



Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Although all market outlooks are subject to many risks, the April edition of EIA's *Short-Term Energy Outlook* is subject to heightened levels of uncertainty because the impacts of the [2019 novel coronavirus_disease \(COVID-19\)](#) on energy markets are still evolving. The COVID-19 pandemic has caused significant changes in energy fuel supply and demand patterns. Crude oil prices, in particular, have fallen significantly since the beginning of 2020, largely driven by the economic contraction caused by COVID-19 and a sudden increase in crude oil supply following the suspension of previously agreed upon production cuts among the [Organization of the Petroleum Exporting Countries \(OPEC\)](#) and [partner countries](#). Similar uncertainties persist across EIA's outlook for other energy sources, including natural gas and electricity. Despite recent news of OPEC+ emergency meetings within the next few days to discuss production levels, without an agreement actually in place, EIA assumes no re-implementation of an OPEC+ agreement during the forecast period. If there is ultimately an agreement, this forecast will incorporate that information into its ensuing release.
- EIA forecasts that the United States will return to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remain a net importer in most months through the end of the forecast period. This is a result of higher net imports of crude oil and lower net exports of petroleum products. Net crude oil imports are expected to increase because as U.S. crude oil production declines, there will be fewer barrels available for export. On the petroleum product side, net exports will be lowest in the third quarter of 2020, when U.S. refinery runs are expected to decline significantly.
- Brent crude oil prices averaged \$32/barrel (b) in March, a decrease of \$24/b from the average in February and the lowest monthly average since January 2016. EIA forecasts Brent crude oil prices will average \$33/b in 2020, \$10/b lower than in last month's STEO and down from an average of \$64/b in 2019. EIA expects prices will average \$23/b during the second quarter of 2020 before increasing to \$30/b during the second half of the year. EIA forecasts that average Brent prices will rise to an average of \$46/b in 2021, \$10/b lower than forecast last month, as a return to declining global oil inventories puts upward pressure on prices.

- EIA estimates global petroleum and liquid fuels consumption averaged 94.4 million barrels per day (b/d) in the first quarter of 2020, a decline of 5.6 million b/d from the same period in 2019. EIA expects global petroleum and liquid fuels demand will decrease by 5.2 million b/d in 2020 from an average of 100.7 million b/d last year before increasing by 6.4 million b/d in 2021. Lower global oil demand growth for 2020 in the April STEO reflects growing evidence of significant disruptions to global economic activity along with reduced expected travel globally because of COVID-19.
- EIA expects that global liquid fuels inventories will grow by an average of 3.9 million b/d in 2020 after falling by about 0.2 million b/d in 2019. EIA expects inventory builds will be largest in the first half of 2020, rising at a rate of 5.7 million b/d in the first quarter and increasing to builds of 11.4 million b/d in the second quarter as a result of widespread travel limitations and sharp reductions in economic activity. Firmer demand growth as the global economy begins to recover and slower supply growth will contribute to global oil inventory draws beginning in the fourth quarter of 2020. EIA expects global liquid fuels inventories will decline by 1.7 million b/d in 2021.
- EIA forecasts significant decreases in U.S. liquid fuels demand during the first half of 2020 as a result of COVID-19 travel restrictions and significant disruptions to business and economic activity. EIA expects that the largest impacts will occur in the second quarter of 2020, before gradually dissipating over the course of the next 18 months. EIA expects U.S. motor gasoline consumption to fall by 1.7 million b/d from the first quarter of 2020 to an average of 7.1 million b/d in the second quarter, before gradually increasing to 8.9 million b/d in the second half of the year. U.S. jet fuel consumption will fall by 0.4 million b/d from the first quarter of 2020 to average 1.2 million b/d in the second quarter. U.S. distillate fuel oil consumption would see a smaller decline, falling by 0.2 million b/d to average 3.8 million b/d over the same period. In 2020, EIA forecasts that U.S. motor gasoline consumption will average 8.4 million b/d, a decrease of 9% compared with 2019, while jet fuel and distillate fuel oil consumption will fall by 10% and 5%, respectively over the same period.
- For the April–September 2020 summer driving season, EIA forecasts U.S. regular gasoline retail prices will average \$1.58 per gallon (gal), down from an average of \$2.72/gal last summer ([Summer Fuels Outlook](#)). The lower forecast gasoline prices reflect lower forecast crude oil prices and significantly lower gasoline demand in the second quarter of 2020 driven by COVID-19 travel restrictions and disruptions to domestic economic activity. For all of 2020, EIA expects U.S. regular gasoline retail prices to average \$1.86/gal and gasoline retail prices for all grades to average \$1.97/gal.
- EIA has revised its current forecast of domestic crude oil production down from the March STEO, as a result of lower crude oil prices. EIA forecasts U.S. crude oil production will average 11.8 million b/d in 2020, down 0.5 million b/d from 2019. In 2021, EIA expects U.S. crude production to decline further by 0.7 million b/d. If realized, the 2020 production decline would mark the first annual decline since 2016. Typically, price

changes impact production after about a six-month lag. However, current market conditions, combined with the COVID-19 pandemic, will likely reduce this lag as many producers have already announced plans to reduce capital spending and drilling levels.

Natural gas

- In March, the Henry Hub natural gas spot price averaged \$1.74 per million British thermal units (MMBtu). Warmer-than-normal temperatures in March reduced demand for space heating and put downward pressure on prices. EIA forecasts that prices will begin to rise at the end of the second quarter of 2020 as U.S. natural gas production declines and natural gas use for power generation increases the demand for natural gas. EIA forecasts that Henry Hub natural gas spot prices will average \$2.11/MMBtu in 2020 and then increase in 2021, reaching an annual average of \$2.98/MMBtu because of lower natural gas production compared to 2020.
- EIA expects residential consumption of natural gas to average 12.9 billion cubic feet per day (Bcf/d) in 2020, down 5.8% from the 2019 average primarily because of warmer-than-normal weather in the first quarter. Similarly, EIA expects commercial consumption of natural gas to average 9.0 Bcf/d in 2020, a decrease of 7.1%, as a result of warm weather and the slowing economy. EIA forecasts industrial natural gas consumption to average 22.9 Bcf/d in 2020, about the same as in 2019. The industrial forecast is down from the previously expected 6.5% growth in the March STEO, as less manufacturing activity in 2020 weakens the growth potential for industrial natural gas consumption.
- U.S. dry natural gas production [set a record in 2019](#), averaging 92.2 Bcf/d. EIA forecasts dry natural gas production will average 91.7 Bcf/d in 2020, with monthly production falling from an estimated 94.4 Bcf/d in March to 87.5 Bcf/d in December. Natural gas production declines the most in the Appalachian and Permian regions. In the Appalachian region, low natural gas prices are discouraging producers from engaging in natural gas-directed drilling, and in the Permian region, low oil prices reduce associated gas output from oil-directed wells. In 2021, forecast dry natural gas production averages 87.5 Bcf/d, rising in the second half of 2021 in response to higher prices.
- EIA estimates that total U.S. working natural gas in storage ended March at 2.0 trillion cubic feet (Tcf), 17% more than the five-year (2015–19) average. In the forecast, inventories rise by 1.9 Tcf during the April through October injection season to reach almost 3.9 Tcf on October 31.
- EIA forecasts that U.S. liquefied natural gas exports will average 6.6 billion cubic feet per day (Bcf/d) in the second quarter of 2020 and 6.0 Bcf/d in the third quarter of 2020. Liquefied natural gas exports in the third quarter 2020 are 0.3 bcf/d lower compared with the March STEO forecast because of lower expected global demand for natural gas.

Electricity, coal, renewables, and emissions

- The economic slowdown and stay-at-home orders are likely to affect U.S. electricity consumption over the next few months. EIA expects the largest impact will occur in the commercial sector where forecast retail sales of electricity fall by 4.7% in 2020 due to the closure of many businesses. Similarly, EIA expects retail sales of electricity to the industrial sector will fall by 4.2% in 2020 as many factories cut back production. Forecast U.S. sales of electricity to the residential sector fall by 0.8% in 2020, as reduced power usage resulting from milder winter and summer weather is offset by increased household electricity consumption as much of the population stays at home.
- EIA forecasts that total U.S. electric power sector generation will decline by 3% in 2020. Renewable energy sources account for the largest proportion of new generating capacity in 2020, driving EIA's forecast that renewable generation by the electric power sector will grow by 11% this year. Renewable energy is typically dispatched whenever it is available because of its low operating cost. The forecast for lower overall electricity demand leads to an expected decline in fossil-fuel generation, especially at coal-fired power plants. EIA expects that coal generation will fall by 20% in 2020. Forecast natural gas generation rises by 1% this year, reflecting favorable fuel costs and the addition of new generating capacity.
- Although EIA expects renewable energy to be the fastest growing source of electricity generation in 2020, the effects of COVID-19 and the resulting economic slowdown are likely to have an impact on new generating capacity builds over the next few months. EIA expects that the electric power sector will add 19.4 gigawatts of new wind capacity and 12.6 gigawatts of utility-scale solar capacity in 2020. These annual wind and solar capacity additions are 5% and 10% lower, respectively, than expected in the previous STEO.
- EIA forecasts that U.S. coal production will total 537 million short tons (MMst) in 2020, down 153 MMst (22%) from 2019. Lower production reflects declining demand for coal in the electric power sector, lower demand for U.S. exports, and a number of coal mines that have been idled for extended periods as a result of COVID-19. EIA forecasts that total coal consumption will decrease by 19% in 2020, driven primarily by electric power sector demand, which will fall by 107 MMst (20%) in 2020. Total coal exports also decline, as European demand is affected by economic slowdown.
- After decreasing by 2.7% in 2019, EIA forecasts that energy-related carbon dioxide (CO₂) emissions will decrease by 7.5% in 2020 as the result of the slowing economy and restrictions on business and travel activity related to COVID-19. In 2021, EIA forecasts that energy-related CO₂ emissions will increase by 3.6%. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

Forecast Assumptions

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

Global Liquid Fuels

Global Petroleum and Other Liquid Fuels Consumption

In the April STEO, EIA's 2020 global oil consumption forecast has undergone major revisions to reflect the most up-to-date information available.

Similar to the March STEO, EIA analyzed reductions in oil demand by evaluating three main drivers: lower economic growth, less air travel, and other reductions in demand not captured by these two categories. In the March STEO, reductions in gross domestic product (GDP) and oil consumption were primarily limited to China, South Korea, Japan, and Italy. As a result of more government lockdowns across most of Europe, the United States, India, and other countries, the oil consumption effects now span a significantly larger segment of the world's population.

According to some estimates, about 40% of the world's population is currently advised to stay home to limit the spread of COVID-19. The shutdown orders have contributed to significant contractions in service industries—including travel, tourism, and restaurants, among others—leading to a rapid increase in layoffs and [unemployment](#). Although governments introduced fiscal and monetary responses, the effects of this stimulus on oil demand could be minimal given the significant restrictions on travel. The outlook for global economic growth is highly uncertain, and the high level of volatility in the markets presents considerable challenges in forecasting oil prices and the level of global oil consumption in the coming months.

Non-OPEC Petroleum and Other Liquid Fuels Supply

EIA assumes that non-OPEC petroleum and other liquid fuels supply will decline slightly in 2020, because of the impacts of COVID-19 and low oil prices that started in March 2020. Production increases in Norway and Brazil will be more than offset by declines from the United States, India, and other non-OPEC countries.

EIA expects non-OPEC petroleum and other liquid fuels production to increase slightly in 2021, when supply growth, mainly in Brazil and Canada, is expected to offset production declines in the United States and other non-OPEC countries.

EIA expects Canada's total liquid fuels production to fall by 0.1 million barrels per day (b/d) in 2020 instead of the previously forecast supply growth. This decrease is a result of 2019 government-ordered production cuts in Alberta, continued pipeline constraints, and economic shut-ins because of the effect of low oil prices and falling demand for oil exports. In 2021, EIA expects Canada's production to increase after new pipeline capacity is available but by less than previously forecast. EIA does not expect any additional production from new upstream projects to come online during the forecast period, only expansions of existing projects.

EIA expects Brazil's petroleum and other liquid fuels production to grow more slowly than previously forecast. Near the end of March, Brazil's national oil company Petroleo Brasileiro, S.A. (Petrobras) announced a 100,000 b/d production cut for the remainder of 2020. Petrobras will idle some shallow-water platforms with higher production costs in the Sergipe, Rio Grande do Norte, and Ceará states to achieve these cuts. Additionally, production volumes from the P-70 floating, production, storage, and offloading vessel (FPSO) will be delayed until 2021. The P-70 was damaged in a storm in February 2020, and was originally scheduled to begin producing in the first half of 2020. The main driver for Brazil's production growth in 2021 will be the start-up of P-70 and two other FPSOs in 2021 that EIA does not expect will be affected by events in 2020 at this time.

EIA expects Asia, China and India to shut in about 250,000 b/d of production during the next few months as a result of immediate COVID-19 impacts on labor mobility and other logistics. In addition, the significantly lower oil price environment will reduce capital expenditure of upstream investors and shutter production at higher production cost fields, such as China's tight oil plays in the north central and northwest of the country and the mature fields that require enhanced oil recovery. Crude oil production projections for both China and India are lower than in last month's STEO, and EIA expects declines to deepen in 2020 and 2021. India plans to begin oil production from the deepwater KG-DWN-98/2 oil and natural gas project in early 2021, which will offset some production declines from mature basins in 2021.

OPEC Petroleum and Other Liquid Fuels Supply

The [Organization of the Petroleum Exporting Countries \(OPEC\)](#) and [partner countries \(OPEC+\)](#) suspended agreed-upon production cuts in March 2020. Despite the resulting oversupply in markets and recent news of OPEC+ emergency meetings to discuss production levels, EIA assumes no re-implementation of an OPEC+ agreement during the forecast period. Instead, EIA assumes that OPEC members with surplus production capacity will increase their production in an effort to gain additional market share. EIA assumes that although production in some oil fields will be affected by COVID-19, OPEC countries will try to increase production as long as they can find buyers in this weaker demand environment.

EIA assumes that Saudi Arabia will ramp up its crude oil production to near full capacity in the second quarter of 2020. Saudi Arabia will keep its production above recent production levels throughout the forecast in an attempt to regain global market share as higher-cost production declines elsewhere.

EIA assumes that sanctions on both Iran and Venezuela remain in place throughout the forecast period and that both countries' production will be lower compared with the March STEO.

Venezuela's production declines further as a result of additional sanctions that took effect in mid-February on Rosneft Trading, which had been a principal distributor of Venezuela's oil. These new sanctions, coupled with low global oil demand will make it more difficult for Venezuela to find buyers for its oil.

After reaching production levels of 1.2 million b/d in late 2019, Libya's crude oil output averaged 100,000 b/d in March 2020, after most of the country's export ports closed and several oil fields

were shut-in, including El Sharara and El Feel, in January 2020. With the ongoing civil war in Libya, EIA does not expect production to increase until late 2020. Once currently shuttered export terminals and oil fields reopen, EIA expects that Libya will boost production to near-capacity despite low oil prices.

In Nigeria and Angola, EIA expects new projects that have not yet reached the final investment decision (FID) stage will be delayed beyond 2021. In addition, growth from fields recently brought online will be flat for 2020. Lower production for the forecast period is driven by decreased demand as a result of COVID-19 as well as the expected surge in global crude oil supply resulting from the OPEC+ production cuts that were suspended.

EIA expects that OPEC surplus crude oil production capacity, which averaged 2.5 million b/d in and 3 million b/d in the first quarter of 2020, will decline to 1.5 million b/d in the second quarter of 2020. This is a result of Saudi Arabia ramping up its production to near full capacity during the second quarter of 2020, following the suspension of OPEC+ agreed-upon production cuts in March 2020. This decline will occur despite the Neutral Zone production ramp up that will start in May.

OECD Petroleum Inventories

An unprecedented drop in global oil demand in 2020, combined with the breakdown of the OPEC+ agreement to restrict oil production, leads EIA to forecast a global oil inventory build more than twice as large as the largest annual inventory build (1.8 million b/d in 1998) over the 40 years that EIA has tracked international data. EIA estimates that the 2020 build could add 1.6 billion barrels to global inventories, which would fill them at or near their estimated full storage capacity levels. Because of storage constraints, EIA believes the 2021 global oil market will need to be mostly balanced or inventory withdrawals will occur simply because there will be no room to store additional large inventory builds.

Crude Oil Prices

EIA assumes that the sharp reductions in global crude oil prices, which occurred during March 2020 as a result of COVID-19, will persist through the second quarter before prices begin gradually increasing through the end of the forecast. EIA expects that considerable decreases in liquid fuel consumption will result from containment measures and economic disruptions related to COVID-19, which will affect U.S. refinery activity and, consequently, demand for crude oil. However, crude oil supply will increase in the short term as a result of agreed production cuts among OPEC+ that were suspended. EIA assumes that these two factors will keep global crude oil prices at multi-year low averages through the first half of 2020. Only gradual increases in crude oil prices are expected through all of 2020 as these factors persist, which could lead to record levels of expected global oil inventory builds in the first half of 2020.

U.S. Liquid Fuels

Consumption

EIA assumes significantly lower levels of U.S. liquid fuels consumption during much of 2020 as a result of the disruptions to economic and business activity because of COVID-19 and the strict containment measures that have dramatically reduced all forms of travel. These impacts are expected to be most pronounced during the second quarter of 2020, when most containment measures and wide-scale reductions in business activity are assumed to be in place. EIA expects these impacts to persist through most of 2020, but in the second half of 2020, EIA expects liquid fuels consumption will gradually increase from these low levels as some business activity resumes and stay-at-home orders gradually ease. EIA forecasts these travel disruptions will have the largest impacts on gasoline and jet fuel consumption in 2020, but expects distillate fuel oil consumption to be affected less because of assumed increases in trucking activity both for distribution and expected increases in personal deliveries of goods and food services. The rise in U.S. liquid fuels consumption in the second half of 2020 drives the United States to return to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

EIA forecasts that U.S. annual average hydrocarbon gas liquids consumption will decline by 1.6% in 2020 and then increase by 12% in 2021. This 2020 decline is mainly the result of the expected slowdown in manufacturing, which would keep ethane demand as a petrochemical feedstock below 2019 levels for the remainder of this year. Ethane consumption begins to rise in the second quarter of 2021 as manufacturing begins to recover, and both new and existing ethane-fed petrochemical plants increase utilization.

Crude Oil Supply

EIA's model for Lower 48 production includes structural parameters that reduce the forecast for rigs and wells when WTI price falls below \$45/b or the Henry Hub price falls below \$2/MMBtu, based on historical trends in each region. In addition to this model-based drop, EIA assumes a further 15% reduction in activity on average in the second quarter of 2020 and a 12% reduction in the third quarter of 2020 to account for the unprecedented effects of COVID-19 on the level of drilling activity as many producers have already announced plans to reduce capital spending and drilling levels. The decline in U.S. crude oil production in the second half of 2020 and 2021, combined with rising U.S. liquid fuels consumption, results in the United States returning to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remaining a net importer in most months through the end of the forecast period.

EIA assumes that all oil stripper wells are shut in. These wells are characterized as producing no more than 15 barrels of oil equivalent per day (BOE/d) during a 12-month period.

In addition, even though some companies operating in the Permian Basin have asked for a hearing with the Texas Railroad Commission to determine mandatory crude oil production cuts for Permian producers, EIA assume no such proration of production in the model until the Texas Railroad Commission actually orders production cuts.

Product Prices

EIA expects that COVID-19 will drive sharp reductions in crude oil prices and U.S. liquid fuels demand during the second quarter of 2020, which will significantly reduce prices for gasoline and diesel fuel during the same period. Significant reductions in personal travel, both for normal commuting and vacation travel typical for the summer driving season, will decrease gasoline prices more dramatically than diesel fuel prices.

The shock to gasoline demand and EIA's corresponding expectation of near-term oversupply has been reflected in forecast U.S. refinery wholesale margins. In late March 2020, refinery wholesale margins for gasoline fell to near-zero levels in some regions, while diesel fuel margins remained relatively strong. EIA expects that stronger refinery wholesale margins for diesel fuel relative to gasoline will not only encourage refiners to maximize distillate production while reducing gasoline production, but in some cases, to idle some production units, which will drive refinery utilization rates to some of their lowest levels since the 2008 recession.

As a result, EIA forecasts that U.S. gasoline retail prices will reach some of their lowest levels in 20 years in the second quarter of 2020, before gradually increasing throughout the year as travel and business activity slowly recovers. Comparatively, diesel fuel prices only see minor decreases during the forecast period as increased demand for diesel fuel to meet expected near-term increases in long haul trucking and last-mile delivery activity.

Natural Gas

Natural Gas Consumption

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

EIA forecasts that industrial demand for natural gas will decrease significantly because of the weakening economic outlook, leading to a lower forecast natural gas-weighted manufacturing index that declines through September 2020.

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

Natural Gas Supply

EIA's model for Lower 48 production includes structural parameters that reduce the forecast for rigs and wells when the WTI price falls below \$45/b or the Henry Hub price falls below \$2/MMBtu, based on historical trends. In addition to this model-based drop, EIA assumes a further 15% reduction in activity on average in the second quarter of 2020 and a 12% reduction

in the third quarter of 2020 to account for the unprecedented effects of COVID-19 on the level of drilling activity as many producers have already announced plans to reduce capital spending and drilling levels.

EIA assumes that natural gas stripper wells remain economic, on average, and thus continue to produce through the forecast. These wells are characterized as producing no more than 90 thousand cubic feet per day during a 12-month period.

In addition, even though some companies operating in the Permian Basin have asked for a hearing with the Texas Railroad Commission to determine mandatory production cuts for Permian producers, EIA will assume no such proration of production in the model until the Texas Railroad Commission actually orders production cuts.

Natural Gas Inventories

EIA's natural gas storage forecast assumes a summer (March through October) storage build that is slightly below average because of strong natural gas consumption for power generation in 2020, combined with declining production in the second half of 2020. Less production in the first half of 2021 compared with recent years also puts downward pressure on storage in 2021.

Natural Gas Prices

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

Coal

Coal Supply

Many coal mines across the United States have shut down or idled, citing public health concerns. Some large producers have stipulated that their mines will be shut down or idled for two-weeks, while others have not implied a date to resume normal operations. EIA expects that these decreases in overall production will have a noticeable effect on supply, contributing to a steeper decline than would have occurred had these measures not been put into place.

Coal Consumption

Coal consumption is closely related to overall electricity generation demand, which is trending downward. Secondary stocks (at power plants) are high, and even with decreased production, coal plants do not expect shortfalls in the next few months. EIA projects that industrial consumption will also decline as coal coke demand is slowed by unfavorable market conditions and decreased raw steel production.

Coal Trade

EIA estimates that U.S. coal exports will decrease through 2020. Atlantic markets, which are the primary outlet for U.S. coal exports, are showing significantly decreased demand because of the global economic slowdown. India, the top destination for U.S. exports, had maintained near-normal consumption of steam coal during the first two months of 2020. Other important U.S. coal export destinations, such as South Korea and Japan, have seen economic effects already in 2020 and thus, have not been strong. Health-related lockdowns affecting large seaborne market suppliers, including South Africa, Indonesia, and Australia, have dampened global supply, providing some support to international prices but not enough to overcome the overarching shortfalls in demand.

Coal Prices

EIA estimates the delivered coal price to U.S. electricity generators averaged \$2.02 per million British thermal units (MMBtu) in 2019, which was 4 cents/MMBtu lower than in 2018. EIA forecasts that coal prices will decrease in 2020 to \$2.00 and increase in 2021 to \$2.04/MMBtu.

Electricity

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

Electricity Consumption

Many states have implemented stay-at-home orders or similar restrictions, which have caused a significant number of commercial businesses and industrial facilities to stop operating. In addition, many commercial employees are now working from home instead of going into the office. The current STEO forecast incorporates new macroeconomic projections, which lead to declines in forecast retail sales of electricity to the commercial and industrial sectors. However, EIA also assumes the unique aspects of the stay-at-home orders will depress industrial and commercial electricity demand more than the impact of the slowing economy.

As a result of the stay-at-home orders, weather-adjusted electricity consumption by the residential sector is likely to increase in the near term, in contrast to the effects on the commercial and industrial sectors. EIA assumes, in particular, that household usage of electronic equipment such as computers and televisions will increase. Other uses of electricity, such as for cooking and for heating water, may also rise. Household use of air conditioning during the summer months is also likely to be higher than normal as more people stay home during the daytime.

Electricity Generation

The effects on electricity supply are also very uncertain because of rapidly changing economic conditions. In terms of building new generating capacity, component supply chains and the construction workforce is likely to be affected in the near term in many areas of the country.

Most of the generating capacity that had been scheduled to come online in 2020 is fueled by renewable energy sources—including solar and wind—and by natural gas.

To represent these impacts on electricity supply, EIA assumes in the current STEO that half of the generating capacity previously expected to enter service in the second quarter of 2020 will be postponed to sometime beyond the STEO forecast period, as will one-quarter of the capacity expected for the third quarter of 2020. As EIA continues to collect updates for project development activities reported on our surveys, we will revise these assumptions in future STEO forecasts.

Electricity Prices

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

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

Recent Economic Indicators

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

The Oxford forecast projects that global GDP will contract by 2% in the first quarter of 2020 and by 0.4% in the second quarter. However, this contraction is followed by a rapid recovery in the second half of 2020, leading to flat global GDP growth for the year.

For the United States, EIA used the March 20, 2020 version of the IHS Markit macroeconomic model with EIA's energy prices. The resulting U.S. economic forecast, which is used in this STEO, reflects a return to growth in the fourth quarter of 2020, and an expectation that employment does not return to pre-pandemic levels by the end of the STEO forecast period.

Energy-Related Carbon Dioxide Emissions.

EIA estimates energy-related carbon dioxide (CO₂) emissions based on energy consumption and carbon factors, the amounts of CO₂ that are released when fuels are burned, are unique to each fuel. Total CO₂ emissions depend on total energy consumption and the fuel mix of the energy consumed. Coal has the highest carbon factor of the major fossil fuels. However, because more petroleum products (such as motor gasoline) are consumed than coal, petroleum is the largest source of CO₂ emissions in the United States. Natural gas is the least carbon-intensive fossil fuel, but in recent years, because of its increasing consumption, it generates more U.S. CO₂ emissions

than coal. Non-fossil fuels, such as nuclear power and renewable generation sources, emit no direct CO₂. As these noncarbon generation sources enter the fuel mix, energy demands can be met without proportional increases in energy-related CO₂.

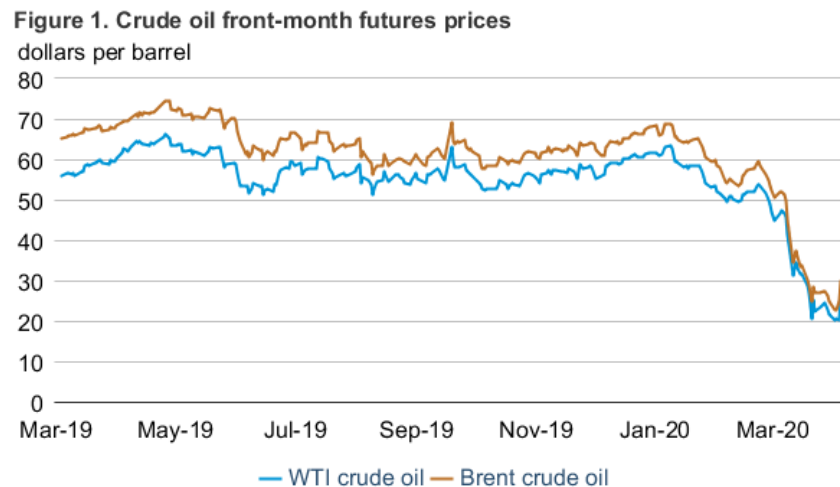
Notable forecast changes

- 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 \$29.94 per barrel (b) on April 2, 2020, down \$21.96/b from March 2. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by \$21.43 /b during the same period, settling at \$25.32/b on April 2 (**Figure 1**).



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

Oil and other financial markets reached all-time high levels of **volatility** in March. Several economic indicators suggest the global economy entered a recession, primarily as a result of containment efforts related to the 2019 novel coronavirus disease (**COVID-19**).

Although real-time data remain limited, EIA estimates global liquid fuels consumption declined by 11.4 million barrels per day (b/d) in March from the 2019 annual average and forecasts demand to decline by 17.1 million b/d in April from the 2019 average. For 2020, EIA estimates that global liquid fuels consumption will average 95.5 million b/d, down 5.2 million b/d (5.2%)

from 2019. If realized, 2020 would see the largest year-over-year percentage decline in global oil consumption since at least 1990, the year EIA began tracking global consumption levels. In the United States, EIA forecasts that total oil consumption will decline 6.5% in 2020 to average 19.1 million b/d, which would be the largest percentage decline in consumption since 1980 and the second-largest decline since 1949, the earliest EIA data available.

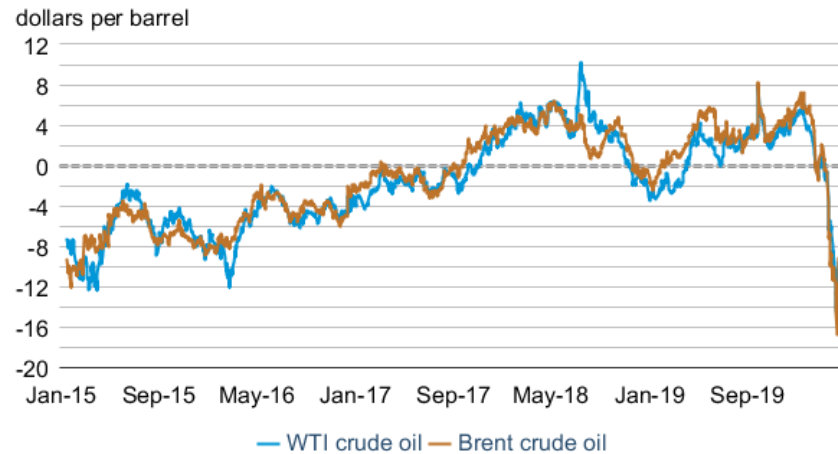
Aside from these significant changes to oil demand, EIA expects global oil supply to remain near first-quarter 2020 levels in the coming months. Upstream supply projects from countries outside the Organization of the Petroleum Exporting Countries (OPEC) require years of development and, once brought online, continue producing in low oil price environments as operating costs per barrel are generally low. However, EIA forecasts that low oil prices will immediately reduce U.S. Lower 48 crude oil production in the second quarter of 2020 as drilling activity slows significantly. In addition, as a result of OPEC and partner countries no longer restraining production, several [OPEC members](#) have begun increasing crude oil production by bringing previously idle spare production capacity online and selling additional crude oil from storage.

These supply and demand developments are contributing to significant increases in liquid fuels inventories. EIA estimates that second-quarter 2020 global petroleum inventories will increase at an average rate of 11.4 million b/d, which would be the largest rate of inventory increases since EIA record keeping began. Within the Organization for Economic Cooperation and Development (OECD), the highest stock levels recorded dating back to 2003 was in July 2016, when total commercial petroleum inventories ended the month at slightly more than 3.1 billion barrels. EIA forecasts inventories will surpass this level, but it remains uncertain how much commercially available storage capacity exists globally, particularly in non-OECD countries. Trade press is reporting an increase in unconventional forms of storage, such as [floating storage](#), as becoming used increasingly as on-land storage quickly fills.

EIA expects these large stock builds to keep downward price pressure on crude oil prices for several months. As a result, EIA forecasts Brent crude oil to average \$23/b in the second quarter of 2020. As non-OPEC crude oil production begins declining in the fourth quarter of 2020, and global liquid fuels demand increases, prices will increase gradually. EIA forecasts Brent crude oil will increase from the lows of the second quarter of 2020 to average \$46/b in 2021.

Crude oil price spreads: In addition to the decline in front-month crude oil futures prices, the market structure for crude oil along the futures curve developed significant levels of contango (when near-term crude oil prices are lower than longer-dated ones). Both the Brent and WTI 1st–13th spreads declined to the lowest levels since the global financial crisis of 2008–09, settling at -\$9.20/b and -\$9.59/b, respectively, on April 2 (**Figure 2**). The immediate and large loss of demand means that oil must be put in storage, as options for reducing crude oil production are limited in the short-term. Various trade press reports indicate that market participants are leasing tankers for floating storage, which is significantly more expensive than on-land storage.

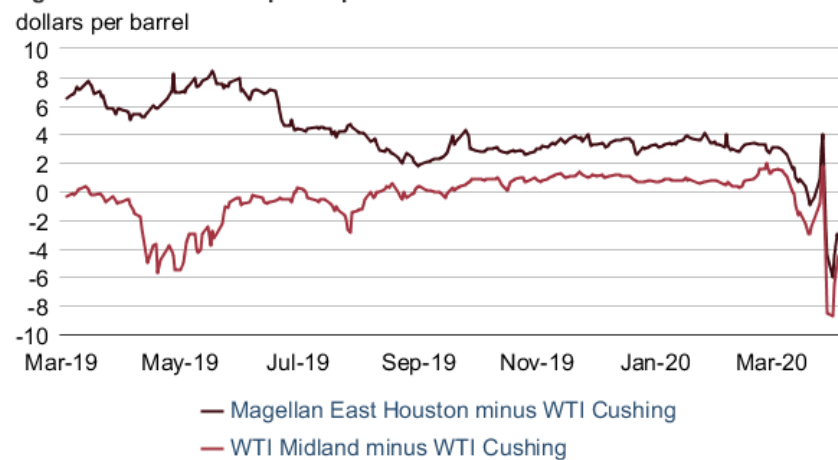
Figure 2. Crude oil front-month to 13th month futures price spread



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

Not only do crude oil inventory builds reflect price contango, but changes in price spreads between WTI for delivery in Cushing, Oklahoma—the delivery point for the WTI futures contract—and other light sweet crude oils in the United States suggest on-land storage in Cushing could begin filling rapidly. WTI Midland reflects crude oil prices at the point of production in the Permian region of Texas and New Mexico, and Magellan East Houston (MEH) crude oil reflects the price of light sweet crude oil on the U.S. Gulf Coast. Both WTI Midland and MEH developed discounts to WTI Cushing in March, when they had been averaging premiums of 88 cents/b and \$3.24/b, respectively, since the fourth quarter of 2019 through February 2020 (Figure 3).

Figure 3. U.S. crude oil price spreads

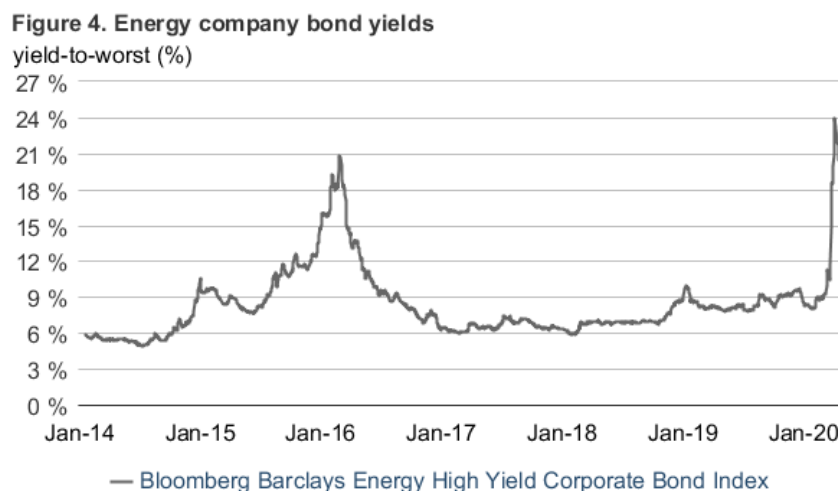


eia Bloomberg L.P., WTI=West Texas Intermediate

The WTI Midland discount to WTI Cushing was large when there was a lack of available pipeline capacity from the Permian production region to transport crude oil to Cushing. However, after several pipeline projects came online in the second half of 2019, there was more capacity than

current production, contributing to a slight premium in WTI Midland prices. Houston, on the other hand, is a destination point for crude oil from Cushing because local refineries can use it or it can be exported. The typical premium of MEH crude oil to Cushing generally reflects the cost of shipping crude oil by pipeline to the U.S. Gulf Coast. The rare discount that developed in late March provides a strong indication that barrels are being bought for storage in Cushing amid a significant decline in purchases from both U.S. and international refineries. Crude oil inventories in [Cushing](#) increased 3.5 million barrels for the week ending March 27, the largest week on week build in two years.

Oil company bond yields: Higher bond yields reflect increased risk aversion among bond investors and indicates tightening credit availability among companies. Bond yields for crude oil exploration and production companies increased in March, particularly for companies with a credit rating below Investment Grade, also called high yield bonds. The Bloomberg Barclays Energy High Yield Corporate Bond Index’s yield-to-worst (YTW), which represents the minimum achievable yield on the bonds after accounting for early prepayment, increased to 23.9% on March 20, the highest since at least 2010 (**Figure 4**).



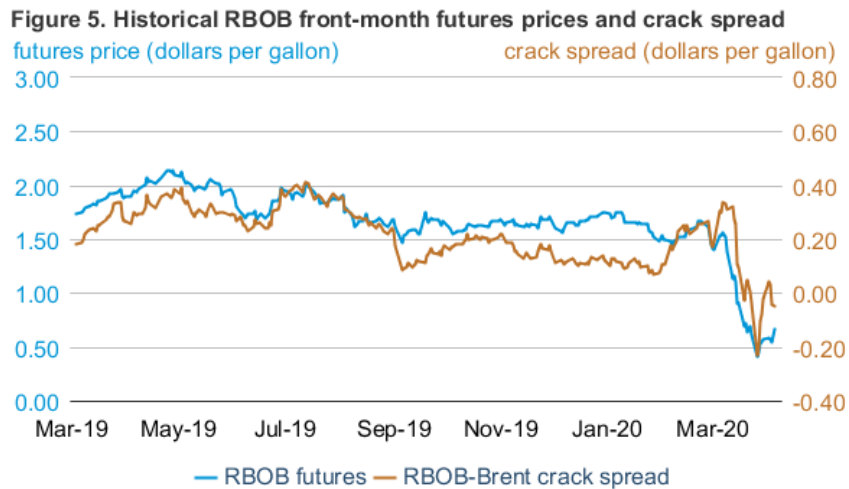
 Bloomberg L.P., Barclays

According to the latest [Dallas Fed Energy Survey](#), nearly 40% of survey respondents from exploration and production companies would be able remain solvent for two years or less if WTI crude oil prices stayed at \$40/b. As discussed in the crude oil price spreads section, many U.S. producers are receiving prices at large discounts to WTI Cushing crude oil prices, and some trades are as low as \$10/b or lower. These prices could lead to asset [impairments](#) and bankruptcies among U.S. oil companies, and perhaps some producers will shut in wells if conditions persist.

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)

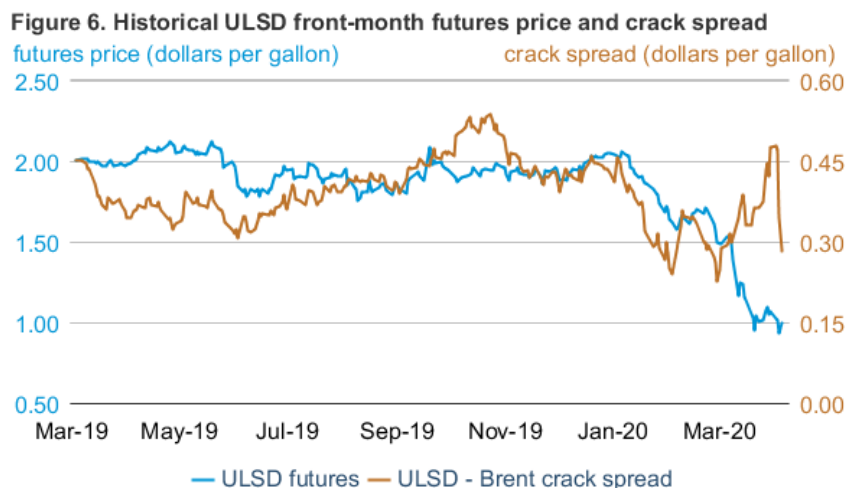
settled at \$0.66 per gallon (gal) on April 2, down 88 cents/gal since March 2, 2020 (**Figure 5**). The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 35 cents/gal to settle at 5 cents/gal during the same period.



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

RBOB prices declined substantially throughout much of March and experienced week-on-week declines for four consecutive weeks. U.S. average retail gasoline prices also declined from \$2.42/gal on March 2, 2020, to \$2.01 per gallon on March 30, 2020. Average gasoline retail prices in the East Coast (Petroleum Administration for Defense District, or PADD 1), the Midwest (PADD 2), and the Gulf Coast (PADD 3) all fell below \$2.00 /gal in March 2020, the first time since March 2016, November 2016, and February 2019, respectively. The lower prices for retail gasoline and RBOB futures prices likely reflect the interaction of two forces: the fall in the price of crude oil, the primary input cost for producing gasoline, and the fall in gasoline demand as a result of the decline in automotive travel caused by efforts to contain the outbreak of COVID-19 in North America. For example, U.S. vehicle miles traveled (VMT) fell to 8.3 billion miles in March 2020, 5% below March 2019, and EIA anticipates further declines throughout 2020 when VMT is expected to average 8.2 billion miles—the lowest level since 2012.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price for delivery in New York Harbor settled at \$1.00/gal on April 2, 2020 (**Figure 6**), down 53 cents/gal from March 2, 2020. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) decreased by 1 cent/gal to settle at 28 cents/gal during the same period.



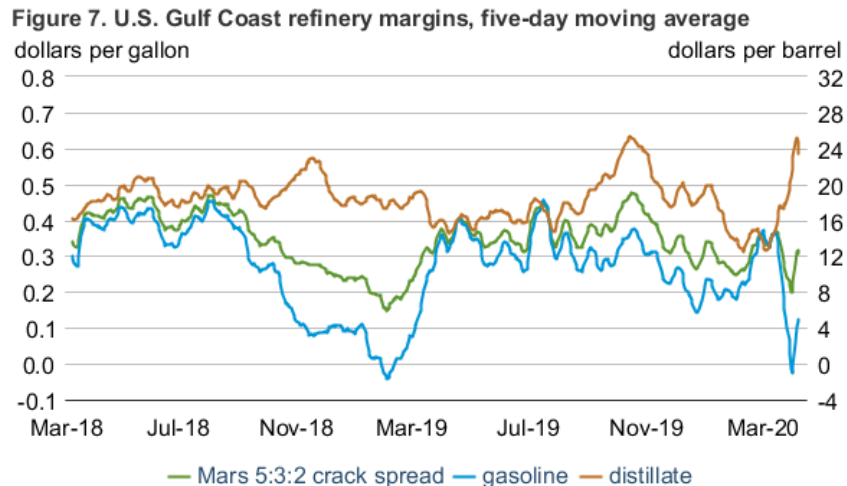
 CME Group, as compiled by Bloomberg L.P., ULSD=ultra-low sulfur diesel

Through March, the ULSD–Brent crack spread has remained well above the five-year (2015–19) average, even as ULSD and other petroleum prices fell. EIA expects the economic slowdown as a result of COVID-19 will have a much greater effect on gasoline and jet fuel than distillate fuel. EIA forecasts a 25% decline in gasoline consumption and a 34% decrease in jet fuel consumption in the second quarter 2020 compared with a 6% decline in distillate consumption. EIA’s March 2020 estimate of distillate consumption was 1% lower than the bottom of the previous five-year range, but distillate exports remained very strong. Distillate exports for the four weeks ending March 27 averaged 1.4 million barrels per day, which if confirmed by the monthly data, would be the most ever recorded for March.

More exports helped to reduce March distillate inventories below the five-year range and contributed to higher crack spreads. The ULSD–Brent crack spread fell sharply on April 1-2 as the ULSD price responded more slowly to the increase in Brent crude oil prices, but the crack spread remained near the five-year average.

Refining margins: The availability of cheaper crude oil inputs have somewhat blunted the impact of declining petroleum demand on U.S. refinery margins. EIA approximates these margins using the 5:3:2 crack spread, calculated as the combined revenue earned from selling 3 barrels of gasoline and 2 barrels of distillate less the cost of 5 barrels of crude oil inputs (using Mars, the U.S. Gulf Coast sour crude oil benchmark). Mars crude oil declined by 57% from \$48.00/b on March 2, 2020, to \$20.79/b on April 2, 2020. And although prices for distillate increased during the same period, the higher distillate price was more than offset by declines in the price for gasoline, which reduced the overall 5:3:2 crack spread by 6% to \$12.32/gal during the same period (**Figure 7**). While crack spreads for some products such as low sulfur fuel oil remain healthy, the decline in the 5:3:2 spread is likely fairly reflective of the margins realized by many U.S. Gulf Coast refiners. Because of this decrease in estimated margins, EIA expects refinery runs to decline over the next several months, with second quarter 2020 refinery distillation inputs falling by 14% relative to the preceding quarter to 14.2 million barrels per day,

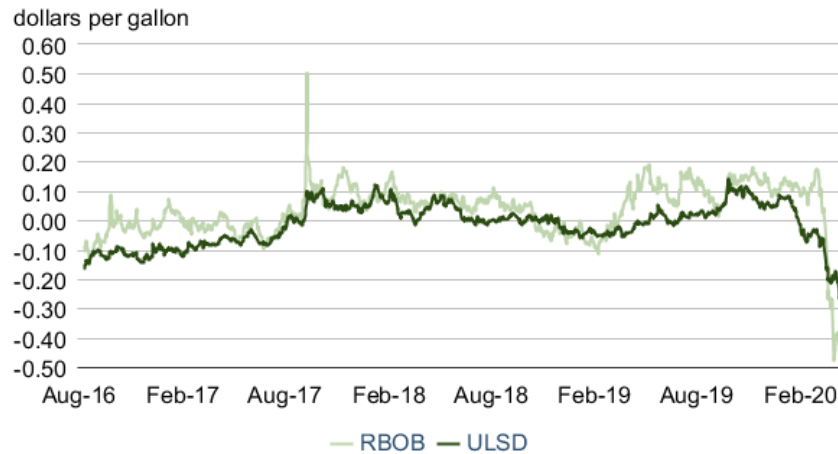
and 2020 refinery runs averaging 15.8 million barrels per day over the year, 7% less than 2019. Consequently, EIA estimates that the average U.S. refinery distillation utilization factor will fall from 87% in the first quarter 2020 to a 34 year low of 75% in the second quarter of 2020, and will average 83% throughout 2020 compared to 90% in 2019.



eia Bloomberg L.P.

Futures price spreads: The shape of the futures curves for both RBOB and ULSD shifted in early 2020 from backwardation—when near-term futures prices are higher than longer-dated ones—to contango—when near-term futures prices are lower than longer-dated ones. The 1st-13th spread (the difference between the price for a product settled in the nearest month and the price for 13 months in the future) for RBOB declined from \$0.03 per gallon on March 2, 2020, to the lowest since RBOB began trading in 2005 to -\$0.38/gal per gallon on April 2, 2020, while the 1st-13th spread for ULSD declined from -\$0.06 per gallon to -\$0.26 per gallon over the same period (**Figure 8**). The increased degree of contango likely reflects concerns of a significant decline in petroleum product demand, resulting in increases in inventory. As of March 27, U.S. commercial inventories of RBOB stood at 55.4 million barrels, 6.1 million more than their March 6 level, and 12% above the five-year average. The 1st-13th spread in ULSD declined by a smaller amount, reflecting a somewhat tighter distillate market. Expected decreases in consumption in the next few months will likely result in more product than normal moving into storage.

Figure 8. 1st-13th month futures spread

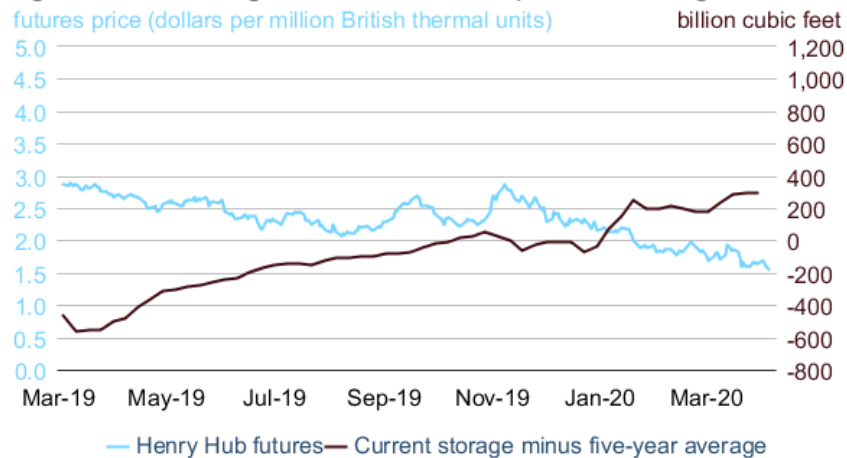


eia U.S. EIA, Bloomberg LP

Natural Gas

Prices: The front-month natural gas futures contract for May delivery at the Henry Hub settled at \$1.55 per million British thermal units (MMBtu) on April 2, down 20 cents/MMBtu from March 2 (**Figure 9**). Production gains combined with a mild winter have led to markedly higher year-over-year inventory levels compared with March 2019. Typically, March inventories are some of the lowest of the year immediately following the winter heating months.

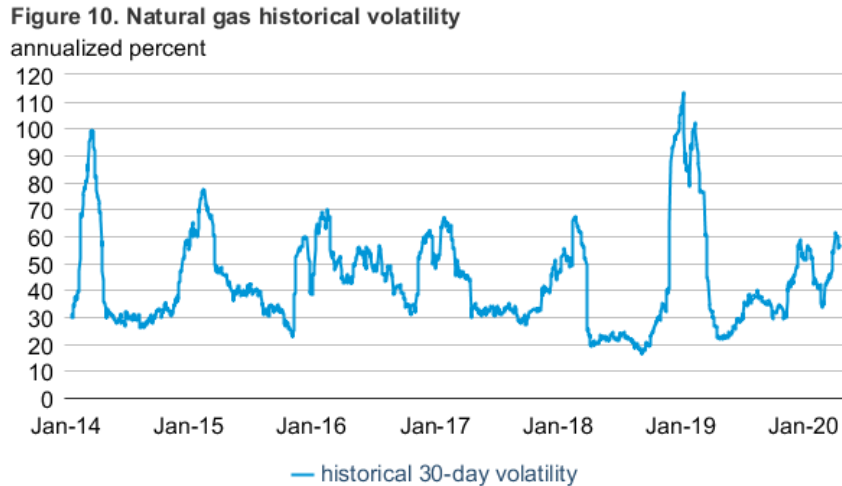
Figure 9. U.S. natural gas front-month futures prices and storage



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

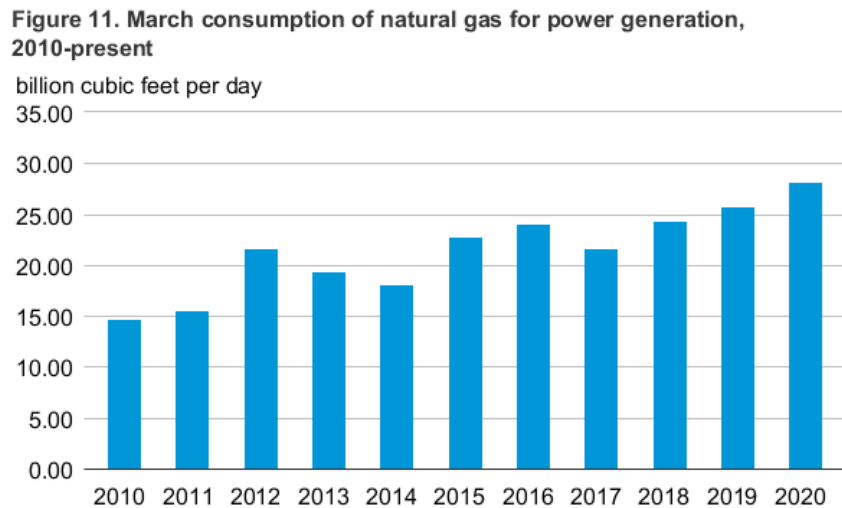
Historical Volatility: During the past month, oil prices and equities have seen significant movements that have drastically increased measures of their volatility. Natural gas volatility also increased in March but by a much smaller amount than in other markets. Historical 30-day volatility is defined as a rolling measure of the magnitude of price movements during the past 30 days (**Figure 10**). Many factors, including record production levels in 2019 and an atypically

warm winter, have led to historically low natural gas prices even before current economic conditions. This winter saw a much lower-than-usual increase in demand and prices during the winter months of late 2019 and early 2020. As a result, historical 30-day volatility peaked at significantly lower levels than several of the past winters.



eia Bloomberg L.P.

Natural gas in power generation: Power generation has been the largest source of natural gas demand for the past year. In addition, lower prices have contributed to increased competitiveness between natural gas and coal as a source of power generation. **Figure 11** displays the March natural gas consumption for power generation from 2010 to the 2020 estimate. EIA forecasts annual average natural gas consumption for electric power to increase to 31.3 billion cubic feet (Bcf) per day in 2020 compared with 31.0 Bcf/day in 2019. Although natural gas consumption for electric power is forecast to increase, total U.S. electricity consumption is expected to decline in 2020.



eia U.S. Energy Information Administration

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Short-Term Energy Outlook Chart Gallery



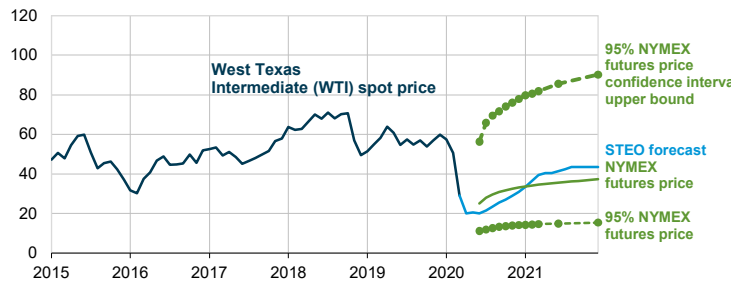
April 7, 2020



U.S. Energy Information Administration

Independent Statistics & Analysis | www.eia.gov

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

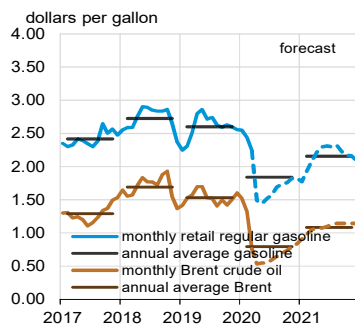


Note: Confidence interval derived from options market information for the five trading days ending Apr 2, 2020. Intervals not calculated for months with sparse trading in near-the-money options contracts.

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

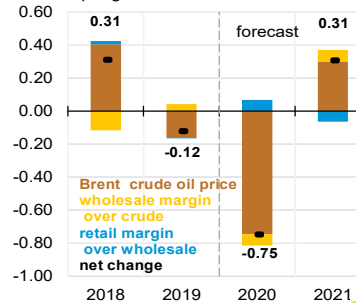


U.S. gasoline and crude oil prices

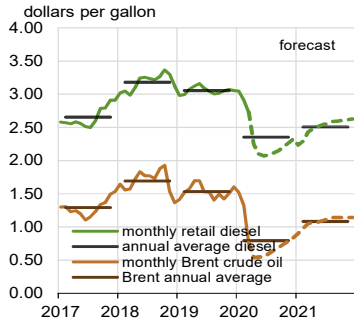


Source: Short-Term Energy Outlook, April 2020

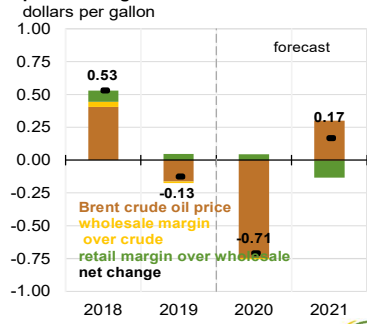
Components of annual gasoline price changes
dollars per gallon



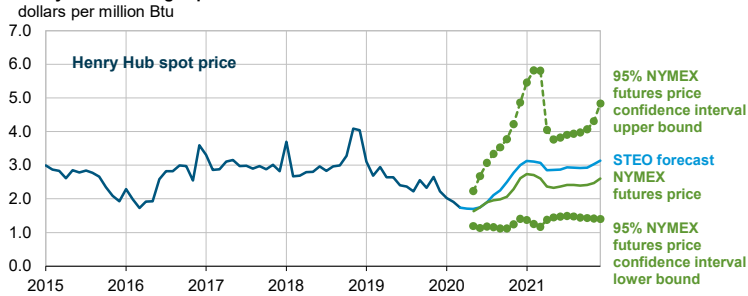
U.S. diesel and crude oil prices



Components of annual diesel prices changes



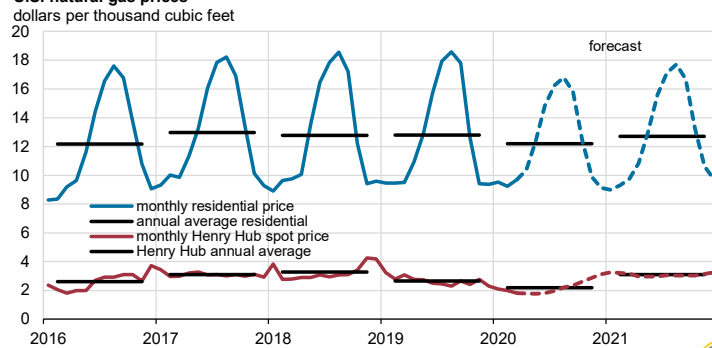
Henry Hub natural gas price and NYMEX confidence intervals



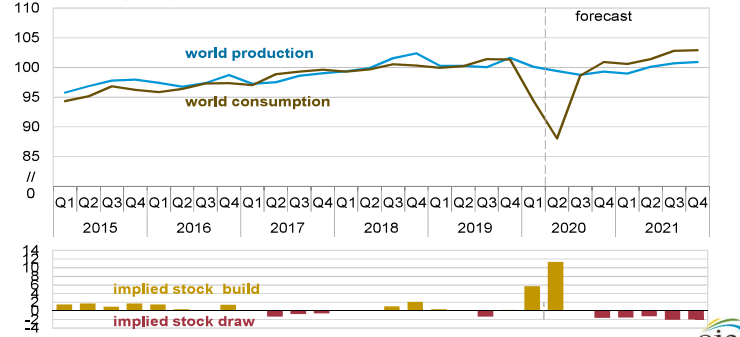
Sources: Short-Term Energy Outlook, April 2020, and CME Group



U.S. natural gas prices



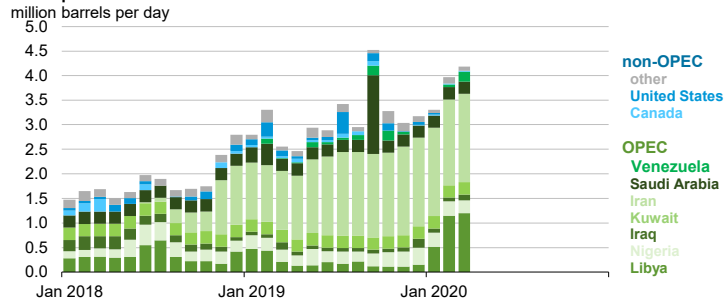
World liquid fuels production and consumption balance
million barrels per day



Source: Short-Term Energy Outlook, April 2020



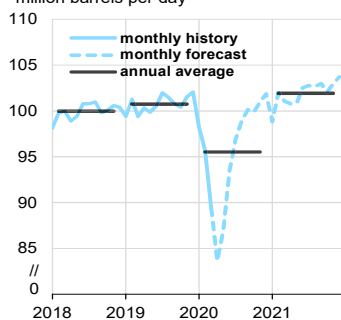
Estimated unplanned liquid fuels production outages among OPEC and non-OPEC producers
million barrels per day



Source: Short-Term Energy Outlook, April 2020

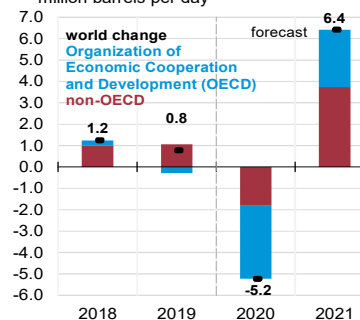


World liquid fuels consumption
million barrels per day

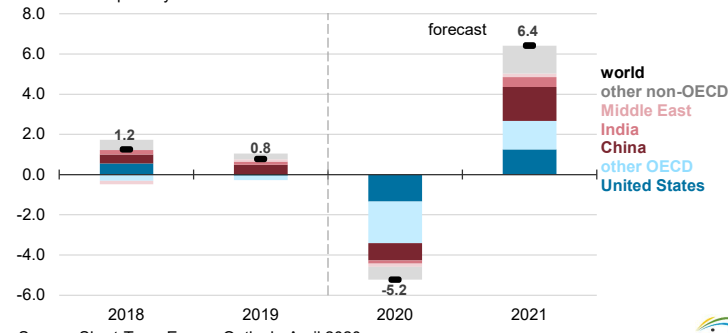


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day



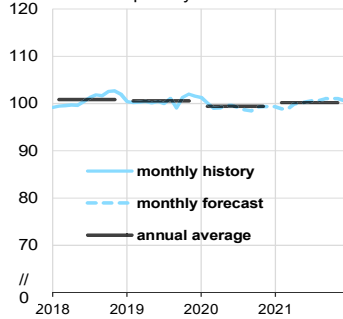
Annual change in world liquid fuels consumption
million barrels per day



Source: Short-Term Energy Outlook, April 2020

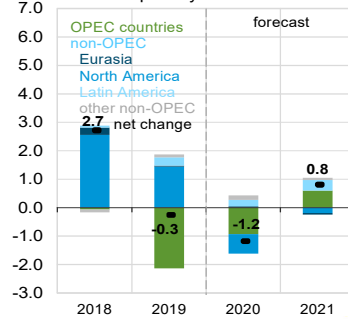


World crude oil and liquid fuels production
million barrels per day

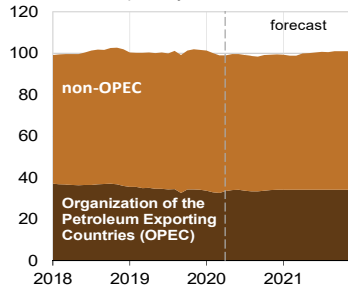


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day

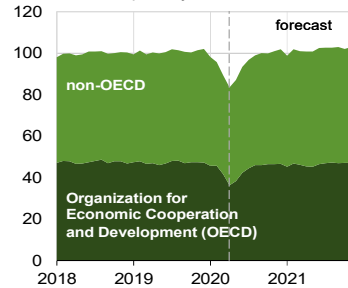


World liquid fuels production
million barrels per day

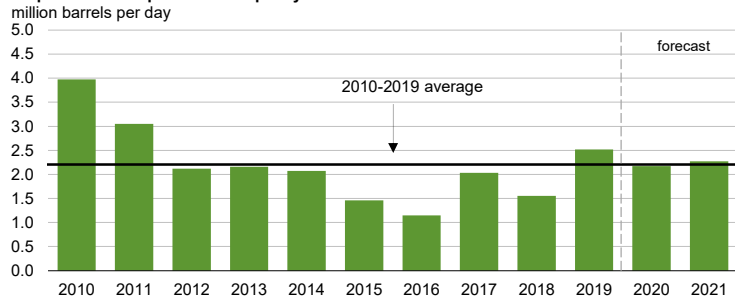


Source: Short-Term Energy Outlook, April 2020

World liquid fuels consumption
million barrels per day



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

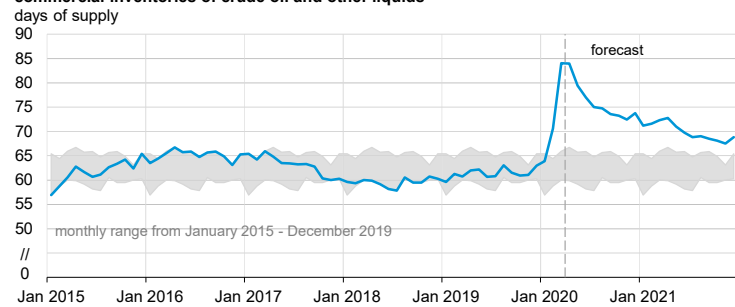


Note: Black line represents 2010-2019 average (2.2 million barrels per day).

Source: Short-Term Energy Outlook, April 2020



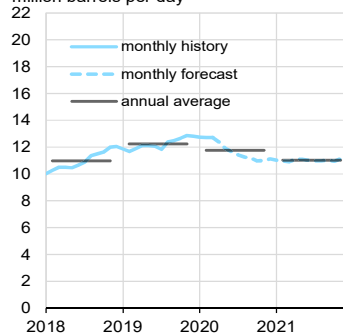
**Organization for Economic Cooperation and Development (OECD)
commercial inventories of crude oil and other liquids**



Source: Short-Term Energy Outlook, April 2020

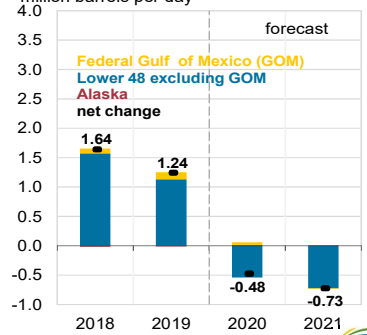


U.S. crude oil production

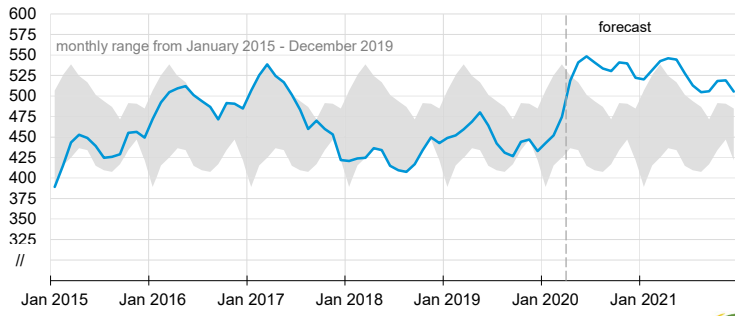


Source: Short-Term Energy Outlook, April 2020

Components of annual change



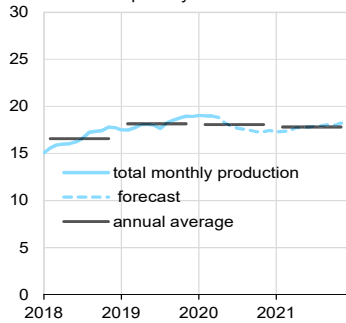
U.S. commercial crude oil inventories
million barrels



Source: Short-Term Energy Outlook, April 2020

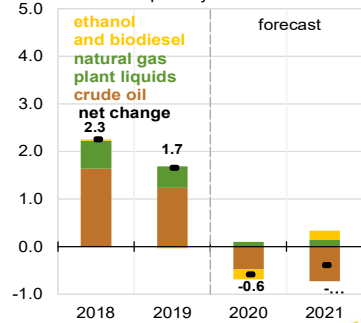


U.S. crude oil and liquid fuels production
million barrels per day

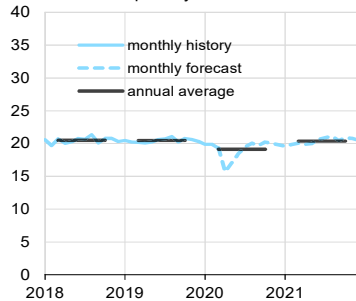


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day

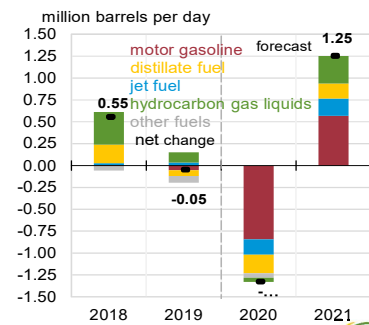


U.S. liquid fuels product supplied (consumption)
million barrels per day

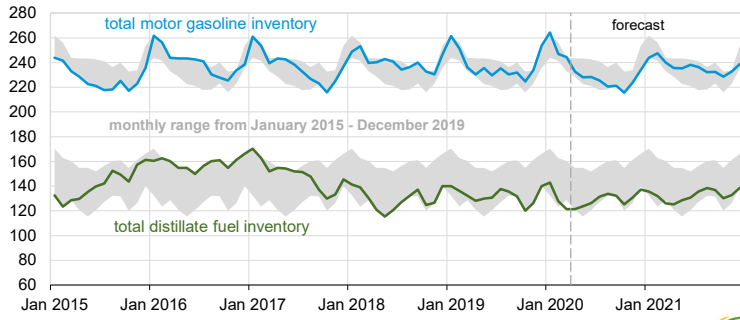


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million barrels per day



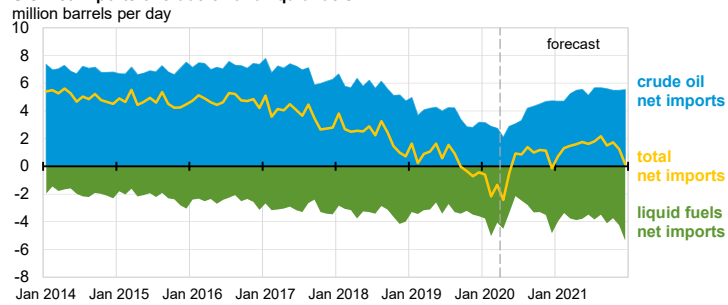
U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, April 2020



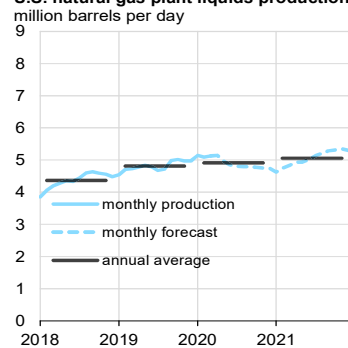
U.S. net imports of crude oil and liquid fuels



Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.
Source: Short-Term Energy Outlook, April 2020

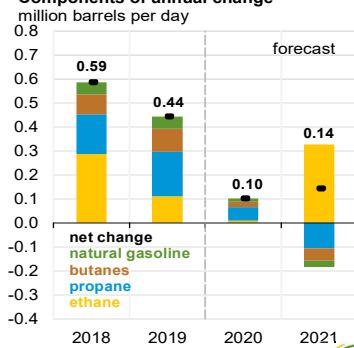


U.S. natural gas plant liquids production

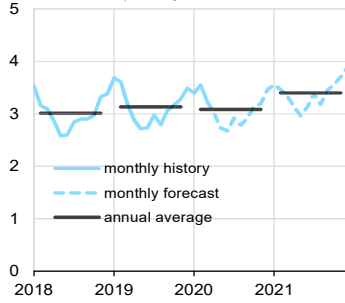


Source: Short-Term Energy Outlook, April 2020

Components of annual change

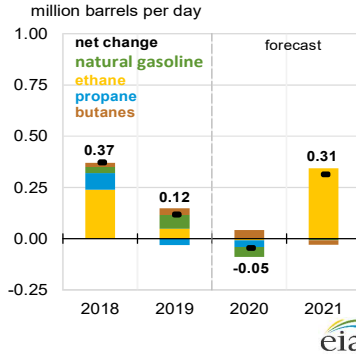


U.S. hydrocarbon gas liquids product supplied (consumption)
million barrels per day

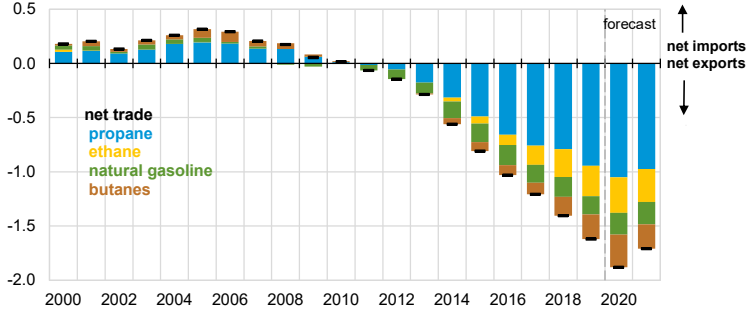


Source: Short-Term Energy Outlook, April 2020

Components of annual change



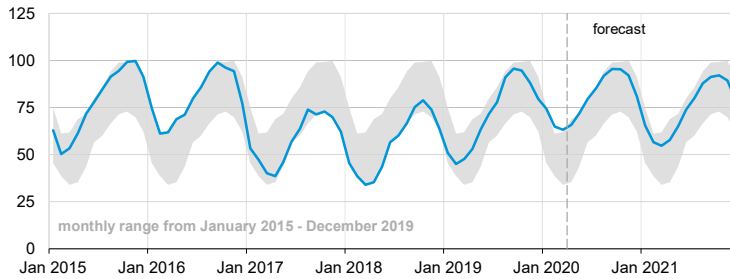
U.S. net trade of hydrocarbon gas liquids (HGL)
million barrels per day



Source: Short-Term Energy Outlook, April 2020



U.S. commercial propane inventories
million barrels

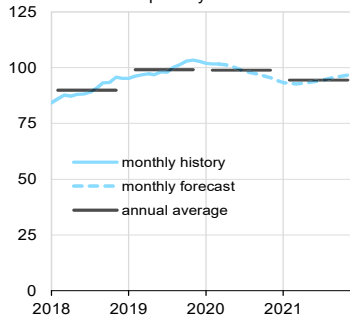


Note: Excludes refinery propylene.

Source: Short-Term Energy Outlook, April 2020

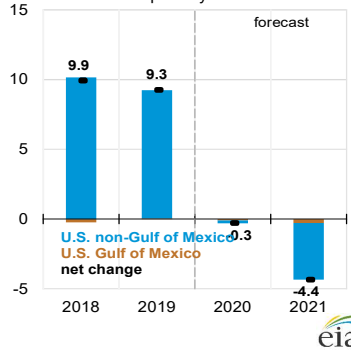


U.S. marketed natural gas production
billion cubic feet per day

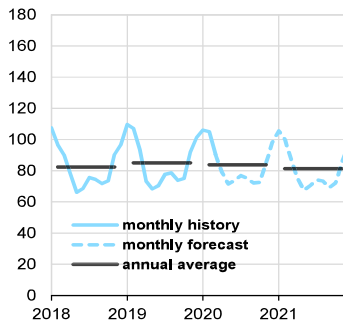


Source: Short-Term Energy Outlook, April 2020

Components of annual change
billion cubic feet per day

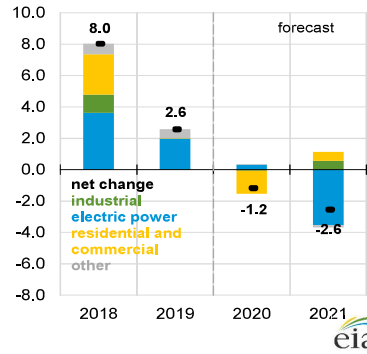


U.S. natural gas consumption
billion cubic feet per day

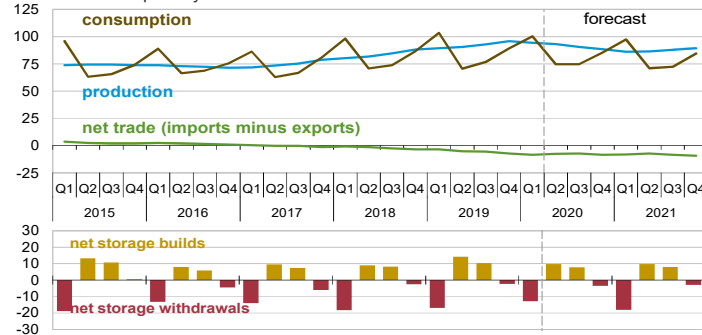


Source: Short-Term Energy Outlook, April 2020

Components of annual change
billion cubic feet per day



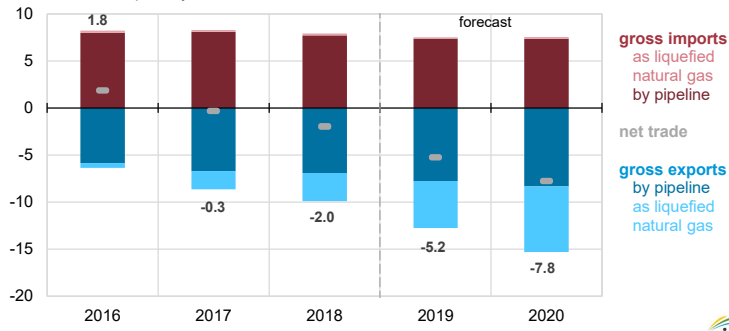
U.S. natural gas production, consumption, and net imports
billion cubic feet per day



Source: Short-Term Energy Outlook, April 2020



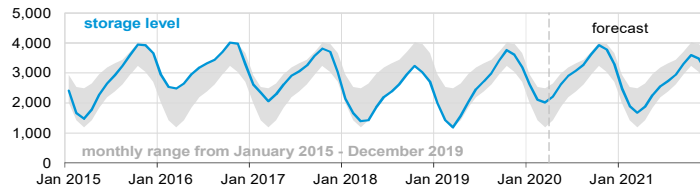
U.S. annual natural gas trade
billion cubic feet per day



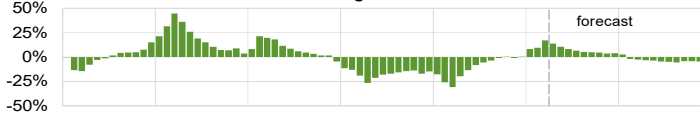
Source: Short-Term Energy Outlook, April 2020



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



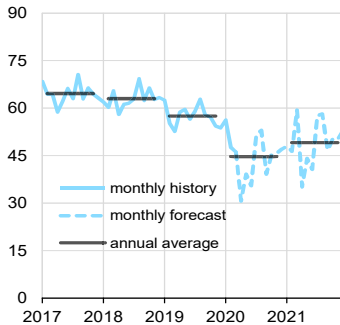
Percent deviation from 2015 - 2019 average



Source: Short-Term Energy Outlook, April 2020

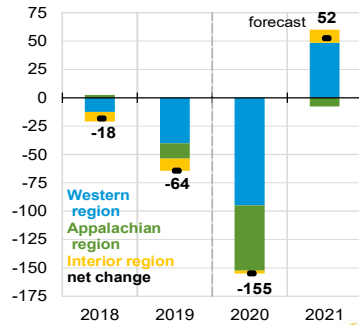


U.S. coal production
million short tons

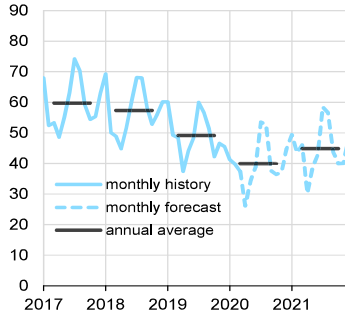


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million short tons

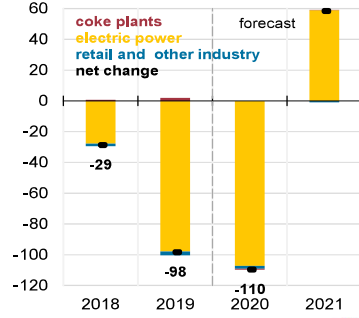


U.S. coal consumption
million short tons

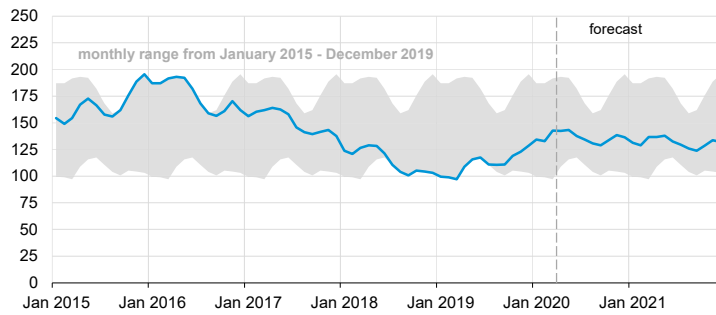


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million short tons



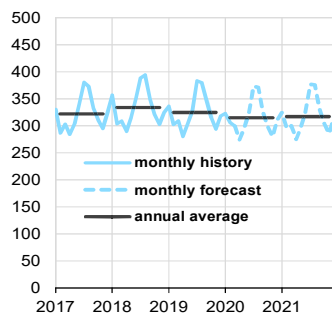
U.S. electric power coal inventories
million short tons



Source: Short-Term Energy Outlook, April 2020

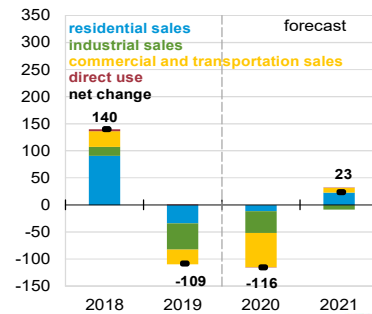


U.S. electricity consumption
billion kilowatthours

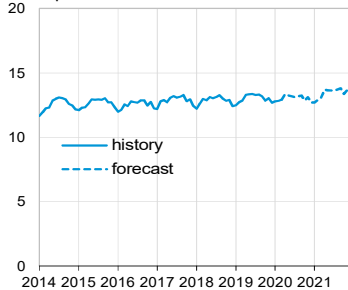


Source: Short-Term Energy Outlook, April 2020

Components of annual change
billion kilowatthours

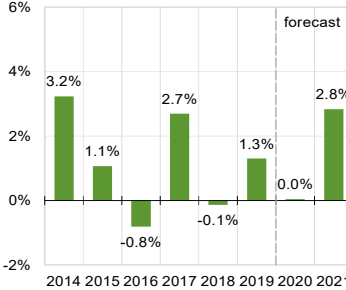


U.S. monthly residential electricity price
cents per kilowatt-hour

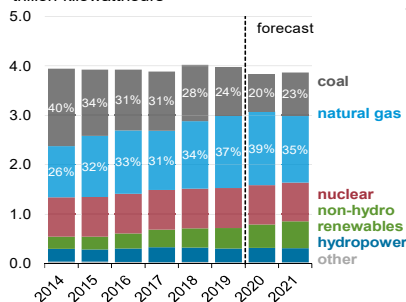


Source: Short-Term Energy Outlook, April 2020

Annual growth in residential electricity prices
percent



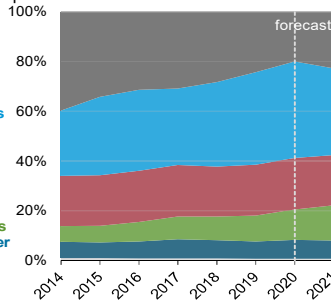
U.S. electricity generation by fuel, all sectors
trillion kilowatt-hours



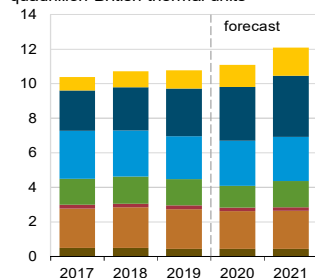
Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, April 2020

percent share



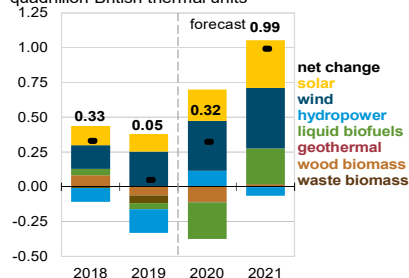
U.S. renewable energy supply
quadrillion British thermal units



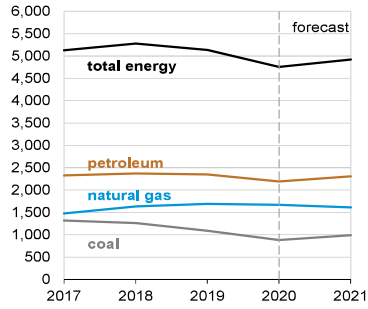
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, April 2020

Components of annual change
quadrillion British thermal units

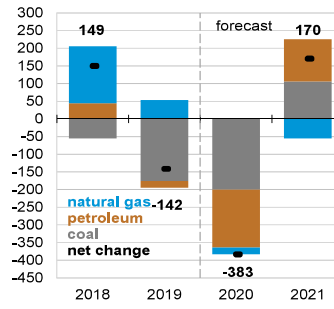


U.S. annual carbon emissions by source
million metric tons

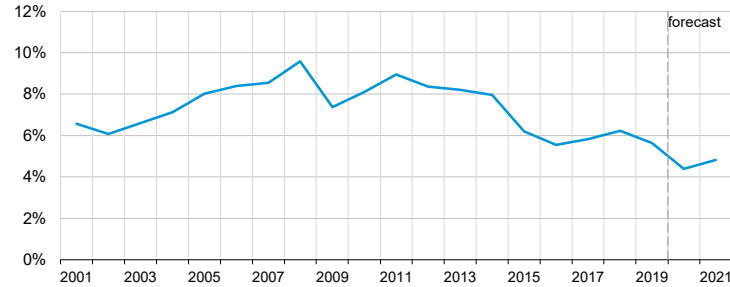


Source: Short-Term Energy Outlook, April 2020

Components of annual change
million metric tons



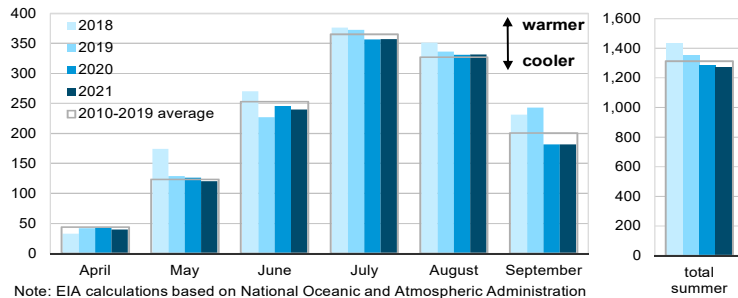
U.S. annual energy expenditures
share of gross domestic product



Source: Short-Term Energy Outlook, April 2020



U.S. summer cooling degree days
population-weighted

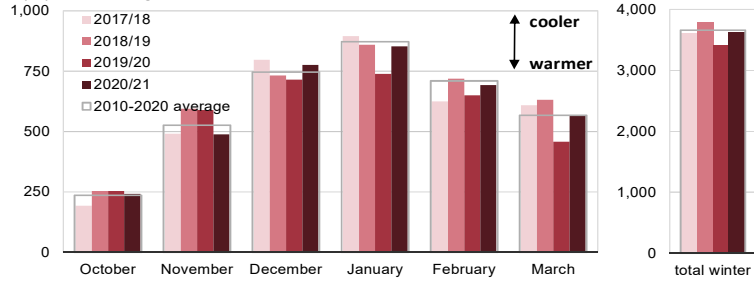


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, April 2020



U.S. winter heating degree days
population-weighted

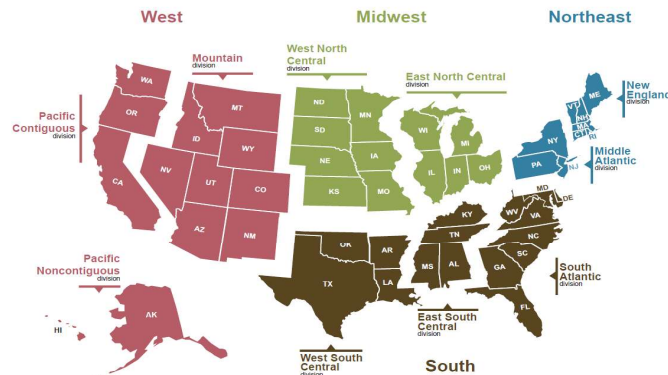


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, April 2020



U.S. Census regions and divisions



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



Table SF01. U.S. Motor Gasoline Summer Outlook

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

	2019			2020			Year-over-year Change (percent)		
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) ^a	1.43	1.34	1.38	<i>0.48</i>	<i>0.56</i>	<i>0.52</i>	-66.4	-58.4	-62.5
Brent Crude Oil Price (Spot)	1.64	1.47	1.56	<i>0.54</i>	<i>0.64</i>	<i>0.59</i>	-66.9	-56.5	-62.0
U.S. Refiner Average Crude Oil Cost	1.51	1.40	1.46	<i>0.45</i>	<i>0.55</i>	<i>0.50</i>	-70.1	-60.9	-65.7
Wholesale Gasoline Price ^b	2.05	1.89	1.97	<i>0.69</i>	<i>0.93</i>	<i>0.83</i>	-66.2	-50.6	-58.0
Wholesale Diesel Fuel Price ^b	2.03	1.92	1.97	<i>0.99</i>	<i>1.07</i>	<i>1.03</i>	-51.1	-44.3	-47.8
Regular Gasoline Retail Price ^c	2.79	2.65	2.72	<i>1.48</i>	<i>1.67</i>	<i>1.58</i>	-46.9	-37.2	-41.8
Diesel Fuel Retail Price ^c	3.12	3.02	3.07	<i>2.14</i>	<i>2.12</i>	<i>2.13</i>	-31.7	-30.0	-30.8
Gasoline Consumption/Supply (million barrels per day)									
Total Consumption	9.476	9.495	9.486	<i>7.137</i>	<i>8.848</i>	<i>7.997</i>	-24.7	-6.8	-15.7
Total Refinery and Blender Net Supply ^d	8.282	8.491	8.387	<i>6.237</i>	<i>7.545</i>	<i>6.895</i>	-24.7	-11.1	-17.8
Fuel Ethanol Blending	0.966	0.948	0.957	<i>0.702</i>	<i>0.821</i>	<i>0.762</i>	-27.3	-13.4	-20.4
Total Stock Withdrawal ^e	0.069	-0.023	0.023	<i>0.178</i>	<i>0.075</i>	<i>0.126</i>			
Net Imports ^e	0.159	0.079	0.119	<i>0.020</i>	<i>0.407</i>	<i>0.214</i>			
Refinery Utilization (percent)	91.2	92.7	91.9	<i>75.1</i>	<i>84.5</i>	<i>79.8</i>			
Total Gasoline Stocks (million barrels)									
Beginning	236.1	229.7	236.1	<i>244.5</i>	<i>228.3</i>	<i>244.5</i>			
Ending	229.7	231.9	231.9	<i>228.3</i>	<i>221.4</i>	<i>221.4</i>			
Economic Indicators (annualized billion 2012 dollars)									
Real GDP	19,022	19,121	19,071	<i>18,502</i>	<i>18,423</i>	<i>18,463</i>	-2.7	-3.6	-3.2
Real Income	14,934	15,012	14,973	<i>16,722</i>	<i>14,779</i>	<i>15,750</i>	12.0	-1.6	5.2

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

^b Price product sold by refiners to resellers.

^c Average retail price including taxes.

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

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

GDP = gross domestic product.

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

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

Table SF02. Average Summer Residential Electricity Usage, Prices and Expenditures

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

	2015	2016	2017	2018	2019	Forecast 2020	Change from 2019
United States							
Usage (kWh)	3,165	3,327	3,126	3,264	3,128	3,205	2.5%
Price (cents/kWh)	12.92	12.77	13.14	13.15	13.32	13.16	-1.3%
Expenditures	\$409	\$425	\$411	\$429	\$417	\$422	1.2%
New England							
Usage (kWh)	1,982	2,108	1,986	2,130	2,033	2,071	1.8%
Price (cents/kWh)	18.65	18.34	19.25	20.17	20.70	20.19	-2.5%
Expenditures	\$370	\$386	\$382	\$429	\$421	\$418	-0.7%
Middle Atlantic							
Usage (kWh)	2,376	2,549	2,328	2,455	2,434	2,441	0.3%
Price (cents/kWh)	16.37	15.90	16.39	16.36	16.16	15.82	-2.2%
Expenditures	\$389	\$405	\$382	\$402	\$393	\$386	-1.9%
East North Central							
Usage (kWh)	2,565	2,902	2,585	2,808	2,634	2,680	1.7%
Price (cents/kWh)	13.27	13.08	13.43	13.32	13.42	13.43	0.1%
Expenditures	\$340	\$380	\$347	\$374	\$354	\$360	1.8%
West North Central							
Usage (kWh)	3,075	3,302	3,039	3,272	2,974	3,179	6.9%
Price (cents/kWh)	12.65	12.85	13.41	13.32	13.16	13.28	0.9%
Expenditures	\$389	\$424	\$408	\$436	\$392	\$422	7.9%
South Atlantic							
Usage (kWh)	3,999	4,147	3,852	3,894	3,887	3,907	0.5%
Price (cents/kWh)	12.04	11.79	12.09	11.87	12.16	11.90	-2.1%
Expenditures	\$482	\$489	\$466	\$462	\$473	\$465	-1.6%
East South Central							
Usage (kWh)	4,279	4,413	4,038	4,315	4,199	4,321	2.9%
Price (cents/kWh)	10.91	10.93	11.36	11.19	11.50	11.62	1.1%
Expenditures	\$467	\$482	\$459	\$483	\$483	\$502	4.0%
West South Central							
Usage (kWh)	4,538	4,605	4,362	4,685	4,388	4,621	5.3%
Price (cents/kWh)	11.03	10.58	10.80	10.87	11.35	10.93	-3.7%
Expenditures	\$501	\$487	\$471	\$509	\$498	\$505	1.4%
Mountain							
Usage (kWh)	3,298	3,437	3,384	3,377	3,221	3,288	2.1%
Price (cents/kWh)	12.33	12.04	12.24	12.20	12.25	12.21	-0.4%
Expenditures	\$407	\$414	\$414	\$412	\$395	\$401	1.7%
Pacific							
Usage (kWh)	2,051	2,097	2,193	2,190	1,985	2,030	2.3%
Price (cents/kWh)	15.33	16.00	16.35	17.05	17.15	17.50	2.0%
Expenditures	\$314	\$336	\$359	\$373	\$340	\$355	4.4%

Notes: kWh = kilowatthours. All data cover the 3-month period of June-August of each year. Usage amounts represent total residential retail electricity sales per customer. Prices and expenditures are not adjusted for inflation.

Source: EIA Form-861 and Form-826 databases, Short-Term Energy Outlook.

Table 1. U.S. Energy Markets Summary

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Energy Supply															
Crude Oil Production (a) (million barrels per day)	11.81	12.10	12.23	12.78	12.73	<i>11.98</i>	<i>11.29</i>	<i>11.04</i>	<i>10.96</i>	<i>11.08</i>	<i>11.00</i>	<i>11.08</i>	12.23	<i>11.76</i>	<i>11.03</i>
Dry Natural Gas Production (billion cubic feet per day)	89.32	90.50	92.98	95.88	94.47	<i>93.24</i>	<i>90.71</i>	<i>88.43</i>	<i>86.18</i>	<i>86.49</i>	<i>87.95</i>	<i>89.26</i>	92.19	<i>91.70</i>	<i>87.48</i>
Coal Production (million short tons)	170	175	180	165	150	<i>105</i>	<i>144</i>	<i>138</i>	<i>154</i>	<i>120</i>	<i>162</i>	<i>153</i>	690	<i>537</i>	<i>589</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	20.30	20.31	20.67	20.57	19.70	<i>17.07</i>	<i>19.74</i>	<i>20.02</i>	<i>19.83</i>	<i>20.17</i>	<i>20.81</i>	<i>20.72</i>	20.46	<i>19.13</i>	<i>20.39</i>
Natural Gas (billion cubic feet per day)	103.32	70.74	76.74	89.33	100.36	<i>74.79</i>	<i>74.76</i>	<i>85.34</i>	<i>97.34</i>	<i>71.00</i>	<i>72.29</i>	<i>84.56</i>	84.97	<i>83.79</i>	<i>81.24</i>
Coal (b) (million short tons)	158	130	168	134	119	<i>99</i>	<i>144</i>	<i>119</i>	<i>139</i>	<i>111</i>	<i>159</i>	<i>129</i>	590	<i>480</i>	<i>538</i>
Electricity (billion kilowatt hours per day)	10.53	10.02	12.06	10.07	10.19	<i>9.84</i>	<i>11.61</i>	<i>9.66</i>	<i>10.21</i>	<i>9.86</i>	<i>11.76</i>	<i>9.84</i>	10.67	<i>10.33</i>	<i>10.42</i>
Renewables (c) (quadrillion Btu)	2.81	3.08	2.80	2.79	2.90	<i>3.07</i>	<i>2.86</i>	<i>2.95</i>	<i>3.09</i>	<i>3.41</i>	<i>3.15</i>	<i>3.14</i>	11.48	<i>11.77</i>	<i>12.78</i>
Total Energy Consumption (d) (quadrillion Btu)	26.54	23.44	24.98	25.26	25.15	<i>21.36</i>	<i>23.59</i>	<i>24.16</i>	<i>25.29</i>	<i>22.91</i>	<i>24.24</i>	<i>24.59</i>	100.22	<i>94.26</i>	<i>97.03</i>
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	54.82	59.94	56.35	56.86	45.36	<i>20.16</i>	<i>23.44</i>	<i>29.00</i>	<i>36.70</i>	<i>40.84</i>	<i>43.16</i>	<i>43.50</i>	57.02	<i>29.34</i>	<i>41.12</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	2.92	2.56	2.38	2.40	1.89	<i>1.72</i>	<i>2.09</i>	<i>2.76</i>	<i>3.10</i>	<i>2.86</i>	<i>2.93</i>	<i>3.03</i>	2.57	<i>2.11</i>	<i>2.98</i>
Coal (dollars per million Btu)	2.08	2.05	2.00	1.95	2.02	<i>2.01</i>	<i>1.99</i>	<i>2.00</i>	<i>2.03</i>	<i>2.05</i>	<i>2.04</i>	<i>2.04</i>	2.02	<i>2.00</i>	<i>2.04</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,927	19,022	19,121	19,220	19,176	<i>18,502</i>	<i>18,423</i>	<i>18,669</i>	<i>19,052</i>	<i>19,352</i>	<i>19,523</i>	<i>19,642</i>	19,073	<i>18,693</i>	<i>19,392</i>
Percent change from prior year	2.7	2.3	2.1	2.3	1.3	<i>-2.7</i>	<i>-3.6</i>	<i>-2.9</i>	<i>-0.6</i>	<i>4.6</i>	<i>6.0</i>	<i>5.2</i>	2.3	<i>-2.0</i>	<i>3.7</i>
GDP Implicit Price Deflator (Index, 2012=100)	111.5	112.2	112.7	113.0	113.4	<i>113.1</i>	<i>113.7</i>	<i>114.3</i>	<i>114.5</i>	<i>114.9</i>	<i>115.6</i>	<i>116.1</i>	112.3	<i>113.6</i>	<i>115.3</i>
Percent change from prior year	2.0	1.8	1.7	1.6	1.7	<i>0.9</i>	<i>0.9</i>	<i>1.1</i>	<i>1.0</i>	<i>1.6</i>	<i>1.7</i>	<i>1.6</i>	1.8	<i>1.1</i>	<i>1.5</i>
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	14,878	14,934	15,012	15,074	15,263	<i>16,722</i>	<i>14,779</i>	<i>14,801</i>	<i>14,986</i>	<i>15,150</i>	<i>15,299</i>	<i>15,417</i>	14,975	<i>15,391</i>	<i>15,213</i>
Percent change from prior year	3.3	3.0	2.7	2.4	2.6	<i>12.0</i>	<i>-1.6</i>	<i>-1.8</i>	<i>-1.8</i>	<i>-9.4</i>	<i>3.5</i>	<i>4.2</i>	2.9	<i>2.8</i>	<i>-1.2</i>
Manufacturing Production Index (Index, 2012=100)	106.5	105.7	105.9	105.8	105.9	<i>103.1</i>	<i>98.5</i>	<i>98.0</i>	<i>100.8</i>	<i>103.9</i>	<i>106.0</i>	<i>107.1</i>	106.0	<i>101.4</i>	<i>104.5</i>
Percent change from prior year	1.6	0.1	-0.6	-1.1	-0.6	<i>-2.4</i>	<i>-7.0</i>	<i>-7.3</i>	<i>-4.7</i>	<i>0.8</i>	<i>7.6</i>	<i>9.3</i>	0.0	<i>-4.3</i>	<i>3.1</i>
Weather															
U.S. Heating Degree-Days	2,210	481	56	1,558	1,848	<i>449</i>	<i>70</i>	<i>1,506</i>	<i>2,111</i>	<i>490</i>	<i>70</i>	<i>1,504</i>	4,306	<i>3,873</i>	<i>4,174</i>
U.S. Cooling Degree-Days	45	398	952	105	66	<i>415</i>	<i>869</i>	<i>95</i>	<i>43</i>	<i>400</i>	<i>871</i>	<i>96</i>	1,500	<i>1,445</i>	<i>1,409</i>

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

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

(c) Renewable energy includes minor components of non-marketed renewable energy that is neither bought nor sold, either directly or indirectly, as inputs to marketed energy.

EIA does not estimate or project end-use consumption of non-marketed renewable energy.

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

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

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

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

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

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	54.82	59.94	56.35	56.86	45.36	<i>20.16</i>	<i>23.44</i>	<i>29.00</i>	<i>36.70</i>	<i>40.84</i>	<i>43.16</i>	<i>43.50</i>	57.02	<i>29.34</i>	<i>41.12</i>
Brent Spot Average	63.14	69.07	61.90	63.30	50.00	<i>22.83</i>	<i>26.94</i>	<i>33.00</i>	<i>41.20</i>	<i>45.34</i>	<i>47.66</i>	<i>48.00</i>	64.37	<i>33.04</i>	<i>45.62</i>
U.S. Imported Average	55.25	62.98	57.30	55.57	42.58	<i>16.53</i>	<i>20.58</i>	<i>25.96</i>	<i>34.12</i>	<i>38.32</i>	<i>40.67</i>	<i>41.01</i>	57.94	<i>26.10</i>	<i>38.70</i>
U.S. Refiner Average Acquisition Cost	56.93	63.55	58.67	58.05	45.24	<i>19.02</i>	<i>22.94</i>	<i>28.48</i>	<i>35.51</i>	<i>39.84</i>	<i>42.17</i>	<i>42.51</i>	59.33	<i>29.29</i>	<i>40.09</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	167	205	189	182	144	<i>69</i>	<i>93</i>	<i>105</i>	<i>123</i>	<i>151</i>	<i>151</i>	<i>138</i>	186	<i>104</i>	<i>141</i>
Diesel Fuel	192	203	192	197	156	<i>99</i>	<i>107</i>	<i>120</i>	<i>133</i>	<i>151</i>	<i>156</i>	<i>157</i>	196	<i>120</i>	<i>150</i>
Heating Oil	189	195	184	191	159	<i>92</i>	<i>95</i>	<i>113</i>	<i>134</i>	<i>147</i>	<i>154</i>	<i>156</i>	190	<i>123</i>	<i>143</i>
Refiner Prices to End Users															
Jet Fuel	193	204	194	197	157	<i>92</i>	<i>106</i>	<i>117</i>	<i>133</i>	<i>150</i>	<i>155</i>	<i>157</i>	197	<i>119</i>	<i>149</i>
No. 6 Residual Fuel Oil (a)	153	163	155	162	151	<i>78</i>	<i>85</i>	<i>101</i>	<i>86</i>	<i>95</i>	<i>99</i>	<i>101</i>	158	<i>101</i>	<i>95</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	236	279	265	259	241	<i>148</i>	<i>167</i>	<i>180</i>	<i>193</i>	<i>227</i>	<i>229</i>	<i>214</i>	260	<i>186</i>	<i>216</i>
Gasoline All Grades (b)	245	288	274	269	250	<i>160</i>	<i>179</i>	<i>193</i>	<i>206</i>	<i>241</i>	<i>242</i>	<i>228</i>	269	<i>197</i>	<i>230</i>
On-highway Diesel Fuel	302	312	302	306	289	<i>214</i>	<i>212</i>	<i>226</i>	<i>232</i>	<i>251</i>	<i>258</i>	<i>262</i>	306	<i>235</i>	<i>251</i>
Heating Oil	300	305	290	301	287	<i>217</i>	<i>199</i>	<i>221</i>	<i>233</i>	<i>243</i>	<i>252</i>	<i>266</i>	300	<i>245</i>	<i>247</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	3.03	2.66	2.47	2.49	1.96	<i>1.78</i>	<i>2.17</i>	<i>2.86</i>	<i>3.21</i>	<i>2.97</i>	<i>3.04</i>	<i>3.15</i>	2.66	<i>2.19</i>	<i>3.09</i>
Henry Hub Spot (dollars per million Btu)	2.92	2.56	2.38	2.40	1.89	<i>1.72</i>	<i>2.09</i>	<i>2.76</i>	<i>3.10</i>	<i>2.86</i>	<i>2.93</i>	<i>3.03</i>	2.57	<i>2.11</i>	<i>2.98</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	4.67	3.74	3.30	3.74	3.43	<i>2.72</i>	<i>2.90</i>	<i>3.85</i>	<i>4.47</i>	<i>3.93</i>	<i>3.91</i>	<i>4.34</i>	3.91	<i>3.26</i>	<i>4.18</i>
Commercial Sector	7.59	7.97	8.40	7.22	7.16	<i>7.34</i>	<i>7.70</i>	<i>7.21</i>	<i>7.44</i>	<i>8.08</i>	<i>8.57</i>	<i>7.85</i>	7.62	<i>7.27</i>	<i>7.79</i>
Residential Sector	9.47	12.48	18.10	9.88	9.47	<i>11.79</i>	<i>16.26</i>	<i>9.93</i>	<i>9.31</i>	<i>12.30</i>	<i>17.14</i>	<i>10.61</i>	10.56	<i>10.45</i>	<i>10.66</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.08	2.05	2.00	1.95	2.02	<i>2.01</i>	<i>1.99</i>	<i>2.00</i>	<i>2.03</i>	<i>2.05</i>	<i>2.04</i>	<i>2.04</i>	2.02	<i>2.00</i>	<i>2.04</i>
Natural Gas	3.71	2.73	2.51	2.79	2.31	<i>1.71</i>	<i>2.06</i>	<i>3.04</i>	<i>3.63</i>	<i>3.05</i>	<i>3.07</i>	<i>3.40</i>	2.88	<i>2.24</i>	<i>3.26</i>
Residual Fuel Oil (c)	12.21	13.39	12.79	12.52	11.97	<i>7.58</i>	<i>5.79</i>	<i>6.32</i>	<i>7.57</i>	<i>9.48</i>	<i>9.25</i>	<i>9.25</i>	12.72	<i>7.75</i>	<i>8.91</i>
Distillate Fuel Oil	14.83	15.77	15.01	15.10	13.03	<i>8.42</i>	<i>8.59</i>	<i>9.67</i>	<i>10.54</i>	<i>11.91</i>	<i>12.24</i>	<i>12.45</i>	15.16	<i>9.91</i>	<i>11.77</i>
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.66	6.71	7.25	6.66	6.45	<i>6.55</i>	<i>7.25</i>	<i>6.78</i>	<i>6.72</i>	<i>6.88</i>	<i>7.52</i>	<i>6.89</i>	6.83	<i>6.77</i>	<i>7.02</i>
Commercial Sector	10.43	10.64	11.00	10.53	10.33	<i>10.43</i>	<i>10.79</i>	<i>10.41</i>	<i>10.35</i>	<i>10.70</i>	<i>11.20</i>	<i>10.84</i>	10.66	<i>10.50</i>	<i>10.79</i>
Residential Sector	12.68	13.33	13.27	12.85	12.84	<i>13.25</i>	<i>13.18</i>	<i>12.87</i>	<i>12.88</i>	<i>13.65</i>	<i>13.70</i>	<i>13.39</i>	13.04	<i>13.04</i>	<i>13.41</i>

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

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

Prices exclude taxes unless otherwise noted.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380;

Weekly Petroleum Status Report, DOE/EIA-0208; *Natural Gas Monthly*, DOE/EIA-0130; *Electric Power Monthly*, DOE/EIA-0226; and *Monthly Energy Review*, DOE/EIA-0035.

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day) (a)															
OECD	31.01	31.26	31.40	32.68	32.93	<i>31.05</i>	<i>30.27</i>	<i>30.52</i>	<i>30.64</i>	<i>30.98</i>	<i>31.12</i>	<i>31.59</i>	31.59	<i>31.19</i>	<i>31.08</i>
U.S. (50 States)	18.85	19.32	19.42	20.20	20.36	<i>18.91</i>	<i>18.31</i>	<i>18.23</i>	<i>18.18</i>	<i>18.64</i>	<i>18.82</i>	<i>19.05</i>	19.45	<i>18.95</i>	<i>18.68</i>
Canada	5.44	5.47	5.47	5.62	5.65	<i>5.28</i>	<i>5.32</i>	<i>5.39</i>	<i>5.58</i>	<i>5.52</i>	<i>5.50</i>	<i>5.56</i>	5.50	<i>5.41</i>	<i>5.54</i>
Mexico	1.91	1.91	1.92	1.92	1.92	<i>1.82</i>	<i>1.80</i>	<i>1.77</i>	<i>1.76</i>	<i>1.80</i>	<i>1.80</i>	<i>1.79</i>	1.91	<i>1.83</i>	<i>1.79</i>
Other OECD	4.82	4.56	4.59	4.93	5.00	<i>5.04</i>	<i>4.84</i>	<i>5.13</i>	<i>5.11</i>	<i>5.02</i>	<i>4.99</i>	<i>5.19</i>	4.72	<i>5.00</i>	<i>5.08</i>
Non-OECD	69.29	69.05	68.67	68.93	67.18	<i>68.37</i>	<i>68.46</i>	<i>68.79</i>	<i>68.38</i>	<i>69.12</i>	<i>69.62</i>	<i>69.33</i>	68.98	<i>68.20</i>	<i>69.12</i>
OPEC	35.45	34.90	33.91	34.36	33.17	<i>34.01</i>	<i>33.61</i>	<i>34.07</i>	<i>34.31</i>	<i>34.32</i>	<i>34.33</i>	<i>34.31</i>	34.65	<i>33.72</i>	<i>34.32</i>
Crude Oil Portion	29.94	29.47	28.66	29.02	28.10	<i>28.95</i>	<i>28.55</i>	<i>29.02</i>	<i>29.27</i>	<i>29.27</i>	<i>29.27</i>	<i>29.25</i>	29.27	<i>28.66</i>	<i>29.27</i>
Other Liquids (b)	5.51	5.43	5.25	5.34	5.07	<i>5.06</i>	<i>5.06</i>	<i>5.06</i>	<i>5.04</i>	<i>5.05</i>	<i>5.05</i>	<i>5.06</i>	5.38	<i>5.06</i>	<i>5.05</i>
Eurasia	14.87	14.43	14.59	14.67	14.68	<i>14.64</i>	<i>14.66</i>	<i>14.74</i>	<i>14.69</i>	<i>14.55</i>	<i>14.58</i>	<i>14.63</i>	14.64	<i>14.68</i>	<i>14.61</i>
China	4.89	4.92	4.89	4.88	4.87	<i>4.73</i>	<i>4.83</i>	<i>4.91</i>	<i>4.83</i>	<i>4.86</i>	<i>4.86</i>	<i>4.90</i>	4.89	<i>4.83</i>	<i>4.86</i>
Other Non-OECD	14.08	14.80	15.28	15.02	14.46	<i>14.99</i>	<i>15.36</i>	<i>15.07</i>	<i>14.56</i>	<i>15.40</i>	<i>15.85</i>	<i>15.49</i>	14.80	<i>14.97</i>	<i>15.33</i>
Total World Supply	100.30	100.31	100.06	101.61	100.11	<i>99.42</i>	<i>98.74</i>	<i>99.31</i>	<i>99.01</i>	<i>100.10</i>	<i>100.74</i>	<i>100.92</i>	100.57	<i>99.39</i>	<i>100.20</i>
Non-OPEC Supply	64.85	65.41	66.16	67.25	66.94	<i>65.41</i>	<i>65.12</i>	<i>65.24</i>	<i>64.70</i>	<i>65.78</i>	<i>66.41</i>	<i>66.60</i>	65.92	<i>65.68</i>	<i>65.88</i>
Consumption (million barrels per day) (c)															
OECD	47.40	46.70	47.84	47.49	44.42	<i>39.08</i>	<i>45.60</i>	<i>46.65</i>	<i>46.17</i>	<i>45.84</i>	<i>47.19</i>	<i>47.25</i>	47.36	<i>43.95</i>	<i>46.62</i>
U.S. (50 States)	20.30	20.31	20.67	20.57	19.70	<i>17.07</i>	<i>19.74</i>	<i>20.02</i>	<i>19.83</i>	<i>20.17</i>	<i>20.81</i>	<i>20.72</i>	20.46	<i>19.13</i>	<i>20.39</i>
U.S. Territories	0.12	0.11	0.12	0.13	0.12	<i>0.11</i>	<i>0.12</i>	<i>0.13</i>	<i>0.16</i>	<i>0.14</i>	<i>0.14</i>	<i>0.15</i>	0.12	<i>0.12</i>	<i>0.15</i>
Canada	2.45	2.44	2.57	2.54	2.33	<i>2.04</i>	<i>2.44</i>	<i>2.47</i>	<i>2.48</i>	<i>2.43</i>	<i>2.53</i>	<i>2.51</i>	2.50	<i>2.32</i>	<i>2.49</i>
Europe	13.90	14.03	14.54	13.94	12.65	<i>11.52</i>	<i>13.87</i>	<i>14.04</i>	<i>13.53</i>	<i>13.74</i>	<i>14.24</i>	<i>13.95</i>	14.10	<i>13.02</i>	<i>13.87</i>
Japan	4.09	3.41	3.44	3.76	3.57	<i>2.72</i>	<i>3.23</i>	<i>3.57</i>	<i>3.76</i>	<i>3.08</i>	<i>3.15</i>	<i>3.46</i>	3.67	<i>3.27</i>	<i>3.36</i>
Other OECD	6.55	6.40	6.49	6.55	6.06	<i>5.63</i>	<i>6.21</i>	<i>6.43</i>	<i>6.41</i>	<i>6.27</i>	<i>6.31</i>	<i>6.45</i>	6.50	<i>6.08</i>	<i>6.36</i>
Non-OECD	52.58	53.55	53.57	53.84	49.97	<i>48.96</i>	<i>53.04</i>	<i>54.26</i>	<i>54.41</i>	<i>55.54</i>	<i>55.61</i>	<i>55.66</i>	53.39	<i>51.57</i>	<i>55.31</i>
Eurasia	4.83	4.90	5.17	5.12	4.77	<i>4.56</i>	<i>5.03</i>	<i>5.03</i>	<i>4.95</i>	<i>5.01</i>	<i>5.40</i>	<i>5.25</i>	5.01	<i>4.85</i>	<i>5.15</i>
Europe	0.76	0.76	0.78	0.78	0.77	<i>0.77</i>	<i>0.79</i>	<i>0.79</i>	<i>0.78</i>	<i>0.78</i>	<i>0.80</i>	<i>0.80</i>	0.77	<i>0.78</i>	<i>0.79</i>
China	14.38	14.67	14.39	14.61	12.31	<i>13.11</i>	<i>14.36</i>	<i>14.87</i>	<i>15.29</i>	<i>15.50</i>	<i>15.20</i>	<i>15.44</i>	14.51	<i>13.67</i>	<i>15.36</i>
Other Asia	13.95	13.99	13.64	13.96	13.51	<i>12.62</i>	<i>13.38</i>	<i>14.27</i>	<i>14.61</i>	<i>14.77</i>	<i>14.34</i>	<i>14.71</i>	13.88	<i>13.45</i>	<i>14.61</i>
Other Non-OECD	18.66	19.22	19.59	19.38	18.61	<i>17.90</i>	<i>19.47</i>	<i>19.30</i>	<i>18.78</i>	<i>19.48</i>	<i>19.87</i>	<i>19.47</i>	19.21	<i>18.82</i>	<i>19.40</i>
Total World Consumption	99.98	100.24	101.41	101.33	94.40	<i>88.04</i>	<i>98.64</i>	<i>100.91</i>	<i>100.58</i>	<i>101.38</i>	<i>102.80</i>	<i>102.92</i>	100.75	<i>95.52</i>	<i>101.93</i>
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	0.26	-0.64	0.05	0.29	-0.08	<i>-1.37</i>	<i>0.13</i>	<i>0.90</i>	<i>0.26</i>	<i>-0.34</i>	<i>-0.07</i>	<i>0.46</i>	-0.01	<i>-0.10</i>	<i>0.08</i>
Other OECD	-0.21	0.02	-0.16	0.30	-1.85	<i>-3.08</i>	<i>-0.07</i>	<i>0.23</i>	<i>0.43</i>	<i>0.51</i>	<i>0.69</i>	<i>0.50</i>	-0.01	<i>-1.19</i>	<i>0.53</i>
Other Stock Draws and Balance	-0.37	0.56	1.45	-0.86	-3.79	<i>-6.93</i>	<i>-0.16</i>	<i>0.47</i>	<i>0.88</i>	<i>1.11</i>	<i>1.45</i>	<i>1.04</i>	0.19	<i>-2.59</i>	<i>1.12</i>
Total Stock Draw	-0.32	-0.06	1.34	-0.27	-5.72	<i>-11.37</i>	<i>-0.10</i>	<i>1.60</i>	<i>1.57</i>	<i>1.28</i>	<i>2.06</i>	<i>2.00</i>	0.18	<i>-3.87</i>	<i>1.73</i>
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	1,241	1,304	1,299	1,282	1,289	<i>1,383</i>	<i>1,371</i>	<i>1,306</i>	<i>1,301</i>	<i>1,334</i>	<i>1,342</i>	<i>1,302</i>	1,282	<i>1,306</i>	<i>1,302</i>
OECD Commercial Inventory	2,858	2,919	2,928	2,884	3,059	<i>3,434</i>	<i>3,429</i>	<i>3,343</i>	<i>3,298</i>	<i>3,286</i>	<i>3,230</i>	<i>3,144</i>	2,884	<i>3,343</i>	<i>3,144</i>

- = no data available

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

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
North America	26.19	26.70	26.81	27.75	27.93	<i>26.01</i>	<i>25.44</i>	<i>25.39</i>	<i>25.52</i>	<i>25.96</i>	<i>26.13</i>	<i>26.40</i>	26.87	<i>26.19</i>	<i>26.00</i>
Canada	5.44	5.47	5.47	5.62	5.65	<i>5.28</i>	<i>5.32</i>	<i>5.39</i>	<i>5.58</i>	<i>5.52</i>	<i>5.50</i>	<i>5.56</i>	5.50	<i>5.41</i>	<i>5.54</i>
Mexico	1.91	1.91	1.92	1.92	1.92	<i>1.82</i>	<i>1.80</i>	<i>1.77</i>	<i>1.76</i>	<i>1.80</i>	<i>1.80</i>	<i>1.79</i>	1.91	<i>1.83</i>	<i>1.79</i>
United States	18.85	19.32	19.42	20.20	20.36	<i>18.91</i>	<i>18.31</i>	<i>18.23</i>	<i>18.18</i>	<i>18.64</i>	<i>18.82</i>	<i>19.05</i>	19.45	<i>18.95</i>	<i>18.68</i>
Central and South America	5.44	6.22	6.80	6.45	5.83	<i>6.56</i>	<i>6.88</i>	<i>6.53</i>	<i>6.03</i>	<i>6.90</i>	<i>7.35</i>	<i>6.99</i>	6.23	<i>6.45</i>	<i>6.82</i>
Argentina	0.66	0.70	0.70	0.70	0.67	<i>0.68</i>	<i>0.68</i>	<i>0.68</i>	<i>0.67</i>	<i>0.69</i>	<i>0.70</i>	<i>0.69</i>	0.69	<i>0.68</i>	<i>0.69</i>
Brazil	2.90	3.65	4.23	3.89	3.25	<i>3.95</i>	<i>4.27</i>	<i>3.92</i>	<i>3.42</i>	<i>4.29</i>	<i>4.74</i>	<i>4.38</i>	3.67	<i>3.85</i>	<i>4.21</i>
Colombia	0.92	0.92	0.91	0.91	0.89	<i>0.88</i>	<i>0.87</i>	<i>0.87</i>	<i>0.88</i>	<i>0.88</i>	<i>0.86</i>	<i>0.87</i>	0.92	<i>0.88</i>	<i>0.87</i>
Ecuador	0.53	0.53	0.55	0.52	0.54	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	<i>0.53</i>	0.53	<i>0.53</i>	<i>0.53</i>
Other Central and S. America	0.42	0.41	0.42	0.43	0.49	<i>0.51</i>	<i>0.52</i>	<i>0.53</i>	<i>0.52</i>	<i>0.51</i>	<i>0.52</i>	<i>0.52</i>	0.42	<i>0.51</i>	<i>0.52</i>
Europe	4.26	3.97	3.96	4.29	4.49	<i>4.53</i>	<i>4.28</i>	<i>4.56</i>	<i>4.54</i>	<i>4.45</i>	<i>4.43</i>	<i>4.63</i>	4.12	<i>4.47</i>	<i>4.51</i>
Norway	1.79	1.58	1.66	1.96	2.08	<i>2.16</i>	<i>2.08</i>	<i>2.18</i>	<i>2.17</i>	<i>2.09</i>	<i>2.13</i>	<i>2.21</i>	1.75	<i>2.13</i>	<i>2.15</i>
United Kingdom	1.25	1.17	1.11	1.15	1.23	<i>1.22</i>	<i>1.03</i>	<i>1.19</i>	<i>1.18</i>	<i>1.19</i>	<i>1.12</i>	<i>1.24</i>	1.17	<i>1.17</i>	<i>1.18</i>
Eurasia	14.87	14.43	14.59	14.67	14.68	<i>14.64</i>	<i>14.66</i>	<i>14.74</i>	<i>14.69</i>	<i>14.55</i>	<i>14.58</i>	<i>14.63</i>	14.64	<i>14.68</i>	<i>14.61</i>
Azerbaijan	0.82	0.79	0.78	0.77	0.77	<i>0.76</i>	<i>0.74</i>	<i>0.75</i>	<i>0.74</i>	<i>0.74</i>	<i>0.73</i>	<i>0.73</i>	0.79	<i>0.75</i>	<i>0.73</i>
Kazakhstan	2.03	1.85	1.96	2.02	2.01	<i>1.97</i>	<i>2.00</i>	<i>2.05</i>	<i>2.05</i>	<i>1.93</i>	<i>1.97</i>	<i>2.02</i>	1.97	<i>2.01</i>	<i>1.99</i>
Russia	11.58	11.41	11.48	11.50	11.52	<i>11.52</i>	<i>11.53</i>	<i>11.56</i>	<i>11.54</i>	<i>11.51</i>	<i>11.51</i>	<i>11.51</i>	11.49	<i>11.53</i>	<i>11.52</i>
Turkmenistan	0.29	0.23	0.22	0.23	0.25	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	0.24	<i>0.25</i>	<i>0.24</i>
Other Eurasia	0.15	0.15	0.15	0.15	0.14	<i>0.14</i>	<i>0.14</i>	<i>0.14</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	0.15	<i>0.14</i>	<i>0.13</i>
Middle East	3.11	3.11	3.12	3.12	3.23	<i>3.21</i>	<i>3.21</i>	<i>3.21</i>	<i>3.27</i>	<i>3.27</i>	<i>3.27</i>	<i>3.27</i>	3.11	<i>3.22</i>	<i>3.27</i>
Oman	0.98	0.98	0.98	0.98	1.02	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>1.02</i>	<i>1.02</i>	<i>1.02</i>	<i>1.02</i>	0.98	<i>1.01</i>	<i>1.02</i>
Qatar	2.00	2.00	2.00	2.00	2.06	<i>2.06</i>	<i>2.06</i>	<i>2.06</i>	<i>2.10</i>	<i>2.10</i>	<i>2.10</i>	<i>2.10</i>	2.00	<i>2.06</i>	<i>2.10</i>
Asia and Oceania	9.46	9.44	9.33	9.42	9.31	<i>9.00</i>	<i>9.17</i>	<i>9.32</i>	<i>9.24</i>	<i>9.25</i>	<i>9.25</i>	<i>9.27</i>	9.41	<i>9.20</i>	<i>9.25</i>
Australia	0.40	0.44	0.47	0.49	0.48	<i>0.49</i>	<i>0.51</i>	<i>0.52</i>	<i>0.52</i>	<i>0.52</i>	<i>0.51</i>	<i>0.50</i>	0.45	<i>0.50</i>	<i>0.51</i>
China	4.89	4.92	4.89	4.88	4.87	<i>4.73</i>	<i>4.83</i>	<i>4.91</i>	<i>4.83</i>	<i>4.86</i>	<i>4.86</i>	<i>4.90</i>	4.89	<i>4.83</i>	<i>4.86</i>
India	1.01	0.99	0.98	0.99	0.93	<i>0.80</i>	<i>0.82</i>	<i>0.89</i>	<i>0.92</i>	<i>0.92</i>	<i>0.93</i>	<i>0.93</i>	0.99	<i>0.86</i>	<i>0.92</i>
Indonesia	0.94	0.90	0.91	0.91	0.90	<i>0.89</i>	<i>0.88</i>	<i>0.87</i>	<i>0.86</i>	<i>0.85</i>	<i>0.85</i>	<i>0.85</i>	0.92	<i>0.89</i>	<i>0.85</i>
Malaysia	0.75	0.73	0.65	0.72	0.70	<i>0.67</i>	<i>0.69</i>	<i>0.69</i>	<i>0.69</i>	<i>0.68</i>	<i>0.68</i>	<i>0.67</i>	0.71	<i>0.69</i>	<i>0.68</i>
Vietnam	0.25	0.25	0.23	0.22	0.22	<i>0.22</i>	<i>0.22</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>	0.24	<i>0.22</i>	<i>0.21</i>
Africa	1.52	1.54	1.55	1.55	1.48	<i>1.48</i>	<i>1.48</i>	<i>1.48</i>	<i>1.41</i>	<i>1.41</i>	<i>1.41</i>	<i>1.41</i>	1.54	<i>1.48</i>	<i>1.41</i>
Egypt	0.66	0.65	0.65	0.65	0.60	<i>0.60</i>	<i>0.60</i>	<i>0.60</i>	<i>0.56</i>	<i>0.56</i>	<i>0.56</i>	<i>0.56</i>	0.65	<i>0.60</i>	<i>0.56</i>
South Sudan	0.17	0.18	0.18	0.18	0.19	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	<i>0.19</i>	0.18	<i>0.19</i>	<i>0.19</i>
Total non-OPEC liquids	64.85	65.41	66.16	67.25	66.94	<i>65.41</i>	<i>65.12</i>	<i>65.24</i>	<i>64.70</i>	<i>65.78</i>	<i>66.41</i>	<i>66.60</i>	65.92	<i>65.68</i>	<i>65.88</i>
OPEC non-crude liquids	5.51	5.43	5.25	5.34	5.07	<i>5.06</i>	<i>5.06</i>	<i>5.06</i>	<i>5.04</i>	<i>5.05</i>	<i>5.05</i>	<i>5.06</i>	5.38	<i>5.06</i>	<i>5.05</i>
Non-OPEC + OPEC non-crude	70.36	70.84	71.41	72.59	72.01	<i>70.46</i>	<i>70.18</i>	<i>70.30</i>	<i>69.74</i>	<i>70.83</i>	<i>71.47</i>	<i>71.66</i>	71.30	<i>70.74</i>	<i>70.93</i>
Unplanned non-OPEC Production Outages	0.35	0.26	0.39	0.26	0.12	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.31	<i>n/a</i>	<i>n/a</i>

- = no data available

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Crude Oil															
Algeria	1.01	1.02	1.02	1.02	1.02	-	-	-	-	-	-	-	1.02	-	-
Angola	1.50	1.43	1.40	1.36	1.36	-	-	-	-	-	-	-	1.42	-	-
Congo (Brazzaville)	0.33	0.33	0.33	0.32	0.30	-	-	-	-	-	-	-	0.32	-	-
Equatorial Guinea	0.11	0.11	0.13	0.13	0.12	-	-	-	-	-	-	-	0.12	-	-
Gabon	0.20	0.20	0.20	0.20	0.20	-	-	-	-	-	-	-	0.20	-	-
Iran	2.63	2.33	2.10	2.03	2.02	-	-	-	-	-	-	-	2.27	-	-
Iraq	4.75	4.70	4.70	4.65	4.56	-	-	-	-	-	-	-	4.70	-	-
Kuwait	2.74	2.72	2.70	2.70	2.71	-	-	-	-	-	-	-	2.72	-	-
Libya	0.93	1.14	1.13	1.17	0.35	-	-	-	-	-	-	-	1.09	-	-
Nigeria	1.58	1.65	1.71	1.67	1.73	-	-	-	-	-	-	-	1.65	-	-
Saudi Arabia	10.00	9.92	9.38	9.83	9.77	-	-	-	-	-	-	-	9.78	-	-
United Arab Emirates	3.12	3.12	3.13	3.20	3.20	-	-	-	-	-	-	-	3.14	-	-
Venezuela	1.05	0.79	0.73	0.73	0.77	-	-	-	-	-	-	-	0.83	-	-
OPEC Total	29.94	29.47	28.66	29.02	28.10	28.95	28.55	29.02	29.27	29.27	29.27	29.25	29.27	28.66	29.27
Other Liquids (a)	5.51	5.43	5.25	5.34	5.07	5.06	5.06	5.06	5.04	5.05	5.05	5.06	5.38	5.06	5.05
Total OPEC Supply	35.45	34.90	33.91	34.36	33.17	34.01	33.61	34.07	34.31	34.32	34.33	34.31	34.65	33.72	34.32
Crude Oil Production Capacity															
Middle East	25.66	25.53	24.58	24.74	25.25	25.24	25.42	25.50	25.57	25.65	25.67	25.67	25.12	25.35	25.64
Other	6.71	6.68	6.65	6.60	5.84	5.22	5.14	5.71	5.93	5.90	5.90	5.88	6.66	5.48	5.90
OPEC Total	32.37	32.22	31.22	31.34	31.09	30.46	30.56	31.20	31.50	31.55	31.57	31.55	31.78	30.83	31.54
Surplus Crude Oil Production Capacity															
Middle East	2.43	2.75	2.57	2.32	2.99	1.51	2.01	2.19	2.23	2.28	2.30	2.30	2.52	2.17	2.28
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPEC Total	2.43	2.75	2.57	2.32	2.99	1.51	2.01	2.19	2.23	2.28	2.30	2.30	2.52	2.17	2.28
Unplanned OPEC Production Outages	2.52	2.51	3.24	2.91	3.69	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	2.80	<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 - April 2020

	2019				2020				2021				2019	2020	2021
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	24.69	24.70	25.19	24.98	23.85	<i>20.71</i>	<i>23.98</i>	<i>24.36</i>	<i>24.12</i>	<i>24.44</i>	<i>25.18</i>	<i>25.08</i>	24.89	<i>23.23</i>	<i>24.71</i>
Canada	2.45	2.44	2.57	2.54	2.33	<i>2.04</i>	<i>2.44</i>	<i>2.47</i>	<i>2.48</i>	<i>2.43</i>	<i>2.53</i>	<i>2.51</i>	2.50	<i>2.32</i>	<i>2.49</i>
Mexico	1.93	1.94	1.93	1.86	1.81	<i>1.59</i>	<i>1.80</i>	<i>1.86</i>	<i>1.80</i>	<i>1.83</i>	<i>1.83</i>	<i>1.84</i>	1.92	<i>1.76</i>	<i>1.82</i>
United States	20.30	20.31	20.67	20.57	19.70	<i>17.07</i>	<i>19.74</i>	<i>20.02</i>	<i>19.83</i>	<i>20.17</i>	<i>20.81</i>	<i>20.72</i>	20.46	<i>19.13</i>	<i>20.39</i>
Central and South America	6.66	6.86	6.91	6.93	6.62	<i>6.08</i>	<i>6.81</i>	<i>6.92</i>	<i>6.70</i>	<i>6.84</i>	<i>6.96</i>	<i>6.97</i>	6.84	<i>6.61</i>	<i>6.87</i>
Brazil	3.01	3.14	3.18	3.18	3.02	<i>2.64</i>	<i>3.13</i>	<i>3.20</i>	<i>3.09</i>	<i>3.16</i>	<i>3.25</i>	<i>3.25</i>	3.13	<i>3.00</i>	<i>3.19</i>
Europe	14.66	14.80	15.32	14.72	13.42	<i>12.29</i>	<i>14.66</i>	<i>14.83</i>	<i>14.31</i>	<i>14.53</i>	<i>15.04</i>	<i>14.76</i>	14.88	<i>13.80</i>	<i>14.66</i>
Eurasia	4.83	4.90	5.17	5.12	4.77	<i>4.56</i>	<i>5.03</i>	<i>5.03</i>	<i>4.95</i>	<i>5.01</i>	<i>5.40</i>	<i>5.25</i>	5.01	<i>4.85</i>	<i>5.15</i>
Russia	3.67	3.76	3.97	3.91	3.60	<i>3.42</i>	<i>3.83</i>	<i>3.82</i>	<i>3.77</i>	<i>3.87</i>	<i>4.19</i>	<i>4.03</i>	3.83	<i>3.67</i>	<i>3.96</i>
Middle East	8.19	8.55	8.94	8.53	8.13	<i>8.11</i>	<i>8.93</i>	<i>8.38</i>	<i>8.13</i>	<i>8.67</i>	<i>9.05</i>	<i>8.42</i>	8.55	<i>8.39</i>	<i>8.57</i>
Asia and Oceania	36.43	35.93	35.44	36.42	33.05	<i>31.91</i>	<i>34.78</i>	<i>36.70</i>	<i>37.69</i>	<i>37.21</i>	<i>36.57</i>	<i>37.65</i>	36.05	<i>34.12</i>	<i>37.28</i>
China	14.38	14.67	14.39	14.61	12.31	<i>13.11</i>	<i>14.36</i>	<i>14.87</i>	<i>15.29</i>	<i>15.50</i>	<i>15.20</i>	<i>15.44</i>	14.51	<i>13.67</i>	<i>15.36</i>
Japan	4.09	3.41	3.44	3.76	3.57	<i>2.72</i>	<i>3.23</i>	<i>3.57</i>	<i>3.76</i>	<i>3.08</i>	<i>3.15</i>	<i>3.46</i>	3.67	<i>3.27</i>	<i>3.36</i>
India	4.82	4.76	4.50	4.76	4.68	<i>4.26</i>	<i>4.30</i>	<i>4.92</i>	<i>5.07</i>	<i>5.14</i>	<i>4.80</i>	<i>5.10</i>	4.71	<i>4.54</i>	<i>5.03</i>
Africa	4.51	4.51	4.43	4.63	4.55	<i>4.39</i>	<i>4.44</i>	<i>4.69</i>	<i>4.68</i>	<i>4.68</i>	<i>4.59</i>	<i>4.80</i>	4.52	<i>4.52</i>	<i>4.69</i>
Total OECD Liquid Fuels Consumption	47.40	46.70	47.84	47.49	44.42	<i>39.08</i>	<i>45.60</i>	<i>46.65</i>	<i>46.17</i>	<i>45.84</i>	<i>47.19</i>	<i>47.25</i>	47.36	<i>43.95</i>	<i>46.62</i>
Total non-OECD Liquid Fuels Consumption	52.58	53.55	53.57	53.84	49.97	<i>48.96</i>	<i>53.04</i>	<i>54.26</i>	<i>54.41</i>	<i>55.54</i>	<i>55.61</i>	<i>55.66</i>	53.39	<i>51.57</i>	<i>55.31</i>
Total World Liquid Fuels Consumption	99.98	100.24	101.41	101.33	94.40	<i>88.04</i>	<i>98.64</i>	<i>100.91</i>	<i>100.58</i>	<i>101.38</i>	<i>102.80</i>	<i>102.92</i>	100.75	<i>95.52</i>	<i>101.93</i>
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	111.7	112.3	112.8	113.1	111.5	<i>111.1</i>	<i>112.6</i>	<i>114.4</i>	<i>115.7</i>	<i>116.8</i>	<i>117.6</i>	<i>118.3</i>	112.5	<i>112.4</i>	<i>117.1</i>
Percent change from prior year	2.1	2.0	1.9	1.8	-0.2	<i>-1.1</i>	<i>-0.1</i>	<i>1.1</i>	<i>3.8</i>	<i>5.1</i>	<i>4.4</i>	<i>3.4</i>	2.0	<i>-0.1</i>	<i>4.2</i>
OECD Index, 2015 Q1 = 100	108.8	109.5	110.0	109.9	109.4	<i>106.8</i>	<i>108.1</i>	<i>110.3</i>	<i>111.6</i>	<i>112.5</i>	<i>113.0</i>	<i>113.2</i>	109.5	<i>108.6</i>	<i>112.6</i>
Percent change from prior year	1.8	1.7	1.8	1.6	0.5	<i>-2.5</i>	<i>-1.7</i>	<i>0.4</i>	<i>2.0</i>	<i>5.3</i>	<i>4.6</i>	<i>2.6</i>	1.7	<i>-0.8</i>	<i>3.6</i>
Non-OECD Index, 2015 Q1 = 100	114.4	115.1	115.5	116.2	113.5	<i>115.4</i>	<i>117.1</i>	<i>118.3</i>	<i>119.8</i>	<i>121.0</i>	<i>122.0</i>	<i>123.3</i>	115.3	<i>116.1</i>	<i>121.5</i>
Percent change from prior year	2.4	2.2	2.1	2.0	-0.8	<i>0.3</i>	<i>1.4</i>	<i>1.8</i>	<i>5.5</i>	<i>4.9</i>	<i>4.2</i>	<i>4.2</i>	2.2	<i>0.7</i>	<i>4.7</i>
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	105.26	105.87	106.34	106.12	106.82	<i>108.75</i>	<i>109.13</i>	<i>108.48</i>	<i>107.56</i>	<i>106.84</i>	<i>106.34</i>	<i>105.42</i>	105.90	<i>108.30</i>	<i>106.54</i>
Percent change from prior year	4.6	3.1	0.8	0.0	1.5	<i>2.7</i>	<i>2.6</i>	<i>2.2</i>	<i>0.7</i>	<i>-1.8</i>	<i>-2.6</i>	<i>-2.8</i>	2.1	<i>2.3</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, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	11.81	12.10	12.23	12.78	12.73	<i>11.98</i>	<i>11.29</i>	<i>11.04</i>	<i>10.96</i>	<i>11.08</i>	<i>11.00</i>	<i>11.08</i>	12.23	<i>11.76</i>	<i>11.03</i>
Alaska	0.49	0.47	0.43	0.48	0.50	<i>0.49</i>	<i>0.45</i>	<i>0.49</i>	<i>0.51</i>	<i>0.50</i>	<i>0.46</i>	<i>0.49</i>	0.47	<i>0.48</i>	<i>0.49</i>
Federal Gulf of Mexico (b)	1.85	1.93	1.82	1.94	1.99	<i>1.97</i>	<i>1.89</i>	<i>1.89</i>	<i>1.97</i>	<i>1.95</i>	<i>1.88</i>	<i>1.90</i>	1.88	<i>1.93</i>	<i>1.92</i>
Lower 48 States (excl GOM)	9.47	9.70	9.98	10.36	10.24	<i>9.53</i>	<i>8.96</i>	<i>8.66</i>	<i>8.49</i>	<i>8.63</i>	<i>8.66</i>	<i>8.69</i>	9.88	<i>9.34</i>	<i>8.62</i>
Crude Oil Net Imports (c)	4.25	4.14	3.95	2.94	2.93	<i>2.68</i>	<i>3.94</i>	<i>4.62</i>	<i>4.87</i>	<i>5.37</i>	<i>5.64</i>	<i>5.50</i>	3.82	<i>3.54</i>	<i>5.35</i>
SPR Net Withdrawals	0.00	0.05	0.00	0.11	0.00	<i>-0.33</i>	<i>0.00</i>	<i>0.20</i>	<i>0.20</i>	<i>0.03</i>	<i>0.01</i>	<i>0.03</i>	0.04	<i>-0.03</i>	<i>0.07</i>
Commercial Inventory Net Withdrawals	-0.19	-0.05	0.41	-0.07	-0.46	<i>-0.81</i>	<i>0.19</i>	<i>0.09</i>	<i>-0.23</i>	<i>0.16</i>	<i>0.24</i>	<i>0.01</i>	0.03	<i>-0.24</i>	<i>0.05</i>
Crude Oil Adjustment (d)	0.33	0.53	0.38	0.56	0.76	<i>0.19</i>	<i>0.21</i>	<i>0.15</i>	<i>0.22</i>	<i>0.22</i>	<i>0.23</i>	<i>0.16</i>	0.45	<i>0.33</i>	<i>0.21</i>
Total Crude Oil Input to Refineries	16.20	16.76	16.97	16.32	15.96	<i>13.71</i>	<i>15.63</i>	<i>16.09</i>	<i>16.03</i>	<i>16.86</i>	<i>17.11</i>	<i>16.77</i>	16.56	<i>15.35</i>	<i>16.70</i>
Other Supply															
Refinery Processing Gain	1.06	1.07	1.07	1.10	1.13	<i>0.95</i>	<i>1.12</i>	<i>1.21</i>	<i>1.17</i>	<i>1.21</i>	<i>1.24</i>	<i>1.25</i>	1.08	<i>1.10</i>	<i>1.22</i>
Natural Gas Plant Liquids Production	4.66	4.81	4.80	4.99	5.12	<i>4.99</i>	<i>4.80</i>	<i>4.76</i>	<i>4.73</i>	<i>4.96</i>	<i>5.21</i>	<i>5.32</i>	4.81	<i>4.91</i>	<i>5.06</i>
Renewables and Oxygenate Production (e)	1.10	1.14	1.12	1.12	1.16	<i>0.78</i>	<i>0.89</i>	<i>1.01</i>	<i>1.11</i>	<i>1.17</i>	<i>1.16</i>	<i>1.17</i>	1.12	<i>0.96</i>	<i>1.15</i>
Fuel Ethanol Production	1.01	1.05	1.02	1.04	1.04	<i>0.63</i>	<i>0.74</i>	<i>0.86</i>	<i>0.96</i>	<i>0.99</i>	<i>0.99</i>	<i>1.00</i>	1.03	<i>0.82</i>	<i>0.99</i>
Petroleum Products Adjustment (f)	0.22	0.20	0.21	0.21	0.22	<i>0.21</i>	<i>0.21</i>	<i>0.22</i>	<i>0.21</i>	<i>0.22</i>	<i>0.22</i>	<i>0.22</i>	0.21	<i>0.22</i>	<i>0.22</i>
Product Net Imports (c)	-3.30	-3.04	-3.13	-3.43	-4.28	<i>-3.33</i>	<i>-2.86</i>	<i>-3.89</i>	<i>-3.71</i>	<i>-3.72</i>	<i>-3.80</i>	<i>-4.45</i>	-3.22	<i>-3.59</i>	<i>-3.92</i>
Hydrocarbon Gas Liquids	-1.33	-1.65	-1.66	-1.83	-1.94	<i>-2.00</i>	<i>-1.84</i>	<i>-1.75</i>	<i>-1.61</i>	<i>-1.74</i>	<i>-1.72</i>	<i>-1.76</i>	-1.62	<i>-1.88</i>	<i>-1.71</i>
Unfinished Oils	0.21	0.47	0.47	0.50	0.33	<i>0.17</i>	<i>0.42</i>	<i>0.36</i>	<i>0.35</i>	<i>0.46</i>	<i>0.44</i>	<i>0.31</i>	0.41	<i>0.32</i>	<i>0.39</i>
Other HC/Oxygenates	-0.08	-0.07	-0.05	-0.05	-0.11	<i>-0.09</i>	<i>-0.10</i>	<i>-0.11</i>	<i>-0.13</i>	<i>-0.12</i>	<i>-0.12</i>	<i>-0.13</i>	-0.06	<i>-0.10</i>	<i>-0.13</i>
Motor Gasoline Blend Comp.	0.43	0.79	0.70	0.46	0.33	<i>0.46</i>	<i>0.49</i>	<i>0.24</i>	<i>0.50</i>	<i>0.69</i>	<i>0.49</i>	<i>0.16</i>	0.60	<i>0.38</i>	<i>0.46</i>
Finished Motor Gasoline	-0.82	-0.63	-0.62	-0.87	-0.74	<i>-0.44</i>	<i>-0.08</i>	<i>-0.57</i>	<i>-0.88</i>	<i>-0.87</i>	<i>-0.79</i>	<i>-0.91</i>	-0.74	<i>-0.46</i>	<i>-0.86</i>
Jet Fuel	-0.08	-0.01	-0.05	-0.09	-0.10	<i>-0.22</i>	<i>0.08</i>	<i>-0.09</i>	<i>-0.02</i>	<i>0.02</i>	<i>0.05</i>	<i>0.00</i>	-0.06	<i>-0.08</i>	<i>0.01</i>
Distillate Fuel Oil	-0.91	-1.29	-1.30	-0.99	-1.24	<i>-0.84</i>	<i>-1.22</i>	<i>-1.22</i>	<i>-1.09</i>	<i>-1.27</i>	<i>-1.28</i>	<i>-1.18</i>	-1.12	<i>-1.13</i>	<i>-1.20</i>
Residual Fuel Oil	-0.08	-0.15	-0.08	-0.03	-0.01	<i>-0.06</i>	<i>-0.03</i>	<i>-0.01</i>	<i>-0.05</i>	<i>-0.12</i>	<i>-0.07</i>	<i>-0.01</i>	-0.08	<i>-0.03</i>	<i>-0.06</i>
Other Oils (g)	-0.64	-0.50	-0.52	-0.54	-0.80	<i>-0.32</i>	<i>-0.58</i>	<i>-0.74</i>	<i>-0.78</i>	<i>-0.77</i>	<i>-0.81</i>	<i>-0.92</i>	-0.55	<i>-0.61</i>	<i>-0.82</i>
Product Inventory Net Withdrawals	0.44	-0.64	-0.36	0.26	0.38	<i>-0.23</i>	<i>-0.06</i>	<i>0.62</i>	<i>0.29</i>	<i>-0.54</i>	<i>-0.32</i>	<i>0.43</i>	-0.07	<i>0.18</i>	<i>-0.04</i>
Total Supply	20.38	20.31	20.67	20.57	19.70	<i>17.07</i>	<i>19.74</i>	<i>20.02</i>	<i>19.83</i>	<i>20.17</i>	<i>20.81</i>	<i>20.72</i>	20.48	<i>19.14</i>	<i>20.39</i>
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	3.49	2.78	2.94	3.31	3.39	<i>2.80</i>	<i>2.87</i>	<i>3.27</i>	<i>3.45</i>	<i>3.08</i>	<i>3.34</i>	<i>3.72</i>	3.13	<i>3.08</i>	<i>3.40</i>
Unfinished Oils	-0.03	0.09	0.04	0.10	0.02	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.05	<i>0.01</i>	<i>0.00</i>
Motor Gasoline	8.96	9.48	9.49	9.16	8.81	<i>7.14</i>	<i>8.85</i>	<i>8.91</i>	<i>8.61</i>	<i>9.14</i>	<i>9.24</i>	<i>8.99</i>	9.27	<i>8.43</i>	<i>9.00</i>
Fuel Ethanol blended into Motor Gasoline	0.91	0.97	0.95	0.96	0.90	<i>0.70</i>	<i>0.82</i>	<i>0.95</i>	<i>0.86</i>	<i>0.93</i>	<i>0.93</i>	<i>0.91</i>	0.95	<i>0.84</i>	<i>0.91</i>
Jet Fuel	1.65	1.78	1.79	1.74	1.60	<i>1.18</i>	<i>1.76</i>	<i>1.72</i>	<i>1.69</i>	<i>1.78</i>	<i>1.82</i>	<i>1.77</i>	1.74	<i>1.57</i>	<i>1.77</i>
Distillate Fuel Oil	4.28	4.01	3.94	4.10	3.94	<i>3.78</i>	<i>3.82</i>	<i>3.93</i>	<i>4.05</i>	<i>4.00</i>	<i>4.01</i>	<i>4.10</i>	4.08	<i>3.87</i>	<i>4.04</i>
Residual Fuel Oil	0.27	0.23	0.32	0.27	0.21	<i>0.24</i>	<i>0.31</i>	<i>0.28</i>	<i>0.27</i>	<i>0.23</i>	<i>0.31</i>	<i>0.27</i>	0.27	<i>0.26</i>	<i>0.27</i>
Other Oils (g)	1.68	1.95	2.14	1.88	1.72	<i>1.93</i>	<i>2.12</i>	<i>1.91</i>	<i>1.76</i>	<i>1.95</i>	<i>2.10</i>	<i>1.86</i>	1.91	<i>1.92</i>	<i>1.92</i>
Total Consumption	20.30	20.31	20.67	20.57	19.70	<i>17.07</i>	<i>19.74</i>	<i>20.02</i>	<i>19.83</i>	<i>20.17</i>	<i>20.81</i>	<i>20.72</i>	20.46	<i>19.13</i>	<i>20.39</i>
Total Petroleum and Other Liquids Net Imports	0.95	1.10	0.83	-0.49	-1.35	<i>-0.65</i>	<i>1.08</i>	<i>0.73</i>	<i>1.16</i>	<i>1.66</i>	<i>1.84</i>	<i>1.05</i>	0.59	<i>-0.04</i>	<i>1.43</i>
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	459.3	464.0	426.5	432.9	474.5	<i>548.2</i>	<i>530.4</i>	<i>522.2</i>	<i>542.4</i>	<i>527.6</i>	<i>505.7</i>	<i>505.2</i>	432.9	<i>522.2</i>	<i>505.2</i>
Hydrocarbon Gas Liquids	156.9	224.1	262.8	211.7	180.7	<i>231.0</i>	<i>260.3</i>	<i>206.9</i>	<i>167.7</i>	<i>215.5</i>	<i>251.8</i>	<i>208.9</i>	211.7	<i>206.9</i>	<i>208.9</i>
Unfinished Oils	92.0	95.9	92.2	89.4	101.8	<i>94.6</i>	<i>90.5</i>	<i>83.8</i>	<i>93.5</i>	<i>92.4</i>	<i>91.5</i>	<i>85.3</i>	89.4	<i>83.8</i>	<i>85.3</i>
Other HC/Oxygenates	30.8	29.0	28.4	27.8	31.8	<i>21.6</i>	<i>9.4</i>	<i>-4.3</i>	<i>-2.6</i>	<i>-3.5</i>	<i>-4.3</i>	<i>-3.6</i>	27.8	<i>-4.3</i>	<i>-3.6</i>
Total Motor Gasoline	236.1	229.7	231.9	253.8	244.5	<i>228.3</i>	<i>221.4</i>	<i>234.0</i>	<i>239.9</i>	<i>238.1</i>	<i>232.6</i>	<i>238.9</i>	253.8	<i>234.0</i>	<i>238.9</i>
Finished Motor Gasoline	21.7	21.0	23.0	26.0	20.9	<i>24.3</i>	<i>24.0</i>	<i>22.5</i>	<i>23.4</i>	<i>21.9</i>	<i>22.8</i>	<i>22.9</i>	26.0	<i>22.5</i>	<i>22.9</i>
Motor Gasoline Blend Comp.	214.4	208.8	208.9	227.9	223.5	<i>204.0</i>	<i>197.4</i>	<i>211.5</i>	<i>216.5</i>	<i>216.2</i>	<i>209.8</i>	<i>216.0</i>	227.9	<i>211.5</i>	<i>216.0</i>
Jet Fuel	41.6	40.6	44.4	40.5	38.1	<i>40.3</i>	<i>42.4</i>	<i>40.9</i>	<i>40.4</i>	<i>41.2</i>	<i>43.3</i>	<i>40.3</i>	40.5	<i>40.9</i>	<i>40.3</i>
Distillate Fuel Oil	132.4	130.8	131.7	140.0	121.4	<i>126.3</i>	<i>132.3</i>	<i>137.3</i>	<i>126.1</i>	<i>130.6</i>	<i>136.9</i>	<i>138.8</i>	140.0	<i>137.3</i>	<i>138.8</i>
Residual Fuel Oil	28.7	30.3	29.9	30.9	34.5	<i>33.4</i>	<i>30.7</i>	<i>29.8</i>	<i>31.9</i>	<i>33.0</i>	<i>30.7</i>	<i>32.5</i>	30.9	<i>29.8</i>	<i>32.5</i>
Other Oils (g)	63.2	59.1	51.2	54.6	61.2	<i>59.7</i>	<i>53.7</i>	<i>55.8</i>	<i>61.2</i>	<i>59.8</i>	<i>53.9</i>	<i>56.0</i>	54.6	<i>55.8</i>	<i>56.0</i>
Total Commercial Inventory	1,241	1,304	1,299	1,282	1,289	<i>1,383</i>	<i>1,371</i>	<i>1,306</i>	<i>1,301</i>	<i>1,334</i>	<i>1,342</i>	<i>1,302</i>	1,282	<i>1,306</i>	<i>1,302</i>
Crude Oil in SPR	649	645	645	635	635	<i>665</i>	<i>665</i>	<i>647</i>	<i>629</i>	<i>626</i>	<i>625</i>	<i>623</i>	635	<i>647</i>	<i>623</i>

- = no data available

(a) Includes lease condensate.

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

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

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

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels.

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

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

Table 4b. U.S. Hydrocarbon Gas Liquids (HGL) and Petroleum Refinery Balances (million barrels per day, except inventories and utilization factor)
 U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
HGL Production															
Natural Gas Processing Plants															
Ethane	1.87	1.87	1.71	1.85	1.96	1.83	1.72	1.83	1.95	2.06	2.25	2.38	1.83	1.84	2.16
Propane	1.50	1.56	1.61	1.67	1.71	1.68	1.62	1.55	1.50	1.53	1.55	1.56	1.59	1.64	1.54
Butanes	0.79	0.84	0.87	0.89	0.89	0.89	0.87	0.83	0.79	0.82	0.83	0.83	0.85	0.87	0.82
Natural Gasoline (Pentanes Plus)	0.49	0.55	0.60	0.57	0.56	0.58	0.58	0.54	0.51	0.54	0.57	0.55	0.55	0.57	0.54
Refinery and Blender Net Production															
Ethane/Ethylene	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01
Propane	0.28	0.30	0.29	0.29	0.29	0.27	0.28	0.29	0.28	0.31	0.30	0.30	0.29	0.28	0.30
Propylene (refinery-grade)	0.28	0.28	0.28	0.28	0.27	0.24	0.26	0.28	0.27	0.28	0.28	0.29	0.28	0.26	0.28
Butanes/Butylenes	-0.09	0.26	0.18	-0.23	-0.07	0.26	0.19	-0.20	-0.08	0.26	0.19	-0.20	0.03	0.04	0.04
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
HGL Net Imports															
Ethane	-0.27	-0.27	-0.28	-0.31	-0.29	-0.33	-0.33	-0.34	-0.30	-0.31	-0.30	-0.31	-0.28	-0.32	-0.30
Propane/Propylene	-0.75	-0.99	-0.97	-1.07	-1.05	-1.11	-1.01	-1.03	-0.90	-1.00	-0.98	-1.02	-0.94	-1.05	-0.97
Butanes/Butylenes	-0.14	-0.26	-0.26	-0.25	-0.31	-0.36	-0.30	-0.22	-0.21	-0.22	-0.22	-0.24	-0.23	-0.30	-0.22
Natural Gasoline (Pentanes Plus)	-0.17	-0.14	-0.15	-0.21	-0.29	-0.19	-0.19	-0.15	-0.20	-0.21	-0.22	-0.20	-0.17	-0.20	-0.21
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.46	0.29	0.33	0.54	0.44	0.19	0.28	0.48	0.40	0.29	0.33	0.50	0.40	0.35	0.38
Natural Gasoline (Pentanes Plus)	0.14	0.17	0.18	0.18	0.16	0.21	0.21	0.19	0.17	0.17	0.18	0.18	0.17	0.19	0.17
HGL Consumption															
Ethane/Ethylene	1.61	1.49	1.47	1.55	1.70	1.45	1.41	1.52	1.66	1.74	1.97	2.08	1.53	1.52	1.86
Propane	1.20	0.58	0.65	1.05	1.12	0.63	0.70	0.94	1.15	0.61	0.67	0.95	0.87	0.85	0.84
Propylene (refinery-grade)	0.29	0.30	0.29	0.31	0.28	0.27	0.27	0.33	0.27	0.31	0.30	0.28	0.30	0.29	0.29
Butanes/Butylenes	0.20	0.21	0.30	0.24	0.19	0.30	0.33	0.29	0.22	0.29	0.27	0.24	0.24	0.28	0.25
Natural Gasoline (Pentanes Plus)	0.20	0.20	0.23	0.17	0.10	0.15	0.16	0.19	0.14	0.13	0.14	0.16	0.20	0.15	0.14
HGL Inventories (million barrels)															
Ethane	48.14	56.18	56.46	58.84	53.95	59.16	58.06	58.16	54.64	57.25	54.85	56.38	54.94	57.34	55.78
Propane	47.77	71.72	95.60	79.63	63.18	79.64	95.50	80.96	54.61	73.94	91.37	78.76	79.63	80.96	78.76
Propylene (refinery-grade)	1.68	1.76	2.65	1.66	2.30	1.96	2.97	0.26	2.24	2.33	2.59	4.41	1.66	0.26	4.41
Butanes/Butylenes	39.30	70.72	85.88	52.15	40.21	67.96	81.14	47.67	36.38	62.27	80.97	48.95	52.15	47.67	48.95
Natural Gasoline (Pentanes Plus)	18.12	19.71	21.28	20.90	20.34	21.59	22.59	21.94	19.45	20.76	21.83	21.29	20.90	21.94	21.29
Refinery and Blender Net Inputs															
Crude Oil	16.20	16.76	16.97	16.32	15.96	13.71	15.63	16.09	16.03	16.86	17.11	16.77	16.56	15.35	16.70
Hydrocarbon Gas Liquids	0.59	0.46	0.51	0.72	0.60	0.41	0.49	0.67	0.57	0.46	0.50	0.68	0.57	0.54	0.55
Other Hydrocarbons/Oxygenates	1.16	1.21	1.22	1.19	1.16	0.93	1.04	1.18	1.12	1.20	1.18	1.17	1.19	1.08	1.17
Unfinished Oils	0.18	0.34	0.46	0.43	0.17	0.25	0.47	0.44	0.24	0.48	0.45	0.38	0.35	0.33	0.39
Motor Gasoline Blend Components	0.63	0.94	0.77	0.40	0.47	0.82	0.66	0.26	0.57	0.84	0.66	0.26	0.68	0.55	0.58
Aviation Gasoline Blend Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Refinery and Blender Net Inputs	18.76	19.70	19.93	19.07	18.36	16.11	18.30	18.65	18.53	19.84	19.91	19.26	19.37	17.86	19.39
Refinery Processing Gain	1.06	1.07	1.07	1.10	1.13	0.95	1.12	1.21	1.17	1.21	1.24	1.25	1.08	1.10	1.22
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.48	0.84	0.76	0.34	0.49	0.79	0.74	0.37	0.48	0.86	0.77	0.39	0.61	0.60	0.63
Finished Motor Gasoline	9.84	10.15	10.20	10.16	9.55	7.72	9.00	9.60	9.59	10.10	10.10	10.04	10.09	8.97	9.96
Jet Fuel	1.73	1.78	1.88	1.79	1.68	1.42	1.70	1.79	1.70	1.77	1.80	1.74	1.80	1.65	1.75
Distillate Fuel	5.05	5.21	5.18	5.11	4.92	4.61	5.03	5.14	4.98	5.25	5.29	5.23	5.14	4.92	5.19
Residual Fuel	0.36	0.39	0.39	0.31	0.26	0.29	0.31	0.28	0.34	0.36	0.35	0.30	0.36	0.28	0.34
Other Oils (a)	2.37	2.40	2.58	2.46	2.59	2.24	2.64	2.68	2.60	2.71	2.84	2.81	2.45	2.54	2.74
Total Refinery and Blender Net Production	19.82	20.78	21.00	20.17	19.49	17.06	19.42	19.86	19.69	21.05	21.15	20.51	20.44	18.96	20.61
Refinery Distillation Inputs	16.48	17.14	17.44	16.86	16.52	14.24	16.03	16.39	16.29	17.04	17.33	16.98	16.98	15.80	16.92
Refinery Operable Distillation Capacity	18.78	18.80	18.81	18.81	18.97	18.97	18.97	19.00	19.00	19.00	19.00	19.03	18.80	18.98	19.01
Refinery Distillation Utilization Factor	0.88	0.91	0.93	0.90	0.87	0.75	0.85	0.86	0.86	0.90	0.91	0.89	0.90	0.83	0.89

- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Prices (cents per gallon)															
Refiner Wholesale Price	167	205	189	182	144	69	93	105	123	151	151	138	186	104	141
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	233	268	256	247	236	135	157	171	187	217	221	209	251	177	209
PADD 2	223	269	257	244	225	140	161	169	181	221	219	202	249	175	206
PADD 3	206	246	234	224	210	124	141	153	172	201	201	187	228	158	191
PADD 4	226	285	270	276	246	152	160	173	185	221	226	209	265	184	211
PADD 5	297	356	331	350	310	210	221	244	246	286	286	273	334	248	273
U.S. Average	236	279	265	259	241	148	167	180	193	227	229	214	260	186	216
Gasoline All Grades Including Taxes	245	288	274	269	250	160	179	193	206	241	242	228	269	197	230
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	62.4	59.7	64.9	65.6	65.0	61.0	58.1	62.1	66.6	67.0	62.0	67.3	65.6	62.1	67.3
PADD 2	53.9	49.6	51.0	55.0	57.0	50.9	49.5	51.4	54.2	52.9	52.6	50.4	55.0	51.4	50.4
PADD 3	82.5	82.4	81.5	91.8	79.7	78.6	77.2	81.1	81.1	81.1	81.1	81.1	91.8	81.1	81.1
PADD 4	6.9	7.5	7.7	8.3	8.9	7.6	6.9	7.2	7.6	7.8	7.5	7.9	8.3	7.2	7.9
PADD 5	30.4	30.6	26.8	33.2	33.8	30.2	29.7	32.1	30.4	29.2	29.4	32.2	33.2	32.1	32.2
U.S. Total	236.1	229.7	231.9	253.8	244.5	228.3	221.4	234.0	239.9	238.1	232.6	238.9	253.8	234.0	238.9
Finished Gasoline Inventories															
U.S. Total	21.7	21.0	23.0	26.0	20.9	24.3	24.0	22.5	23.4	21.9	22.8	22.9	26.0	22.5	22.9
Gasoline Blending Components Inventories															
U.S. Total	214.4	208.8	208.9	227.9	223.5	204.0	197.4	211.5	216.5	216.2	209.8	216.0	227.9	211.5	216.0

- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (billion cubic feet per day)															
Total Marketed Production	96.08	97.44	99.91	103.07	101.77	<i>100.47</i>	<i>97.78</i>	<i>95.39</i>	<i>93.01</i>	<i>93.40</i>	<i>95.03</i>	<i>96.49</i>	99.15	<i>98.84</i>	<i>94.49</i>
Alaska	0.96	0.93	0.79	0.93	1.00	<i>0.85</i>	<i>0.78</i>	<i>0.94</i>	<i>1.00</i>	<i>0.87</i>	<i>0.80</i>	<i>0.95</i>	0.90	<i>0.89</i>	<i>0.90</i>
Federal GOM (a)	2.80	2.75	2.51	2.72	2.77	<i>2.70</i>	<i>2.51</i>	<i>2.44</i>	<i>2.46</i>	<i>2.38</i>	<i>2.23</i>	<i>2.19</i>	2.69	<i>2.61</i>	<i>2.32</i>
Lower 48 States (excl GOM)	92.32	93.76	96.61	99.42	97.99	<i>96.91</i>	<i>94.49</i>	<i>92.00</i>	<i>89.54</i>	<i>90.15</i>	<i>92.00</i>	<i>93.35</i>	95.55	<i>95.34</i>	<i>91.27</i>
Total Dry Gas Production	89.32	90.50	92.98	95.88	94.47	<i>93.24</i>	<i>90.71</i>	<i>88.43</i>	<i>86.18</i>	<i>86.49</i>	<i>87.95</i>	<i>89.26</i>	92.19	<i>91.70</i>	<i>87.48</i>
LNG Gross Imports	0.28	0.03	0.06	0.20	0.24	<i>0.10</i>	<i>0.18</i>	<i>0.20</i>	<i>0.32</i>	<i>0.18</i>	<i>0.18</i>	<i>0.20</i>	0.14	<i>0.18</i>	<i>0.22</i>
LNG Gross Exports	4.01	4.55	4.95	6.40	7.93	<i>6.56</i>	<i>6.04</i>	<i>7.33</i>	<i>8.23</i>	<i>6.88</i>	<i>7.56</i>	<i>8.20</i>	4.98	<i>6.96</i>	<i>7.72</i>
Pipeline Gross Imports	8.35	6.73	7.10	7.30	7.67	<i>7.00</i>	<i>7.25</i>	<i>7.51</i>	<i>8.56</i>	<i>7.63</i>	<i>7.72</i>	<i>7.75</i>	7.37	<i>7.36</i>	<i>7.91</i>
Pipeline Gross Exports	7.86	7.18	7.80	8.25	8.31	<i>8.00</i>	<i>8.42</i>	<i>8.64</i>	<i>8.82</i>	<i>7.93</i>	<i>8.73</i>	<i>8.84</i>	7.77	<i>8.35</i>	<i>8.58</i>
Supplemental Gaseous Fuels	0.20	0.16	0.15	0.17	0.18	<i>0.17</i>	<i>0.17</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	0.17	<i>0.17</i>	<i>0.16</i>
Net Inventory Withdrawals	16.93	-14.18	-10.41	2.44	12.90	<i>-9.71</i>	<i>-7.90</i>	<i>3.49</i>	<i>18.08</i>	<i>-9.71</i>	<i>-8.04</i>	<i>2.98</i>	-1.37	<i>-0.31</i>	<i>0.76</i>
Total Supply	103.21	71.52	77.14	91.35	99.22	<i>76.25</i>	<i>75.95</i>	<i>83.82</i>	<i>96.25</i>	<i>69.94</i>	<i>71.70</i>	<i>83.31</i>	85.75	<i>83.79</i>	<i>80.24</i>
Balancing Item (b)	0.11	-0.79	-0.39	-2.02	1.14	<i>-1.46</i>	<i>-1.19</i>	<i>1.52</i>	<i>1.10</i>	<i>1.06</i>	<i>0.59</i>	<i>1.25</i>	-0.78	<i>0.00</i>	<i>1.00</i>
Total Primary Supply	103.32	70.74	76.74	89.33	100.36	<i>74.79</i>	<i>74.76</i>	<i>85.34</i>	<i>97.34</i>	<i>71.00</i>	<i>72.29</i>	<i>84.56</i>	84.97	<i>83.79</i>	<i>81.24</i>
Consumption (billion cubic feet per day)															
Residential	27.15	7.34	3.53	17.00	23.65	<i>7.70</i>	<i>3.70</i>	<i>16.63</i>	<i>25.65</i>	<i>7.68</i>	<i>3.41</i>	<i>16.20</i>	13.70	<i>12.91</i>	<i>13.18</i>
Commercial	16.19	6.36	4.68	11.45	14.00	<i>6.30</i>	<i>4.82</i>	<i>10.76</i>	<i>15.37</i>	<i>6.52</i>	<i>4.70</i>	<i>10.50</i>	9.65	<i>8.96</i>	<i>9.25</i>
Industrial	25.12	21.74	21.31	23.79	24.89	<i>21.70</i>	<i>21.03</i>	<i>24.03</i>	<i>24.77</i>	<i>22.45</i>	<i>21.91</i>	<i>24.81</i>	22.98	<i>22.91</i>	<i>23.48</i>
Electric Power (c)	26.83	28.13	39.74	29.09	29.52	<i>31.52</i>	<i>37.86</i>	<i>26.31</i>	<i>23.70</i>	<i>27.16</i>	<i>34.87</i>	<i>25.27</i>	30.98	<i>31.31</i>	<i>27.77</i>
Lease and Plant Fuel	4.93	5.00	5.13	5.29	5.22	<i>5.16</i>	<i>5.02</i>	<i>4.89</i>	<i>4.77</i>	<i>4.79</i>	<i>4.88</i>	<i>4.95</i>	5.09	<i>5.07</i>	<i>4.85</i>
Pipeline and Distribution Use	2.96	2.03	2.20	2.56	2.92	<i>2.24</i>	<i>2.17</i>	<i>2.56</i>	<i>2.91</i>	<i>2.23</i>	<i>2.35</i>	<i>2.67</i>	2.44	<i>2.47</i>	<i>2.54</i>
Vehicle Use	0.13	0.13	0.14	0.15	0.16	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	0.14	<i>0.16</i>	<i>0.16</i>
Total Consumption	103.32	70.74	76.74	89.33	100.36	<i>74.79</i>	<i>74.76</i>	<i>85.34</i>	<i>97.34</i>	<i>71.00</i>	<i>72.29</i>	<i>84.56</i>	84.97	<i>83.79</i>	<i>81.24</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,185	2,461	3,415	3,189	2,014	<i>2,898</i>	<i>3,624</i>	<i>3,303</i>	<i>1,676</i>	<i>2,559</i>	<i>3,299</i>	<i>3,025</i>	3,189	<i>3,303</i>	<i>3,025</i>
East Region (d)	216	537	845	764	377	<i>619</i>	<i>889</i>	<i>778</i>	<i>264</i>	<i>533</i>	<i>804</i>	<i>674</i>	764	<i>778</i>	<i>674</i>
Midwest Region (d)	242	579	990	885	472	<i>724</i>	<i>1,054</i>	<i>929</i>	<i>345</i>	<i>556</i>	<i>891</i>	<i>783</i>	885	<i>929</i>	<i>783</i>
South Central Region (d)	519	917	1,049	1,095	850	<i>1,111</i>	<i>1,164</i>	<i>1,136</i>	<i>750</i>	<i>1,009</i>	<i>1,076</i>	<i>1,115</i>	1,095	<i>1,136</i>	<i>1,115</i>
Mountain Region (d)	63	135	200	167	92	<i>134</i>	<i>179</i>	<i>149</i>	<i>104</i>	<i>149</i>	<i>191</i>	<i>157</i>	167	<i>149</i>	<i>157</i>
Pacific Region (d)	115	259	294	245	200	<i>286</i>	<i>314</i>	<i>286</i>	<i>188</i>	<i>288</i>	<i>313</i>	<i>272</i>	245	<i>286</i>	<i>272</i>
Alaska	30	33	37	33	24	<i>24</i>	<i>24</i>	<i>24</i>	<i>24</i>	<i>24</i>	<i>24</i>	<i>24</i>	33	<i>24</i>	<i>24</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/hgs/notes.html>).

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

LNG: liquefied natural gas.

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Wholesale/Spot															
Henry Hub Spot Price	3.03	2.66	2.47	2.49	1.96	1.78	2.17	2.86	3.21	2.97	3.04	3.15	2.66	2.19	3.09
Residential Retail															
New England	14.44	15.56	19.31	14.05	13.59	13.89	16.42	12.65	12.61	13.84	16.90	13.11	14.78	13.52	13.22
Middle Atlantic	10.79	13.08	18.50	11.38	10.72	12.38	16.07	10.31	9.61	12.13	16.74	11.02	11.74	11.19	10.84
E. N. Central	7.27	10.48	19.03	7.68	6.93	9.62	15.53	7.79	7.46	10.59	16.39	8.21	8.41	8.11	8.65
W. N. Central	7.93	10.67	18.16	8.16	7.42	10.16	16.16	8.44	7.64	10.77	16.93	9.02	8.81	8.58	8.98
S. Atlantic	11.63	18.34	26.03	12.90	12.10	16.27	21.82	11.90	10.73	16.15	22.42	12.48	13.83	13.38	12.80
E. S. Central	9.64	14.84	21.40	10.43	9.81	14.16	20.59	12.49	10.37	15.20	22.10	13.48	11.05	11.88	12.52
W. S. Central	8.29	13.38	21.45	10.54	8.75	14.04	19.66	11.53	9.17	14.84	20.62	12.04	10.54	11.43	11.68
Mountain	7.73	9.46	13.40	7.75	7.48	9.02	12.56	7.57	7.62	9.65	13.57	8.52	8.37	8.12	8.68
Pacific	12.44	12.75	13.50	12.06	13.50	13.30	13.56	12.58	13.07	13.95	14.70	13.64	12.50	13.20	13.60
U.S. Average	9.47	12.48	18.10	9.88	9.47	11.79	16.26	9.93	9.31	12.30	17.14	10.61	10.56	10.45	10.66
Commercial Retail															
New England	11.21	11.42	11.61	10.13	9.86	9.22	8.70	8.83	9.35	9.71	9.86	9.89	10.95	9.38	9.65
Middle Atlantic	8.43	7.72	6.86	7.47	7.85	7.24	6.47	7.18	7.52	7.48	6.98	7.55	7.85	7.36	7.45
E. N. Central	6.27	7.19	8.85	6.04	5.54	6.29	7.86	6.28	6.41	7.61	9.00	6.99	6.51	6.07	6.96
W. N. Central	6.79	7.11	8.20	6.16	6.19	6.46	7.68	6.57	7.10	7.66	8.85	7.31	6.73	6.45	7.38
S. Atlantic	8.85	9.54	9.64	8.82	8.57	9.01	9.30	8.70	8.79	9.66	9.98	8.96	9.05	8.78	9.13
E. S. Central	8.61	9.78	10.06	8.54	8.49	8.77	8.95	8.14	8.02	9.24	9.86	8.89	8.91	8.47	8.68
W. S. Central	6.02	6.57	7.42	6.38	5.89	6.38	7.05	6.94	6.95	7.57	8.20	7.63	6.41	6.43	7.44
Mountain	6.40	6.72	7.41	6.16	6.14	6.40	7.21	6.42	6.86	7.29	8.17	7.24	6.47	6.38	7.19
Pacific	9.08	8.82	9.14	8.90	9.46	8.50	8.32	8.14	8.58	8.78	9.09	8.77	8.99	8.69	8.76
U.S. Average	7.59	7.97	8.40	7.22	7.16	7.34	7.70	7.21	7.44	8.08	8.57	7.85	7.62	7.27	7.79
Industrial Retail															
New England	9.17	8.27	6.92	7.29	7.57	6.68	6.27	7.69	8.46	7.77	7.11	8.03	8.08	7.17	7.95
Middle Atlantic	8.76	7.65	6.99	6.95	6.81	6.02	6.20	6.87	7.61	7.19	7.28	7.54	7.86	6.60	7.48
E. N. Central	5.75	5.38	5.64	5.14	4.94	4.66	4.73	5.17	6.11	5.95	5.91	5.88	5.49	4.94	5.99
W. N. Central	5.16	3.94	3.37	4.19	4.07	3.23	3.22	4.39	5.21	4.53	4.46	5.15	4.24	3.80	4.88
S. Atlantic	5.52	4.60	4.40	4.52	4.23	3.73	3.90	4.81	5.43	4.86	4.83	5.16	4.80	4.19	5.09
E. S. Central	4.93	4.04	3.59	4.07	3.87	3.40	3.57	4.54	5.03	4.59	4.51	4.92	4.20	3.87	4.78
W. S. Central	3.47	2.88	2.53	2.64	2.19	1.88	2.29	2.99	3.37	3.12	3.26	3.36	2.89	2.34	3.28
Mountain	5.31	4.80	5.00	4.72	4.44	4.31	4.76	5.17	5.62	5.46	5.76	5.83	4.96	4.68	5.67
Pacific	7.68	6.66	6.49	6.83	7.19	5.73	5.62	5.99	6.82	6.44	6.59	6.68	6.97	6.19	6.64
U.S. Average	4.67	3.74	3.30	3.74	3.43	2.72	2.90	3.85	4.47	3.93	3.91	4.34	3.91	3.26	4.18

- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Supply (million short tons)															
Production	170.3	174.9	179.7	165.2	149.9	<i>105.2</i>	<i>143.7</i>	<i>137.9</i>	<i>153.6</i>	<i>119.9</i>	<i>162.4</i>	<i>153.1</i>	690.1	<i>536.7</i>	<i>589.1</i>
Appalachia	47.4	49.3	46.6	44.3	42.7	<i>29.4</i>	<i>30.7</i>	<i>27.2</i>	<i>29.8</i>	<i>26.7</i>	<i>34.0</i>	<i>31.6</i>	187.6	<i>129.9</i>	<i>122.2</i>
Interior	31.0	32.2	32.4	30.6	28.3	<i>24.4</i>	<i>35.5</i>	<i>35.5</i>	<i>38.4</i>	<i>28.3</i>	<i>34.0</i>	<i>34.6</i>	126.2	<i>123.7</i>	<i>135.4</i>
Western	91.9	93.4	102.4	90.3	78.9	<i>51.4</i>	<i>77.5</i>	<i>75.3</i>	<i>85.4</i>	<i>64.8</i>	<i>94.3</i>	<i>86.9</i>	378.0	<i>283.1</i>	<i>331.5</i>
Primary Inventory Withdrawals	-1.5	1.3	-1.2	-1.4	-0.2	<i>1.2</i>	<i>1.7</i>	<i>-2.1</i>	<i>-0.2</i>	<i>1.2</i>	<i>1.6</i>	<i>-2.3</i>	-2.7	<i>0.7</i>	<i>0.2</i>
Imports	1.7	1.6	1.7	1.7	1.3	<i>1.3</i>	<i>1.5</i>	<i>1.4</i>	<i>1.2</i>	<i>1.3</i>	<i>1.5</i>	<i>1.4</i>	6.7	<i>5.5</i>	<i>5.4</i>
Exports	25.2	25.3	21.9	20.4	19.7	<i>15.4</i>	<i>13.9</i>	<i>13.6</i>	<i>17.7</i>	<i>16.6</i>	<i>17.2</i>	<i>17.5</i>	92.9	<i>62.7</i>	<i>68.9</i>
Metallurgical Coal	13.9	15.1	13.5	12.6	10.5	<i>8.8</i>	<i>8.4</i>	<i>8.2</i>	<i>11.2</i>	<i>10.2</i>	<i>10.5</i>	<i>10.4</i>	55.1	<i>35.8</i>	<i>42.3</i>
Steam Coal	11.3	10.2	8.4	7.8	9.2	<i>6.7</i>	<i>5.5</i>	<i>5.4</i>	<i>6.5</i>	<i>6.4</i>	<i>6.7</i>	<i>7.1</i>	37.7	<i>26.8</i>	<i>26.6</i>
Total Primary Supply	145.3	152.4	158.3	145.2	131.3	<i>92.3</i>	<i>132.9</i>	<i>123.7</i>	<i>136.9</i>	<i>105.7</i>	<i>148.4</i>	<i>134.8</i>	601.2	<i>480.2</i>	<i>525.8</i>
Secondary Inventory Withdrawals	6.2	-21.0	6.4	-17.4	-13.9	<i>4.5</i>	<i>8.7</i>	<i>-7.4</i>	<i>0.0</i>	<i>3.8</i>	<i>8.5</i>	<i>-7.6</i>	-25.9	<i>-8.1</i>	<i>4.6</i>
Waste Coal (a)	2.3	2.3	2.3	2.3	2.3	<i>2.3</i>	<i>2.3</i>	<i>2.3</i>	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	9.3	<i>9.2</i>	<i>8.0</i>
Total Supply	153.8	133.7	167.0	130.1	119.7	<i>99.1</i>	<i>143.9</i>	<i>118.6</i>	<i>138.9</i>	<i>111.5</i>	<i>158.8</i>	<i>129.1</i>	584.7	<i>481.3</i>	<i>538.4</i>
Consumption (million short tons)															
Coke Plants	4.5	4.7	4.5	6.8	4.9	<i>4.7</i>	<i>4.6</i>	<i>5.7</i>	<i>4.9</i>	<i>4.8</i>	<i>4.7</i>	<i>5.8</i>	20.4	<i>19.8</i>	<i>20.2</i>
Electric Power Sector (b)	145.3	118.0	156.2	119.9	106.0	<i>87.4</i>	<i>132.7</i>	<i>106.1</i>	<i>127.3</i>	<i>100.0</i>	<i>147.5</i>	<i>116.4</i>	539.4	<i>432.2</i>	<i>491.1</i>
Retail and Other Industry	8.1	7.2	7.2	7.5	7.7	<i>7.1</i>	<i>6.6</i>	<i>6.7</i>	<i>6.8</i>	<i>6.7</i>	<i>6.7</i>	<i>7.0</i>	30.0	<i>28.0</i>	<i>27.1</i>
Residential and Commercial	0.3	0.2	0.2	0.2	0.2	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>	<i>0.3</i>	<i>0.2</i>	<i>0.2</i>	<i>0.2</i>	0.9	<i>0.9</i>	<i>0.9</i>
Other Industrial	7.8	7.0	7.0	7.3	7.5	<i>6.9</i>	<i>6.4</i>	<i>6.4</i>	<i>6.6</i>	<i>6.5</i>	<i>6.5</i>	<i>6.7</i>	29.1	<i>27.2</i>	<i>26.3</i>
Total Consumption	157.9	129.9	167.8	134.2	118.5	<i>99.1</i>	<i>143.9</i>	<i>118.6</i>	<i>138.9</i>	<i>111.5</i>	<i>158.8</i>	<i>129.1</i>	589.8	<i>480.1</i>	<i>538.4</i>
Discrepancy (c)	-4.0	3.9	-0.8	-4.1	1.2	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	-5.1	<i>1.2</i>	<i>0.0</i>
End-of-period Inventories (million short tons)															
Primary Inventories (d)	23.2	21.9	23.1	24.4	24.6	<i>23.4</i>	<i>21.7</i>	<i>23.8</i>	<i>24.0</i>	<i>22.9</i>	<i>21.3</i>	<i>23.5</i>	24.4	<i>23.8</i>	<i>23.5</i>
Secondary Inventories	102.2	123.2	116.8	134.2	148.1	<i>143.5</i>	<i>134.9</i>	<i>142.3</i>	<i>142.3</i>	<i>138.5</i>	<i>130.0</i>	<i>137.7</i>	134.2	<i>142.3</i>	<i>137.7</i>
Electric Power Sector	97.1	117.7	111.0	128.5	142.5	<i>137.7</i>	<i>128.8</i>	<i>136.5</i>	<i>136.7</i>	<i>132.6</i>	<i>123.9</i>	<i>131.8</i>	128.5	<i>136.5</i>	<i>131.8</i>
Retail and General Industry	2.8	3.0	3.2	3.4	3.7	<i>3.6</i>	<i>3.7</i>	<i>3.5</i>	<i>3.7</i>	<i>3.7</i>	<i>3.7</i>	<i>3.6</i>	3.4	<i>3.5</i>	<i>3.6</i>
Coke Plants	2.0	2.3	2.5	2.1	1.7	<i>2.1</i>	<i>2.2</i>	<i>2.2</i>	<i>1.7</i>	<i>2.1</i>	<i>2.2</i>	<i>2.2</i>	2.1	<i>2.2</i>	<i>2.2</i>
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.37	6.37	6.37	6.37	6.37	<i>6.37</i>	<i>6.37</i>	<i>6.37</i>	<i>6.32</i>	<i>6.32</i>	<i>6.32</i>	<i>6.32</i>	6.37	<i>6.37</i>	<i>6.32</i>
Total Raw Steel Production															
(Million short tons per day)	0.273	0.271	0.264	0.265	0.269	<i>0.266</i>	<i>0.263</i>	<i>0.273</i>	<i>0.273</i>	<i>0.276</i>	<i>0.272</i>	<i>0.279</i>	0.268	<i>0.268</i>	<i>0.275</i>
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.08	2.05	2.00	1.95	2.02	<i>2.01</i>	<i>1.99</i>	<i>2.00</i>	<i>2.03</i>	<i>2.05</i>	<i>2.04</i>	<i>2.04</i>	2.02	<i>2.00</i>	<i>2.04</i>

- = no data available

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

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

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

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

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

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

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electricity Supply (billion kilowatthours)															
Electricity Generation	995	974	1,173	976	967	955	1,116	935	956	954	1,131	952	4,118	3,972	3,992
Electric Power Sector (a)	955	935	1,131	934	930	922	1,083	904	924	922	1,097	919	3,956	3,839	3,861
Industrial Sector (b)	37	36	38	38	34	30	30	29	30	30	31	31	149	124	122
Commercial Sector (b)	3	3	4	3	3	2	2	2	2	2	3	2	14	10	9
Net Imports	9	9	11	9	12	13	15	11	12	13	15	11	38	50	51
Total Supply	1,004	983	1,184	985	978	967	1,130	946	968	967	1,145	963	4,156	4,022	4,043
Losses and Unaccounted for (c)	57	71	74	58	50	72	62	58	48	70	63	58	261	242	240
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	911	877	1072	889	890	859	1032	854	883	861	1044	868	3750	3634	3657
Residential Sector	361	309	434	331	346	320	434	323	364	324	435	323	1435	1424	1446
Commercial Sector	320	328	382	325	316	313	356	307	303	313	365	319	1355	1291	1300
Industrial Sector	228	238	254	232	226	225	240	222	215	223	242	224	952	912	904
Transportation Sector	2	2	2	2	2	2	2	2	2	2	2	2	8	8	8
Direct Use (d)	36	35	38	37	38	36	37	35	36	36	38	37	146	146	146
Total Consumption	948	912	1110	927	928	895	1068	889	919	897	1082	905	3896	3780	3803
Average residential electricity usage per customer (kWh)	2,677	2,290	3,213	2,450	2,539	2,348	3,188	2,371	2,647	2,354	3,165	2,352	10,631	10,445	10,517
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.08	2.05	2.00	1.95	2.02	2.01	1.99	2.00	2.03	2.05	2.04	2.04	2.02	2.00	2.04
Natural Gas	3.71	2.73	2.51	2.79	2.31	1.71	2.06	3.04	3.63	3.05	3.07	3.40	2.88	2.24	3.26
Residual Fuel Oil	12.21	13.39	12.79	12.52	11.97	7.58	5.79	6.32	7.57	9.48	9.25	9.25	12.72	7.75	8.91
Distillate Fuel Oil	14.83	15.77	15.01	15.10	13.03	8.42	8.59	9.67	10.54	11.91	12.24	12.45	15.16	9.91	11.77
Retail Prices (cents per kilowatthour)															
Residential Sector	12.68	13.33	13.27	12.85	12.84	13.25	13.18	12.87	12.88	13.65	13.70	13.39	13.04	13.04	13.41
Commercial Sector	10.43	10.64	11.00	10.53	10.33	10.43	10.79	10.41	10.35	10.70	11.20	10.84	10.66	10.50	10.79
Industrial Sector	6.66	6.71	7.25	6.66	6.45	6.55	7.25	6.78	6.72	6.88	7.52	6.89	6.83	6.77	7.02
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	28.41	28.34	139.81	28.40	23.41	25.99	33.93	31.27	31.19	31.30	35.25	32.24	56.24	28.65	32.50
CAISO SP15 zone	50.42	23.30	37.32	41.57	28.64	25.55	25.33	31.15	31.92	29.54	31.38	32.67	38.15	27.67	31.38
ISO-NE Internal hub	47.40	27.15	29.52	35.48	24.61	24.06	24.18	31.43	42.02	27.42	29.61	36.27	34.89	26.07	33.83
NYISO Hudson Valley zone	41.77	25.68	27.76	27.04	21.82	23.12	24.28	24.80	25.88	25.00	27.29	26.04	30.56	23.50	26.05
PJM Western hub	33.79	28.54	31.17	29.89	22.47	28.82	31.56	28.10	29.83	29.48	33.03	29.44	30.85	27.74	30.45
Midcontinent ISO Illinois hub	31.44	27.81	30.71	28.09	24.43	27.57	30.12	27.02	27.38	28.03	30.90	27.40	29.51	27.28	28.43
SPP ISO South hub	29.15	27.14	31.51	23.64	20.06	24.03	28.14	24.52	23.56	24.76	29.32	24.63	27.86	24.19	25.57
SERC index, Into Southern	30.74	29.87	31.08	29.31	23.58	30.07	32.73	29.65	30.50	30.87	34.00	30.93	30.25	29.01	31.57
FRCC index, Florida Reliability	30.71	29.57	30.64	29.47	26.24	28.50	28.79	29.84	31.20	29.47	31.62	31.96	30.10	28.34	31.06
Northwest index, Mid-Columbia	55.74	18.55	32.74	37.47	22.77	19.66	20.76	26.56	27.45	23.15	26.53	28.01	36.12	22.44	26.29
Southwest index, Palo Verde	44.23	18.45	42.00	36.37	22.07	24.30	24.59	28.28	27.85	26.54	28.50	27.59	35.26	24.81	27.62

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

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

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

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

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

Historical data sources:

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	12.4	9.7	13.1	10.9	11.7	10.1	13.4	11.0	12.5	10.4	13.3	10.8	46.1	46.2	47.1
Middle Atlantic	35.3	27.7	40.3	29.8	33.0	28.7	40.0	29.3	34.8	29.0	39.7	29.2	133.1	130.9	132.7
E. N. Central	50.0	38.1	54.3	43.4	47.3	40.2	53.4	43.0	49.7	40.4	53.2	42.8	185.9	183.9	186.0
W. N. Central	29.9	21.6	29.0	24.9	28.4	22.8	30.1	24.8	29.3	23.1	29.9	24.8	105.4	106.1	107.1
S. Atlantic	88.3	84.5	111.4	84.4	84.1	84.2	110.7	81.4	91.6	85.9	111.2	81.5	368.5	360.4	370.2
E. S. Central	30.6	25.9	36.9	27.8	28.6	26.0	37.0	26.3	31.5	26.7	37.1	26.3	121.1	117.9	121.6
W. S. Central	51.7	49.0	75.8	50.6	50.5	52.4	75.9	48.5	52.2	52.3	76.3	48.9	227.1	227.3	229.6
Mountain	23.1	22.0	33.0	22.1	23.3	23.8	33.3	22.0	23.3	23.8	33.6	22.2	100.2	102.4	102.9
Pacific contiguous	39.0	29.6	38.7	35.8	37.9	30.6	39.5	35.7	37.8	30.9	39.6	35.8	143.1	143.7	144.1
AK and HI	1.2	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.2	1.1	1.2	1.2	4.7	4.8	4.8
Total	361.4	309.2	433.8	330.7	346.0	320.0	434.4	323.2	363.9	323.6	435.1	323.4	1,435.1	1,423.5	1,445.9
Commercial Sector															
New England	12.8	12.1	13.9	12.4	12.2	11.0	11.4	9.3	9.6	11.0	12.8	11.1	51.2	43.8	44.5
Middle Atlantic	38.6	36.3	41.9	35.9	36.8	32.7	37.1	32.9	34.5	32.7	38.1	34.3	152.6	139.5	139.6
E. N. Central	44.6	43.1	50.4	43.5	43.8	40.7	46.1	41.2	42.1	40.9	47.5	43.0	181.6	171.8	173.4
W. N. Central	25.6	24.2	27.9	24.8	25.2	23.6	27.0	24.4	24.7	23.8	27.5	25.1	102.5	100.2	101.1
S. Atlantic	72.1	79.4	90.1	75.5	71.1	74.6	83.5	71.2	68.5	74.8	86.1	74.3	317.0	300.4	303.8
E. S. Central	21.0	22.5	27.0	21.8	20.7	21.6	25.6	20.7	20.3	21.8	26.2	21.3	92.3	88.6	89.6
W. S. Central	43.2	47.6	58.0	46.9	44.1	47.4	56.1	45.4	43.4	47.8	57.7	47.0	195.7	193.0	195.9
Mountain	22.6	23.9	28.3	23.4	23.1	24.1	27.3	22.9	22.5	24.3	28.0	23.7	98.2	97.4	98.6
Pacific contiguous	38.0	37.9	42.9	39.0	37.6	35.4	40.2	37.3	35.7	34.8	39.9	37.3	157.9	150.5	147.7
AK and HI	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	5.7	5.7	5.7
Total	319.9	328.2	381.8	324.6	316.0	312.5	355.7	306.8	302.7	313.3	365.3	318.5	1,354.5	1,290.9	1,299.8
Industrial Sector															
New England	3.8	3.8	4.0	3.8	3.5	3.3	3.7	3.6	3.3	3.2	3.7	3.6	15.4	14.2	13.9
Middle Atlantic	17.7	17.5	19.8	18.2	17.9	17.1	19.1	17.7	17.2	17.0	19.4	18.0	73.2	71.8	71.6
E. N. Central	44.8	45.4	47.7	43.6	42.0	37.7	41.0	38.9	37.5	35.4	39.5	37.5	181.5	159.6	149.8
W. N. Central	21.1	22.0	23.4	21.8	21.1	20.7	22.2	20.9	20.2	20.9	23.0	21.7	88.3	84.9	85.8
S. Atlantic	33.0	34.8	36.2	33.4	32.6	33.4	34.4	32.1	31.3	33.3	34.9	32.5	137.5	132.5	132.0
E. S. Central	23.4	23.9	24.5	22.9	23.1	23.0	23.1	21.8	21.8	22.8	23.5	22.3	94.7	91.0	90.4
W. S. Central	44.8	47.7	50.2	46.6	45.7	47.0	48.7	45.6	44.3	47.5	50.2	47.2	189.5	187.0	189.2
Mountain	19.2	21.1	23.5	20.2	20.1	21.3	23.4	20.2	19.8	21.7	24.0	20.7	84.1	84.9	86.1
Pacific contiguous	19.1	20.4	23.4	20.2	19.0	20.0	22.7	19.7	18.2	19.7	22.5	19.5	83.1	81.4	79.8
AK and HI	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.2	1.1	1.2	1.3	1.3	4.9	4.8	4.9
Total	228.2	237.7	254.2	232.1	226.0	224.8	239.6	221.7	214.8	222.7	241.9	224.3	952.1	912.1	903.7
Total All Sectors (a)															
New England	29.1	25.6	31.3	27.2	27.6	24.5	28.6	24.0	25.6	24.8	30.0	25.6	113.3	104.7	106.0
Middle Atlantic	92.6	82.4	103.0	84.8	88.7	79.5	97.2	80.8	87.6	79.6	98.2	82.4	362.8	346.1	347.8
E. N. Central	139.6	126.7	152.6	130.7	133.3	118.7	140.6	123.3	129.4	116.8	140.2	123.4	549.6	515.9	509.8
W. N. Central	76.7	67.7	80.4	71.5	74.6	67.2	79.2	70.2	74.2	67.9	80.4	71.6	296.2	291.2	294.0
S. Atlantic	193.7	199.0	238.1	193.6	188.2	192.6	228.9	185.0	191.8	194.4	232.6	188.6	824.3	794.6	807.4
E. S. Central	75.0	72.3	88.3	72.4	72.4	70.7	85.7	68.8	73.6	71.3	86.8	69.9	308.1	297.5	301.5
W. S. Central	139.8	144.3	184.1	144.2	140.3	146.9	180.7	139.5	140.0	147.6	184.2	143.1	612.4	607.5	614.9
Mountain	65.0	67.1	84.8	65.7	66.6	69.2	84.0	65.1	65.7	69.8	85.6	66.7	282.7	284.9	287.8
Pacific contiguous	96.3	88.1	105.2	95.2	94.6	86.3	102.6	92.9	91.9	85.6	102.2	92.8	384.9	376.5	372.5
AK and HI	3.7	3.6	4.0	4.0	3.7	3.7	4.0	4.0	3.7	3.7	4.0	4.0	15.2	15.4	15.3
Total	911.5	876.9	1,071.8	889.3	890.0	859.1	1,031.6	853.6	883.4	861.4	1,044.2	868.1	3,749.5	3,634.3	3,657.1

- = no data available

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

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

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

Regions refer to U.S. Census divisions.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Residential Sector															
New England	21.53	21.57	20.70	20.87	21.94	21.26	20.12	20.17	21.30	21.40	21.13	22.02	21.14	20.84	21.44
Middle Atlantic	15.19	16.06	16.15	15.78	15.51	15.80	15.81	15.69	15.79	16.62	16.80	16.48	15.79	15.71	16.43
E. N. Central	12.92	13.86	13.27	13.30	13.00	13.77	13.36	13.59	13.38	14.40	13.99	14.12	13.30	13.41	13.94
W. N. Central	10.71	12.78	12.93	11.24	10.99	12.91	13.18	11.65	11.39	13.49	13.75	12.04	11.87	12.18	12.65
S. Atlantic	11.70	12.17	12.11	11.87	11.75	12.00	11.87	11.66	11.47	12.08	12.16	12.05	11.97	11.82	11.95
E. S. Central	11.10	11.70	11.37	11.23	11.35	11.78	11.63	11.79	11.50	12.18	12.02	12.16	11.34	11.63	11.95
W. S. Central	10.88	11.50	11.36	11.23	10.85	11.11	11.03	11.08	10.79	11.46	11.57	11.64	11.25	11.02	11.38
Mountain	11.51	12.18	12.23	11.59	11.38	12.10	12.20	11.68	11.64	12.51	12.67	12.10	11.91	11.88	12.28
Pacific	14.86	15.88	17.31	14.64	15.54	16.55	17.59	14.60	15.70	17.17	18.08	14.98	15.68	16.09	16.49
U.S. Average	12.68	13.33	13.27	12.85	12.84	13.25	13.18	12.87	12.88	13.65	13.70	13.39	13.04	13.04	13.41
Commercial Sector															
New England	16.83	16.24	15.97	15.76	16.37	15.93	15.81	15.77	16.50	16.11	16.23	16.41	16.20	15.99	16.30
Middle Atlantic	11.57	12.18	13.03	11.97	11.47	11.55	12.26	11.52	11.44	11.99	12.93	12.04	12.21	11.71	12.12
E. N. Central	10.14	10.29	10.09	10.05	10.06	10.19	10.05	10.12	10.27	10.55	10.45	10.46	10.14	10.10	10.43
W. N. Central	8.98	10.04	10.41	9.11	9.12	10.21	10.70	9.49	9.60	10.81	11.24	9.82	9.65	9.89	10.38
S. Atlantic	9.44	9.37	9.35	9.35	9.28	9.17	9.13	9.15	9.18	9.25	9.38	9.48	9.37	9.18	9.33
E. S. Central	10.70	10.70	10.65	10.63	10.83	10.83	10.98	11.17	11.25	11.30	11.37	11.50	10.67	10.95	11.36
W. S. Central	8.12	8.00	8.30	8.07	7.86	7.73	8.07	7.97	7.91	7.94	8.32	8.12	8.13	7.92	8.09
Mountain	9.20	9.71	10.00	9.18	9.08	9.64	9.97	9.23	9.23	9.93	10.31	9.51	9.55	9.50	9.78
Pacific	12.98	14.15	16.35	14.44	13.23	14.08	16.11	14.25	13.18	14.38	16.89	15.25	14.54	14.45	14.99
U.S. Average	10.43	10.64	11.00	10.53	10.33	10.43	10.79	10.41	10.35	10.70	11.20	10.84	10.66	10.50	10.79
Industrial Sector															
New England	13.45	12.89	12.66	12.70	12.90	12.39	12.45	12.71	13.28	12.87	12.78	12.81	12.92	12.62	12.93
Middle Atlantic	6.73	6.52	6.54	6.40	6.26	6.08	6.32	6.40	6.57	6.47	6.56	6.41	6.55	6.27	6.50
E. N. Central	7.03	6.84	6.83	6.76	6.67	6.74	6.89	6.96	7.01	7.12	7.18	7.12	6.87	6.81	7.11
W. N. Central	7.13	7.33	8.09	6.87	7.18	7.56	8.40	7.15	7.50	7.87	8.68	7.35	7.37	7.58	7.87
S. Atlantic	6.22	6.28	6.72	6.18	5.98	6.05	6.59	6.19	6.16	6.29	6.77	6.24	6.36	6.21	6.37
E. S. Central	5.69	5.78	5.95	5.61	5.47	5.60	5.92	5.68	5.69	5.84	6.07	5.72	5.76	5.67	5.83
W. S. Central	5.25	5.28	6.05	5.29	5.02	5.01	5.96	5.43	5.33	5.41	6.29	5.53	5.48	5.36	5.65
Mountain	6.14	6.25	6.78	5.89	5.95	6.10	6.72	5.93	6.10	6.32	6.92	6.03	6.29	6.19	6.37
Pacific	8.65	9.45	11.26	10.16	9.08	9.71	11.59	10.56	9.48	10.20	12.11	10.93	9.95	10.29	10.75
U.S. Average	6.66	6.71	7.25	6.66	6.45	6.55	7.25	6.78	6.72	6.88	7.52	6.89	6.83	6.77	7.02
All Sectors (a)															
New England	18.35	17.72	17.50	17.33	18.26	17.61	17.35	17.29	18.39	17.87	17.95	18.24	17.73	17.64	18.11
Middle Atlantic	12.01	12.27	12.99	12.10	11.91	11.90	12.54	11.91	12.20	12.49	13.23	12.37	12.37	12.08	12.60
E. N. Central	10.13	10.12	10.20	10.03	10.04	10.31	10.38	10.33	10.51	10.84	10.87	10.71	10.12	10.26	10.73
W. N. Central	9.14	10.03	10.64	9.17	9.29	10.31	11.00	9.56	9.74	10.81	11.44	9.84	9.76	10.05	10.48
S. Atlantic	9.92	10.01	10.24	9.90	9.81	9.86	10.08	9.74	9.78	9.99	10.32	10.03	10.03	9.88	10.04
E. S. Central	9.30	9.43	9.65	9.27	9.32	9.48	9.90	9.67	9.71	9.88	10.21	9.91	9.42	9.61	9.94
W. S. Central	8.22	8.28	8.94	8.28	8.01	8.07	8.74	8.22	8.17	8.37	9.11	8.47	8.47	8.29	8.57
Mountain	9.12	9.43	9.98	8.98	8.94	9.40	9.95	9.04	9.14	9.69	10.29	9.29	9.42	9.37	9.65
Pacific	12.87	13.63	15.55	13.59	13.31	13.93	15.66	13.59	13.48	14.41	16.29	14.22	13.96	14.16	14.65
U.S. Average	10.37	10.52	11.03	10.38	10.32	10.47	10.97	10.40	10.50	10.82	11.39	10.77	10.60	10.56	10.89

- = no data available

Prices are not adjusted for inflation.

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

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

Regions refer to U.S. Census divisions.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
United States															
Natural Gas	317.1	330.9	473.7	353.0	346.8	364.7	454.5	325.5	285.1	323.5	426.6	315.4	1,474.7	1,491.6	1,350.6
Coal	257.9	208.9	279.4	213.3	188.3	153.8	236.5	188.3	228.2	176.3	265.2	208.1	959.5	766.9	877.7
Nuclear	203.5	196.5	210.2	199.2	204.1	186.3	205.4	199.8	199.8	188.7	201.6	190.6	809.4	795.6	780.7
Renewable Energy Sources:	169.9	192.9	161.3	163.9	183.8	210.6	180.4	185.8	204.6	227.3	197.5	200.3	688.0	760.7	829.8
Conventional Hydropower	71.2	81.7	60.8	58.7	74.3	84.5	68.7	63.3	74.5	80.5	64.3	61.9	272.4	290.7	281.1
Wind	74.2	78.6	66.2	80.8	84.2	88.7	71.9	93.9	99.5	100.7	82.9	102.9	299.8	338.8	386.0
Solar (a)	13.3	21.8	22.6	13.9	15.5	26.5	28.3	18.0	20.4	35.3	38.5	24.4	71.5	88.2	118.5
Biomass	7.2	7.0	7.6	6.9	6.2	7.1	7.2	6.9	7.0	6.9	7.6	7.3	28.8	27.3	28.8
Geothermal	4.0	3.9	4.1	3.6	3.6	3.9	4.3	3.9	3.3	3.9	4.3	3.8	15.6	15.6	15.3
Pumped Storage Hydropower	-1.1	-0.9	-1.9	-1.4	-1.1	-0.5	-1.7	-1.3	-1.2	-0.8	-1.8	-1.4	-5.3	-4.7	-5.1
Petroleum (b)	4.9	4.2	4.8	3.5	4.6	4.3	4.6	3.3	4.1	4.2	4.4	3.5	17.3	16.7	16.2
Other Gases	1.1	1.0	1.2	1.0	1.3	1.0	1.1	0.9	1.2	1.0	1.1	0.8	4.3	4.3	4.1
Other Nonrenewable Fuels (c)	1.9	1.9	2.0	1.9	1.9	2.0	1.9	1.7	1.7	1.9	1.9	1.8	7.7	7.6	7.2
Total Generation	955.2	935.5	1,130.7	934.4	929.7	922.2	1,082.9	904.0	923.5	922.1	1,096.5	919.0	3,955.8	3,838.7	3,861.2
New England (ISO-NE)															
Natural Gas	10.6	10.0	14.8	11.5	12.5	12.0	15.1	10.0	9.6	8.6	13.8	10.9	46.9	49.6	42.9
Coal	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.5	0.3	0.3
Nuclear	8.6	6.8	7.3	7.1	7.4	5.5	7.2	6.3	7.1	7.0	7.2	5.7	29.8	26.5	27.0
Conventional hydropower	2.1	1.9	1.5	1.6	2.0	1.9	1.5	1.6	2.0	1.8	1.4	1.5	7.0	7.1	6.7
Nonhydro renewables (d)	2.6	2.7	2.6	2.5	2.3	2.9	2.7	2.6	3.0	2.8	2.7	2.9	10.3	10.3	11.3
Other energy sources (e)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	1.5	1.5	1.5
Total generation	24.5	21.7	26.5	23.3	24.7	22.8	26.9	20.9	22.2	20.6	25.5	21.5	96.1	95.3	89.7
Net energy for load (f)	29.5	25.8	31.9	27.9	28.6	26.1	30.7	26.6	27.9	26.4	31.7	27.7	115.2	112.0	113.8
New York (NYISO)															
Natural Gas	11.9	11.1	18.4	12.6	14.5	16.1	20.2	14.7	14.4	17.0	22.3	15.9	54.0	65.5	69.5
Coal	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.4	0.2	0.3
Nuclear	10.4	10.8	11.8	11.8	10.8	8.8	8.7	9.1	9.0	7.6	7.0	6.8	44.9	37.4	30.4
Conventional hydropower	7.4	7.3	7.4	7.4	7.6	7.3	7.8	7.3	7.4	6.8	7.4	7.0	29.5	30.0	28.5
Nonhydro renewables (d)	1.6	1.8	1.5	1.6	1.7	1.9	1.6	1.9	2.2	2.4	2.2	3.0	6.5	7.1	9.8
Other energy sources (e)	0.4	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.9	0.7	0.7
Total generation	32.1	31.1	39.3	33.6	34.8	34.3	38.6	33.2	33.2	33.9	39.2	33.0	136.2	141.0	139.2
Net energy for load (f)	37.4	34.3	43.3	35.7	36.7	35.4	42.5	35.6	36.7	35.6	43.2	36.3	150.6	150.2	151.9
Mid-Atlantic (PJM)															
Natural Gas	69.3	64.2	90.9	70.7	75.2	74.6	93.5	67.3	64.7	71.0	89.0	64.8	295.1	310.7	289.5
Coal	53.5	39.9	52.0	38.9	44.5	24.4	40.1	35.8	57.2	30.2	49.2	42.1	184.3	144.7	178.6
Nuclear	69.6	68.5	71.7	68.1	68.4	66.4	69.4	70.0	68.3	65.7	70.3	68.7	277.9	274.2	272.9
Conventional hydropower	3.4	3.0	1.9	2.2	3.0	2.5	1.8	2.2	2.9	2.3	1.7	2.1	10.6	9.4	9.0
Nonhydro renewables (d)	8.8	9.3	7.1	8.9	9.5	10.2	7.9	10.2	10.8	11.5	9.0	10.9	34.1	37.8	42.3
Other energy sources (e)	0.9	0.7	0.5	0.4	0.8	0.8	0.5	0.4	0.9	0.9	0.5	0.3	2.5	2.6	2.5
Total generation	205.4	185.6	224.1	189.2	201.4	178.9	213.2	185.9	204.7	181.5	219.6	188.9	804.4	779.4	794.8
Net energy for load (f)	195.1	173.0	212.3	180.4	186.0	169.3	201.0	174.8	189.1	170.2	204.3	178.4	760.9	731.1	742.0
Southeast (SERC)															
Natural Gas	56.3	59.2	77.8	59.6	60.8	67.1	75.6	60.6	56.3	62.6	71.3	60.6	252.9	264.1	250.9
Coal	35.1	38.0	53.3	33.5	25.0	34.7	44.1	29.6	32.4	35.7	48.0	31.4	159.8	133.4	147.6
Nuclear	52.3	52.8	53.7	52.2	53.1	49.0	54.8	52.9	52.5	52.0	54.9	51.8	211.0	209.8	211.3
Conventional hydropower	10.9	9.3	7.1	8.2	9.9	8.1	6.7	8.0	9.6	7.5	6.4	7.6	35.5	32.7	31.0
Nonhydro renewables (d)	2.6	3.8	3.9	2.8	3.0	4.8	4.5	3.3	3.9	6.0	5.9	3.9	13.2	15.5	19.6
Other energy sources (e)	0.0	-0.2	-0.6	-0.4	-0.1	0.1	-0.5	-0.4	-0.1	-0.1	-0.7	-0.4	-1.2	-0.9	-1.3
Total generation	157.2	162.9	195.2	155.8	151.6	163.8	185.1	154.0	154.5	163.8	185.8	155.0	671.1	654.5	659.1
Net energy for load (f)	163.9	158.5	197.9	157.3	155.9	159.9	186.4	153.6	160.9	159.0	188.3	156.1	677.6	655.8	664.4
Florida (FRCC)															
Natural Gas	35.5	46.4	52.6	39.9	36.4	48.0	50.3	37.9	30.4	46.6	47.8	37.3	174.4	172.7	162.1
Coal	3.7	4.8	5.3	4.8	3.2	1.1	3.7	3.9	6.3	2.1	6.6	5.3	18.6	12.0	20.3
Nuclear	7.6	6.4	7.7	7.3	7.3	7.0	7.4	7.7	7.9	6.9	7.0	7.1	29.1	29.4	28.9
Conventional hydropower	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.2
Nonhydro renewables (d)	1.5	1.7	1.6	1.4	1.7	2.2	2.1	1.8	2.3	2.9	2.8	2.3	6.2	7.8	10.2
Other energy sources (e)	0.8	0.9	0.8	0.7	0.9	0.9	0.8	0.7	0.8	0.8	0.7	0.7	3.1	3.3	3.1
Total generation	49.3	60.2	68.1	54.1	49.6	59.2	64.4	52.1	47.8	59.3	65.0	52.7	231.7	225.3	224.8
Net energy for load (f)	48.0	58.4	69.4	53.1	49.2	57.3	66.0	51.0	47.4	57.8	67.2	52.0	229.0	223.5	224.3

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

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 7d part 2. U.S. Regional Electricity Generation, Electric Power Sector (billion kilowatthours), continued from Table 7d part 1
 U.S. Energy Information Administration | Short-Term Energy Outlook - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Midwest (MISO)															
Natural Gas	35.9	40.9	58.1	42.3	45.7	47.6	55.7	42.1	36.7	40.7	52.4	39.8	177.2	191.1	169.7
Coal	77.5	61.2	76.2	61.3	56.3	52.7	71.0	55.9	65.9	54.4	76.4	63.3	276.2	236.0	260.1
Nuclear	25.3	23.2	27.1	26.7	26.6	22.4	26.9	25.0	24.6	23.9	24.9	22.4	102.3	100.8	95.8
Conventional hydropower	2.2	2.3	1.7	1.8	2.2	2.3	1.7	1.8	2.2	2.2	1.6	1.8	8.0	8.1	7.8
Nonhydro renewables (d)	16.7	17.3	13.5	18.6	18.8	19.8	15.8	22.6	22.5	23.1	18.4	24.5	66.1	77.0	88.5
Other energy sources (e)	2.0	1.4	1.7	0.9	2.1	1.7	1.7	0.9	1.4	1.6	1.6	1.2	6.0	6.4	5.8
Total generation	159.5	146.3	178.2	151.7	151.7	146.5	172.8	148.3	153.4	146.0	175.4	153.0	635.7	619.4	627.7
Net energy for load (f)	159.6	151.5	180.6	153.8	157.3	152.9	175.6	152.6	154.5	150.9	176.3	153.7	645.6	638.4	635.3
Central (Southwest Power Pool)															
Natural Gas	14.0	15.8	26.1	15.3	16.6	15.0	22.6	12.8	10.9	11.9	21.4	12.0	71.1	67.0	56.2
Coal	27.3	19.1	27.3	19.5	19.0	10.2	25.4	14.5	17.5	11.4	24.3	14.0	93.3	69.2	67.2
Nuclear	4.4	4.4	4.1	3.4	4.4	4.3	4.3	3.5	4.0	3.3	4.4	4.4	16.2	16.6	16.0
Conventional hydropower	3.9	4.1	2.7	3.0	3.6	3.7	2.6	2.9	3.4	3.5	2.4	2.8	13.7	12.8	12.1
Nonhydro renewables (d)	18.1	18.5	17.5	20.9	19.3	19.9	16.9	23.0	23.6	23.5	20.9	25.9	75.0	79.1	94.0
Other energy sources (e)	0.2	0.3	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.8	0.7	0.5
Total generation	68.0	62.1	77.7	62.3	63.0	53.4	72.0	56.9	59.4	53.9	73.4	59.2	270.1	245.3	245.9
Net energy for load (f)	62.5	68.4	73.6	61.8	62.7	58.0	70.9	57.2	58.5	59.0	72.9	59.2	266.2	248.8	249.6
Texas (ERCOT)															
Natural Gas	34.7	43.1	62.3	40.1	35.8	43.4	51.4	29.0	24.6	31.3	43.8	24.5	180.1	159.6	124.3
Coal	18.1	18.3	21.6	17.2	11.8	10.1	20.0	15.7	14.9	16.2	22.8	18.1	75.2	57.4	72.0
Nuclear	10.4	9.8	11.0	10.2	10.4	9.2	10.8	10.2	10.9	9.7	10.2	9.6	41.3	40.6	40.3
Conventional hydropower	0.3	0.2	0.1	0.1	0.3	0.3	0.1	0.1	0.3	0.2	0.1	0.1	0.7	0.8	0.7
Nonhydro renewables (d)	19.3	21.4	19.5	20.9	23.6	27.1	23.7	25.0	27.2	32.8	31.1	29.7	81.1	99.5	120.8
Other energy sources (e)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.6	1.5	1.5
Total generation	83.2	93.2	114.9	88.9	82.4	90.4	106.3	80.3	78.3	90.5	108.4	82.4	380.2	359.5	359.6
Net energy for load (f)	83.2	93.2	114.9	88.9	82.4	90.4	106.3	80.3	78.3	90.5	108.4	82.4	380.2	359.5	359.6
Northwest															
Natural Gas	20.1	16.7	29.4	23.1	20.9	11.5	23.0	14.9	12.5	9.3	18.9	12.7	89.2	70.4	53.4
Coal	29.7	18.0	29.4	27.9	20.4	13.5	23.7	24.6	26.8	18.9	30.5	26.9	105.1	82.2	103.1
Nuclear	2.5	1.3	2.5	2.6	2.5	2.3	2.4	2.5	2.4	1.1	2.4	2.5	8.9	9.7	8.4
Conventional hydropower	30.5	36.5	24.6	26.4	36.6	41.7	31.6	30.9	38.3	41.2	29.6	30.9	118.0	140.7	140.0
Nonhydro renewables (d)	11.2	13.4	12.0	11.8	14.6	14.5	13.3	14.5	18.4	17.3	15.7	16.6	48.4	56.9	68.1
Other energy sources (e)	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.9	0.8	0.8
Total generation	94.3	86.2	98.1	92.0	95.1	83.8	94.1	87.5	98.5	88.1	97.4	89.7	370.5	360.6	373.8
Net energy for load (f)	94.5	83.1	92.1	87.7	87.5	80.9	90.2	84.8	86.5	80.8	90.2	85.2	357.4	343.3	342.8
Southwest															
Natural Gas	10.4	12.7	19.1	14.3	11.6	14.3	18.1	11.6	11.8	15.7	22.5	13.5	56.5	55.5	63.5
Coal	9.7	7.9	11.8	7.4	6.5	5.5	6.5	5.3	5.1	4.6	4.7	4.0	36.7	23.8	18.5
Nuclear	8.6	7.6	8.6	7.2	8.3	7.4	8.6	7.6	8.6	7.5	8.6	7.6	31.9	31.9	32.2
Conventional hydropower	3.0	4.3	4.0	2.6	2.9	4.0	4.2	2.7	2.8	3.5	3.8	2.5	13.9	13.8	12.6
Nonhydro renewables (d)	2.1	2.8	2.7	2.4	2.5	3.0	2.7	2.7	3.9	4.2	3.8	3.5	9.9	11.0	15.5
Other energy sources (e)	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total generation	33.8	35.3	46.1	33.7	31.8	34.3	40.2	29.8	32.2	35.6	43.5	31.1	148.9	136.1	142.3
Net energy for load (f)	18.2	23.1	34.0	22.3	21.7	26.7	34.1	23.0	22.3	26.8	34.5	23.3	97.6	105.5	106.9
California															
Natural Gas	17.7	10.2	23.4	22.9	16.0	14.2	28.3	23.9	12.5	8.0	22.6	22.6	74.2	82.4	65.7
Coal	2.2	1.2	1.9	2.2	1.1	1.2	1.4	2.3	1.5	2.3	1.9	2.3	7.5	6.0	8.1
Nuclear	3.8	4.9	4.7	2.8	4.9	3.8	4.9	4.9	4.5	4.1	4.9	3.8	16.2	18.5	17.4
Conventional hydropower	7.1	12.4	9.6	4.9	5.8	12.3	10.3	5.3	5.2	11.1	9.5	5.0	34.0	33.7	30.8
Nonhydro renewables (d)	13.8	18.3	18.5	13.1	12.2	19.4	20.0	14.5	12.1	19.7	20.3	14.7	63.7	66.1	66.9
Other energy sources (e)	-0.2	0.2	0.2	0.0	0.0	0.2	0.3	0.0	-0.1	0.2	0.2	0.0	0.2	0.5	0.3
Total generation	44.4	47.2	58.3	45.9	39.9	51.2	65.2	50.9	35.8	45.5	59.4	48.6	195.8	207.2	189.2
Net energy for load (f)	59.9	62.5	76.4	61.6	57.7	61.7	75.3	60.5	57.6	61.6	75.6	60.9	260.2	255.1	255.7

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

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Electric Power Sector															
Geothermal	0.037	0.035	0.037	0.033	0.033	<i>0.035</i>	<i>0.039</i>	<i>0.035</i>	<i>0.030</i>	<i>0.036</i>	<i>0.040</i>	<i>0.034</i>	0.142	<i>0.143</i>	<i>0.140</i>
Hydroelectric Power (a)	0.650	0.745	0.554	0.535	0.651	<i>0.762</i>	<i>0.615</i>	<i>0.571</i>	<i>0.658</i>	<i>0.736</i>	<i>0.583</i>	<i>0.562</i>	2.484	<i>2.600</i>	<i>2.539</i>
Solar (b)	0.122	0.201	0.208	0.128	0.143	<i>0.244</i>	<i>0.260</i>	<i>0.166</i>	<i>0.188</i>	<i>0.325</i>	<i>0.355</i>	<i>0.225</i>	0.659	<i>0.813</i>	<i>1.092</i>
Waste Biomass (c)	0.059	0.058	0.059	0.060	0.055	<i>0.058</i>	<i>0.059</i>	<i>0.059</i>	<i>0.057</i>	<i>0.058</i>	<i>0.060</i>	<i>0.060</i>	0.236	<i>0.231</i>	<i>0.235</i>
Wood Biomass	0.053	0.052	0.058	0.048	0.041	<i>0.052</i>	<i>0.053</i>	<i>0.048</i>	<i>0.052</i>	<i>0.049</i>	<i>0.058</i>	<i>0.054</i>	0.211	<i>0.194</i>	<i>0.212</i>
Wind	0.683	0.724	0.610	0.745	0.776	<i>0.817</i>	<i>0.662</i>	<i>0.865</i>	<i>0.917</i>	<i>0.928</i>	<i>0.763</i>	<i>0.948</i>	2.762	<i>3.121</i>	<i>3.556</i>
Subtotal	1.604	1.815	1.527	1.548	1.698	<i>1.969</i>	<i>1.690</i>	<i>1.744</i>	<i>1.901</i>	<i>2.132</i>	<i>1.858</i>	<i>1.883</i>	6.494	<i>7.101</i>	<i>7.775</i>
Industrial Sector															
Biofuel Losses and Co-products (d)	0.194	0.203	0.199	0.203	0.201	<i>0.123</i>	<i>0.145</i>	<i>0.169</i>	<i>0.184</i>	<i>0.192</i>	<i>0.194</i>	<i>0.197</i>	0.799	<i>0.638</i>	<i>0.767</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Hydroelectric Power (a)	0.003	0.003	0.002	0.003	0.003	<i>0.003</i>	<i>0.002</i>	<i>0.003</i>	<i>0.003</i>	<i>0.003</i>	<i>0.002</i>	<i>0.003</i>	0.010	<i>0.010</i>	<i>0.010</i>
Solar (b)	0.006	0.008	0.009	0.006	0.006	<i>0.009</i>	<i>0.010</i>	<i>0.007</i>	<i>0.007</i>	<i>0.011</i>	<i>0.011</i>	<i>0.008</i>	0.029	<i>0.032</i>	<i>0.036</i>
Waste Biomass (c)	0.042	0.038	0.037	0.043	0.041	<i>0.039</i>	<i>0.039</i>	<i>0.042</i>	<i>0.041</i>	<i>0.040</i>	<i>0.039</i>	<i>0.042</i>	0.160	<i>0.162</i>	<i>0.161</i>
Wood Biomass	0.373	0.363	0.369	0.368	0.343	<i>0.342</i>	<i>0.351</i>	<i>0.351</i>	<i>0.339</i>	<i>0.338</i>	<i>0.351</i>	<i>0.354</i>	1.473	<i>1.386</i>	<i>1.382</i>
Subtotal	0.617	0.613	0.614	0.622	0.593	<i>0.511</i>	<i>0.542</i>	<i>0.570</i>	<i>0.573</i>	<i>0.577</i>	<i>0.593</i>	<i>0.600</i>	2.466	<i>2.217</i>	<i>2.343</i>
Commercial Sector															
Geothermal	0.006	0.006	0.006	0.006	0.006	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	0.024	<i>0.023</i>	<i>0.023</i>
Solar (b)	0.022	0.032	0.032	0.022	0.026	<i>0.037</i>	<i>0.037</i>	<i>0.026</i>	<i>0.030</i>	<i>0.042</i>	<i>0.043</i>	<i>0.030</i>	0.108	<i>0.126</i>	<i>0.145</i>
Waste Biomass (c)	0.010	0.008	0.009	0.009	0.010	<i>0.008</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	<i>0.009</i>	0.036	<i>0.036</i>	<i>0.036</i>
Wood Biomass	0.021	0.021	0.021	0.021	0.021	<i>0.020</i>	<i>0.022</i>	<i>0.021</i>	<i>0.021</i>	<i>0.020</i>	<i>0.022</i>	<i>0.021</i>	0.084	<i>0.084</i>	<i>0.084</i>
Subtotal	0.065	0.074	0.075	0.065	0.069	<i>0.077</i>	<i>0.080</i>	<i>0.069</i>	<i>0.072</i>	<i>0.084</i>	<i>0.086</i>	<i>0.073</i>	0.280	<i>0.294</i>	<i>0.315</i>
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	0.040	<i>0.040</i>	<i>0.040</i>
Solar (e)	0.050	0.076	0.078	0.052	0.059	<i>0.089</i>	<i>0.088</i>	<i>0.061</i>	<i>0.066</i>	<i>0.100</i>	<i>0.102</i>	<i>0.070</i>	0.256	<i>0.297</i>	<i>0.338</i>
Wood Biomass	0.130	0.132	0.133	0.133	0.128	<i>0.132</i>	<i>0.133</i>	<i>0.133</i>	<i>0.128</i>	<i>0.132</i>	<i>0.133</i>	<i>0.133</i>	0.529	<i>0.526</i>	<i>0.526</i>
Subtotal	0.190	0.218	0.221	0.196	0.197	<i>0.230</i>	<i>0.232</i>	<i>0.204</i>	<i>0.203</i>	<i>0.242</i>	<i>0.245</i>	<i>0.214</i>	0.824	<i>0.862</i>	<i>0.904</i>
Transportation Sector															
Biomass-based Diesel (f)	0.058	0.071	0.070	0.066	0.070	<i>0.069</i>	<i>0.063</i>	<i>0.069</i>	<i>0.084</i>	<i>0.092</i>	<i>0.079</i>	<i>0.087</i>	0.265	<i>0.270</i>	<i>0.342</i>
Ethanol (f)	0.274	0.293	0.291	0.296	0.272	<i>0.214</i>	<i>0.253</i>	<i>0.292</i>	<i>0.257</i>	<i>0.281</i>	<i>0.285</i>	<i>0.280</i>	1.154	<i>1.030</i>	<i>1.103</i>
Subtotal	0.333	0.365	0.361	0.361	0.341	<i>0.282</i>	<i>0.316</i>	<i>0.360</i>	<i>0.341</i>	<i>0.373</i>	<i>0.364</i>	<i>0.367</i>	1.419	<i>1.300</i>	<i>1.445</i>
All Sectors Total															
Biomass-based Diesel (f)	0.058	0.071	0.070	0.066	0.070	<i>0.069</i>	<i>0.063</i>	<i>0.069</i>	<i>0.084</i>	<i>0.092</i>	<i>0.079</i>	<i>0.087</i>	0.265	<i>0.270</i>	<i>0.342</i>
Biofuel Losses and Co-products (d)	0.194	0.203	0.199	0.203	0.201	<i>0.123</i>	<i>0.145</i>	<i>0.169</i>	<i>0.184</i>	<i>0.192</i>	<i>0.194</i>	<i>0.197</i>	0.799	<i>0.638</i>	<i>0.767</i>
Ethanol (f)	0.285	0.305	0.302	0.307	0.282	<i>0.222</i>	<i>0.262</i>	<i>0.303</i>	<i>0.266</i>	<i>0.292</i>	<i>0.296</i>	<i>0.291</i>	1.199	<i>1.070</i>	<i>1.146</i>
Geothermal	0.054	0.052	0.054	0.050	0.049	<i>0.052</i>	<i>0.056</i>	<i>0.052</i>	<i>0.047</i>	<i>0.052</i>	<i>0.056</i>	<i>0.051</i>	0.209	<i>0.209</i>	<i>0.207</i>
Hydroelectric Power (a)	0.653	0.748	0.557	0.538	0.654	<i>0.766</i>	<i>0.618</i>	<i>0.574</i>	<i>0.661</i>	<i>0.740</i>	<i>0.586</i>	<i>0.565</i>	2.496	<i>2.612</i>	<i>2.551</i>
Solar (b)(e)	0.198	0.315	0.324	0.206	0.234	<i>0.379</i>	<i>0.395</i>	<i>0.259</i>	<i>0.290</i>	<i>0.479</i>	<i>0.510</i>	<i>0.333</i>	1.044	<i>1.268</i>	<i>1.612</i>
Waste Biomass (c)	0.111	0.105	0.105	0.112	0.106	<i>0.106</i>	<i>0.107</i>	<i>0.110</i>	<i>0.108</i>	<i>0.106</i>	<i>0.109</i>	<i>0.111</i>	0.433	<i>0.429</i>	<i>0.433</i>
Wood Biomass	0.578	0.568	0.582	0.570	0.532	<i>0.546</i>	<i>0.559</i>	<i>0.553</i>	<i>0.540</i>	<i>0.539</i>	<i>0.564</i>	<i>0.562</i>	2.297	<i>2.190</i>	<i>2.204</i>
Wind	0.683	0.724	0.610	0.745	0.776	<i>0.817</i>	<i>0.662</i>	<i>0.865</i>	<i>0.917</i>	<i>0.928</i>	<i>0.763</i>	<i>0.948</i>	2.762	<i>3.121</i>	<i>3.556</i>
Total Consumption	2.809	3.085	2.798	2.792	2.898	<i>3.069</i>	<i>2.860</i>	<i>2.947</i>	<i>3.090</i>	<i>3.408</i>	<i>3.146</i>	<i>3.136</i>	11.484	<i>11.774</i>	<i>12.781</i>

- = no data available

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

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

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

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

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

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

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

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226 and *Renewable Energy Annual*, DOE/EIA-0603; *Petroleum Supply Monthly*, DOE/EIA-0109.

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

Projections: EIA Regional Short-Term Energy Model.

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

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	6,947	6,900	6,801	6,811	6,812	6,746	6,780	6,784	6,787	6,806	6,726	6,814	6,811	6,784	6,814
Waste	4,112	4,080	4,070	4,052	4,053	3,987	4,021	4,025	4,028	4,047	3,967	4,055	4,052	4,025	4,055
Wood	2,835	2,820	2,731	2,759	2,759	2,759	2,759	2,759	2,759	2,759	2,759	2,759	2,759	2,759	2,759
Conventional Hydroelectric	79,586	79,561	79,391	79,446	79,446	79,490	79,587	79,604	79,695	79,654	79,730	79,750	79,446	79,604	79,750
Geothermal	2,422	2,422	2,422	2,422	2,422	2,422	2,512	2,512	2,512	2,512	2,512	2,554	2,422	2,512	2,554
Large-Scale Solar (b)	32,743	33,227	33,865	36,879	38,963	40,643	41,904	49,496	50,317	55,254	56,889	62,434	36,879	49,496	62,434
Wind	96,606	98,081	99,657	103,522	106,579	107,466	110,299	122,954	122,966	124,253	124,779	128,249	103,522	122,954	128,249
Other Sectors (c)															
Biomass	6,629	6,578	6,578	6,511	6,527	6,507	6,507	6,507	6,519	6,466	6,466	6,466	6,511	6,507	6,466
Waste	846	847	847	847	855	855	855	855	867	866	866	866	847	855	866
Wood	5,783	5,730	5,730	5,664	5,672	5,652	5,652	5,652	5,652	5,600	5,600	5,600	5,664	5,652	5,600
Conventional Hydroelectric	289	289	289	289	289	289	289	289	289	291	289	289	289	289	289
Large-Scale Solar (b)	409	415	426	431	435	437	438	438	438	438	439	439	431	438	439
Small-Scale Solar (d)	20,284	21,137	22,103	23,211	24,278	24,568	25,229	26,267	27,390	28,574	29,817	31,127	23,211	26,267	31,127
Residential Sector	12,271	12,840	13,526	14,229	14,949	15,140	15,585	16,283	17,039	17,840	18,689	19,588	14,229	16,283	19,588
Commercial Sector	6,402	6,609	6,841	7,186	7,469	7,528	7,696	7,978	8,285	8,606	8,939	9,286	7,186	7,978	9,286
Industrial Sector	1,611	1,688	1,736	1,796	1,860	1,900	1,949	2,006	2,066	2,127	2,189	2,253	1,796	2,006	2,253
Wind	118	118	118	118	127	297	297	297	297	297	297	297	118	297	297
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	7.2	7.0	7.6	6.9	6.2	7.1	7.2	6.9	7.0	6.9	7.6	7.3	28.8	27.3	28.8
Waste	3.9	3.9	4.0	3.9	3.7	3.9	3.9	3.9	3.8	3.8	4.0	4.0	15.7	15.4	15.7
Wood	3.3	3.1	3.6	3.0	2.5	3.2	3.3	3.0	3.2	3.0	3.6	3.3	13.0	12.0	13.1
Conventional Hydroelectric	71.2	81.7	60.8	58.7	74.3	84.5	68.7	63.3	74.5	80.5	64.3	61.9	272.4	290.7	281.1
Geothermal	4.0	3.9	4.1	3.6	3.6	3.9	4.3	3.9	3.3	3.9	4.3	3.8	15.6	15.6	15.3
Large-Scale Solar (b)	13.3	21.8	22.6	13.9	15.5	26.5	28.3	18.0	20.4	35.3	38.5	24.4	71.5	88.2	118.5
Wind	74.2	78.6	66.2	80.8	84.2	88.7	71.9	93.9	99.5	100.7	82.9	102.9	299.8	338.8	386.0
Other Sectors (c)															
Biomass	7.4	7.3	7.6	7.4	7.5	7.3	7.6	7.4	7.4	7.3	7.6	7.4	29.7	29.7	29.6
Waste	0.8	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	2.8	2.8	2.8
Wood	6.7	6.6	6.9	6.6	6.7	6.6	6.9	6.6	6.6	6.6	6.9	6.6	26.8	26.9	26.8
Conventional Hydroelectric	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	1.3	1.3	1.3
Large-Scale Solar (b)	0.1	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	1.0	1.3
Small-Scale Solar (d)	6.9	10.4	10.6	7.1	8.3	12.2	12.2	8.4	9.4	14.1	14.3	9.9	35.0	41.1	47.7
Residential Sector	4.0	6.2	6.4	4.3	5.0	7.5	7.4	5.1	5.7	8.7	8.8	6.1	20.9	25.0	29.3
Commercial Sector	2.3	3.3	3.3	2.2	2.6	3.8	3.7	2.6	2.9	4.3	4.3	3.0	11.1	12.7	14.5
Industrial Sector	0.6	0.9	0.9	0.6	0.7	1.0	1.0	0.7	0.8	1.1	1.2	0.8	3.0	3.4	3.9
Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4

-- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,927	19,022	19,121	19,220	19,176	18,502	18,423	18,669	19,052	19,352	19,523	19,642	19,073	18,693	19,392
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	13,103	13,250	13,353	13,410	13,353	12,744	12,724	12,982	13,145	13,247	13,304	13,390	13,279	12,951	13,272
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	3,349	3,337	3,330	3,326	3,352	3,170	3,101	3,092	3,141	3,194	3,230	3,264	3,336	3,179	3,207
Business Inventory Change (billion chained 2012 dollars - SAAR)	113	75	67	18	-26	-5	-173	-243	-100	40	120	141	68	-112	51
Real Government Expenditures (billion chained 2012 dollars - SAAR)	3,258	3,297	3,310	3,332	3,348	3,360	3,369	3,376	3,392	3,403	3,415	3,421	3,299	3,363	3,408
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	2,554	2,517	2,523	2,536	2,541	2,504	2,572	2,647	2,739	2,825	2,905	2,954	2,533	2,566	2,856
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	3,498	3,498	3,514	3,436	3,441	3,312	3,200	3,216	3,279	3,355	3,441	3,521	3,486	3,292	3,399
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	14,878	14,934	15,012	15,074	15,263	16,722	14,779	14,801	14,986	15,150	15,299	15,417	14,975	15,391	15,213
Non-Farm Employment (millions)	150.2	150.6	151.2	151.8	152.1	146.3	143.4	142.3	144.0	146.2	148.3	150.0	150.9	146.1	147.1
Civilian Unemployment Rate (percent)	3.9	3.6	3.6	3.5	3.8	7.5	8.6	9.0	7.9	6.8	5.8	5.1	3.7	7.2	6.4
Housing Starts (millions - SAAR)	1.21	1.26	1.28	1.44	1.55	1.24	1.16	1.15	1.18	1.19	1.25	1.27	1.30	1.27	1.22
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	109.8	109.2	109.5	109.5	109.2	107.6	103.7	103.2	105.5	108.1	109.8	110.7	109.5	105.9	108.5
Manufacturing	106.5	105.7	105.9	105.8	105.9	103.1	98.5	98.0	100.8	103.9	106.0	107.1	106.0	101.4	104.5
Food	115.1	115.3	114.6	116.0	117.3	119.4	119.9	119.9	120.1	120.2	120.7	120.9	115.3	119.1	120.5
Paper	94.2	91.8	92.6	93.3	95.8	91.7	89.3	88.7	89.1	90.0	91.1	91.6	93.0	91.4	90.4
Petroleum and Coal Products	106.3	104.9	106.7	104.8	107.3	104.8	103.2	102.4	102.7	103.0	103.1	102.8	105.7	104.4	102.9
Chemicals	101.4	99.9	100.6	100.1	99.3	99.5	99.8	100.5	101.3	102.3	103.3	104.1	100.5	99.7	102.7
Nonmetallic Mineral Products	119.7	119.0	119.7	119.0	121.7	116.6	113.6	112.4	112.1	112.5	113.2	114.3	119.4	116.1	113.0
Primary Metals	97.9	96.7	96.4	96.6	96.6	90.6	86.3	86.1	87.3	89.9	92.3	93.4	96.9	89.9	90.7
Coal-weighted Manufacturing (a)	106.9	105.6	106.0	106.3	107.5	104.4	101.4	101.0	102.6	104.6	106.3	107.3	106.2	103.6	105.2
Distillate-weighted Manufacturing (a)	98.5	97.9	98.3	98.4	99.3	96.3	94.2	93.6	94.1	95.1	96.0	96.7	98.3	95.8	95.5
Electricity-weighted Manufacturing (a)	106.5	105.3	105.6	105.8	106.4	101.6	98.9	99.4	101.0	102.9	104.7	105.8	105.8	101.6	103.6
Natural Gas-weighted Manufacturing (a)	108.7	107.7	108.0	108.2	109.0	105.1	102.8	103.2	104.8	106.7	108.6	109.6	108.1	105.0	107.4
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	2.53	2.55	2.56	2.58	2.59	2.57	2.60	2.62	2.64	2.66	2.67	2.68	2.56	2.60	2.66
Producer Price Index: All Commodities (index, 1982=1.00)	2.01	2.00	1.99	2.00	1.97	1.94	1.95	1.96	1.98	2.00	2.01	2.02	2.00	1.96	2.00
Producer Price Index: Petroleum (index, 1982=1.00)	1.81	2.08	1.96	1.96	1.70	1.00	1.12	1.26	1.33	1.54	1.57	1.52	1.95	1.27	1.49
GDP Implicit Price Deflator (index, 2012=100)	111.5	112.2	112.7	113.0	113.4	113.1	113.7	114.3	114.5	114.9	115.6	116.1	112.3	113.6	115.3
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,298	9,333	9,289	8,895	8,219	7,085	8,696	8,694	8,202	9,226	9,233	8,943	8,956	8,176	8,904
Air Travel Capacity (Available ton-miles/day, thousands)	643	685	707	682	527	466	673	653	637	672	682	660	679	580	663
Aircraft Utilization (Revenue ton-miles/day, thousands)	380	426	427	406	395	420	415	395	382	421	431	412	410	406	412
Airline Ticket Price Index (index, 1982-1984=100)	255.7	278.3	263.8	263.8	259.8	348.3	355.2	350.3	328.1	342.1	327.8	329.8	265.4	328.4	331.9
Raw Steel Production (million short tons per day)	0.273	0.271	0.264	0.265	0.269	0.266	0.263	0.273	0.273	0.276	0.272	0.279	0.268	0.268	0.275
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	575	587	597	596	559	481	571	578	559	572	590	588	2,354	2,189	2,309
Natural Gas	507	350	384	448	498	370	374	428	478	351	362	424	1,689	1,670	1,614
Coal	290	239	307	248	218	183	264	219	256	206	291	239	1,084	885	991
Total Energy (c)	1,374	1,178	1,291	1,295	1,278	1,037	1,212	1,228	1,295	1,132	1,245	1,253	5,138	4,755	4,925

- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Real Gross State Product (Billion \$2009)															
New England	996	999	1,004	1,010	1,008	973	968	981	1,000	1,014	1,023	1,029	1,002	982	1,016
Middle Atlantic	2,772	2,782	2,791	2,805	2,800	2,701	2,686	2,719	2,770	2,807	2,828	2,842	2,788	2,726	2,812
E. N. Central	2,528	2,535	2,545	2,552	2,553	2,461	2,445	2,475	2,521	2,556	2,575	2,588	2,540	2,483	2,560
W. N. Central	1,181	1,187	1,193	1,197	1,194	1,151	1,146	1,161	1,185	1,203	1,214	1,222	1,190	1,163	1,206
S. Atlantic	3,353	3,367	3,383	3,402	3,395	3,281	3,271	3,318	3,390	3,445	3,479	3,502	3,376	3,316	3,454
E. S. Central	832	835	840	843	841	811	806	817	834	847	854	859	837	819	849
W. S. Central	2,347	2,370	2,392	2,406	2,403	2,314	2,298	2,324	2,368	2,413	2,439	2,455	2,379	2,335	2,419
Mountain	1,252	1,261	1,269	1,276	1,275	1,232	1,226	1,244	1,270	1,292	1,306	1,314	1,264	1,244	1,296
Pacific	3,700	3,719	3,739	3,764	3,743	3,612	3,612	3,664	3,749	3,809	3,841	3,867	3,731	3,657	3,817
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	98.9	97.7	97.6	97.1	97.0	94.4	90.0	89.4	91.8	94.6	96.4	97.4	97.8	92.7	95.1
Middle Atlantic	98.8	97.5	97.2	97.0	96.9	94.4	90.0	89.4	91.9	94.6	96.4	97.3	97.6	92.7	95.0
E. N. Central	108.7	107.4	107.1	105.9	106.2	103.1	98.4	97.8	100.4	103.3	105.2	106.3	107.3	101.4	103.8
W. N. Central	106.1	105.1	105.2	104.8	104.7	101.8	97.5	97.1	100.0	103.1	105.3	106.5	105.3	100.3	103.7
S. Atlantic	110.6	109.9	110.0	110.2	110.3	107.4	102.6	102.0	104.9	108.1	110.1	111.2	110.2	105.6	108.6
E. S. Central	111.4	110.4	110.8	110.5	110.6	107.6	102.8	102.4	105.3	108.5	110.5	111.6	110.8	105.8	109.0
W. S. Central	101.5	100.6	101.2	102.1	102.2	99.5	94.9	94.4	97.1	100.1	102.2	103.3	101.4	97.7	100.7
Mountain	116.1	116.3	117.6	117.4	117.7	115.1	110.2	109.8	113.2	116.8	119.2	120.5	116.9	113.2	117.4
Pacific	105.9	105.2	105.5	106.2	106.3	103.7	99.0	98.5	101.4	104.6	106.8	108.1	105.7	101.9	105.3
Real Personal Income (Billion \$2009)															
New England	904	904	904	908	915	897	887	887	896	906	914	922	905	896	909
Middle Atlantic	2,302	2,316	2,315	2,324	2,341	2,293	2,266	2,265	2,288	2,312	2,332	2,350	2,314	2,291	2,321
E. N. Central	2,428	2,432	2,442	2,446	2,462	2,412	2,384	2,384	2,408	2,433	2,456	2,476	2,437	2,410	2,443
W. N. Central	1,146	1,147	1,160	1,161	1,163	1,140	1,128	1,130	1,143	1,158	1,171	1,183	1,153	1,140	1,164
S. Atlantic	3,214	3,232	3,238	3,257	3,284	3,226	3,194	3,198	3,239	3,280	3,318	3,351	3,236	3,226	3,297
E. S. Central	888	890	893	897	902	884	875	875	885	895	904	912	892	884	899
W. S. Central	1,984	1,992	1,999	2,011	2,028	1,992	1,973	1,976	2,001	2,026	2,048	2,068	1,997	1,992	2,036
Mountain	1,168	1,177	1,179	1,185	1,195	1,175	1,164	1,167	1,182	1,197	1,212	1,224	1,177	1,175	1,204
Pacific	2,807	2,835	2,841	2,854	2,874	2,824	2,797	2,799	2,828	2,862	2,894	2,921	2,834	2,824	2,876
Households (Thousands)															
New England	5,936	5,941	5,957	5,966	5,973	5,974	5,980	5,986	5,992	6,000	6,008	6,015	5,966	5,986	6,015
Middle Atlantic	16,243	16,263	16,305	16,328	16,344	16,346	16,360	16,375	16,391	16,408	16,427	16,448	16,328	16,375	16,448
E. N. Central	19,087	19,112	19,166	19,197	19,222	19,237	19,263	19,290	19,317	19,343	19,371	19,400	19,197	19,290	19,400
W. N. Central	8,688	8,708	8,740	8,760	8,777	8,786	8,801	8,817	8,832	8,848	8,866	8,883	8,760	8,817	8,883
S. Atlantic	25,689	25,762	25,877	25,965	26,048	26,109	26,187	26,266	26,344	26,428	26,511	26,597	25,965	26,266	26,597
E. S. Central	7,651	7,663	7,689	7,706	7,721	7,728	7,742	7,757	7,771	7,785	7,802	7,818	7,706	7,757	7,818
W. S. Central	14,813	14,856	14,923	14,974	15,021	15,057	15,104	15,151	15,198	15,249	15,300	15,352	14,974	15,151	15,352
Mountain	9,404	9,448	9,506	9,551	9,594	9,627	9,667	9,707	9,744	9,782	9,819	9,857	9,551	9,707	9,857
Pacific	18,903	18,932	18,994	19,034	19,072	19,094	19,134	19,177	19,220	19,263	19,309	19,355	19,034	19,177	19,355
Total Non-farm Employment (Millions)															
New England	7.5	7.5	7.5	7.5	7.5	7.2	7.1	7.0	7.1	7.2	7.3	7.4	7.5	7.2	7.2
Middle Atlantic	19.9	20.0	20.0	20.1	20.1	19.3	18.9	18.8	18.9	19.2	19.5	19.7	20.0	19.3	19.3
E. N. Central	22.3	22.3	22.3	22.4	22.4	21.5	21.1	20.9	21.1	21.4	21.7	21.9	22.3	21.5	21.5
W. N. Central	10.8	10.8	10.8	10.8	10.8	10.4	10.2	10.1	10.2	10.4	10.5	10.7	10.8	10.4	10.5
S. Atlantic	29.0	29.0	29.2	29.3	29.4	28.3	27.8	27.6	27.9	28.4	28.8	29.2	29.1	28.3	28.6
E. S. Central	8.3	8.3	8.3	8.3	8.4	8.0	7.9	7.8	7.9	8.0	8.1	8.2	8.3	8.0	8.1
W. S. Central	17.6	17.7	17.8	17.9	17.9	17.3	17.0	16.8	17.0	17.3	17.6	17.8	17.7	17.3	17.4
Mountain	11.0	11.0	11.1	11.2	11.2	10.8	10.6	10.5	10.7	10.9	11.0	11.2	11.1	10.8	10.9
Pacific	23.7	23.8	23.9	24.0	24.1	23.2	22.7	22.5	22.8	23.2	23.5	23.8	23.9	23.1	23.3

- = 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 - April 2020

	2019				2020				2021				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2019	2020	2021
Heating Degree Days															
New England	3,228	897	136	2,282	2,696	799	125	2,150	3,171	889	125	2,151	6,541	5,771	6,335
Middle Atlantic	2,985	634	68	2,058	2,426	626	75	1,969	2,939	714	75	1,969	5,745	5,096	5,697
E. N. Central	3,328	764	65	2,279	2,757	684	116	2,224	3,152	736	116	2,224	6,437	5,782	6,228
W. N. Central	3,644	773	107	2,546	3,020	694	158	2,419	3,238	703	158	2,420	7,071	6,291	6,520
South Atlantic	1,335	128	2	919	1,101	174	11	951	1,419	191	11	950	2,384	2,237	2,571
E. S. Central	1,715	195	1	1,276	1,471	234	17	1,287	1,821	239	17	1,287	3,187	3,009	3,365
W. S. Central	1,208	90	0	853	964	74	4	776	1,141	80	4	776	2,151	1,818	2,001
Mountain	2,433	787	126	1,967	2,196	661	142	1,808	2,191	697	142	1,807	5,313	4,808	4,837
Pacific	1,686	575	95	1,182	1,474	517	82	1,164	1,497	587	82	1,165	3,539	3,237	3,331
U.S. Average	2,210	481	56	1,558	1,848	449	70	1,506	2,111	490	70	1,504	4,306	3,873	4,174
Heating Degree Days, Prior 10-year Average															
New England	3,166	820	111	2,122	3,153	823	105	2,128	3,129	838	108	2,115	6,218	6,208	6,191
Middle Atlantic	2,956	650	76	1,941	2,948	644	69	1,944	2,908	656	70	1,924	5,623	5,605	5,559
E. N. Central	3,196	697	112	2,198	3,198	698	102	2,198	3,154	715	104	2,183	6,203	6,196	6,155
W. N. Central	3,255	702	140	2,380	3,287	703	131	2,379	3,245	718	132	2,378	6,477	6,500	6,472
South Atlantic	1,480	176	11	964	1,459	169	10	952	1,392	173	10	922	2,631	2,589	2,497
E. S. Central	1,861	222	17	1,292	1,850	215	15	1,278	1,771	221	16	1,255	3,392	3,357	3,263
W. S. Central	1,183	85	4	808	1,199	83	3	794	1,139	83	3	791	2,079	2,079	2,016
Mountain	2,164	714	139	1,856	2,193	718	135	1,844	2,180	700	135	1,847	4,873	4,890	4,863
Pacific	1,444	582	83	1,175	1,456	580	85	1,162	1,455	552	82	1,155	3,283	3,283	3,244
U.S. Average	2,151	475	68	1,518	2,149	472	64	1,509	2,105	472	64	1,493	4,212	4,194	4,135
Cooling Degree Days															
New England	0	67	463	0	0	93	422	1	0	77	422	1	530	517	500
Middle Atlantic	0	144	631	8	0	168	557	5	0	145	558	5	783	730	707
E. N. Central	0	175	649	6	0	226	546	7	0	213	546	7	829	780	767
W. N. Central	0	222	728	2	0	264	667	11	3	264	667	11	953	942	945
South Atlantic	152	756	1,299	307	191	668	1,182	235	120	658	1,183	235	2,515	2,277	2,196
E. S. Central	28	545	1,211	86	47	522	1,072	69	27	530	1,072	69	1,870	1,710	1,698
W. S. Central	73	818	1,692	167	163	907	1,529	208	90	870	1,529	208	2,750	2,807	2,697
Mountain	10	340	983	58	5	445	940	78	18	418	941	78	1,392	1,468	1,455
Pacific	21	166	592	67	25	175	596	59	27	166	596	59	846	856	848
U.S. Average	45	398	952	105	66	415	869	95	43	400	871	96	1,500	1,445	1,409
Cooling Degree Days, Prior 10-year Average															
New England	0	79	455	1	0	83	470	1	0	80	461	1	536	554	542
Middle Atlantic	0	165	589	6	0	170	609	6	0	164	597	6	760	786	768
E. N. Central	3	242	548	7	3	240	578	8	3	235	566	7	799	829	811
W. N. Central	7	298	669	11	7	296	696	11	6	291	687	11	985	1,011	995
South Atlantic	120	684	1,180	239	127	696	1,202	247	143	685	1,191	254	2,224	2,272	2,272
E. S. Central	36	555	1,049	67	36	556	1,081	72	40	541	1,065	73	1,706	1,745	1,719
W. S. Central	103	897	1,552	205	100	892	1,576	207	113	887	1,570	210	2,758	2,774	2,779
Mountain	25	438	932	81	24	432	938	81	23	442	939	82	1,476	1,476	1,487
Pacific	31	185	631	76	31	185	624	78	31	191	636	79	923	918	936
U.S. Average	46	417	873	97	47	420	892	100	52	417	887	102	1,433	1,459	1,458

- = no data available

Notes: Regional degree days for each period are calculated by EIA as contemporaneous period population-weighted averages of state degree day data published by the National Oceanic and Atmospheric Administration (NOAA).

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

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

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

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

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

Appendix to the April 2020 Short-Term Energy Outlook

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

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

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

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	February 2020	March 2020	February – March 2020 Average	February – March 2019 Average	2017–2019 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	100.1	99.0	99.5	100.2	99.8
Global Petroleum and Other Liquids Consumption (b)	95.7	89.4	92.4	100.3	99.8
Biofuels Production (c)	2.0	2.1	2.1	2.0	2.5
Biofuels Consumption (c)	2.3	2.3	2.3	2.3	2.3
Iran Liquid Fuels Production	2.6	2.5	2.5	3.6	4.1
Iran Liquid Fuels Consumption	2.1	1.8	2.0	1.9	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	95.5	94.5	95.0	94.6	93.2
Consumption (d)	91.3	85.3	88.2	96.1	95.6
Production minus Consumption	4.2	9.2	6.8	-1.5	-2.4
World Inventory Net Withdrawals Including Iran	-4.4	-9.6	-7.1	0.1	0.0
Estimated OECD Inventory Level (e) (million barrels)	2,950	3,059	3,005	2,860	2,911
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	3.0	3.0	3.0	2.5	2.0

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

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

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

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

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

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

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

Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	February 2020	March 2020	February – March 2020 Average	February – March 2019 Average	2017–2019 Average
Brent Front Month Futures Price (\$ per barrel)	55.48	33.73	44.09	65.80	57.19
WTI Front Month Futures Price (\$ per barrel)	50.54	30.45	39.76	56.65	53.07
Dubai Front Month Futures Price (\$ per barrel)	54.42	34.22	43.84	65.84	55.04
Brent 1st - 13th Month Futures Spread (\$ per barrel)	0.29	-8.96	-4.56	1.38	-0.56
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-0.19	-7.75	-4.25	-1.35	-0.92
RBOB Front Month Futures Price (\$ per gallon)	1.54	0.55	1.01	1.69	1.65
Heating Oil Front Month Futures Price (\$ per gallon)	1.62	1.17	1.38	1.98	1.71
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.22	-0.26	-0.04	0.13	0.29
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.30	0.37	0.34	0.41	0.35

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

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

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

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

