<b>2,194</b>	<b>737</b>	<b>144</b>	<b>1,841</b>	<b>2,164</b>	<b>714</b>	<i>139</i>	<i>1,856</i>	<i>2,193</i>	<i>715</i>	<i>138</i>	<i>1,831</i>	<b>4,916</b>	<i>4,873</i>	<i>4,877</i>
Pacific .....	<b>1,465</b>	<b>592</b>	<b>84</b>	<b>1,182</b>	<b>1,444</b>	<b>582</b>	<i>82</i>	<i>1,174</i>	<i>1,455</i>	<i>578</i>	<i>84</i>	<i>1,162</i>	<b>3,322</b>	<i>3,282</i>	<i>3,280</i>
U.S. Average .....	<b>2,160</b>	<b>478</b>	<b>71</b>	<b>1,524</b>	<b>2,150</b>	<b>475</b>	<i>68</i>	<i>1,518</i>	<i>2,149</i>	<i>472</i>	<i>66</i>	<i>1,505</i>	<b>4,233</b>	<i>4,211</i>	<i>4,192</i>
<b>Cooling Degree Days</b>															
New England .....	<b>0</b>	<b>81</b>	<b>583</b>	<b>0</b>	<b>0</b>	<b>76</b>	<i>396</i>	<i>2</i>	<i>0</i>	<i>87</i>	<i>411</i>	<i>2</i>	<b>664</b>	<i>474</i>	<i>501</i>
Middle Atlantic .....	<b>0</b>	<b>176</b>	<b>704</b>	<b>4</b>	<b>0</b>	<b>159</b>	<i>514</i>	<i>4</i>	<i>0</i>	<i>156</i>	<i>539</i>	<i>4</i>	<b>884</b>	<i>677</i>	<i>700</i>
E. N. Central .....	<b>0</b>	<b>332</b>	<b>638</b>	<b>4</b>	<b>0</b>	<b>173</b>	<i>509</i>	<i>6</i>	<i>0</i>	<i>220</i>	<i>522</i>	<i>6</i>	<b>974</b>	<i>688</i>	<i>749</i>
W. N. Central .....	<b>2</b>	<b>440</b>	<b>685</b>	<b>6</b>	<b>0</b>	<b>229</b>	<i>631</i>	<i>10</i>	<i>3</i>	<i>266</i>	<i>649</i>	<i>10</i>	<b>1,133</b>	<i>870</i>	<i>929</i>
South Atlantic .....	<b>137</b>	<b>727</b>	<b>1,268</b>	<b>280</b>	<b>155</b>	<b>772</b>	<i>1,143</i>	<i>227</i>	<i>122</i>	<i>645</i>	<i>1,152</i>	<i>228</i>	<b>2,412</b>	<i>2,297</i>	<i>2,147</i>
E. S. Central .....	<b>37</b>	<b>650</b>	<b>1,164</b>	<b>82</b>	<b>29</b>	<b>567</b>	<i>1,017</i>	<i>62</i>	<i>28</i>	<i>517</i>	<i>1,027</i>	<i>62</i>	<b>1,933</b>	<i>1,674</i>	<i>1,633</i>
W. S. Central .....	<b>125</b>	<b>1,004</b>	<b>1,566</b>	<b>165</b>	<b>72</b>	<b>825</b>	<i>1,455</i>	<i>189</i>	<i>89</i>	<i>864</i>	<i>1,484</i>	<i>189</i>	<b>2,860</b>	<i>2,542</i>	<i>2,626</i>
Mountain .....	<b>21</b>	<b>507</b>	<b>1,000</b>	<b>51</b>	<b>10</b>	<b>333</b>	<i>914</i>	<i>73</i>	<i>18</i>	<i>426</i>	<i>929</i>	<i>73</i>	<b>1,579</b>	<i>1,330</i>	<i>1,446</i>
Pacific .....	<b>31</b>	<b>182</b>	<b>721</b>	<b>72</b>	<b>21</b>	<b>158</b>	<i>584</i>	<i>58</i>	<i>27</i>	<i>170</i>	<i>591</i>	<i>58</i>	<b>1,007</b>	<i>821</i>	<i>846</i>
U.S. Average .....	<b>52</b>	<b>477</b>	<b>959</b>	<b>98</b>	<b>46</b>	<b>404</b>	<i>829</i>	<i>90</i>	<i>43</i>	<i>399</i>	<i>846</i>	<i>90</i>	<b>1,586</b>	<i>1,369</i>	<i>1,378</i>
<b>Cooling Degree Days, Prior 10-year Average</b>															
New England .....	<b>0</b>	<b>81</b>	<b>433</b>	<b>1</b>	<b>0</b>	<b>79</b>	<i>455</i>	<i>1</i>	<i>0</i>	<i>83</i>	<i>463</i>	<i>1</i>	<b>515</b>	<i>535</i>	<i>548</i>
Middle Atlantic .....	<b>0</b>	<b>166</b>	<b>566</b>	<b>5</b>	<b>0</b>	<b>165</b>	<i>588</i>	<i>6</i>	<i>0</i>	<i>172</i>	<i>597</i>	<i>6</i>	<b>738</b>	<i>759</i>	<i>775</i>
E. N. Central .....	<b>3</b>	<b>228</b>	<b>533</b>	<b>7</b>	<b>3</b>	<b>242</b>	<i>548</i>	<i>7</i>	<i>3</i>	<i>240</i>	<i>565</i>	<i>8</i>	<b>771</b>	<i>800</i>	<i>815</i>
W. N. Central .....	<b>7</b>	<b>277</b>	<b>659</b>	<b>11</b>	<b>7</b>	<b>298</b>	<i>668</i>	<i>11</i>	<i>7</i>	<i>297</i>	<i>687</i>	<i>12</i>	<b>953</b>	<i>985</i>	<i>1,002</i>
South Atlantic .....	<b>119</b>	<b>675</b>	<b>1,161</b>	<b>227</b>	<b>121</b>	<b>684</b>	<i>1,180</i>	<i>239</i>	<i>127</i>	<i>698</i>	<i>1,186</i>	<i>239</i>	<b>2,182</b>	<i>2,224</i>	<i>2,250</i>
E. S. Central .....	<b>34</b>	<b>539</b>	<b>1,031</b>	<b>63</b>	<b>36</b>	<b>554</b>	<i>1,049</i>	<i>67</i>	<i>36</i>	<i>558</i>	<i>1,062</i>	<i>70</i>	<b>1,667</b>	<i>1,707</i>	<i>1,726</i>
W. S. Central .....	<b>100</b>	<b>887</b>	<b>1,532</b>	<b>204</b>	<b>103</b>	<b>897</b>	<i>1,553</i>	<i>205</i>	<i>100</i>	<i>892</i>	<i>1,552</i>	<i>209</i>	<b>2,722</b>	<i>2,758</i>	<i>2,754</i>
Mountain .....	<b>24</b>	<b>426</b>	<b>923</b>	<b>84</b>	<b>25</b>	<b>438</b>	<i>933</i>	<i>81</i>	<i>24</i>	<i>432</i>	<i>932</i>	<i>83</i>	<b>1,457</b>	<i>1,477</i>	<i>1,470</i>
Pacific .....	<b>30</b>	<b>185</b>	<b>621</b>	<b>78</b>	<b>31</b>	<b>185</b>	<i>631</i>	<i>76</i>	<i>31</i>	<i>184</i>	<i>624</i>	<i>77</i>	<b>914</b>	<i>923</i>	<i>916</i>
U.S. Average .....	<b>45</b>	<b>408</b>	<b>856</b>	<b>94</b>	<b>46</b>	<b>417</b>	<i>873</i>	<i>97</i>	<i>47</i>	<i>421</i>	<i>880</i>	<i>98</i>	<b>1,403</b>	<i>1,433</i>	<i>1,446</i>

- = 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](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>).