Independent Statistics & Analysis
U.S. Energy Information Administration

August 2019

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- Brent crude oil spot prices averaged $64 per barrel (b) in July, almost unchanged from the average in June 2019 but $10/b lower than the price in July of last year. EIA forecasts Brent spot prices will average $64/b in the second half of 2019 and $65/b in 2020. The forecast of stable crude oil prices is the result of EIA's expectations of a relatively balanced global oil market. EIA forecasts global oil inventories will increase by 0.1 million barrels per day (b/d) in 2019 and 0.3 million b/d in 2020.

- EIA expects West Texas Intermediate (WTI) crude oil prices will average $5.50/b less than Brent prices during the fourth quarter of 2019 and in 2020, narrowing from the $6.60/b spread during July. The narrowing spread reflects EIA's assumption that crude oil pipeline transportation constraints from the Permian Basin to refineries and export terminals on the U.S. Gulf Coast will ease in the coming months. In the July STEO, EIA forecast the Brent-WTI spread to average $4.00/b in 2020. The updated differential forecast reflects EIA's revised assumptions about the marginal cost of moving crude oil via pipeline from Cushing, Oklahoma, to the Gulf Coast.

- EIA estimates that U.S. crude oil production averaged 11.7 million b/d in July, down by 0.3 million b/d from the June level. The declines were mostly in the Federal Gulf of Mexico (GOM), where operators shut platforms for several days in mid-July because of Hurricane Barry. EIA estimates that GOM crude oil production fell by more than 0.3 million b/d in July. Those declines were partially offset by the Lower 48 States onshore region, which is mostly tight oil production, where supply rose by more than 0.1 million b/d. EIA expects monthly growth in Lower 48 onshore production to slow during the rest of the forecast period, averaging 50,000 b/d per month from the fourth quarter of 2019 through the end of 2020, down from an average of 110,000 b/d per month from August 2018 through July 2019. EIA forecasts U.S. crude oil production will average 12.3 million b/d in 2019 and 13.3 million b/d in 2020, both of which would be record levels.

- U.S. regular gasoline retail prices averaged $2.74 gallon (gal) in July, up 2 cents/gal from June but 11 cents/gal lower than the average in July of last year. EIA expects that monthly average gasoline prices peaked for the year in May at an average of $2.86/gal and will fall to an average of $2.64/gal in September. EIA expects regular gasoline retail prices to average $2.62/gal in 2019 and $2.71/gal in 2020.

Natural gas

- The Henry Hub natural gas spot price averaged $2.37/million British thermal units (MMBtu) in July, down 3 cents/MMBtu from June. However, by the end of the month, spot prices had fallen below $2.30/MMBtu. Based on this price movement and EIA's forecast of continued strong growth in natural gas production, EIA lowered its Henry Hub spot price forecast for the second half of 2019 to an average of $2.36/MMBtu. In the July STEO, EIA expected prices to average $2.50/MMBtu during this period. EIA expects natural gas prices in 2020 will increase to an average of $2.75/MMBtu. EIA's natural gas production models indicate that rising prices are required in the coming quarters to bring supply into balance with rising domestic and export demand in 2020.

- EIA forecasts that U.S. dry natural gas production will average 91.0 billion cubic feet per day (Bcf/d) in 2019, up 7.6 Bcf/d from 2018. EIA expects monthly average natural gas production to grow in late 2019 and then decline slightly during the first quarter of 2020 as the lagged effect of low prices in the second half of 2019 reduces natural gas-directed drilling. However, EIA forecasts that growth will resume in the second quarter of 2020, and natural gas production in 2020 will average 92.5 Bcf/d.

- EIA estimates that natural gas inventories ended July at 2.7 trillion cubic feet (Tcf), 13% higher than levels from a year earlier and 4% lower than the five-year (2014–18) average. EIA forecasts that natural gas storage injections during the 2019 April-through-October injection season will outpace the previous five-year average and that inventories will rise to more than 3.7 Tcf at the end of October, which would be 16% higher than October 2018 levels and slightly above to the five-year average.

Electricity, coal, renewables, and emissions

- EIA has expanded its forecasts for electricity supply in the United States and has introduced new forecasts for wholesale electricity prices. A STEO Supplement provides more information about the changes.

- Lower costs for natural gas drive EIA's forecast that annual average wholesale electricity prices will be lower in 2019 than last year in all areas of the United States. The forecast year-over-year declines range from -0.2% in the Southwest Power Pool (SPP) to -28% in the Electric Reliability Council of Texas (ERCOT) market.

- EIA expects the share of U.S. total utility-scale electricity generation from natural gas-fired power plants will rise from 34% in 2018 to 37% in 2019 and then decline slightly in 2020. EIA forecasts that the share of U.S. generation from coal will average 24% in 2019 and in 2020, down from 28% in 2018. The forecast nuclear share of U.S. generation remains at about 20% in 2019 and in 2020. Hydropower averages a 7% share of total U.S. generation in the forecast for 2019 and 2020, similar to 2018. Wind, solar, and

other nonhydropower renewables together provided 10% of U.S. total utility-scale generation in 2018. EIA expects they will provide 10% in 2019 and 12% in 2020.

- EIA expects electric power sector demand for coal to fall by 2% in 2020, compared with an expected decline of 15% in 2019. However, planned coal plant retirements will continue to put downward pressure on overall electricity demand for the fuel. Almost 13 gigawatts of coal-fired electricity generation capacity has retired this year or is scheduled to retire by the end of 2020, accounting for 5% of the capacity existing at the end of 2018.

- EIA forecasts that renewable fuels, including wind, solar, and hydropower, will collectively produce 18% of U.S. electricity in 2019 and 19% in 2020. EIA expects that annual generation from wind will surpass hydropower generation for the first time in 2019 to become the leading source of renewable electricity generation and maintain that position in 2020.

- EIA is improving its regional-level trend analysis by inserting a generator-level production cost model that simulates hourly generation at individual power plants. This improves our insight into generation, especially from fast-growing renewable sources like wind and solar.

- This additional granularity and the assumption that wind will return to more normal levels in 2019, after a windy first half of 2018, results in an EIA forecast that electricity generation from wind power will average 295 billion kilowatthours (kWh) in 2019 and 335 billion kWh in 2020, estimates that are 4% and 7% lower, respectively, than forecast in the July STEO. In addition, the application of hourly dispatch that better models solar incidence lowers the solar electric production forecast by 1.1% in 2019 and by 2.8% in 2020.

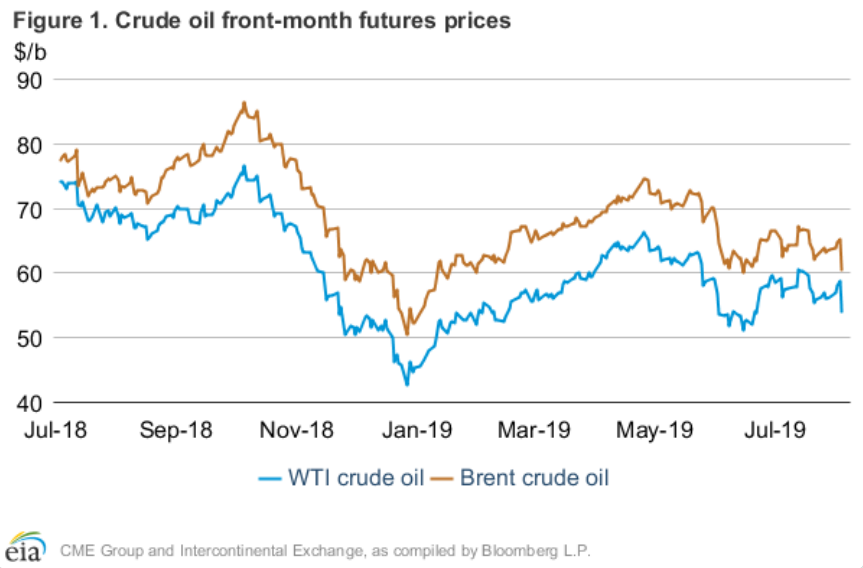
- EIA forecasts that, after rising by 2.7% in 2018, U.S. energy-related carbon dioxide (CO_2) emissions will decline by 2.3% in 2019 and by 0.5% in 2020. In 2019, EIA forecasts that space cooling demand (as measured in cooling degree days) will be lower than in 2018, when it was 13% higher than the previous 10-year (2008–17) average. In addition, in 2019, EIA expects U.S. CO_2 emissions to decline because the forecast share of electricity generated from natural gas and renewables is increasing while the forecast share generated from coal, which is a more carbon-intensive energy source, is decreasing. EIA's projected emissions decline is lower in 2020 than in 2019 because it forecasts that both heating and cooling requirements will be slightly lower than normal. At the same time, the forecast coal share of generation will remain about the same as in 2019 while the natural gas share declines. Although EIA forecasts that generation from renewables will continue to increase in 2020, a forecast decrease in nuclear power offsets 24% of the renewables' gain.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $60.50 per barrel (b) on August 1, 2019, a decrease of $4.56/b from July 1. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $5.14/b during the same period, settling at $53.95/b on August 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



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

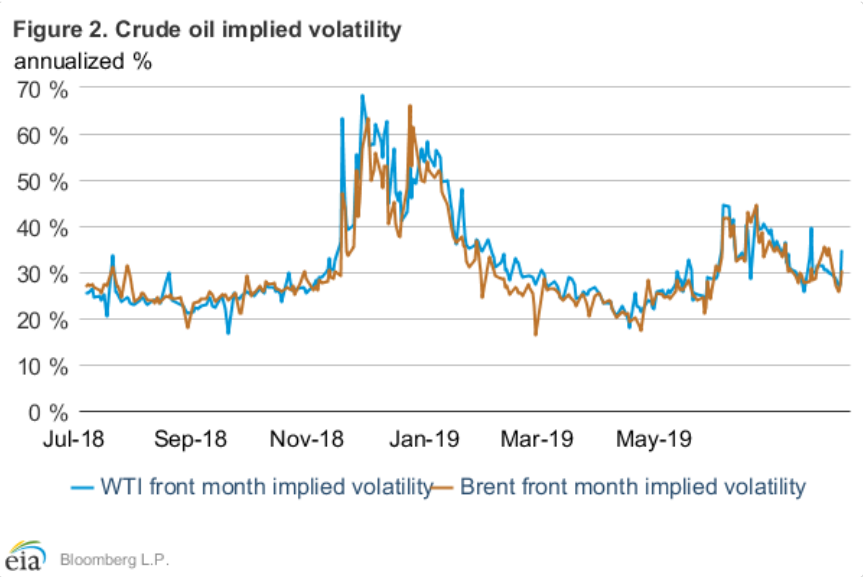
On August 1, Brent and WTI prices declined by more than 7% on the day following the U.S. announcement of new tariffs on China, a large decline for a single day. It followed July, a month in which Brent crude oil prices traded in a $6.36/b range, the second narrowest range during any month in the past year. The narrow trading range in July occurred amid offsetting upward and downward oil price pressures. Continued Middle East tensions presented risks of supply disruptions and higher crude oil prices. Iran seized a British tanker in the Strait of Hormuz in late July, but crude oil transit in the region has not been significantly disrupted to date. Continued demand-side concerns have generally added downward price pressure to crude oil prices this month. The International Monetary Fund recently lowered its estimates for global economic growth in 2019 and 2020. In addition, China's gross domestic product growth for the second quarter of 2019 was 6.2%, the lowest growth rate for any quarter since estimates began in 1992. The July manufacturing Purchasing Managers' Index for the Eurozone, China, and Japan all indicated contraction in manufacturing activity as well.

The combination of oil supply disruption risk and lower economic growth expectations creates uncertainty in the pace of global oil inventory withdrawals and prices. EIA expects Brent prices to increase to $65/b by the fourth quarter of 2019 and remain there throughout 2020. EIA's flat crude oil price forecast recognizes that upside and downside price risks and EIA's forecast for global oil inventory growth are currently balanced. However, given the uncertainty in the risk

factors discussed, prices could break out of the mid-$60/b range if the supply or demand concerns materialize in the coming months.

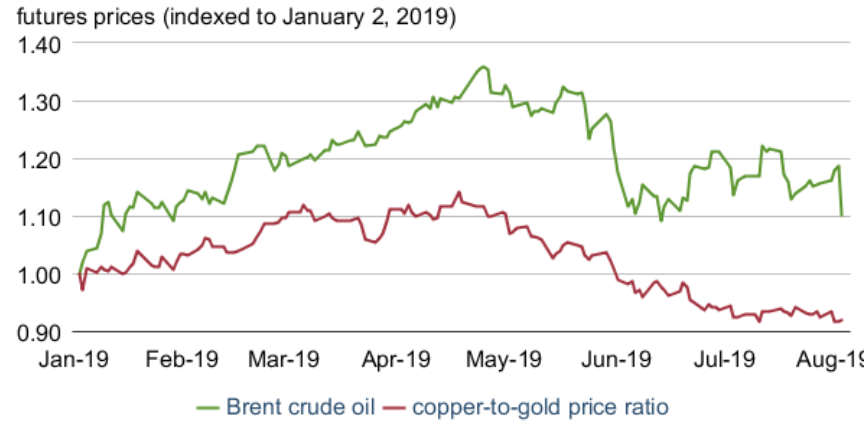
Although Brent crude oil prices stayed within a relatively narrow trading range in July, Brent's implied volatility increased in the middle of the month before declining when the September contract expired **(Figure 2)**. Higher implied volatility could reflect increased uncertainty among market participants about the future direction of oil prices. Although threats of supply disruptions would increase crude oil prices rapidly, emerging indications of an economic slowdown present downside price risk. Market participants could be implementing risk management strategies that purchase put and call options—financial contracts that give owners the right to sell or buy a security at a given price—to offset both downside and upside risk, which could increase the cost of hedging and push up implied volatility.

Figure 2. Crude oil implied volatility



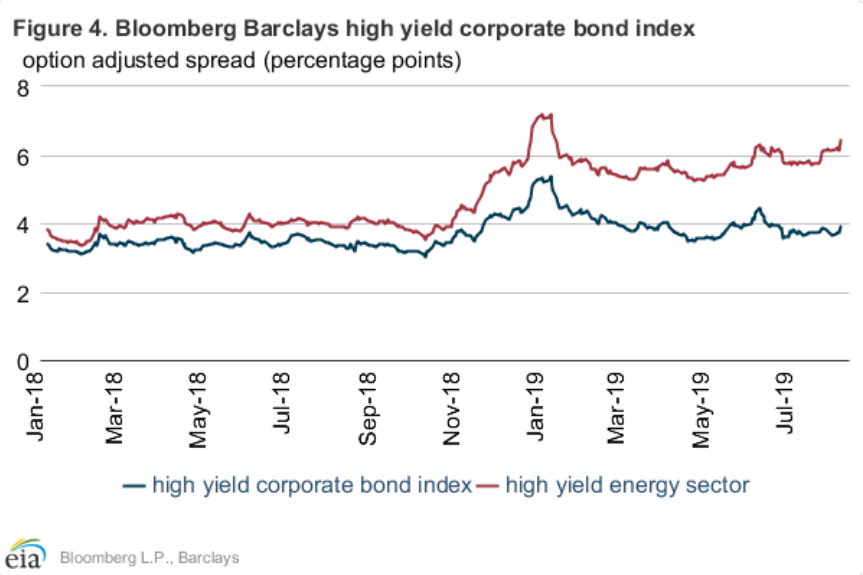
Brent and copper-to-gold ratio: Lower economic growth expectations have likely reduced crude oil prices during the past three months. Similar to crude oil prices, metals prices also appear to signify reduced market expectations for global economic growth. Copper is an industrial metal used in many economically sensitive sectors, such as construction and industrial production, whereas gold is a precious metal with little industrial use but is often considered a safe-haven asset. When copper prices rise relative to gold prices, it could indicate expectations of increased economic growth, but a falling ratio can indicate expectations of a slowdown in industrial and economic activity. When indexed to the beginning of 2019, both Brent crude oil prices and the copper-to-gold ratio peaked in April and have since declined (**Figure 3)**. The rolling 60-day correlation between Brent crude oil prices and the copper-to-gold ratio reached a 3-year high in March 2019, and it has exhibited a positive correlation since February of 2018. When price series exhibit high correlation, it means the prices are generally responding to the same information, in this case demand-side factors. Fundamental economic and oil market data can be lagged for several months, and so commodity price levels and changes can provide real-time information about the economy.

Figure 3. Brent front-month prices and copper-to-gold front-month price ratio



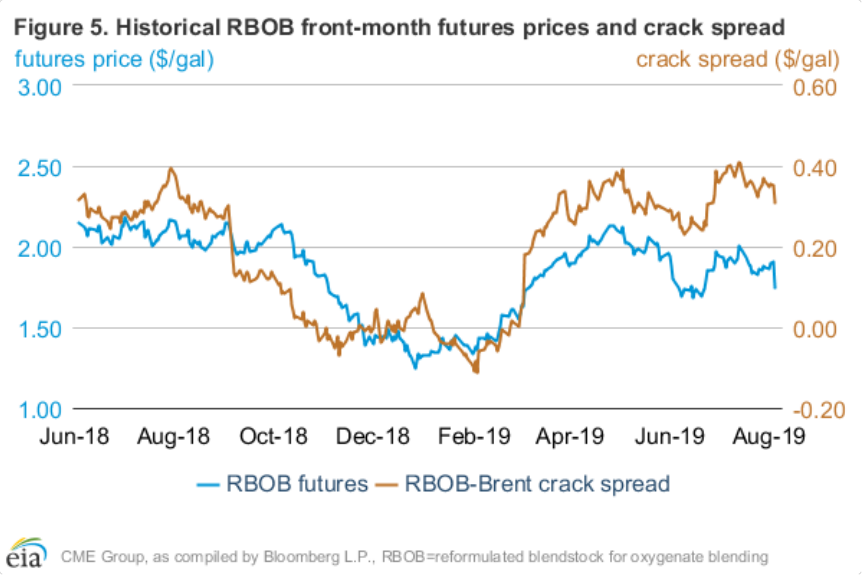
eia CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Energy high yield corporate bonds: Bond yields for companies with a credit rating lower than investment grade, called high yield bonds, have increased for energy companies by more than those for the broader market. An increase in bond yields, measured by a higher option adjusted spread (OAS) to U.S. government bonds, reflects more default risk and could increase the cost of borrowing for some oil producers. The Bloomberg Barclays high yield energy bond OAS increased 73 basis points since July 1, settling at 6.42% on August 1 **(Figure 4)**. Although profitability for many publicly traded U.S. oil exploration and production companies increased in recent years, the first quarter of 2019 was the first time since the third quarter of 2016 that cash flow from operating activities declined on a year-over-year basis. Lower cash from operations could require some companies to increase debt to pay for capital expenditures, but the increase in the OAS means energy companies' borrowing costs will likely increase. In addition, because energy high yield bond spreads are increasing more than the broader market, it could indicate investors perceive the sector as more risky than other sectors of the economy and further increase borrowing costs for energy companies.



Petroleum products

Gasoline prices: The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at $1.75 per gallon (gal) on August 1, down 18 cents/gal since July 1 **(Figure 5)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 7 cents/gal to settle at 31 cents/gal during the same period.

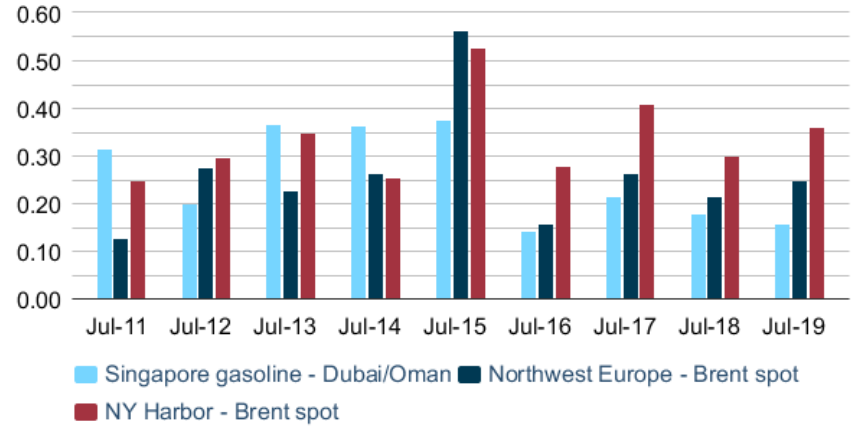


The gasoline crack spread came within 1 cent of the five-year (2014–18) monthly average of 38 cents/gal in July, the closest it has come to the five-year average since February 2018. Factors contributing to the return to the five-year average likely include lower crude oil prices and the effects of the June 21 closure of the Philadelphia Energy Solutions (PES) refinery on the East Coast. The price effects of the refinery closure were likely strongest during the first half of the

month; trade press indicates that rising East Coast prices prompted an increase in imports from Europe. Gasoline inventories in the central Atlantic region—the region directly affected by the closure—fell 9% from the week ending June 21 to the week ending July 12. EIA forecasts gasoline consumption to peak in August this year at 9.72 million barrels per day (b/d). August was the peak month for gasoline consumption in 4 out of the past 10 years.

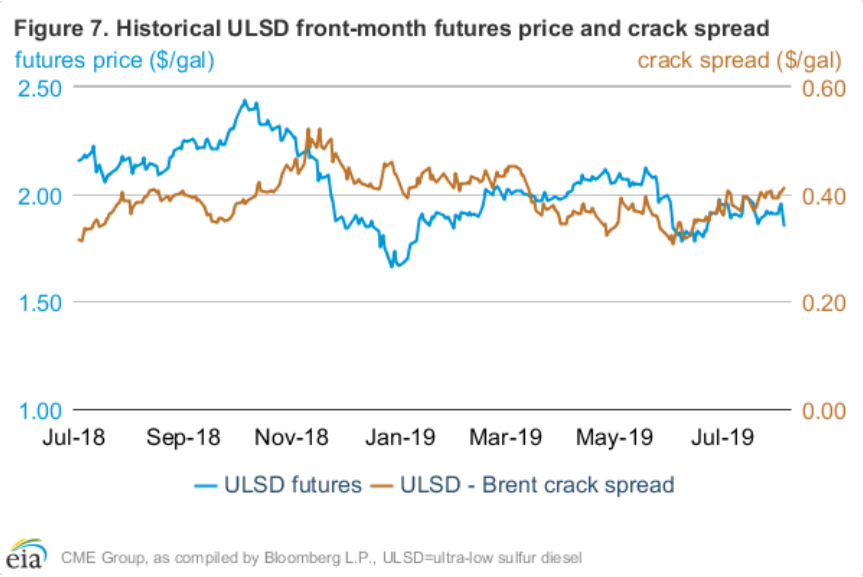
International gasoline crack spreads: The gasoline crack spread based on spot New York Harbor gasoline prices and Brent crude oil prices—often used as an indicator of refining margins—was one cent higher than the five-year average, while gasoline crack spreads in other regions of the world remained lower than their respective five-year averages for July **(Figure 6)**. The Northwest Europe gasoline–Brent spot price crack spread averaged 25 cents/gal in July, 3 cents/gal higher than the 2018 average for July but 4 cents/gal lower than the five-year average. The Singapore gasoline–Dubai/Oman spot price crack spread averaged 16 cents/gal in July, 10 cents/gal lower than the five-year average for the month. The July 2019 monthly average Singapore gasoline crack spread was the lowest of the three regions for the fifth consecutive year. Before 2015, the Singapore gasoline crack spread had regularly been among the highest in the world as the regional market experienced increasing demand with limited supply. China then began to allow more crude oil imports in 2015 and increased its export quota for petroleum products starting in 2016. China's legal and commercial policy changes combined with significant capacity expansions in Asia's refining sector likely contributed to a structural decline in refining margins.

Figure 6. International gasoline crack spreads



eia Bloomberg, L.P.

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price decreased 10 cents/gal from July 1 to settle at $1.85/gal on August 1. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 1 cent/gal to settle at 41 cents/gal during the same period **(Figure 7).**



The average monthly distillate crack spread rose higher than the five-year range for the first time since September 2017, likely in response to the PES closure. In addition, higher crack spreads contributed to record-high distillate production for July, levels more typical of seasonally high winter production. The record levels of production occurred as refiners shifted yields toward distillate fuel. EIA estimates that distillate fuel yields at U.S. refineries averaged 29.6% in July, the highest for any July on record. In both 2019 and 2020, EIA expects refiners to continue increasing distillate yields, which, combined with rising refinery runs, is expected to lead to record levels of distillate production in both years. EIA expects high U.S. distillate production to support rising U.S. distillate fuel exports to help satisfy global demand for low-sulfur bunker fuel that meets new maritime fuel specifications that come into effect in January 2020.

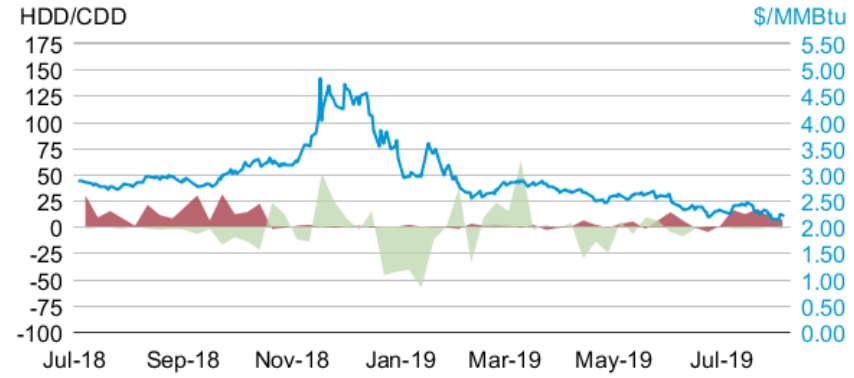
Given the high levels of distillate production, EIA estimates U.S. distillate inventories at the end of July were 8.3 million barrels more than month-ago levels, a larger-than-average build for July and the largest month-over-month increase since December 2018. This build brought distillate inventories to 3.9 million barrels below the five-year average. Hurricane Barry likely contributed to inventory builds in the Gulf Coast in mid-July because it slowed distillate exports and restricted port operations.

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $2.20 per million British thermal units (MMBtu) on August 1, a decrease of 6 cents/MMBtu from July 1 **(Figure 8)**. Both natural gas futures and spot prices fell despite hotter-than-normal weather for July. U.S. cooling degree days (CDD) averaged 7% higher than normal for July. As a result of the hot temperatures, EIA estimates that natural gas consumption for power generation reached a record high in July. The high demand, combined with a short period of shut-in natural gas production in the Gulf of Mexico in mid-July because of Hurricane Barry,

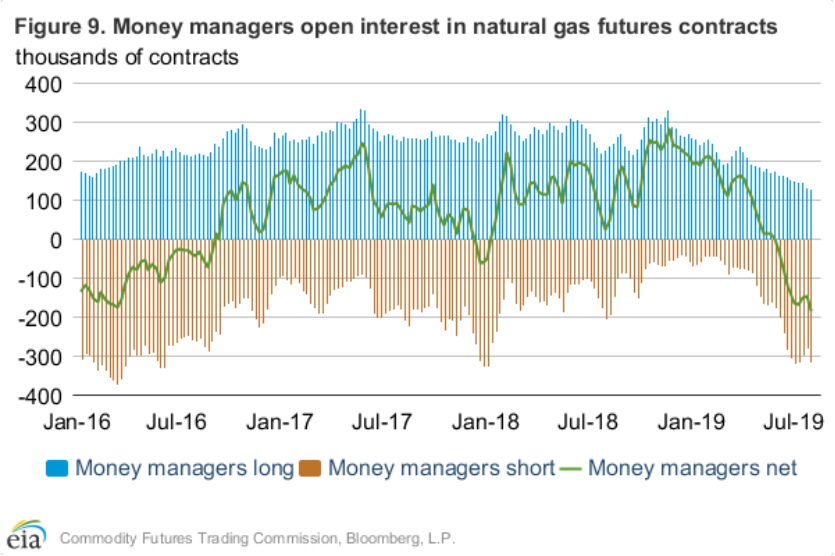
likely contributed to a slower pace of inventory injections. July injections into natural gas storage sank the lowest to the five-year (2014–2018) average since March 2019, when injections were below average. EIA estimates that working natural gas inventories surpassed 2.7 trillion cubic feet (Tcf) in July 2019, 4% lower than the five-year average. This difference to the five-year average was the smallest since November 2017, which may have contributed to the front-month natural gas futures price remaining low.

Figure 8. Natural gas front-month futures prices and actual minus historical average HDD and CDD

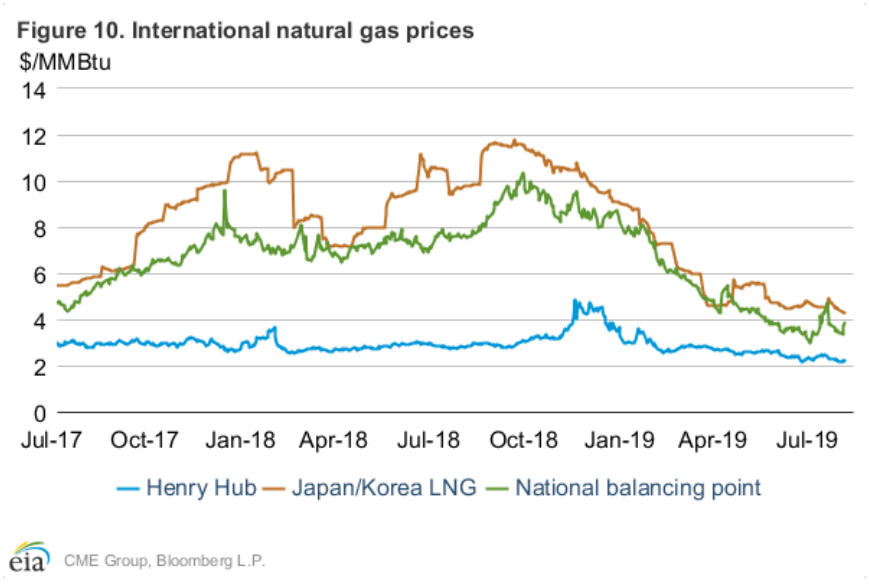


Note: HDD stands for heating degree days, CDD stands for cooling degree days
CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.

Money manager positions: As of the week of July 30, 2019, the number of futures short positions that money managers reported holding for NYMEX natural gas contracts had remained higher than long positions since May 21, 2019, the longest time since August 23, 2016 **(Figure 9)**. The money manager category of the Commitments of Traders reports, published weekly by the Commodity Futures Trading Commission, include fund managers that conduct organized futures trading on behalf of clients, and they are not involved in physical commodity trading as their business activity. A short position indicates expectations of lower prices and a long position indicates the opposite. On November 13, 2018, money managers' net long positions reached a record high when colder-than-normal weather reduced natural gas inventories to about 700 billion cubic feet lower than the five-year (2013–17) average. In 2019, however, increases in natural gas production contributed to record injections into natural gas storage for the three-month period from April through June. Even though the pace of injections slowed in July, EIA forecasts annual dry natural gas production to continue increasing in 2019 and in 2020, helping to bring inventories back to the five-year average and likely lowering price expectations.



International prices: The average monthly U.S. natural gas futures price at Henry Hub has decreased every month since November 2018, and international natural gas prices fell by even more during this time **(Figure 10)**. The decline in international natural gas prices has been driven by rising liquefied natural gas (LNG) supplies and slowing demand. The natural gas spot price at the U.K.'s National Balancing Point (NBP) fell 49% from the beginning of 2019 to August 1, despite record-high temperatures in July. Prices for the Asian LNG spot price benchmark Japan/Korea Marker (JKM) fell by 52% during the same period. Decreasing international natural gas prices and fluctuating exchange rates have narrowed the price spreads between U.S. Henry Hub prices and NBP by 63% and between Henry Hub and JKM by 65% since the start of the year. EIA expects LNG exports to continue to rise in 2019 and in 2020 as new liquefaction plants come online. However, the narrowing price spreads may challenge the competitiveness of U.S. LNG exporters after adding the cost of liquefaction and transport.



Notable forecast changes

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- EIA forecasts that West Texas Intermediate (WTI) crude oil prices will average $5.50/b lower than Brent prices from the fourth quarter of 2019 through the end of 2020. In the July STEO, EIA forecast this differential to be $4.00/b. The wider forecast Brent-WTI differential reflects EIA updated assumptions about the marginal cost of transporting crude oil via pipeline from Cushing, Oklahoma, to the U.S. Gulf Coast.

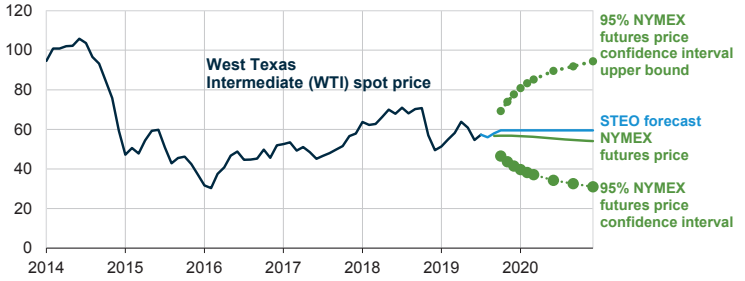
- EIA forecasts natural gas spot prices at Henry Hub to average $2.36 per million British thermal units (MMBtu) in the second half of 2019, which is 14 cents/MMBtu lower than expected in the July STEO.

- For more information, see the detailed table of STEO forecast changes.

Short-Term Energy Outlook

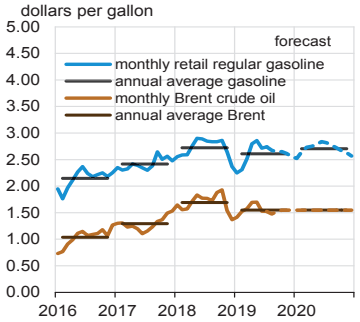
Chart Gallery for August 2019

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



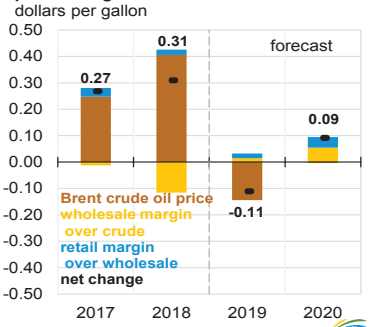
Note: Confidence interval derived from options market information for the five trading days ending Aug 1, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Sources: Short-Term Energy Outlook, August 2019, and CME Group

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

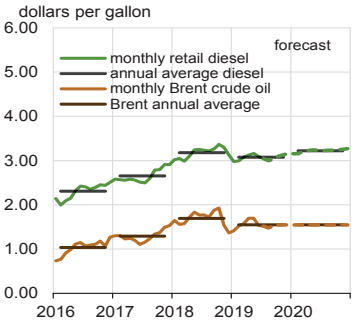


Source: Short-Term Energy Outlook, August 2019

Components of annual gasoline price changes
dollars per gallon

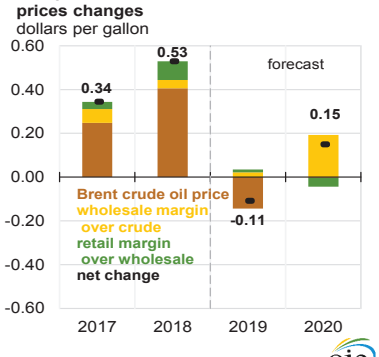


U.S. diesel and crude oil prices



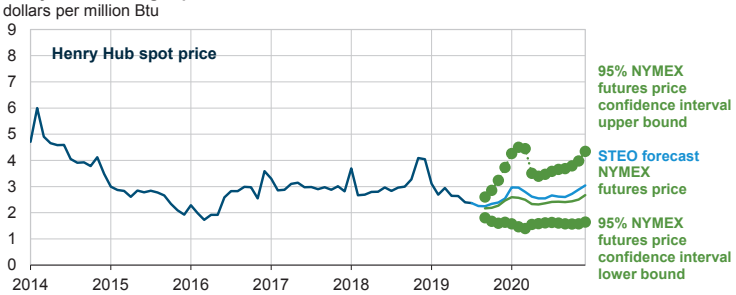
Source: Short-Term Energy Outlook, August 2019

Components of annual diesel prices changes



Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu

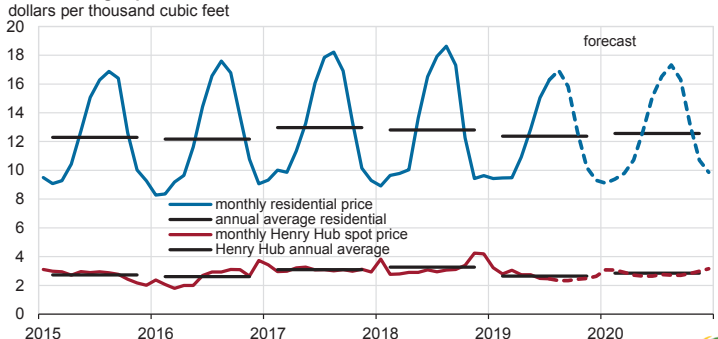


Note: Confidence interval derived from options market information for the five trading days ending Aug 1, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.

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

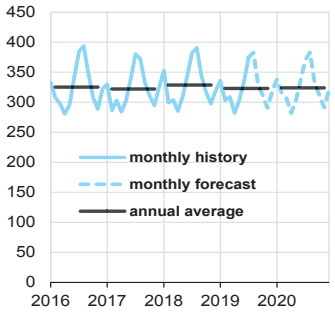
U.S. natural gas prices

dollars per thousand cubic feet

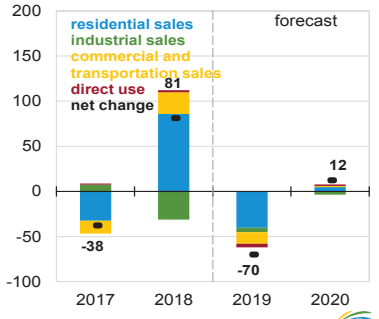


Sources: Short-Term Energy Outlook, August 2019, and Refinitiv

U.S. electricity consumption
billion kilowatthours

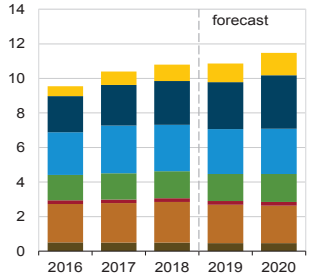


Components of annual change
billion kilowatthours

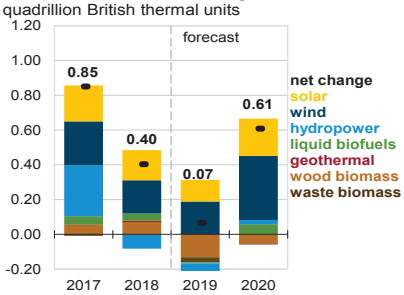


Source: Short-Term Energy Outlook, August 2019

U.S. renewable energy supply
quadrillion British thermal units

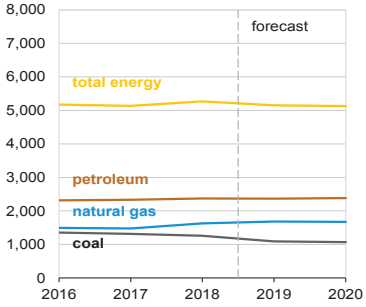


Components of annual change
quadrillion British thermal units

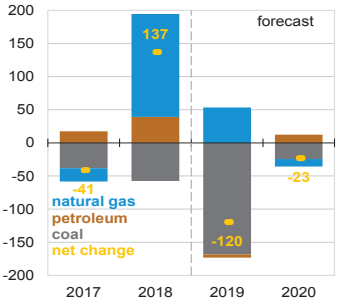


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.
Source: Short-Term Energy Outlook, August 2019

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

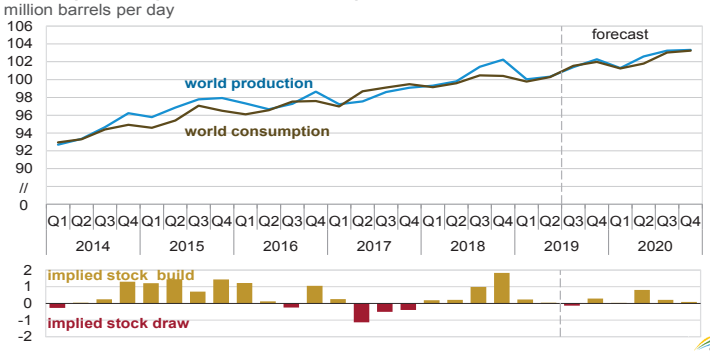


Components of annual change
million metric tons



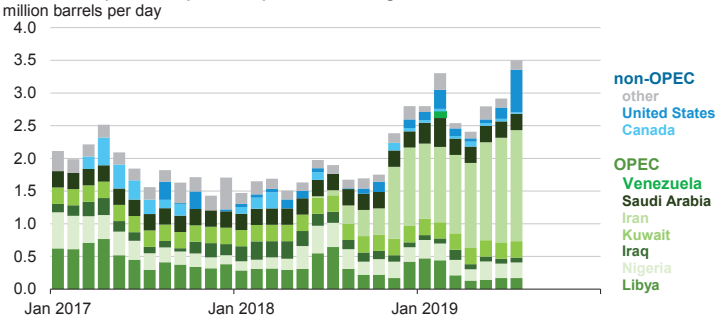
Source: Short-Term Energy Outlook, August 2019

World liquid fuels production and consumption balance
million barrels per day



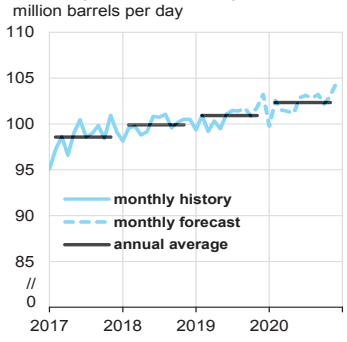
Source: Short-Term Energy Outlook, August 2019

Estimated unplanned liquid fuels production outages
million barrels per day

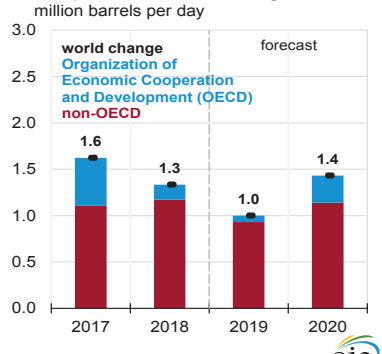


Source: Short-Term Energy Outlook, August 2019

World liquid fuels consumption
million barrels per day

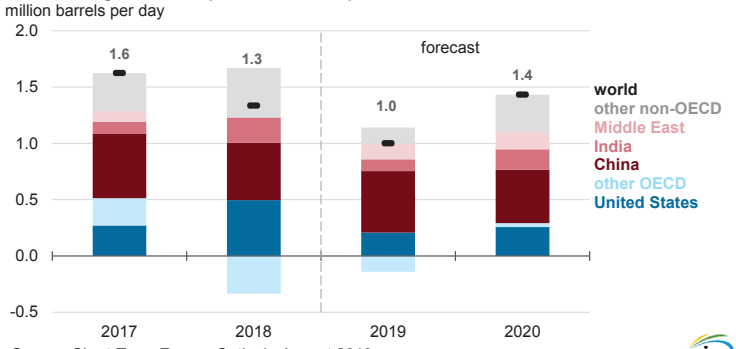


Components of annual change
million barrels per day



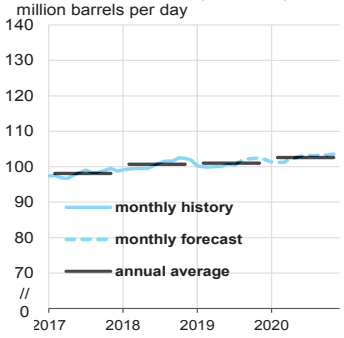
Source: Short-Term Energy Outlook, August 2019

Annual change in world liquid fuels consumption
million barrels per day

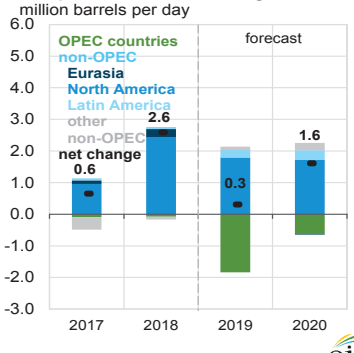


Source: Short-Term Energy Outlook, August 2019

World crude oil and liquid fuels production
million barrels per day

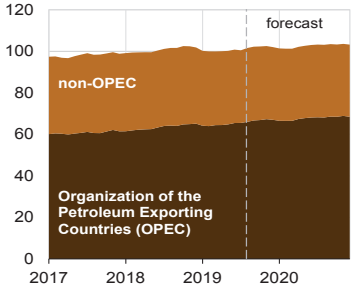


Components of annual change
million barrels per day

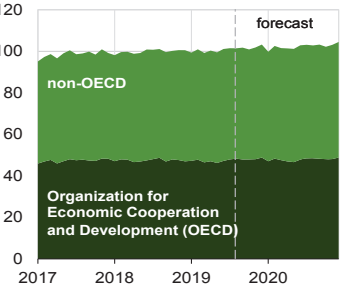


Source: Short-Term Energy Outlook, August 2019

World liquid fuels production
million barrels per day



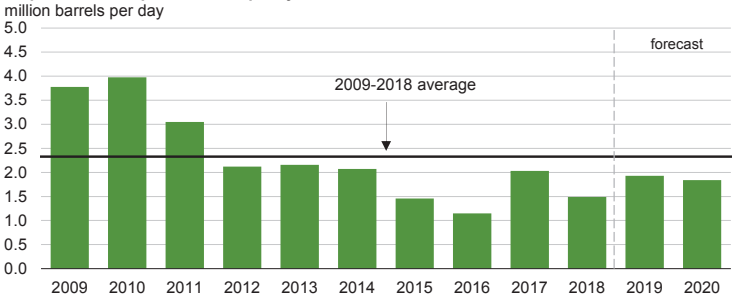
World liquid fuels consumption
million barrels per day



Source: Short-Term Energy Outlook, August 2019

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

million barrels per day

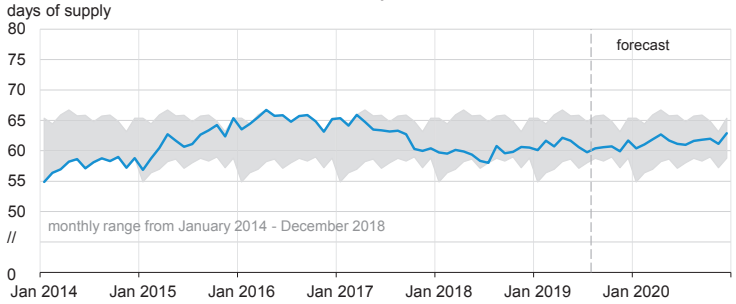


Note: Black line represents 2009-2018 average (2.3 million barrels per day).

Source: Short-Term Energy Outlook, August 2019

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

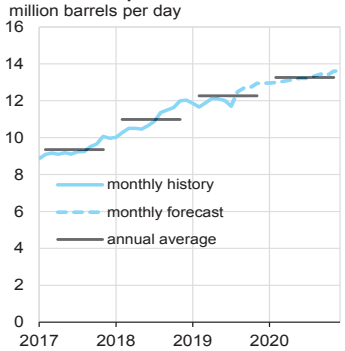
days of supply



Source: Short-Term Energy Outlook, August 2019

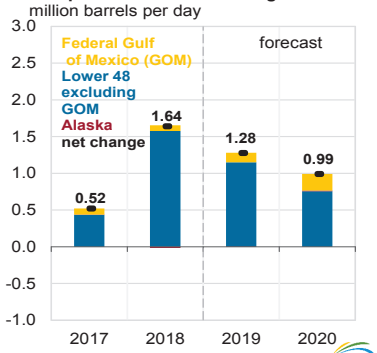
U.S. crude oil production

million barrels per day



Components of annual change

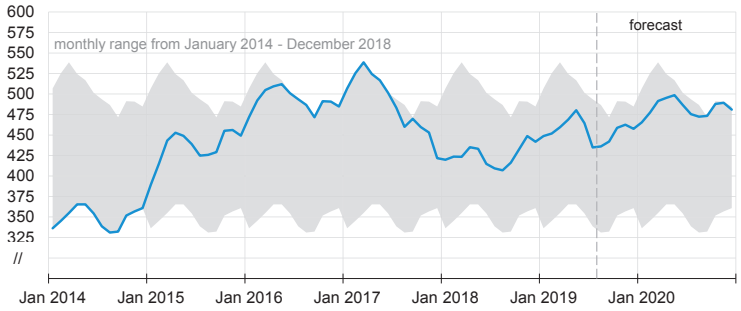
million barrels per day



Source: Short-Term Energy Outlook, August 2019

U.S. commercial crude oil inventories

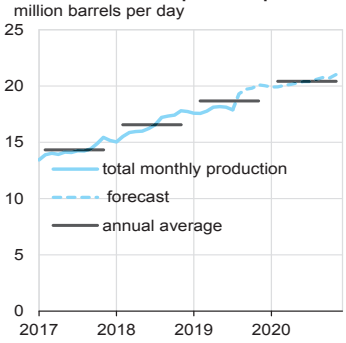
million barrels



Source: Short-Term Energy Outlook, August 2019

U.S. crude oil and liquid fuels production

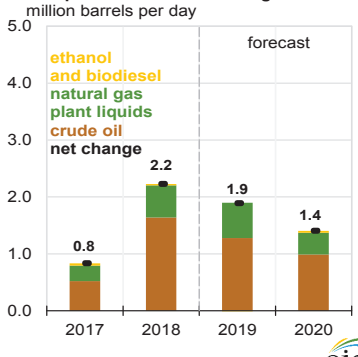
million barrels per day



Source: Short-Term Energy Outlook, August 2019

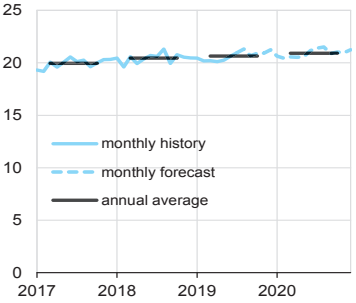
Components of annual change

million barrels per day



U.S. liquid fuels product supplied (consumption)

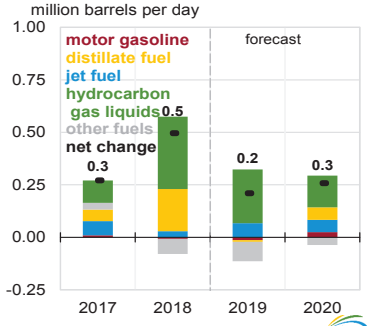
million barrels per day



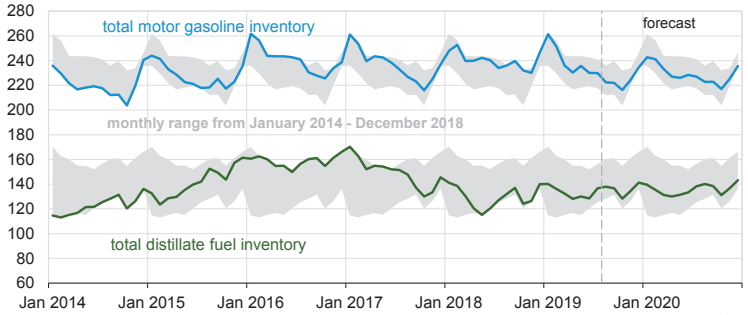
Source: Short-Term Energy Outlook, August 2019

Components of annual change

million barrels per day

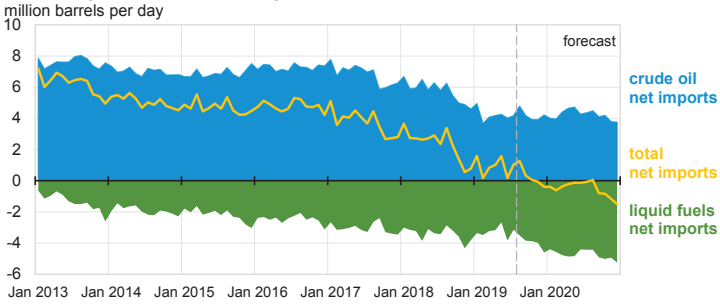


U.S. gasoline and distillate inventories
million barrels



Source: Short-Term Energy Outlook, August 2019

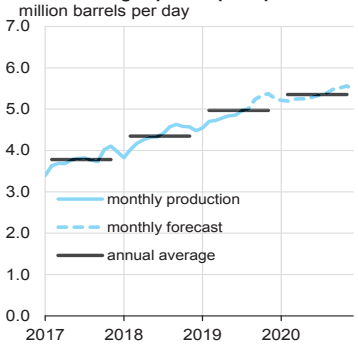
U.S. net imports of crude oil and liquid fuels
million barrels per day



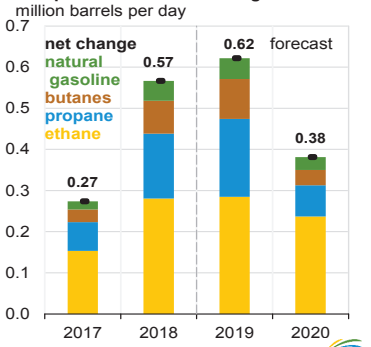
Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, August 2019

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

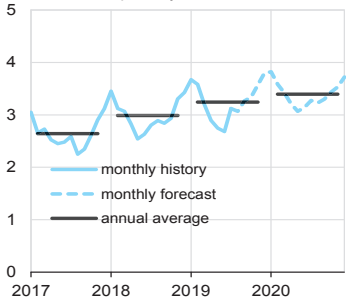


Components of annual change
million barrels per day

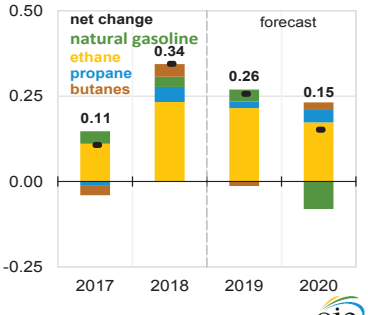


Source: Short-Term Energy Outlook, August 2019

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

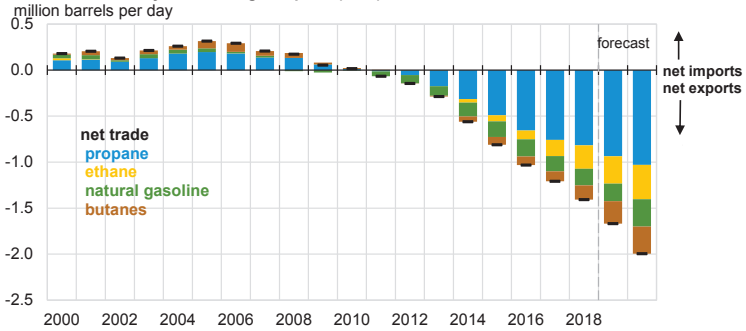


Components of annual change
million barrels per day



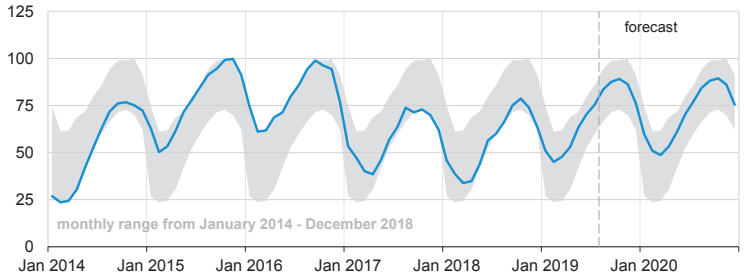
Source: Short-Term Energy Outlook, August 2019

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



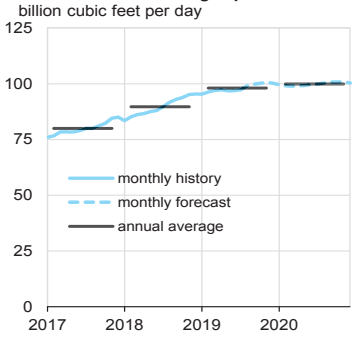
Source: Short-Term Energy Outlook, August 2019

U.S. commercial propane inventories
million barrels



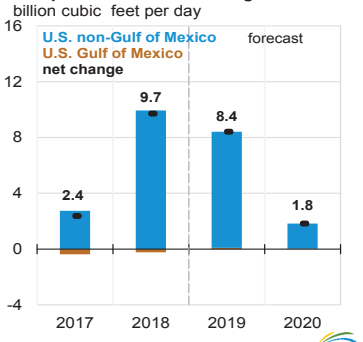
Source: Short-Term Energy Outlook, August 2019

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



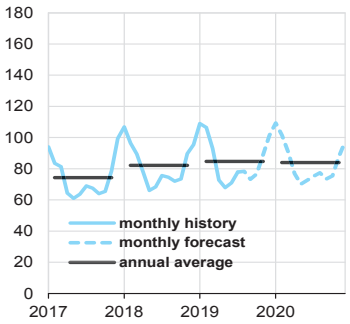
Source: Short-Term Energy Outlook, August 2019

Components of annual change
billion cubic feet per day



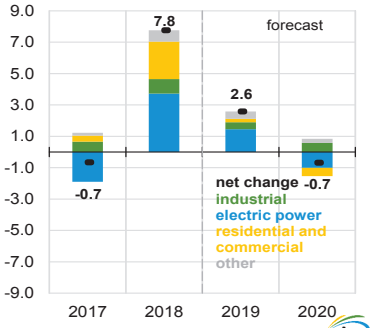
eia

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



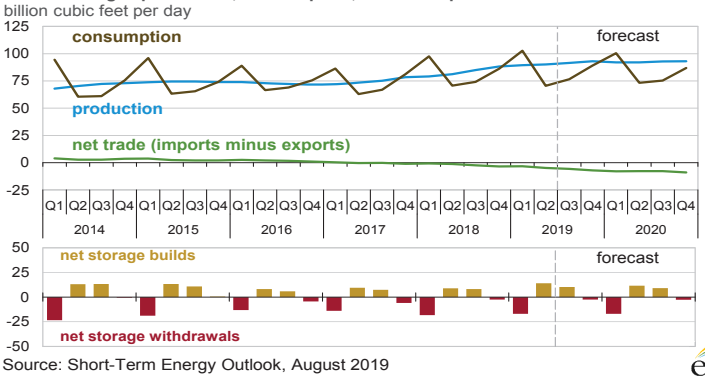
Source: Short-Term Energy Outlook, August 2019

Components of annual change
billion cubic feet per day



eia

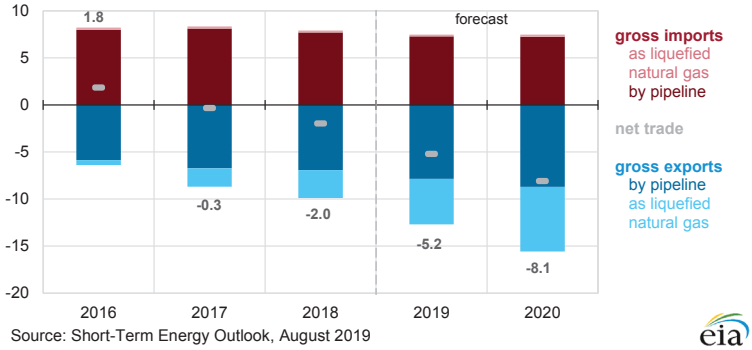
U.S. natural gas production, consumption, and net imports
billion cubic feet per day



Source: Short-Term Energy Outlook, August 2019

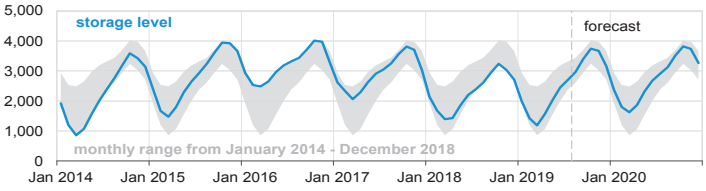
eia

Annual natural gas trade
billion cubic feet per day

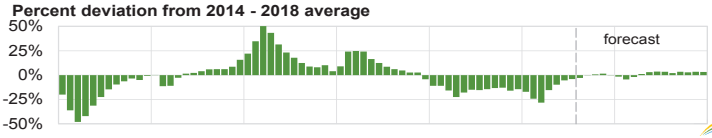


Source: Short-Term Energy Outlook, August 2019

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

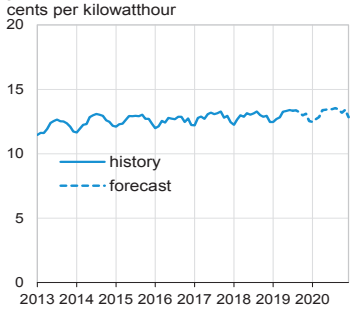


Percent deviation from 2014 - 2018 average



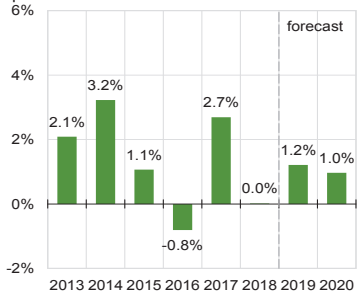
Source: Short-Term Energy Outlook, August 2019

U.S. monthly residential electricity price
cents per kilowatthour



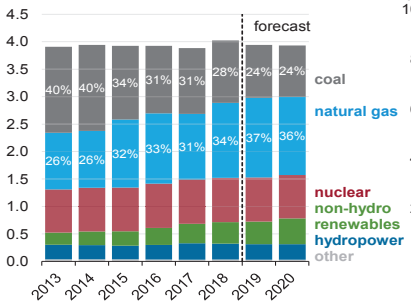
Source: Short-Term Energy Outlook, August 2019

Annual growth in residential electricity prices
percent

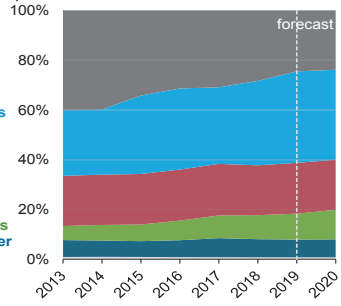


U.S. electricity generation by fuel, all sectors

billion kilowatthours



percent share

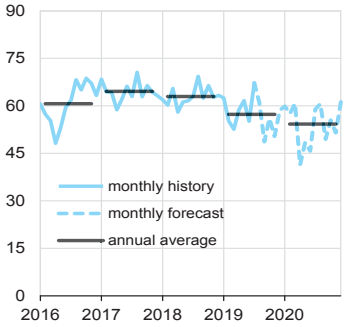


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, August 2019

U.S. coal production

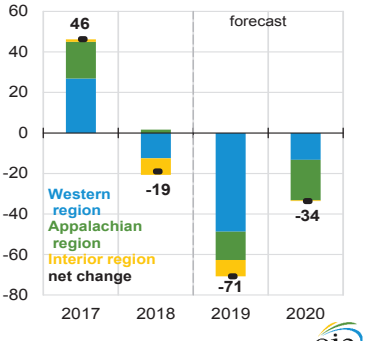
million short tons



Source: Short-Term Energy Outlook, August 2019

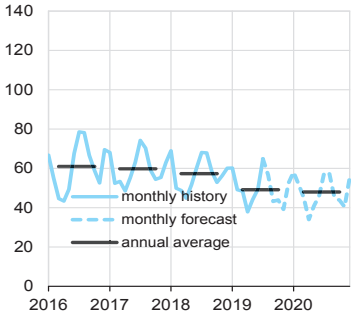
Components of annual change

million short tons



U.S. coal consumption

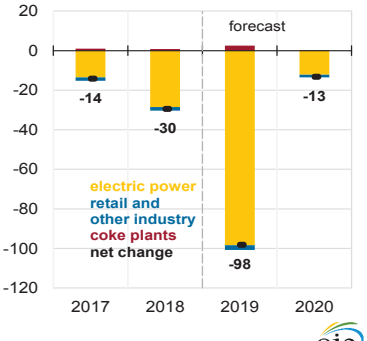
million short tons



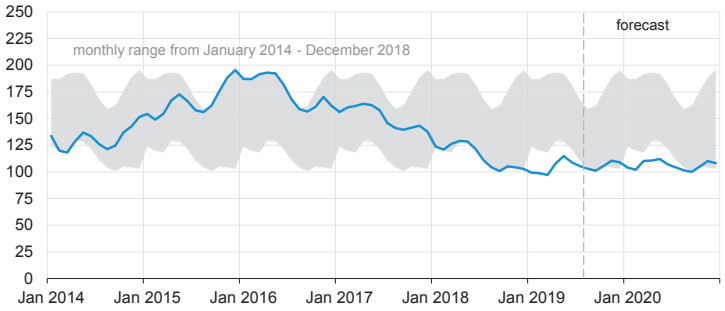
Source: Short-Term Energy Outlook, August 2019

Components of annual change

million short tons

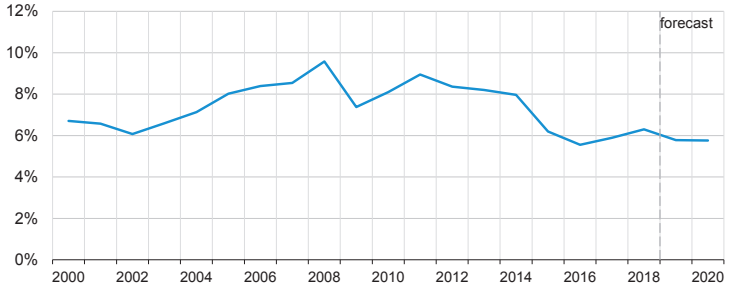


U.S. electric power coal inventories
million short tons



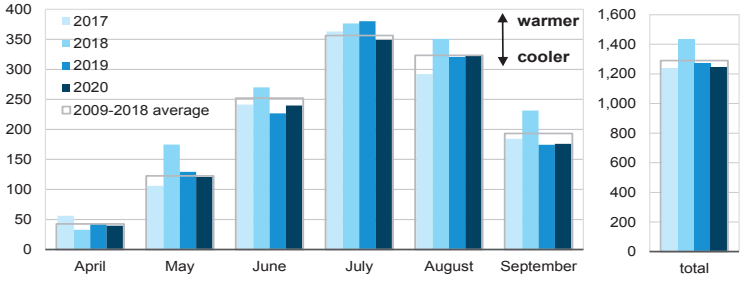
Source: Short-Term Energy Outlook, February 2019

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



Source: Short-Term Energy Outlook, August 2019

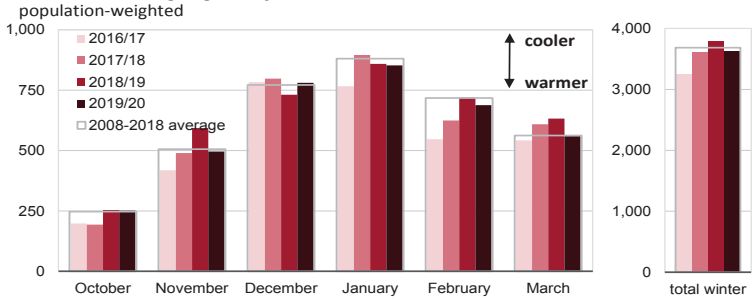
U.S. summer cooling degree days
population-weighted



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

Source: Short-Term Energy Outlook, August 2019

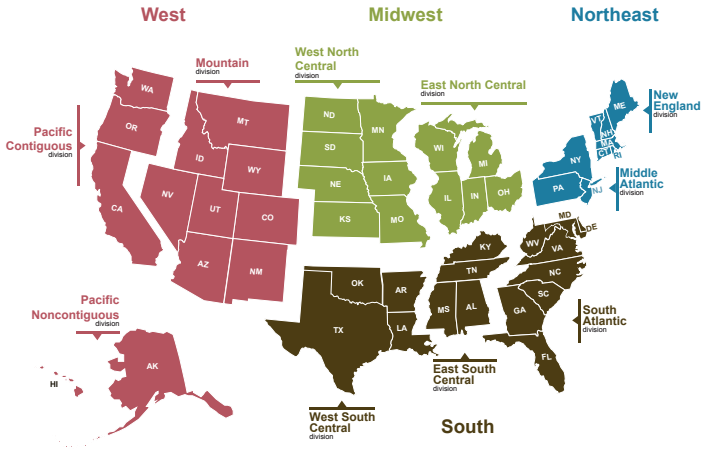
U.S. winter heating degree days
population-weighted



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

Source: Short-Term Energy Outlook, August 2019

U.S. Census regions and divisions



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

Table 1. U.S. Energy Markets Summary

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Energy Supply															
Crude Oil Production (a)															
(million barrels per day)	**10.27**	**10.54**	**11.25**	**11.89**	**11.81**	**12.09**	*12.29*	*12.87*	*13.00*	*13.17*	*13.33*	*13.53*	**10.99**	*12.27*	*13.26*
Dry Natural Gas Production															
(billion cubic feet per day)	**79.13**	**81.17**	**84.95**	**88.21**	**89.42**	**90.07**	*91.54*	*93.04*	*91.97*	*92.00*	*92.90*	*93.13*	**83.39**	*91.03*	*92.50*
Coal Production															
(million short tons)	**188**	**181**	**195**	**192**	**170**	**176**	*177*	*165*	*178*	*135*	*169*	*168*	**756**	*688*	*651*
Energy Consumption															
Liquid Fuels															
(million barrels per day)	**20.24**	**20.33**	**20.63**	**20.60**	**20.29**	**20.33**	*20.99*	*21.03*	*20.55*	*20.77*	*21.28*	*21.08*	**20.45**	*20.66*	*20.92*
Natural Gas															
(billion cubic feet per day)	**97.60**	**70.70**	**74.09**	**86.12**	**102.71**	**70.51**	*76.55*	*89.07*	*100.42*	*73.20*	*75.33*		**82.07**	*84.65*	*83.96*
Coal (b)															
(million short tons)	**168**	**157**	**194**	**169**	**158**	**131**	*165*	*135*	*155*	*121*	*160*	*140*	**687**	*589*	*576*
Electricity															
(billion kilowatt hours per day)	**10.62**	**10.33**	**12.14**	**10.14**	**10.54**	**10.10**	*11.83*	*10.00*	*10.55*	*10.11*	*11.79*	*10.03*	**10.81**	*10.62*	*10.62*
Renewables (c)															
(quadrillion Btu)	**2.92**	**3.10**	**2.72**	**2.74**	**2.83**	**3.15**	*2.77*	*2.79*	*2.97*	*3.31*	*2.94*	*2.94*	**11.48**	*11.55*	*12.17*
Total Energy Consumption (d)															
(quadrillion Btu)	**26.41**	**24.05**	**25.16**	**25.61**	**26.54**	**23.45**	*24.72*	*25.20*	*26.40*	*23.50*	*24.69*	*25.21*	**101.24**	*99.91*	*99.81*
Energy Prices															
Crude Oil West Texas Intermediate Spot															
(dollars per barrel)	**62.90**	**68.07**	**69.69**	**59.59**	**54.82**	**59.94**	*57.09*	*59.50*	*59.50*	*59.50*	*59.50*	*59.50*	**65.06**	*57.87*	*59.50*
Natural Gas Henry Hub Spot															
(dollars per million Btu)	**3.02**	**2.85**	**2.93**	**3.80**	**2.92**	**2.56**	*2.29*	*2.43*	*2.91*	*2.57*	*2.63*	*2.88*	**3.15**	*2.55*	*2.75*
Coal															
(dollars per million Btu)	**2.06**	**2.06**	**2.06**	**2.08**	**2.08**	**2.08**	*2.10*	*2.10*	*2.12*	*2.13*	*2.11*	*2.11*	**2.06**	*2.09*	*2.12*
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2012 dollars - SAAR)	**18,324**	**18,512**	**18,665**	**18,765**	**18,910**	**19,009**	*19,093*	*19,190*	*19,276*	*19,362*	*19,443*	*19,526*	**18,566**	*19,051*	*19,402*
Percent change from prior year	**2.6**	**2.9**	**3.0**	**3.0**	**3.2**	**2.7**	*2.3*	*2.3*	*1.9*	*1.9*	*1.8*	*1.7*	**2.9**	*2.6*	*1.8*
GDP Implicit Price Deflator															
(Index, 2012=100)	**109.3**	**110.2**	**110.7**	**111.1**	**111.4**	**111.9**	*112.6*	*113.2*	*113.9*	*114.5*	*115.2*	*115.9*	**110.3**	*112.3*	*114.9*
Percent change from prior year	**2.0**	**2.4**	**2.3**	**2.1**	**1.9**	**1.6**	*1.7*	*1.8*	*2.2*	*2.4*	*2.3*	*2.4*	**2.2**	*1.7*	*2.3*
Real Disposable Personal Income															
(billion chained 2012 dollars - SAAR)	**14,220**	**14,282**	**14,375**	**14,489**	**14,561**	**14,609**	*14,720*	*14,800*	*14,894*	*15,002*	*15,100*	*15,188*	**14,341**	*14,672*	*15,046*
Percent change from prior year	**2.8**	**2.7**	**2.8**	**3.0**	**2.4**	**2.3**	*2.4*	*2.1*	*2.3*	*2.7*	*2.6*	*2.6*	**2.8**	*2.3*	*2.5*
Manufacturing Production Index															
(Index, 2012=100)	**104.8**	**105.5**	**106.6**	**107.0**	**106.5**	**105.9**	*106.1*	*106.6*	*107.0*	*107.1*	*107.4*	*107.8*	**106.0**	*106.3*	*107.3*
Percent change from prior year	**2.4**	**2.2**	**3.6**	**2.5**	**1.6**	**0.4**	*-0.4*	*-0.4*	*0.5*	*1.1*	*1.3*	*1.1*	**2.7**	*0.3*	*1.0*
Weather															
U.S. Heating Degree-Days	**2,129**	**522**	**48**	**1,578**	**2,211**	**481**	*72*	*1,527*	*2,100*	*477*	*74*	*1,520*	**4,278**	*4,291*	*4,171*
U.S. Cooling Degree-Days	**52**	**478**	**958**	**98**	**46**	**398**	*875*	*92*	*43*	*400*	*848*	*93*	**1,586**	*1,412*	*1,384*

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

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

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

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

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

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

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

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

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	**62.90**	**68.07**	**69.69**	**59.59**	**54.82**	**59.94**	*57.09*	*59.50*	*59.50*	*59.50*	*59.50*	*59.50*	**65.06**	*57.87*	*59.50*
Brent Spot Average	**66.84**	**74.53**	**75.02**	**68.29**	**63.14**	**69.07**	*63.29*	*65.00*	*65.00*	*65.00*	*65.00*	*65.00*	**71.19**	*65.15*	*65.00*
U.S. Imported Average	**58.25**	**64.59**	**66.23**	**55.35**	**55.25**	**60.42**	*55.07*	*55.22*	*54.06*	*54.06*	*54.06*	*54.06*	**61.38**	*56.47*	*54.06*
U.S. Refiner Average Acquisition Cost	**61.94**	**67.27**	**69.08**	**59.39**	**56.93**	**59.58**	*55.46*	*57.33*	*56.86*	*56.86*	*56.86*	*56.86*	**64.48**	*57.32*	*56.86*
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	**186**	**213**	**213**	**178**	**167**	**204**	*188*	*180*	*187*	*199*	*194*	*180*	**198**	*185*	*190*
Diesel Fuel	**199**	**219**	**222**	**212**	**192**	**203**	*199*	*210*	*216*	*222*	*221*	*221*	**213**	*201*	*220*
Heating Oil	**193**	**205**	**214**	**201**	**189**	**194**	*190*	*203*	*212*	*211*	*212*	*213*	**200**	*195*	*212*
Refiner Prices to End Users															
Jet Fuel	**197**	**217**	**220**	**212**	**193**	**205**	*198*	*207*	*214*	*218*	*217*	*216*	**212**	*201*	*217*
No. 6 Residual Fuel Oil (a)	**149**	**162**	**176**	**175**	**153**	**155**	*138*	*128*	*105*	*107*	*110*	*109*	**166**	*142*	*108*
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	**258**	**285**	**284**	**262**	**236**	**279**	*269*	*260*	*263*	*279*	*277*	*262*	**273**	*262*	*271*
Gasoline All Grades (b)	**270**	**294**	**292**	**271**	**245**	**288**	*278*	*272*	*275*	*291*	*289*	*275*	**282**	*271*	*283*
On-highway Diesel Fuel	**302**	**320**	**324**	**327**	**302**	**312**	*303*	*313*	*317*	*323*	*323*	*325*	**318**	*307*	*322*
Heating Oil	**287**	**298**	**325**	**316**	**300**	**305**	*288*	*298*	*310*	*301*	*301*	*309*	**301**	*299*	*307*
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	**3.13**	**2.96**	**3.04**	**3.94**	**3.02**	**2.66**	*2.38*	*2.52*	*3.02*	*2.67*	*2.72*	*2.99*	**3.27**	*2.64*	*2.85*
Henry Hub Spot (dollars per million Btu)	**3.02**	**2.85**	**2.93**	**3.80**	**2.92**	**2.56**	*2.29*	*2.43*	*2.91*	*2.57*	*2.63*	*2.88*	**3.15**	*2.55*	*2.75*
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	**4.44**	**3.83**	**3.73**	**4.71**	**4.68**	**3.72**	*3.31*	*3.65*	*4.30*	*3.66*	*3.59*	*4.08*	**4.20**	*3.86*	*3.93*
Commercial Sector	**7.64**	**8.08**	**8.77**	**7.61**	**7.62**	**8.03**	*8.28*	*7.35*	*7.35*	*7.93*	*8.35*	*7.65*	**7.82**	*7.68*	*7.65*
Residential Sector	**9.37**	**11.93**	**17.93**	**9.97**	**9.46**	**12.30**	*16.31*	*10.17*	*9.38*	*12.04*	*16.68*	*10.68*	**10.49**	*10.49*	*10.61*
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.06**	**2.06**	**2.06**	**2.08**	**2.08**	**2.08**	*2.10*	*2.10*	*2.12*	*2.13*	*2.11*	*2.11*	**2.06**	*2.09*	*2.12*
Natural Gas	**3.96**	**3.09**	**3.23**	**4.05**	**3.71**	**2.68**	*2.31*	*2.67*	*3.43*	*2.71*	*2.71*	*3.18*	**3.54**	*2.78*	*2.97*
Residual Fuel Oil (c)	**11.47**	**13.02**	**14.02**	**14.49**	**12.22**	**13.99**	*12.57*	*12.23*	*12.75*	*13.51*	*12.82*	*12.59*	**12.95**	*12.74*	*12.90*
Distillate Fuel Oil	**15.77**	**16.61**	**16.82**	**16.01**	**14.85**	**15.86**	*15.31*	*16.32*	*16.75*	*17.16*	*17.05*	*17.14*	**16.13**	*15.58*	*17.00*
Retail Prices (cents per kilowatthour)															
Industrial Sector	**6.81**	**6.87**	**7.22**	**6.82**	**6.66**	**6.77**	*7.09*	*6.68*	*6.69*	*6.85*	*7.24*	*6.82*	**6.93**	*6.81*	*6.91*
Commercial Sector	**10.54**	**10.60**	**10.89**	**10.55**	**10.41**	**10.66**	*10.91*	*10.51*	*10.32*	*10.62*	*10.96*	*10.67*	**10.66**	*10.63*	*10.65*
Residential Sector	**12.59**	**13.03**	**13.15**	**12.75**	**12.66**	**13.33**	*13.32*	*12.86*	*12.66*	*13.43*	*13.47*	*13.12*	**12.89**	*13.05*	*13.17*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Supply (million barrels per day) (a)															
OECD	**29.17**	**29.32**	**30.47**	**31.28**	**30.93**	**31.10**	*31.81*	*32.97*	*33.07*	*33.41*	*33.70*	*34.33*	**30.07**	*31.71*	*33.63*
U.S. (50 States)	**16.80**	**17.39**	**18.41**	**19.03**	**18.91**	**19.42**	*19.90*	*20.78*	*20.81*	*21.16*	*21.45*	*21.77*	**17.91**	*19.76*	*21.30*
Canada	**5.32**	**5.10**	**5.33**	**5.42**	**5.29**	**5.23**	*5.43*	*5.46*	*5.48*	*5.48*	*5.52*	*5.58*	**5.30**	*5.35*	*5.51*
Mexico	**2.17**	**2.13**	**2.09**	**1.95**	**1.91**	**1.91**	*2.01*	*2.04*	*2.01*	*1.99*	*1.97*	*1.95*	**2.08**	*1.97*	*1.98*
Other OECD	**4.88**	**4.69**	**4.64**	**4.87**	**4.82**	**4.53**	*4.46*	*4.69*	*4.76*	*4.79*	*4.75*	*5.03*	**4.77**	*4.63*	*4.83*
Non-OECD	**70.16**	**70.49**	**70.98**	**70.96**	**69.09**	**69.24**	*69.60*	*69.31*	*68.22*	*69.19*	*69.56*	*69.00*	**70.65**	*69.31*	*69.00*
OPEC	**37.46**	**37.07**	**37.34**	**37.29**	**35.83**	**35.42**	*35.35*	*35.21*	*34.78*	*34.82*	*34.97*	*34.73*	**37.29**	*35.45*	*34.82*
Crude Oil Portion	**32.10**	**31.78**	**32.02**	**31.93**	**30.47**	**30.03**	*30.00*	*30.01*	*29.74*	*29.80*	*29.95*	*29.68*	**31.96**	*30.13*	*29.79*
Other Liquids (b)	**5.36**	**5.29**	**5.33**	**5.36**	**5.36**	**5.39**	*5.35*	*5.20*	*5.04*	*5.01*	*5.02*	*5.05*	**5.33**	*5.33*	*5.03*
Eurasia	**14.44**	**14.44**	**14.63**	**14.89**	**14.83**	**14.44**	*14.51*	*14.67*	*14.59*	*14.54*	*14.57*	*14.62*	**14.60**	*14.61*	*14.58*
China	**4.79**	**4.84**	**4.78**	**4.86**	**4.92**	**4.95**	*4.89*	*4.93*	*4.90*	*4.93*	*4.93*	*4.98*	**4.82**	*4.92*	*4.94*
Other Non-OECD	**13.47**	**14.14**	**14.22**	**13.92**	**13.51**	**14.43**	*14.85*	*14.48*	*13.95*	*14.89*	*15.09*	*14.68*	**13.94**	*14.32*	*14.65*
Total World Supply	**99.33**	**99.81**	**101.45**	**102.24**	**100.02**	**100.33**	*101.41*	*102.27*	*101.29*	*102.60*	*103.26*	*103.34*	**100.72**	*101.02*	*102.62*
Non-OPEC Supply	**61.87**	**62.74**	**64.11**	**64.95**	**64.19**	**64.91**	*66.06*	*67.06*	*66.51*	*67.78*	*68.29*	*68.61*	**63.43**	*65.56*	*67.80*
Consumption (million barrels per day) (c)															
OECD	**47.60**	**47.00**	**47.91**	**47.51**	**47.17**	**46.82**	*48.04*	*48.25*	*47.63*	*47.13*	*48.36*	*48.34*	**47.51**	*47.57*	*47.87*
U.S. (50 States)	**20.24**	**20.33**	**20.63**	**20.60**	**20.29**	**20.33**	*20.99*	*21.03*	*20.55*	*20.77*	*21.28*	*21.08*	**20.45**	*20.66*	*20.92*
U.S. Territories	**0.10**	**0.08**	**0.09**	**0.11**	**0.12**	**0.11**	*0.12*	*0.13*	*0.12*	*0.11*	*0.12*	*0.13*	**0.10**	*0.12*	*0.12*
Canada	**2.34**	**2.37**	**2.58**	**2.51**	**2.37**	**2.39**	*2.53*	*2.50*	*2.46*	*2.40*	*2.50*	*2.48*	**2.45**	*2.45*	*2.46*
Europe	**14.00**	**14.18**	**14.61**	**14.04**	**13.85**	**14.15**	*14.64*	*14.34*	*13.96*	*14.16*	*14.67*	*14.37*	**14.21**	*14.25*	*14.29*
Japan	**4.31**	**3.46**	**3.56**	**3.92**	**4.09**	**3.40**	*3.45*	*3.77*	*4.05*	*3.32*	*3.39*	*3.73*	**3.81**	*3.67*	*3.62*
Other OECD	**6.61**	**6.58**	**6.43**	**6.33**	**6.46**	**6.45**	*6.33*	*6.47*	*6.50*	*6.37*	*6.40*	*6.55*	**6.49**	*6.43*	*6.46*
Non-OECD	**51.54**	**52.59**	**52.56**	**52.89**	**52.62**	**53.47**	*53.50*	*53.73*	*53.63*	*54.66*	*54.68*	*54.91*	**52.40**	*53.33*	*54.47*
Eurasia	**4.78**	**4.83**	**5.11**	**4.98**	**4.79**	**4.86**	*5.13*	*5.08*	*4.85*	*4.94*	*5.32*	*5.22*	**4.93**	*4.97*	*5.08*
Europe	**0.75**	**0.74**	**0.76**	**0.76**	**0.75**	**0.75**	*0.77*	*0.77*	*0.76*	*0.76*	*0.78*	*0.78*	**0.75**	*0.76*	*0.77*
China	**13.80**	**14.00**	**13.73**	**13.95**	**14.28**	**14.57**	*14.30*	*14.51*	*14.83*	*15.03*	*14.74*	*14.97*	**13.87**	*14.42*	*14.89*
Other Asia	**13.77**	**14.02**	**13.60**	**14.00**	**14.12**	**14.13**	*13.81*	*14.19*	*14.34*	*14.50*	*14.08*	*14.43*	**13.85**	*14.06*	*14.34*
Other Non-OECD	**18.44**	**19.00**	**19.36**	**19.20**	**18.67**	**19.15**	*19.49*	*19.18*	*18.85*	*19.43*	*19.77*	*19.51*	**19.00**	*19.12*	*19.39*
Total World Consumption	**99.14**	**99.59**	**100.47**	**100.41**	**99.79**	**100.29**	*101.54*	*101.98*	*101.26*	*101.79*	*103.04*	*103.25*	**99.91**	*100.91*	*102.34*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.36**	**-0.06**	**-0.70**	**0.22**	**0.15**	**-0.57**	*-0.06*	*0.23*	*0.00*	*-0.41*	*-0.12*	*0.31*	**-0.05**	*-0.06*	*-0.05*
Other OECD	**-0.01**	**0.12**	**0.18**	**-0.08**	**-0.14**	**0.09**	*0.07*	*-0.18*	*-0.01*	*-0.13*	*-0.03*	*-0.13*	**0.05**	*-0.04*	*-0.08*
Other Stock Draws and Balance	**-0.54**	**-0.27**	**-0.47**	**-1.97**	**-0.24**	**0.43**	*0.13*	*-0.35*	*-0.02*	*-0.27*	*-0.06*	*-0.27*	**-0.82**	*-0.01*	*-0.16*
Total Stock Draw	**-0.18**	**-0.21**	**-0.98**	**-1.83**	**-0.24**	**-0.04**	*0.13*	*-0.29*	*-0.03*	*-0.80*	*-0.21*	*-0.09*	**-0.81**	*-0.11*	*-0.28*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,196**	**1,207**	**1,272**	**1,262**	**1,249**	**1,305**	*1,310*	*1,292*	*1,296*	*1,336*	*1,348*	*1,322*	**1,262**	*1,292*	*1,322*
OECD Commercial Inventory	**2,805**	**2,805**	**2,856**	**2,861**	**2,856**	**2,903**	*2,903*	*2,901*	*2,905*	*2,958*	*2,973*	*2,959*	**2,861**	*2,901*	*2,959*

- = no data available

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
North America	**24.29**	**24.63**	**25.83**	**26.41**	**26.11**	**26.56**	*27.35*	*28.27*	*28.31*	*28.62*	*28.95*	*29.30*	**25.29**	*27.08*	*28.80*
Canada	**5.32**	**5.10**	**5.33**	**5.42**	**5.29**	**5.23**	*5.43*	*5.46*	*5.48*	*5.48*	*5.52*	*5.58*	**5.30**	*5.35*	*5.51*
Mexico	**2.17**	**2.13**	**2.09**	**1.95**	**1.91**	**1.91**	*2.01*	*2.04*	*2.01*	*1.99*	*1.97*	*1.95*	**2.08**	*1.97*	*1.98*
United States	**16.80**	**17.39**	**18.41**	**19.03**	**18.91**	**19.42**	*19.90*	*20.78*	*20.81*	*21.16*	*21.45*	*21.77*	**17.91**	*19.76*	*21.30*
Central and South America	**4.90**	**5.65**	**5.72**	**5.36**	**4.90**	**5.77**	*6.17*	*5.75*	*5.23*	*6.20*	*6.39*	*6.00*	**5.41**	*5.65*	*5.96*
Argentina	**0.67**	**0.69**	**0.68**	**0.68**	**0.66**	**0.70**	*0.67*	*0.67*	*0.69*	*0.71*	*0.69*	*0.69*	**0.68**	*0.68*	*0.69*
Brazil	**2.95**	**3.64**	**3.75**	**3.36**	**2.91**	**3.76**	*4.22*	*3.77*	*3.22*	*4.19*	*4.44*	*4.01*	**3.43**	*3.67*	*3.97*
Colombia	**0.86**	**0.89**	**0.89**	**0.91**	**0.92**	**0.91**	*0.89*	*0.90*	*0.91*	*0.90*	*0.88*	*0.90*	**0.89**	*0.90*	*0.90*
Other Central and S. America	**0.42**	**0.43**	**0.40**	**0.41**	**0.41**	**0.40**	*0.39*	*0.40*	*0.40*	*0.40*	*0.39*	*0.40*	**0.41**	*0.40*	*0.40*
Europe	**4.37**	**4.20**	**4.12**	**4.32**	**4.27**	**4.01**	*3.96*	*4.17*	*4.22*	*4.24*	*4.19*	*4.48*	**4.25**	*4.10*	*4.28*
Norway	**1.97**	**1.80**	**1.81**	**1.87**	**1.79**	**1.59**	*1.63*	*1.69*	*1.75*	*1.77*	*1.84*	*2.02*	**1.86**	*1.67*	*1.85*
United Kingdom	**1.16**	**1.17**	**1.10**	**1.22**	**1.26**	**1.22**	*1.13*	*1.25*	*1.25*	*1.25*	*1.14*	*1.24*	**1.16**	*1.22*	*1.22*
Eurasia	**14.44**	**14.44**	**14.63**	**14.89**	**14.83**	**14.44**	*14.51*	*14.67*	*14.59*	*14.54*	*14.57*	*14.62*	**14.60**	*14.61*	*14.58*
Azerbaijan	**0.81**	**0.81**	**0.80**	**0.81**	**0.82**	**0.79**	*0.76*	*0.77*	*0.76*	*0.76*	*0.74*	*0.75*	**0.81**	*0.78*	*0.75*
Kazakhstan	**1.98**	**1.96**	**1.90**	**2.00**	**2.03**	**1.86**	*1.93*	*2.07*	*2.02*	*1.98*	*2.01*	*2.05*	**1.96**	*1.97*	*2.02*
Russia	**11.20**	**11.24**	**11.50**	**11.66**	**11.58**	**11.40**	*11.41*	*11.43*	*11.42*	*11.42*	*11.43*	*11.44*	**11.40**	*11.45*	*11.43*
Turkmenistan	**0.30**	**0.28**	**0.28**	**0.27**	**0.25**	**0.24**	*0.25*	*0.25*	*0.24*	*0.24*	*0.24*	*0.24*	**0.28**	*0.25*	*0.24*
Other Eurasia	**0.15**	**0.15**	**0.15**	**0.16**	**0.16**	**0.16**	*0.16*	*0.16*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.16*	*0.15*
Middle East	**3.07**	**3.07**	**3.09**	**3.10**	**3.12**	**3.14**	*3.16*	*3.16*	*3.22*	*3.23*	*3.23*	*3.23*	**3.08**	*3.14*	*3.23*
Oman	**0.98**	**0.98**	**0.99**	**1.01**	**0.98**	**0.99**	*1.00*	*1.00*	*1.00*	*1.01*	*1.01*	*1.01*	**0.99**	*0.99*	*1.01*
Qatar	**1.94**	**1.94**	**1.95**	**1.94**	**1.99**	**2.00**	*2.00*	*2.00*	*2.06*	*2.06*	*2.06*	*2.06*	**1.94**	*2.00*	*2.06*
Asia and Oceania	**9.31**	**9.26**	**9.19**	**9.34**	**9.39**	**9.44**	*9.38*	*9.48*	*9.43*	*9.44*	*9.45*	*9.47*	**9.28**	*9.42*	*9.45*
Australia	**0.36**	**0.34**	**0.37**	**0.40**	**0.40**	**0.44**	*0.46*	*0.47*	*0.49*	*0.50*	*0.50*	*0.50*	**0.37**	*0.44*	*0.50*
China	**4.79**	**4.84**	**4.78**	**4.86**	**4.92**	**4.95**	*4.89*	*4.93*	*4.90*	*4.93*	*4.93*	*4.98*	**4.82**	*4.92*	*4.94*
India	**1.03**	**1.02**	**1.01**	**1.00**	**1.00**	**0.97**	*0.97*	*0.96*	*0.96*	*0.95*	*0.96*	*0.96*	**1.01**	*0.97*	*0.96*
Indonesia	**0.90**	**0.90**	**0.88**	**0.89**	**0.88**	**0.92**	*0.92*	*0.92*	*0.91*	*0.90*	*0.90*	*0.89*	**0.89**	*0.91*	*0.90*
Malaysia	**0.77**	**0.75**	**0.73**	**0.75**	**0.75**	**0.72**	*0.69*	*0.74*	*0.72*	*0.71*	*0.70*	*0.69*	**0.75**	*0.73*	*0.70*
Vietnam	**0.27**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	*0.24*	*0.24*	*0.24*	*0.24*	*0.23*	*0.23*	**0.25**	*0.24*	*0.23*
Africa	**1.49**	**1.49**	**1.52**	**1.53**	**1.57**	**1.54**	*1.54*	*1.55*	*1.51*	*1.51*	*1.51*	*1.51*	**1.51**	*1.55*	*1.51*
Egypt	**0.67**	**0.66**	**0.67**	**0.67**	**0.66**	**0.63**	*0.62*	*0.62*	*0.59*	*0.59*	*0.59*	*0.59*	**0.67**	*0.63*	*0.59*
South Sudan	**0.12**	**0.12**	**0.12**	**0.14**	**0.17**	**0.18**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.13**	*0.18*	*0.18*
Total non-OPEC liquids	**61.87**	**62.74**	**64.11**	**64.95**	**64.19**	**64.91**	*66.06*	*67.06*	*66.51*	*67.78*	*68.29*	*68.61*	**63.43**	*65.56*	*67.80*
OPEC non-crude liquids	**5.36**	**5.29**	**5.33**	**5.36**	**5.36**	**5.39**	*5.35*	*5.20*	*5.04*	*5.01*	*5.02*	*5.05*	**5.33**	*5.33*	*5.03*
Non-OPEC + OPEC non-crude	**67.23**	**68.02**	**69.44**	**70.31**	**69.55**	**70.30**	*71.41*	*72.26*	*71.55*	*72.79*	*73.31*	*73.66*	**68.76**	*70.89*	*72.83*
Unplanned non-OPEC Production Outages	**0.40**	**0.27**	**0.17**	**0.31**	**0.35**	**0.29**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**0.29**	*n/a*	*n/a*

- = no data available

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Crude Oil															
Algeria	**1.02**	**1.02**	**1.03**	**1.00**	**1.01**	**1.02**	-	-	-	-	-	-	**1.02**	-	-
Angola	**1.59**	**1.56**	**1.56**	**1.57**	**1.50**	**1.43**	-	-	-	-	-	-	**1.57**	-	-
Congo (Brazzaville)	**0.34**	**0.35**	**0.33**	**0.31**	**0.33**	**0.33**	-	-	-	-	-	-	**0.33**	-	-
Ecuador	**0.51**	**0.52**	**0.52**	**0.52**	**0.53**	**0.53**	-	-	-	-	-	-	**0.52**	-	-
Equatorial Guinea	**0.14**	**0.13**	**0.14**	**0.12**	**0.11**	**0.11**	-	-	-	-	-	-	**0.13**	-	-
Gabon	**0.20**	**0.20**	**0.19**	**0.19**	**0.20**	**0.20**	-	-	-	-	-	-	**0.20**	-	-
Iran	**3.83**	**3.80**	**3.55**	**2.90**	**2.63**	**2.33**	-	-	-	-	-	-	**3.52**	-	-
Iraq	**4.46**	**4.50**	**4.66**	**4.77**	**4.75**	**4.75**	-	-	-	-	-	-	**4.60**	-	-
Kuwait	**2.71**	**2.71**	**2.80**	**2.80**	**2.74**	**2.72**	-	-	-	-	-	-	**2.76**	-	-
Libya	**1.00**	**0.92**	**0.91**	**1.03**	**0.93**	**1.15**	-	-	-	-	-	-	**0.96**	-	-
Nigeria	**1.72**	**1.53**	**1.55**	**1.60**	**1.58**	**1.64**	-	-	-	-	-	-	**1.60**	-	-
Saudi Arabia	**10.10**	**10.20**	**10.47**	**10.74**	**10.00**	**9.92**	-	-	-	-	-	-	**10.38**	-	-
United Arab Emirates	**2.88**	**2.86**	**2.94**	**3.11**	**3.12**	**3.12**	-	-	-	-	-	-	**2.95**	-	-
Venezuela	**1.60**	**1.49**	**1.36**	**1.27**	**1.05**	**0.78**	-	-	-	-	-	-	**1.43**	-	-
OPEC Total	**32.10**	**31.78**	**32.02**	**31.93**	**30.47**	**30.03**	*30.00*	*30.01*	*29.74*	*29.80*	*29.95*	*29.68*	**31.96**	*30.13*	*29.79*
Other Liquids (a)	**5.36**	**5.29**	**5.33**	**5.36**	**5.36**	**5.39**	*5.35*	*5.20*	*5.04*	*5.01*	*5.02*	*5.05*	**5.33**	*5.33*	*5.03*
Total OPEC Supply	**37.46**	**37.07**	**37.34**	**37.29**	**35.83**	**35.42**	*35.35*	*35.21*	*34.78*	*34.82*	*34.97*	*34.73*	**37.29**	*35.45*	*34.82*
Crude Oil Production Capacity															
Africa	**6.00**	**5.70**	**5.71**	**5.83**	**5.66**	**5.88**	*5.82*	*5.84*	*5.89*	*5.91*	*5.93*	*5.93*	**5.81**	*5.80*	*5.92*
Middle East	**25.84**	**25.85**	**25.76**	**25.31**	**25.31**	**25.01**	*24.76*	*24.73*	*24.75*	*24.79*	*24.80*	*24.81*	**25.69**	*24.95*	*24.79*
South America	**2.11**	**2.01**	**1.89**	**1.79**	**1.58**	**1.31**	*1.23*	*1.10*	*1.01*	*0.95*	*0.90*	*0.86*	**1.95**	*1.30*	*0.93*
OPEC Total	**33.95**	**33.56**	**33.36**	**32.93**	**32.55**	**32.20**	*31.81*	*31.66*	*31.65*	*31.65*	*31.63*	*31.60*	**33.45**	*32.05*	*31.63*
Surplus Crude Oil Production Capacity															
Africa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Middle East	**1.86**	**1.78**	**1.34**	**1.00**	**2.08**	**2.18**	*1.81*	*1.65*	*1.92*	*1.85*	*1.68*	*1.92*	**1.49**	*1.93*	*1.84*
South America	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
OPEC Total	**1.86**	**1.78**	**1.34**	**1.00**	**2.08**	**2.18**	*1.81*	*1.65*	*1.92*	*1.85*	*1.68*	*1.92*	**1.49**	*1.93*	*1.84*
Unplanned OPEC Production Outages	**1.21**	**1.43**	**1.59**	**2.01**	**2.51**	**2.42**	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	**1.56**	*n/a*	*n/a*

- = 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 - August 2019

	2018				2019				2020						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
North America	**24.51**	**24.65**	**25.12**	**24.92**	**24.53**	**24.73**	*25.42*	*25.45*	*24.93*	*25.13*	*25.74*	*25.53*	**24.80**	*25.04*	*25.33*
Canada	**2.34**	**2.37**	**2.58**	**2.51**	**2.37**	**2.39**	*2.53*	*2.50*	*2.46*	*2.40*	*2.50*	*2.48*	**2.45**	*2.45*	*2.46*
Mexico	**1.91**	**1.94**	**1.89**	**1.80**	**1.86**	**2.00**	*1.89*	*1.91*	*1.92*	*1.95*	*1.95*	*1.96*	**1.89**	*1.92*	*1.94*
United States	**20.24**	**20.33**	**20.63**	**20.60**	**20.29**	**20.33**	*20.99*	*21.03*	*20.55*	*20.77*	*21.28*	*21.08*	**20.45**	*20.66*	*20.92*
Central and South America	**6.72**	**6.76**	**6.94**	**6.95**	**6.64**	**6.76**	*6.83*	*6.82*	*6.61*	*6.75*	*6.88*	*6.90*	**6.84**	*6.76*	*6.79*
Brazil	**2.98**	**2.95**	**3.11**	**3.11**	**3.01**	**3.06**	*3.10*	*3.09*	*3.00*	*3.07*	*3.16*	*3.16*	**3.04**	*3.07*	*3.10*
Europe	**14.75**	**14.92**	**15.37**	**14.81**	**14.60**	**14.90**	*15.41*	*15.12*	*14.72*	*14.93*	*15.45*	*15.16*	**14.96**	*15.01*	*15.07*
Eurasia	**4.78**	**4.83**	**5.11**	**4.98**	**4.79**	**4.86**	*5.13*	*5.08*	*4.85*	*4.94*	*5.32*	*5.22*	**4.93**	*4.97*	*5.08*
Russia	**3.63**	**3.70**	**3.91**	**3.78**	**3.63**	**3.72**	*3.93*	*3.87*	*3.68*	*3.79*	*4.11*	*4.00*	**3.75**	*3.79*	*3.90*
Middle East	**8.00**	**8.53**	**8.80**	**8.43**	**8.26**	**8.61**	*8.97*	*8.47*	*8.38*	*8.81*	*9.12*	*8.64*	**8.44**	*8.58*	*8.74*
Asia and Oceania	**36.01**	**35.51**	**34.86**	**35.83**	**36.50**	**35.97**	*35.41*	*36.47*	*37.23*	*36.69*	*36.06*	*37.14*	**35.55**	*36.09*	*36.78*
China	**13.80**	**14.00**	**13.73**	**13.95**	**14.28**	**14.57**	*14.30*	*14.51*	*14.83*	*15.03*	*14.74*	*14.97*	**13.87**	*14.42*	*14.89*
Japan	**4.31**	**3.46**	**3.56**	**3.92**	**4.09**	**3.40**	*3.45*	*3.77*	*4.05*	*3.32*	*3.39*	*3.73*	**3.81**	*3.67*	*3.62*
India	**4.73**	**4.89**	**4.57**	**4.92**	**4.99**	**4.89**	*4.66*	*4.98*	*5.11*	*5.17*	*4.83*	*5.14*	**4.78**	*4.88*	*5.06*
Africa	**4.38**	**4.38**	**4.28**	**4.49**	**4.45**	**4.45**	*4.38*	*4.57*	*4.55*	*4.55*	*4.47*	*4.66*	**4.38**	*4.46*	*4.56*
Total OECD Liquid Fuels Consumption	**47.60**	**47.00**	**47.91**	**47.51**	**47.17**	**46.82**	*48.04*	*48.25*	*47.63*	*47.13*	*48.36*	*48.34*	**47.51**	*47.57*	*47.87*
Total non-OECD Liquid Fuels Consumption	**51.54**	**52.59**	**52.56**	**52.89**	**52.62**	**53.47**	*53.50*	*53.73*	*53.63*	*54.66*	*54.68*	*54.91*	**52.40**	*53.33*	*54.47*
Total World Liquid Fuels Consumption	**99.14**	**99.59**	**100.47**	**100.41**	**99.79**	**100.29**	*101.54*	*101.98*	*101.26*	*101.79*	*103.04*	*103.25*	**99.91**	*100.91*	*102.34*
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2015 Q1 = 100	**109.2**	**109.8**	**110.4**	**111.0**	**111.7**	**112.0**	*112.7*	*113.3*	*113.6*	*115.3*	*116.1*	*117.0*	**110.1**	*112.4*	*115.5*
Percent change from prior year	**3.3**	**3.2**	**2.9**	**2.7**	**2.3**	**2.0**	*2.1*	*2.0*	*1.7*	*3.0*	*3.0*	*3.3*	**3.0**	*2.1*	*2.7*
OECD Index, 2015 Q1 = 100	**106.6**	**107.1**	**107.5**	**108.0**	**108.8**	**109.0**	*109.4*	*109.9*	*109.5*	*111.1*	*111.5*	*112.1*	**107.3**	*109.3*	*111.1*
Percent change from prior year	**2.5**	**2.5**	**2.3**	**2.1**	**2.1**	**1.7**	*1.8*	*1.7*	*0.7*	*1.9*	*1.9*	*2.0*	**2.3**	*1.8*	*1.6*
Non-OECD Index, 2015 Q1 = 100	**111.7**	**112.4**	**113.2**	**113.9**	**114.5**	**115.0**	*115.8*	*116.6*	*117.6*	*119.5*	*120.5*	*121.8*	**112.8**	*115.5*	*119.8*
Percent change from prior year	**3.9**	**3.8**	**3.4**	**3.3**	**2.5**	**2.3**	*2.3*	*2.4*	*2.7*	*3.9*	*4.1*	*4.5*	**3.6**	*2.4*	*3.8*
Real U.S. Dollar Exchange Rate (a)															
Index, 2015 Q1 = 100	**100.74**	**102.80**	**105.53**	**106.19**	**105.15**	**105.70**	*105.08*	*104.49*	*104.02*	*103.45*	*102.90*	*102.40*	**103.82**	*105.11*	*103.19*
Percent change from prior year	**-4.0**	**-0.7**	**3.4**	**3.7**	**4.4**	**2.8**	*-0.4*	*-1.6*	*-1.1*	*-2.1*	*-2.1*	*-2.0*	**0.6**	*1.2*	*-1.8*

- = no data available

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.27**	**10.54**	**11.25**	**11.89**	**11.81**	**12.09**	*12.29*	*12.87*	*13.00*	*13.17*	*13.33*	*13.53*	**10.99**	*12.27*	*13.26*
Alaska	**0.51**	**0.48**	**0.43**	**0.49**	**0.49**	**0.47**	*0.45*	*0.49*	*0.51*	*0.49*	*0.46*	*0.49*	**0.48**	*0.47*	*0.49*
Federal Gulf of Mexico (b)	**1.68**	**1.60**	**1.87**	**1.87**	**1.85**	**1.88**	*1.79*	*2.03*	*2.14*	*2.14*	*2.08*	*2.09*	**1.76**	*1.89*	*2.11*
Lower 48 States (excl GOM)	**8.07**	**8.46**	**8.94**	**9.53**	**9.47**	**9.74**	*10.05*	*10.34*	*10.35*	*10.55*	*10.79*	*10.95*	**8.75**	*9.90*	*10.66*
Crude Oil Net Imports (c)	**6.18**	**6.19**	**5.84**	**4.82**	**4.25**	**4.15**	*4.37*	*4.02*	*4.12*	*4.54*	*4.31*	*3.91*	**5.75**	*4.20*	*4.22*
SPR Net Withdrawals	**-0.03**	**0.06**	**0.00**	**0.12**	**0.00**	**0.05**	*0.00*	*0.04*	*0.04*	*0.04*	*0.01*	*0.03*	**0.04**	*0.02*	*0.03*
Commercial Inventory Net Withdrawals	**-0.02**	**0.09**	**-0.01**	**-0.28**	**-0.19**	**-0.06**	*0.24*	*-0.17*	*-0.37*	*0.05*	*0.14*	*-0.08*	**-0.06**	*-0.04*	*-0.06*
Crude Oil Adjustment (d)	**0.02**	**0.25**	**0.25**	**0.44**	**0.34**	**0.54**	*0.26*	*0.15*	*0.19*	*0.19*	*0.21*	*0.15*	**0.24**	*0.32*	*0.19*
Total Crude Oil Input to Refineries	**16.41**	**17.14**	**17.32**	**16.99**	**16.20**	**16.77**	*17.18*	*16.90*	*16.98*	*17.99*	*18.01*	*17.54*	**16.97**	*16.77*	*17.63*
Other Supply															
Refinery Processing Gain	**1.11**	**1.12**	**1.17**	**1.16**	**1.06**	**1.09**	*1.13*	*1.17*	*1.19*	*1.24*	*1.26*	*1.27*	**1.14**	*1.11*	*1.24*
Natural Gas Plant Liquids Production	**4.01**	**4.30**	**4.54**	**4.54**	**4.66**	**4.83**	*5.07*	*5.32*	*5.22*	*5.27*	*5.41*	*5.51*	**4.35**	*4.97*	*5.35*
Renewables and Oxygenate Production (e)	**1.21**	**1.22**	**1.25**	**1.22**	**1.18**	**1.23**	*1.19*	*1.19*	*1.19*	*1.24*	*1.22*	*1.23*	**1.23**	*1.20*	*1.22*
Fuel Ethanol Production	**1.05**	**1.04**	**1.06**	**1.04**	**1.01**	**1.05**	*1.03*	*1.03*	*1.03*	*1.05*	*1.05*	*1.05*	**1.05**	*1.03*	*1.05*
Petroleum Products Adjustment (f)	**0.21**	**0.21**	**0.21**	**0.22**	**0.20**	**0.19**	*0.22*	*0.22*	*0.22*	*0.24*	*0.24*	*0.24*	**0.21**	*0.21*	*0.23*
Product Net Imports (c)	**-3.13**	**-3.44**	**-3.17**	**-3.91**	**-3.35**	**-3.22**	*-3.49*	*-4.15*	*-4.58*	*-4.71*	*-4.59*	*-5.07*	**-3.41**	*-3.56*	*-4.74*
Hydrocarbon Gas Liquids	**-1.22**	**-1.53**	**-1.49**	**-1.38**	**-1.33**	**-1.70**	*-1.75*	*-1.89*	*-1.93*	*-1.95*	*-2.00*	*-2.11*	**-1.41**	*-1.67*	*-2.00*
Unfinished Oils	**0.39**	**0.32**	**0.35**	**0.28**	**0.21**	**0.45**	*0.34*	*0.34*	*0.50*	*0.61*	*0.61*	*0.51*	**0.33**	*0.34*	*0.56*
Other HC/Oxygenates	**-0.18**	**-0.15**	**-0.13**	**-0.15**	**-0.13**	**-0.13**	*-0.12*	*-0.10*	*-0.13*	*-0.12*	*-0.12*	*-0.12*	**-0.15**	*-0.12*	*-0.12*
Motor Gasoline Blend Comp.	**0.50**	**0.78**	**0.66**	**0.37**	**0.43**	**0.75**	*0.51*	*0.44*	*0.44*	*0.66*	*0.49*	*0.45*	**0.58**	*0.53*	*0.51*
Finished Motor Gasoline	**-0.94**	**-0.71**	**-0.72**	**-1.00**	**-0.82**	**-0.63**	*-0.57*	*-0.92*	*-1.11*	*-0.98*	*-0.83*	*-1.22*	**-0.84**	*-0.74*	*-1.03*
Jet Fuel	**-0.10**	**-0.10**	**-0.06**	**-0.13**	**-0.08**	**-0.02**	*-0.01*	*0.02*	*0.02*	*-0.04*	*-0.05*	*-0.03*	**-0.10**	*-0.02*	*-0.03*
Distillate Fuel Oil	**-0.87**	**-1.30**	**-1.14**	**-1.19**	**-0.91**	**-1.29**	*-1.24*	*-1.21*	*-1.43*	*-1.87*	*-1.80*	*-1.55*	**-1.13**	*-1.17*	*-1.66*
Residual Fuel Oil	**-0.10**	**-0.14**	**-0.10**	**-0.09**	**-0.08**	**-0.13**	*-0.03*	*-0.06*	*-0.03*	*-0.13*	*-0.04*	*-0.06*	**-0.11**	*-0.07*	*-0.07*
Other Oils (g)	**-0.62**	**-0.61**	**-0.53**	**-0.61**	**-0.64**	**-0.53**	*-0.62*	*-0.78*	*-0.90*	*-0.88*	*-0.86*	*-0.93*	**-0.59**	*-0.64*	*-0.89*
Product Inventory Net Withdrawals	**0.41**	**-0.21**	**-0.69**	**0.38**	**0.34**	**-0.56**	*-0.31*	*0.37*	*0.34*	*-0.50*	*-0.27*	*0.36*	**-0.03**	*-0.04*	*-0.02*
Total Supply	**20.23**	**20.33**	**20.63**	**20.60**	**20.29**	**20.33**	*20.99*	*21.03*	*20.55*	*20.77*	*21.28*	*21.08*	**20.45**	*20.66*	*20.92*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.22**	**2.67**	**2.85**	**3.22**	**3.48**	**2.77**	*3.15*	*3.57*	*3.61*	*3.14*	*3.27*	*3.56*	**2.99**	*3.24*	*3.39*
Unfinished Oils	**0.13**	**-0.04**	**-0.10**	**0.00**	**-0.03**	**0.10**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.02*	*0.00*
Motor Gasoline	**9.01**	**9.51**	**9.51**	**9.25**	**8.96**	**9.47**	*9.53*	*9.26*	*8.97*	*9.54*	*9.57*	*9.24*	**9.32**	*9.31*	*9.33*
Fuel Ethanol blended into Motor Gasoline	**0.91**	**0.94**	**0.96**	**0.94**	**0.91**	**0.97**	*0.94*	*0.93*	*0.91*	*0.98*	*0.97*	*0.95*	**0.94**	*0.94*	*0.95*
Jet Fuel	**1.64**	**1.73**	**1.78**	**1.70**	**1.65**	**1.78**	*1.85*	*1.83*	*1.77*	*1.84*	*1.88*	*1.86*	**1.71**	*1.78*	*1.84*
Distillate Fuel Oil	**4.18**	**4.13**	**4.05**	**4.18**	**4.28**	**4.01**	*4.02*	*4.20*	*4.22*	*4.08*	*4.17*	*4.27*	**4.13**	*4.12*	*4.18*
Residual Fuel Oil	**0.28**	**0.32**	**0.34**	**0.34**	**0.27**	**0.25**	*0.35*	*0.31*	*0.28*	*0.23*	*0.31*	*0.28*	**0.32**	*0.29*	*0.27*
Other Oils (g)	**1.78**	**2.01**	**2.22**	**1.91**	**1.68**	**1.95**	*2.09*	*1.87*	*1.70*	*1.95*	*2.08*	*1.88*	**1.98**	*1.90*	*1.90*
Total Consumption	**20.24**	**20.33**	**20.63**	**20.60**	**20.29**	**20.33**	*20.99*	*21.03*	*20.55*	*20.77*	*21.28*	*21.08*	**20.45**	*20.66*	*20.92*
Total Petroleum and Other Liquids Net Imports	**3.05**	**2.75**	**2.67**	**0.91**	**0.89**	**0.93**	*0.88*	*-0.14*	*-0.46*	*-0.16*	*-0.27*	*-1.16*	**2.34**	*0.64*	*-0.52*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**423.4**	**414.8**	**416.1**	**441.8**	**459.3**	**464.4**	*441.9*	*457.5*	*491.4*	*486.6*	*473.4*	*481.0*	**441.8**	*457.5*	*481.0*
Hydrocarbon Gas Liquids	**139.3**	**180.8**	**224.8**	**188.5**	**163.0**	**227.0**	*262.3*	*219.4*	*180.0*	*229.2*	*264.8*	*220.0*	**188.5**	*219.4*	*220.0*
Unfinished Oils	**98.3**	**92.6**	**92.0**	**85.9**	**92.0**	**96.5**	*89.9*	*82.1*	*92.5*	*92.3*	*89.4*	*82.4*	**85.9**	*82.1*	*82.4*
Other HC/Oxygenates	**30.5**	**28.8**	**30.5**	**31.4**	**32.8**	**31.6**	*32.6*	*33.2*	*35.0*	*34.0*	*33.2*	*33.9*	**31.4**	*33.2*	*33.9*
Total Motor Gasoline	**239.6**	**240.3**	**239.7**	**246.3**	**236.1**	**230.0**	*222.0*	*234.4*	*233.2*	*228.4*	*222.9*	*235.6*	**246.3**	*234.4*	*235.6*
Finished Motor Gasoline	**23.1**	**24.7**	**24.8**	**25.7**	**21.7**	**22.4**	*23.9*	*24.4*	*23.7*	*22.5*	*23.4*	*23.8*	**25.7**	*24.4*	*23.8*
Motor Gasoline Blend Comp.	**216.5**	**215.6**	**214.9**	**220.5**	**214.4**	**207.6**	*198.1*	*209.9*	*209.4*	*205.9*	*199.5*	*211.8*	**220.5**	*209.9*	*211.8*
Jet Fuel	**40.4**	**40.8**	**46.9**	**41.6**	**41.6**	**40.1**	*43.6*	*41.6*	*41.7*	*43.1*	*44.5*	*42.5*	**41.6**	*41.6*	*42.5*
Distillate Fuel Oil	**130.4**	**120.4**	**137.1**	**140.0**	**132.4**	**128.4**	*136.6*	*141.3*	*131.3*	*133.4*	*138.4*	*143.3*	**140.0**	*141.3*	*143.3*
Residual Fuel Oil	**35.0**	**30.0**	**28.6**	**28.3**	**28.7**	**29.1**	*29.7*	*28.7*	*31.1*	*31.3*	*29.4*	*29.2*	**28.3**	*28.7*	*29.2*
Other Oils (g)	**59.3**	**58.8**	**56.1**	**58.7**	**63.2**	**57.7**	*51.8*	*54.0*	*59.5*	*58.1*	*52.3*	*54.5*	**58.7**	*54.0*	*54.5*
Total Commercial Inventory	**1,196**	**1,207**	**1,272**	**1,262**	**1,249**	**1,305**	*1,310*	*1,292*	*1,296*	*1,336*	*1,348*	*1,322*	**1,262**	*1,292*	*1,322*
Crude Oil in SPR	**665**	**660**	**660**	**649**	**649**	**645**	*645*	*641*	*638*	*635*	*633*	*630*	**649**	*641*	*630*

- = no data available

(a) Includes lease condensate.

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

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

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

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

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

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

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

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
HGL Production															
Natural Gas Processing Plants															
Ethane	**1.59**	**1.70**	**1.76**	**1.77**	**1.87**	**1.88**	*2.01*	*2.20*	*2.22*	*2.18*	*2.22*	*2.30*	**1.71**	*1.99*	*2.23*
Propane	**1.29**	**1.37**	**1.44**	**1.47**	**1.50**	**1.56**	*1.61*	*1.66*	*1.61*	*1.63*	*1.68*	*1.71*	**1.39**	*1.58*	*1.66*
Butanes	**0.69**	**0.74**	**0.78**	**0.79**	**0.79**	**0.84**	*0.86*	*0.88*	*0.85*	*0.87*	*0.90*	*0.91*	**0.75**	*0.84*	*0.88*
Natural Gasoline (Pentanes Plus)	**0.44**	**0.50**	**0.55**	**0.51**	**0.49**	**0.55**	*0.59*	*0.58*	*0.54*	*0.58*	*0.61*	*0.60*	**0.50**	*0.55*	*0.58*
Refinery and Blender Net Production															
Ethane/Ethylene	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.01**	*0.00*	*0.00*
Propane	**0.30**	**0.31**	**0.31**	**0.29**	**0.28**	**0.29**	*0.29*	*0.29*	*0.28*	*0.31*	*0.30*	*0.30*	**0.30**	*0.29*	*0.30*
Propylene (refinery-grade)	**0.28**	**0.29**	**0.29**	**0.31**	**0.28**	**0.28**	*0.28*	*0.29*	*0.28*	*0.29*	*0.29*	*0.29*	**0.29**	*0.28*	*0.29*
Butanes/Butylenes	**-0.11**	**0.24**	**0.19**	**-0.20**	**-0.09**	**0.27**	*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**	**-0.02**	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	*-0.02*	**-0.02**	*-0.02*	*-0.02*
HGL Net Imports															
Ethane	**-0.22**	**-0.29**	**-0.26**	**-0.25**	**-0.27**	**-0.28**	*-0.31*	*-0.34*	*-0.37*	*-0.36*	*-0.36*	*-0.40*	**-0.26**	*-0.30*	*-0.37*
Propane/Propylene	**-0.72**	**-0.81**	**-0.87**	**-0.86**	**-0.75**	**-0.98**	*-0.96*	*-1.06*	*-0.98*	*-1.00*	*-1.02*	*-1.12*	**-0.82**	*-0.94*	*-1.03*
Butanes/Butylenes	**-0.10**	**-0.20**	**-0.19**	**-0.13**	**-0.14**	**-0.26**	*-0.28*	*-0.29*	*-0.28*	*-0.30*	*-0.30*	*-0.30*	**-0.15**	*-0.24*	*-0.29*
Natural Gasoline (Pentanes Plus)	**-0.18**	**-0.23**	**-0.17**	**-0.14**	**-0.17**	**-0.18**	*-0.20*	*-0.20*	*-0.30*	*-0.29*	*-0.31*	*-0.30*	**-0.18**	*-0.19*	*-0.30*
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	**0.45**	**0.30**	**0.32**	**0.55**	**0.46**	**0.30**	*0.33*	*0.51*	*0.43*	*0.31*	*0.34*	*0.52*	**0.41**	*0.40*	*0.40*
Natural Gasoline (Pentanes Plus)	**0.15**	**0.16**	**0.18**	**0.17**	**0.14**	**0.18**	*0.19*	*0.18*	*0.16*	*0.17*	*0.18*	*0.17*	**0.17**	*0.17*	*0.17*
HGL Consumption															
Ethane/Ethylene	**1.44**	**1.45**	**1.51**	**1.50**	**1.61**	**1.54**	*1.72*	*1.89*	*1.84*	*1.80*	*1.88*	*1.93*	**1.47**	*1.69*	*1.86*
Propane	**1.16**	**0.60**	**0.65**	**1.01**	**1.20**	**0.61**	*0.73*	*0.99*	*1.19*	*0.68*	*0.75*	*1.00*	**0.86**	*0.88*	*0.91*
Propylene (refinery-grade)	**0.32**	**0.31**	**0.31**	**0.29**	**0.28**	**0.31**	*0.30*	*0.29*	*0.31*	*0.32*	*0.31*	*0.30*	**0.30**	*0.30*	*0.31*
Butanes/Butylenes	**0.20**	**0.21**	**0.21**	**0.25**	**0.20**	**0.17**	*0.24*	*0.21*	*0.19*	*0.26*	*0.25*	*0.22*	**0.22**	*0.21*	*0.23*
Natural Gasoline (Pentanes Plus)	**0.10**	**0.09**	**0.16**	**0.18**	**0.20**	**0.14**	*0.15*	*0.18*	*0.08*	*0.08*	*0.09*	*0.11*	**0.13**	*0.17*	*0.09*
HGL Inventories (million barrels)															
Ethane	**51.41**	**47.90**	**46.07**	**50.15**	**48.14**	**55.06**	*54.88*	*54.32*	*52.66*	*55.83*	*53.96*	*53.47*	**48.87**	*53.12*	*53.98*
Propane	**33.83**	**56.51**	**75.16**	**63.67**	**47.77**	**70.49**	*87.64*	*76.18*	*48.68*	*70.43*	*88.23*	*75.51*	**63.67**	*76.18*	*75.51*
Propylene (refinery-grade)	**3.82**	**3.64**	**3.86**	**6.93**	**7.82**	**6.58**	*6.34*	*7.43*	*7.48*	*6.90*	*6.74*	*7.48*	**6.93**	*7.43*	*7.48*
Butanes/Butylenes	**32.02**	**55.37**	**78.52**	**47.44**	**39.30**	**73.10**	*91.55*	*60.92*	*49.13*	*72.80*	*91.24*	*60.61*	**47.44**	*60.92*	*60.61*
Natural Gasoline (Pentanes Plus)	**19.36**	**18.59**	**20.34**	**20.84**	**18.12**	**19.98**	*21.95*	*22.16*	*20.99*	*23.23*	*24.66*	*24.50*	**20.84**	*22.16*	*24.50*
Refinery and Blender Net Inputs															
Crude Oil	**16.41**	**17.14**	**17.32**	**16.99**	**16.20**	**16.77**	*17.18*	*16.90*	*16.98*	*17.99*	*18.01*	*17.54*	**16.97**	*16.77*	*17.63*
Hydrocarbon Gas Liquids	**0.61**	**0.47**	**0.50**	**0.72**	**0.59**	**0.48**	*0.51*	*0.69*	*0.59*	*0.48*	*0.52*	*0.70*	**0.57**	*0.57*	*0.57*
Other Hydrocarbons/Oxygenates	**1.16**	**1.23**	**1.22**	**1.20**	**1.16**	**1.22**	*1.22*	*1.23*	*1.21*	*1.30*	*1.27*	*1.25*	**1.20**	*1.21*	*1.26*
Unfinished Oils	**0.12**	**0.42**	**0.45**	**0.34**	**0.18**	**0.30**	*0.41*	*0.43*	*0.38*	*0.61*	*0.65*	*0.59*	**0.33**	*0.33*	*0.56*
Motor Gasoline Blend Components	**0.34**	**0.70**	**0.58**	**0.26**	**0.63**	**0.92**	*0.66*	*0.49*	*0.57*	*0.84*	*0.66*	*0.49*	**0.47**	*0.67*	*0.64*
Aviation Gasoline Blend Components	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.00**	*0.00*	*0.00*
Total Refinery and Blender Net Inputs	**18.63**	**19.96**	**20.08**	**19.51**	**18.76**	**19.69**	*19.97*	*19.74*	*19.74*	*21.22*	*21.10*	*20.57*	**19.55**	*19.55*	*20.66*
Refinery Processing Gain	**1.11**	**1.12**	**1.17**	**1.16**	**1.06**	**1.09**	*1.13*	*1.17*	*1.19*	*1.24*	*1.26*	*1.27*	**1.14**	*1.11*	*1.24*
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	**0.48**	**0.84**	**0.80**	**0.41**	**0.48**	**0.84**	*0.76*	*0.38*	*0.49*	*0.87*	*0.78*	*0.39*	**0.63**	*0.61*	*0.63*
Finished Motor Gasoline	**9.79**	**10.14**	**10.11**	**10.19**	**9.84**	**10.17**	*10.15*	*10.33*	*10.17*	*10.61*	*10.48*	*10.60*	**10.06**	*10.13*	*10.47*
Jet Fuel	**1.72**	**1.83**	**1.90**	**1.77**	**1.73**	**1.78**	*1.89*	*1.79*	*1.75*	*1.89*	*1.95*	*1.87*	**1.81**	*1.80*	*1.86*
Distillate Fuel	**4.81**	**5.25**	**5.29**	**5.32**	**5.05**	**5.18**	*5.27*	*5.38*	*5.51*	*5.91*	*5.95*	*5.80*	**5.17**	*5.22*	*5.79*
Residual Fuel	**0.44**	**0.40**	**0.42**	**0.43**	**0.36**	**0.38**	*0.38*	*0.36*	*0.34*	*0.37*	*0.33*	*0.34*	**0.42**	*0.37*	*0.34*
Other Oils (a)	**2.49**	**2.61**	**2.72**	**2.55**	**2.37**	**2.42**	*2.65*	*2.68*	*2.66*	*2.82*	*2.87*	*2.83*	**2.59**	*2.53*	*2.80*
Total Refinery and Blender Net Production	**19.74**	**21.08**	**21.25**	**20.67**	**19.82**	**20.78**	*21.10*	*20.91*	*20.93*	*22.47*	*22.36*	*21.83*	**20.69**	*20.66*	*21.90*
Refinery Distillation Inputs	**16.76**	**17.50**	**17.69**	**17.33**	**16.48**	**17.14**	*17.45*	*17.10*	*17.00*	*17.91*	*18.00*	*17.56*	**17.32**	*17.04*	*17.62*
Refinery Operable Distillation Capacity	**18.57**	**18.60**	**18.60**	**18.60**	**18.78**	**18.80**	*18.81*	*18.82*	*18.82*	*18.82*	*18.82*	*18.85*	**18.59**	*18.80*	*18.83*
Refinery Distillation Utilization Factor	**0.90**	**0.94**	**0.95**	**0.93**	**0.88**	**0.91**	*0.93*	*0.91*	*0.90*	*0.95*	*0.96*	*0.93*	**0.93**	*0.91*	*0.94*

- = no data available

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Prices (cents per gallon)															
Refiner Wholesale Price	**186**	**213**	**213**	**178**	**167**	**204**	*188*	*180*	*187*	*199*	*194*	*180*	**198**	*185*	*190*
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	**255**	**279**	**278**	**257**	**233**	**268**	*263*	*262*	*264*	*275*	*274*	*264*	**268**	*257*	*269*
PADD 2	**246**	**274**	**276**	**245**	**223**	**269**	*264*	*255*	*258*	*272*	*270*	*255*	**261**	*253*	*264*
PADD 3	**230**	**261**	**258**	**231**	**206**	**246**	*238*	*230*	*236*	*249*	*244*	*230*	**245**	*230*	*240*
PADD 4	**247**	**288**	**297**	**281**	**226**	**285**	*271*	*255*	*245*	*267*	*274*	*257*	**279**	*260*	*261*
PADD 5	**312**	**342**	**335**	**333**	**297**	**356**	*319*	*297*	*302*	*331*	*327*	*302*	**330**	*318*	*316*
U.S. Average	**258**	**285**	**284**	**262**	**236**	**279**	*269*	*260*	*263*	*279*	*277*	*262*	**273**	*262*	*271*
Gasoline All Grades Including Taxes	**270**	**294**	**292**	**271**	**245**	**288**	*278*	*272*	*275*	*291*	*289*	*275*	**282**	*271*	*283*
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	**58.4**	**66.5**	**70.2**	**62.9**	**62.4**	**58.9**	*55.5*	*59.5*	*58.8*	*59.6*	*56.8*	*60.4*	**62.9**	*59.5*	*60.4*
PADD 2	**57.3**	**53.5**	**53.1**	**56.1**	**53.9**	**49.5**	*48.2*	*50.3*	*53.0*	*50.0*	*48.9*	*50.9*	**56.1**	*50.3*	*50.9*
PADD 3	**84.2**	**82.3**	**80.5**	**90.6**	**82.5**	**83.4**	*81.3*	*84.8*	*83.6*	*82.7*	*81.3*	*85.0*	**90.6**	*84.8*	*85.0*
PADD 4	**7.7**	**7.3**	**7.0**	**7.3**	**6.9**	**7.5**	*7.0*	*7.5*	*7.3*	*7.3*	*6.8*	*7.2*	**7.3**	*7.5*	*7.2*
PADD 5	**32.0**	**30.7**	**28.8**	**29.4**	**30.4**	**30.7**	*30.0*	*32.3*	*30.5*	*28.9*	*29.2*	*32.1*	**29.4**	*32.3*	*32.1*
U.S. Total	**239.6**	**240.3**	**239.7**	**246.3**	**236.1**	**230.0**	*222.0*	*234.4*	*233.2*	*228.4*	*222.9*	*235.6*	**246.3**	*234.4*	*235.6*
Finished Gasoline Inventories															
U.S. Total	**23.1**	**24.7**	**24.8**	**25.7**	**21.7**	**22.4**	*23.9*	*24.4*	*23.7*	*22.5*	*23.4*	*23.8*	**25.7**	*24.4*	*23.8*
Gasoline Blending Components Inventories															
U.S. Total	**216.5**	**215.6**	**214.9**	**220.5**	**214.4**	**207.6**	*198.1*	*209.9*	*209.4*	*205.9*	*199.5*	*211.8*	**220.5**	*209.9*	*211.8*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Supply (billion cubic feet per day)															
Total Marketed Production	**84.93**	**87.39**	**91.50**	**94.79**	**96.18**	**97.02**	*98.66*	*100.33*	*99.23*	*99.31*	*100.34*	*100.64*	**89.69**	*98.06*	*99.88*
Alaska	**1.00**	**0.92**	**0.86**	**0.96**	**0.96**	**0.90**	*0.79*	*0.95*	*1.00*	*0.85*	*0.79*	*0.95*	**0.94**	*0.90*	*0.90*
Federal GOM (a)	**2.57**	**2.48**	**2.86**	**2.77**	**2.80**	**2.76**	*2.65*	*2.81*	*2.89*	*2.83*	*2.70*	*2.66*	**2.67**	*2.75*	*2.77*
Lower 48 States (excl GOM)	**81.37**	**83.98**	**87.79**	**91.05**	**92.42**	**93.35**	*95.22*	*96.58*	*95.34*	*95.62*	*96.85*	*97.03*	**86.08**	*94.41*	*96.21*
Total Dry Gas Production	**79.13**	**81.17**	**84.95**	**88.21**	**89.42**	**90.07**	*91.54*	*93.04*	*91.97*	*92.00*	*92.90*	*93.13*	**83.39**	*91.03*	*92.50*
LNG Gross Imports	**0.33**	**0.10**	**0.15**	**0.26**	**0.28**	**0.09**	*0.17*	*0.21*	*0.32*	*0.18*	*0.18*	*0.20*	**0.21**	*0.19*	*0.22*
LNG Gross Exports	**2.64**	**2.79**	**2.95**	**3.48**	**4.01**	**4.43**	*4.82*	*6.08*	*6.61*	*6.14*	*6.75*	*7.91*	**2.97**	*4.84*	*6.86*
Pipeline Gross Imports	**8.65**	**7.57**	**7.43**	**7.19**	**8.35**	**6.70**	*6.75*	*7.37*	*8.24*	*6.67*	*6.77*	*7.32*	**7.70**	*7.29*	*7.25*
Pipeline Gross Exports	**7.00**	**6.14**	**7.04**	**7.47**	**7.86**	**7.26**	*7.73*	*8.56*	*9.86*	*8.45*	*8.02*	*8.51*	**6.92**	*7.85*	*8.71*
Supplemental Gaseous Fuels	**0.21**	**0.17**	**0.19**	**0.18**	**0.19**	**0.16**	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	*0.19*	**0.19**	*0.18*	*0.19*
Net Inventory Withdrawals	**18.31**	**-8.85**	**-8.23**	**2.58**	**16.94**	**-13.98**	*-10.31*	*2.48*	*16.97*	*-11.62*	*-9.16*	*2.77*	**0.88**	*-1.28*	*-0.28*
Total Supply	**96.99**	**71.22**	**74.50**	**87.46**	**103.32**	**71.35**	*75.79*	*88.65*	*101.21*	*72.83*	*76.12*	*87.19*	**82.49**	*84.71*	*84.32*
Balancing Item (b)	**0.61**	**-0.52**	**-0.41**	**-1.34**	**-0.61**	**-0.84**	*0.76*	*0.42*	*-0.79*	*0.37*	*-0.79*	*-0.26*	**-0.42**	*-0.06*	*-0.37*
Total Primary Supply	**97.60**	**70.70**	**74.09**	**86.12**	**102.71**	**70.51**	*76.55*	*89.07*	*100.42*	*73.20*	*75.33*	*86.93*	**82.07**	*84.65*	*83.96*
Consumption (billion cubic feet per day)															
Residential	**25.77**	**7.97**	**3.44**	**17.53**	**27.11**	**7.25**	*3.43*	*17.23*	*26.77*	*7.46*	*3.47*	*16.58*	**13.63**	*13.70*	*13.55*
Commercial	**15.36**	**6.60**	**4.58**	**11.65**	**16.06**	**6.40**	*4.99*	*11.35*	*15.00*	*6.56*	*4.94*	*10.71*	**9.52**	*9.67*	*9.30*
Industrial	**24.30**	**21.82**	**21.30**	**23.41**	**24.90**	**21.82**	*21.59*	*24.26*	*25.32*	*22.64*	*21.91*	*24.98*	**22.70**	*23.14*	*23.71*
Electric Power (c)	**24.91**	**27.62**	**37.78**	**26.04**	**26.62**	**27.98**	*39.23*	*28.33*	*25.19*	*29.03*	*37.35*	*26.62*	**29.11**	*30.57*	*29.56*
Lease and Plant Fuel	**4.55**	**4.68**	**4.90**	**5.08**	**5.15**	**5.20**	*5.29*	*5.38*	*5.32*	*5.32*	*5.38*	*5.39*	**4.81**	*5.25*	*5.35*
Pipeline and Distribution Use	**2.60**	**1.88**	**1.97**	**2.29**	**2.73**	**1.86**	*1.99*	*2.38*	*2.67*	*2.05*	*2.15*	*2.51*	**2.18**	*2.24*	*2.35*
Vehicle Use	**0.12**	**0.12**	**0.12**	**0.12**	**0.13**	**0.13**	*0.13*	*0.13*	*0.14*	*0.14*	*0.14*	*0.14*	**0.12**	*0.13*	*0.14*
Total Consumption	**97.60**	**70.70**	**74.09**	**86.12**	**102.71**	**70.51**	*76.55*	*89.07*	*100.42*	*73.20*	*75.33*	*86.93*	**82.07**	*84.65*	*83.96*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,391**	**2,196**	**2,951**	**2,709**	**1,185**	**2,446**	*3,395*	*3,166*	*1,622*	*2,679*	*3,522*	*3,267*	**2,709**	*3,166*	*3,267*
East Region (d)	**229**	**465**	**778**	**659**	**216**	**531**	*845*	*771*	*278*	*616*	*903*	*790*	**659**	*771*	*790*
Midwest Region (d)	**261**	**459**	**846**	**777**	**242**	**576**	*991*	*875*	*319*	*592*	*955*	*856*	**777**	*875*	*856*
South Central Region (d)	**614**	**846**	**846**	**880**	**520**	**913**	*1,057*	*1,077*	*702*	*999*	*1,121*	*1,153*	**880**	*1,077*	*1,153*
Mountain Region (d)	**87**	**140**	**179**	**141**	**63**	**136**	*185*	*154*	*109*	*153*	*194*	*159*	**141**	*154*	*159*
Pacific Region (d)	**169**	**253**	**263**	**214**	**115**	**257**	*281*	*255*	*178*	*284*	*313*	*274*	**214**	*255*	*274*
Alaska	**31**	**33**	**38**	**37**	**30**	**33**	*35*	*35*	*35*	*35*	*35*	*35*	**37**	*35*	*35*

- = no data available

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

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

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

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

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

LNG: liquefied natural gas.

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

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

Projections: EIA Regional Short-Term Energy Model.

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

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Wholesale/Spot															
Henry Hub Spot Price	**3.13**	**2.96**	**3.04**	**3.94**	**3.02**	**2.66**	*2.38*	*2.52*	*3.02*	*2.67*	*2.72*	*2.99*	**3.27**	*2.64*	*2.85*
Residential Retail															
New England	**14.38**	**16.60**	**19.08**	**14.42**	**14.43**	**15.37**	*17.01*	*13.01*	*12.65*	*13.76*	*16.95*	*13.42*	**15.00**	*14.35*	*13.33*
Middle Atlantic	**10.17**	**11.92**	**18.30**	**11.39**	**10.77**	**12.88**	*16.12*	*10.62*	*10.01*	*12.14*	*16.72*	*11.29*	**11.30**	*11.36*	*11.14*
E. N. Central	**7.20**	**9.77**	**18.40**	**8.02**	**7.27**	**10.18**	*16.01*	*8.32*	*7.57*	*10.61*	*16.33*	*8.69*	**8.42**	*8.43*	*8.88*
W. N. Central	**8.15**	**10.48**	**18.55**	**9.06**	**7.92**	**10.60**	*16.80*	*8.71*	*7.89*	*10.88*	*16.75*	*9.01*	**9.29**	*8.94*	*9.15*
S. Atlantic	**11.07**	**15.63**	**24.88**	**12.47**	**11.60**	**18.00**	*22.57*	*12.58*	*11.24*	*16.35*	*22.53*	*13.12*	**12.98**	*13.44*	*13.31*
E. S. Central	**9.62**	**12.77**	**21.53**	**10.58**	**9.58**	**14.43**	*20.52*	*12.55*	*10.26*	*15.05*	*21.32*	*13.60*	**10.90**	*11.48*	*12.44*
W. S. Central	**9.27**	**14.25**	**22.03**	**10.19**	**8.26**	**13.27**	*19.78*	*11.58*	*8.52*	*14.17*	*20.53*	*12.36*	**10.98**	*10.85*	*11.31*
Mountain	**8.22**	**10.38**	**14.03**	**7.69**	**7.72**	**9.40**	*13.25*	*8.55*	*8.33*	*9.78*	*13.51*	*8.95*	**8.74**	*8.58*	*9.17*
Pacific	**11.62**	**12.02**	**12.88**	**11.75**	**12.43**	**12.75**	*12.54*	*11.10*	*12.18*	*12.57*	*12.90*	*11.82*	**11.87**	*12.12*	*12.23*
U.S. Average	**9.37**	**11.93**	**17.93**	**9.97**	**9.46**	**12.30**	*16.31*	*10.17*	*9.38*	*12.04*	*16.68*	*10.68*	**10.49**	*10.49*	*10.61*
Commercial Retail															
New England	**11.05**	**11.73**	**10.85**	**10.56**	**11.07**	**11.13**	*10.11*	*9.37*	*9.39*	*9.47*	*9.29*	*9.19*	**10.99**	*10.46*	*9.33*
Middle Atlantic	**8.13**	**7.67**	**7.47**	**7.86**	**8.46**	**7.75**	*6.96*	*7.26*	*7.47*	*7.39*	*6.87*	*7.49*	**7.89**	*7.82*	*7.38*
E. N. Central	**6.19**	**6.95**	**9.01**	**6.55**	**6.27**	**7.10**	*8.49*	*6.46*	*6.26*	*7.38*	*8.72*	*6.78*	**6.62**	*6.61*	*6.77*
W. N. Central	**6.96**	**7.30**	**8.91**	**7.11**	**6.80**	**7.11**	*8.34*	*6.66*	*7.01*	*7.48*	*8.54*	*7.03*	**7.20**	*6.92*	*7.21*
S. Atlantic	**8.29**	**9.35**	**9.73**	**8.70**	**8.82**	**9.50**	*9.45*	*8.46*	*8.54*	*9.55*	*9.97*	*9.07*	**8.75**	*8.90*	*9.04*
E. S. Central	**8.62**	**9.34**	**10.51**	**8.84**	**8.52**	**9.67**	*9.96*	*8.50*	*8.05*	*9.16*	*9.64*	*8.60*	**8.99**	*8.84*	*8.56*
W. S. Central	**7.21**	**7.90**	**8.55**	**6.99**	**6.40**	**7.09**	*7.79*	*7.00*	*6.71*	*7.35*	*7.90*	*7.34*	**7.44**	*6.87*	*7.17*
Mountain	**6.99**	**7.48**	**7.92**	**6.24**	**6.38**	**6.72**	*7.64*	*6.63*	*6.88*	*7.22*	*8.00*	*7.00*	**6.91**	*6.64*	*7.10*
Pacific	**8.90**	**8.58**	**9.11**	**8.68**	**9.06**	**8.98**	*8.73*	*8.12*	*8.35*	*8.53*	*8.79*	*8.49*	**8.80**	*8.73*	*8.49*
U.S. Average	**7.64**	**8.08**	**8.77**	**7.61**	**7.62**	**8.03**	*8.28*	*7.35*	*7.35*	*7.93*	*8.35*	*7.65*	**7.82**	*7.68*	*7.65*
Industrial Retail															
New England	**8.95**	**8.62**	**6.49**	**7.91**	**9.03**	**8.11**	*6.75*	*7.56*	*8.21*	*7.60*	*7.06*	*8.11*	**8.17**	*8.01*	*7.85*
Middle Atlantic	**8.33**	**8.07**	**7.73**	**7.89**	**8.75**	**7.68**	*7.16*	*7.11*	*7.56*	*7.01*	*7.04*	*7.36*	**8.11**	*7.90*	*7.35*
E. N. Central	**5.69**	**5.02**	**5.20**	**5.74**	**5.69**	**5.23**	*5.28*	*5.18*	*5.93*	*5.66*	*5.49*	*5.51*	**5.53**	*5.42*	*5.70*
W. N. Central	**5.05**	**4.23**	**4.21**	**5.05**	**5.09**	**3.98**	*3.89*	*4.40*	*5.09*	*4.31*	*4.12*	*4.82*	**4.69**	*4.42*	*4.64*
S. Atlantic	**5.34**	**4.67**	**4.68**	**5.42**	**5.48**	**4.56**	*4.22*	*4.56*	*5.18*	*4.63*	*4.59*	*5.03*	**5.06**	*4.75*	*4.88*
E. S. Central	**4.93**	**4.21**	**4.14**	**4.90**	**4.92**	**4.10**	*3.81*	*4.23*	*4.71*	*4.27*	*4.20*	*4.73*	**4.59**	*4.30*	*4.50*
W. S. Central	**3.32**	**3.09**	**3.12**	**4.02**	**3.48**	**2.89**	*2.66*	*2.72*	*3.17*	*2.83*	*2.94*	*3.15*	**3.38**	*2.91*	*3.02*
Mountain	**5.43**	**5.36**	**4.72**	**4.79**	**5.33**	**4.89**	*5.29*	*5.35*	*5.59*	*5.34*	*5.56*	*5.64*	**5.09**	*5.23*	*5.54*
Pacific	**6.97**	**6.03**	**6.72**	**6.65**	**7.61**	**6.62**	*6.19*	*6.02*	*6.57*	*6.17*	*6.28*	*6.40*	**6.61**	*6.60*	*6.37*
U.S. Average	**4.44**	**3.83**	**3.73**	**4.71**	**4.68**	**3.72**	*3.31*	*3.65*	*4.30*	*3.66*	*3.59*	*4.08*	**4.20**	*3.86*	*3.93*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Supply (million short tons)															
Production	**187.6**	**180.8**	**194.7**	**192.4**	**170.3**	**175.6**	*177.0*	*165.0*	*178.1*	*135.5*	*169.0*	*168.3*	**755.5**	*687.9*	*651.0*
Appalachia	**50.0**	**51.6**	**49.0**	**49.5**	**47.4**	**47.0**	*47.6*	*44.2*	*45.1*	*38.2*	*41.7*	*41.1*	**200.1**	*186.1*	*166.1*
Interior	**34.0**	**34.6**	**34.7**	**33.9**	**31.0**	**32.4**	*33.0*	*32.6*	*35.7*	*26.1*	*32.8*	*34.0*	**137.1**	*129.0*	*128.6*
Western	**103.7**	**94.6**	**111.0**	**109.0**	**91.9**	**93.0**	*96.5*	*88.2*	*97.4*	*71.2*	*94.5*	*93.2*	**418.3**	*369.5*	*356.2*
Primary Inventory Withdrawals	**-2.8**	**2.3**	**1.1**	**-0.6**	**0.8**	**1.3**	*0.7*	*-1.9*	*-0.3*	*0.9*	*2.3*	*-2.9*	**0.0**	*1.0*	*0.1*
Imports	**1.4**	**1.5**	**1.4**	**1.6**	**1.7**	**1.4**	*1.5*	*1.5*	*1.2*	*1.3*	*1.5*	*1.4*	**6.0**	*6.1*	*5.4*
Exports	**27.2**	**30.9**	**29.1**	**28.5**	**25.2**	**26.5**	*24.6*	*23.7*	*25.6*	*22.0*	*21.6*	*21.2*	**115.6**	*100.0*	*90.4*
Metallurgical Coal	**14.9**	**16.9**	**14.5**	**15.2**	**13.9**	**14.8**	*12.9*	*12.4*	*13.7*	*12.2*	*12.4*	*12.1*	**61.5**	*53.9*	*50.4*
Steam Coal	**12.3**	**13.9**	**14.5**	**13.3**	**11.3**	**11.7**	*11.8*	*11.3*	*11.9*	*9.9*	*9.2*	*9.1*	**54.1**	*46.1*	*40.0*
Total Primary Supply	**159.0**	**153.7**	**168.1**	**165.0**	**147.6**	**151.8**	*154.6*	*140.8*	*153.5*	*115.6*	*151.3*	*145.6*	**645.9**	*594.8*	*566.0*
Secondary Inventory Withdrawals	**11.8**	**4.9**	**20.4**	**-2.3**	**5.9**	**-12.4**	*7.7*	*-7.8*	*-1.0*	*2.9*	*6.8*	*-8.1*	**34.8**	*-6.6*	*0.5*
Waste Coal (a)	**2.8**	**2.3**	**2.6**	**2.5**	**2.3**	**2.3**	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	**10.2**	*9.3*	*9.2*
Total Supply	**173.6**	**160.9**	**191.2**	**165.2**	**155.8**	**141.7**	*164.7*	*135.4*	*154.7*	*120.8*	*160.4*	*139.8*	**690.9**	*597.6*	*575.7*
Consumption (million short tons)															
Coke Plants	**4.2**	**4.6**	**4.7**	**4.7**	**4.5**	**4.8**	*5.5*	*6.1*	*5.1*	*4.9*	*4.9*	*6.1*	**18.3**	*20.8*	*21.0*
Electric Power Sector (b)	**154.8**	**144.2**	**181.6**	**155.9**	**145.0**	**119.0**	*152.0*	*122.0*	*142.1*	*108.8*	*148.5*	*126.6*	**636.5**	*538.1*	*525.9*
Retail and Other Industry	**8.5**	**7.9**	**7.7**	**8.4**	**8.1**	**7.5**	*7.2*	*7.3*	*7.6*	*7.1*	*7.0*	*7.1*	**32.5**	*30.1*	*28.8*
Residential and Commercial	**0.4**	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**1.0**	*0.9*	*0.7*
Other Industrial	**8.1**	**7.7**	**7.5**	**8.2**	**7.8**	**7.4**	*7.0*	*7.1*	*7.4*	*7.0*	*6.8*	*6.9*	**31.5**	*29.2*	*28.1*
Total Consumption	**167.5**	**156.6**	**194.1**	**169.1**	**157.6**	**131.4**	*164.7*	*135.4*	*154.7*	*120.8*	*160.4*	*139.8*	**687.3**	*589.0*	*575.7*
Discrepancy (c)	**6.0**	**4.3**	**-2.9**	**-3.8**	**-1.7**	**10.3**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**3.6**	*8.6*	*0.0*
End-of-period Inventories (million short tons)															
Primary Inventories (d)	**26.8**	**24.5**	**23.4**	**24.0**	**23.2**	**21.9**	*21.2*	*23.0*	*23.3*	*22.4*	*20.1*	*22.9*	**24.0**	*23.0*	*22.9*
Secondary Inventories	**131.2**	**126.3**	**105.9**	**108.1**	**102.2**	**114.6**	*106.9*	*114.7*	*115.7*	*112.8*	*106.0*	*114.1*	**108.1**	*114.7*	*114.1*
Electric Power Sector	**126.5**	**121.5**	**100.8**	**102.8**	**97.1**	**109.1**	*101.1*	*109.0*	*110.2*	*107.0*	*100.0*	*108.3*	**102.8**	*109.0*	*108.3*
Retail and General Industry	**2.9**	**2.9**	**3.0**	**3.3**	**2.8**	**3.5**	*3.6*	*3.4*	*3.7*	*3.6*	*3.7*	*3.5*	**3.3**	*3.4*	*3.5*
Coke Plants	**1.5**	**1.6**	**1.8**	**1.8**	**2.0**	**1.8**	*2.0*	*2.1*	*1.6*	*2.0*	*2.2*	*2.2*	**1.8**	*2.1*	*2.2*
Coal Market Indicators															
Coal Miner Productivity (Tons per hour)	**6.10**	**6.10**	**6.10**	**6.10**	**6.02**	**6.02**	*6.02*	*6.02*	*6.01*	*6.01*	*6.01*	*6.01*	**6.10**	*6.02*	*6.01*
Total Raw Steel Production (Million short tons per day)	**0.251**	**0.253**	**0.263**	**0.270**	**0.273**	**0.271**	*0.258*	*0.252*	*0.256*	*0.258*	*0.256*	*0.259*	**0.259**	*0.263*	*0.257*
Cost of Coal to Electric Utilities (Dollars per million Btu)	**2.06**	**2.06**	**2.06**	**2.08**	**2.1**	**2.1**	*2.10*	*2.10*	*2.12*	*2.13*	*2.11*	*2.11*	**2.06**	*2.09*	*2.12*

- = no data available

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

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

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

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

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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Electricity Supply (billion kilowatthours)															
Electricity Generation	**1,001**	**1,014**	**1,177**	**985**	**994**	**979**	*1,148*	*970*	*999*	*981*	*1,136*	*973*	**4,178**	*4,091*	*4,088*
Electric Power Sector (a)	**962**	**975**	**1,136**	**945**	**955**	**941**	*1,109*	*932*	*960*	*943*	*1,095*	*933*	**4,018**	*3,936*	*3,931*
Industrial Sector (b)	**36**	**36**	**38**	**37**	**36**	**35**	*36*	*35*	*36*	*35*	*37*	*36*	**146**	*142*	*144*
Commercial Sector (b)	**3**	**3**	**4**	**3**	**3**	**3**	*3*	*3*	*3*	*3*	*4*	*3*	**13**	*13*	*13*
Net Imports	**35**	**35**	**37**	**36**	**36**	**34**	*35*	*34*	*35*	*34*	*36*	*35*	**144**	*140*	*141*
Total Supply	**1,013**	**1,025**	**1,190**	**994**	**1,005**	**992**	*1,164*	*982*	*1,012*	*995*	*1,151*	*985*	**4,222**	*4,142*	*4,143*
Losses and Unaccounted for (c)	**58**	**85**	**73**	**61**	**56**	**73**	*76*	*62*	*52*	*75*	*66*	*62*	**277**	*267*	*256*
Electricity Consumption (billion kilowatthours unless noted)															
Retail Sales	**921**	**905**	**1079**	**897**	**913**	**885**	*1060*	*886*	*925*	*885*	*1049*	*888*	**3802**	*3744*	*3747*
Residential Sector	**369**	**328**	**434**	**333**	**362**	**313**	*423*	*327*	*370*	*314*	*418*	*328*	**1464**	*1424*	*1429*
Commercial Sector	**325**	**337**	**387**	**328**	**322**	**332**	*383*	*327*	*326*	*333*	*379*	*328*	**1377**	*1364*	*1366*
Industrial Sector	**225**	**238**	**256**	**234**	**227**	**238**	*252*	*230*	*228*	*237*	*250*	*230*	**953**	*948*	*945*
Transportation Sector	**2**	**2**	**2**	**2**	**2**	**2**	*2*	*2*	*2*	*2*	*2*	*2*	**8**	*8*	*7*
Direct Use (d)	**35**	**35**	**37**	**36**	**36**	**34**	*35*	*34*	*35*	*34*	*36*	*35*	**144**	*140*	*141*
Total Consumption	**956**	**940**	**1117**	**933**	**948**	**919**	*1088*	*920*	*960*	*920*	*1085*	*923*	**3946**	*3875*	*3888*
Average residential electricity usage per customer (kWh)	**2,754**	**2,446**	**3,240**	**2,481**	**2,668**	**2,308**	*3,121*	*2,409*	*2,697*	*2,290*	*3,047*	*2,394*	**10,920**	*10,505*	*10,428*
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	**2.06**	**2.06**	**2.06**	**2.08**	**2.08**	**2.08**	*2.10*	*2.10*	*2.12*	*2.13*	*2.11*	*2.11*	**2.06**	*2.09*	*2.12*
Natural Gas	**3.96**	**3.09**	**3.23**	**4.05**	**3.71**	**2.68**	*2.31*	*2.67*	*3.43*	*2.71*	*2.71*	*3.18*	**3.54**	*2.78*	*2.97*
Residual Fuel Oil	**11.47**	**13.02**	**14.02**	**14.49**	**12.22**	**13.99**	*12.57*	*12.23*	*12.75*	*13.51*	*12.82*	*12.59*	**12.95**	*12.74*	*12.90*
Distillate Fuel Oil	**15.77**	**16.61**	**16.82**	**16.01**	**14.85**	**15.86**	*15.31*	*16.32*	*16.75*	*17.16*	*17.05*	*17.14*	**16.13**	*15.58*	*17.00*
Retail Prices (cents per kilowatthour)															
Residential Sector	**12.59**	**13.03**	**13.15**	**12.75**	**12.66**	**13.33**	*13.32*	*12.86*	*12.66*	*13.43*	*13.47*	*13.12*	**12.89**	*13.05*	*13.17*
Commercial Sector	**10.54**	**10.60**	**10.89**	**10.55**	**10.41**	**10.66**	*10.91*	*10.51*	*10.32*	*10.62*	*10.96*	*10.67*	**10.66**	*10.63*	*10.65*
Industrial Sector	**6.81**	**6.87**	**7.22**	**6.82**	**6.66**	**6.77**	*7.09*	*6.68*	*6.69*	*6.85*	*7.24*	*6.82*	**6.93**	*6.81*	*6.91*
Wholesale Electricity Prices (dollars per megawatthour)															
ERCOT North hub	**33.26**	**37.01**	**61.04**	**34.39**	**28.41**	**28.34**	*34.30*	*28.63*	*32.65*	*28.97*	*32.84*	*36.48*	**41.43**	*29.92*	*32.74*
CAISO SP15 zone	**35.44**	**27.75**	**74.86**	**51.29**	**50.42**	**23.30**	*35.98*	*37.95*	*41.25*	*36.51*	*38.31*	*41.07*	**47.33**	*36.91*	*39.29*
ISO-NE Internal hub	**65.86**	**36.28**	**43.53**	**54.18**	**47.40**	**27.15**	*35.23*	*40.08*	*52.41*	*34.85*	*34.89*	*41.44*	**49.96**	*37.46*	*40.90*
NYISO Hudson Valley zone	**51.52**	**34.24**	**41.86**	**41.95**	**41.77**	**25.68**	*35.05*	*34.36*	*37.93*	*33.85*	*34.26*	*33.99*	**42.39**	*34.21*	*35.01*
PJM Western hub	**47.43**	**39.73**	**40.06**	**39.40**	**33.79**	**28.54**	*34.40*	*31.79*	*33.87*	*31.76*	*33.76*	*31.72*	**41.66**	*32.13*	*32.78*
Midcontinent ISO Illinois hub	**31.22**	**35.88**	**37.23**	**38.30**	**31.44**	**27.81**	*33.65*	*31.68*	*32.66*	*32.23*	*34.13*	*32.00*	**35.66**	*31.14*	*32.76*
SPP ISO South hub	**26.54**	**28.49**	**29.97**	**36.45**	**29.15**	**27.14**	*33.60*	*31.37*	*31.05*	*30.87*	*35.34*	*31.29*	**30.36**	*30.31*	*32.14*
SERC index, Into Southern	**30.84**	**29.30**	**31.80**	**31.18**	**30.74**	**29.87**	*31.24*	*30.76*	*30.52*	*30.23*	*32.15*	*30.43*	**30.78**	*30.65*	*30.83*
FRCC index, Florida Reliability	**30.31**	**30.19**	**31.70**	**31.09**	**30.71**	**29.57**	*28.72*	*33.04*	*32.31*	*29.31*	*30.02*	*32.73*	**30.82**	*30.51*	*31.09*
Northwest index, Mid-Columbia	**21.80**	**18.37**	**59.99**	**50.93**	**55.74**	**18.55**	*33.92*	*37.29*	*40.44*	*34.00*	*37.07*	*39.94*	**37.77**	*36.37*	*37.86*
Southwest index, Palo Verde	**26.39**	**25.76**	**67.78**	**42.71**	**44.23**	**18.45**	*38.07*	*33.54*	*39.00*	*36.64*	*37.67*	*37.88*	**40.66**	*33.57*	*37.80*

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

kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

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

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

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

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

Historical data sources:

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

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

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

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

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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Residential Sector															
New England	**12.6**	**10.1**	**14.1**	**11.1**	**12.5**	**10.1**	*13.4*	*10.9*	*12.7*	*10.2*	*12.8*	*11.0*	**47.8**	*46.9*	*46.7*
Middle Atlantic	**35.4**	**29.4**	**41.6**	**31.1**	**35.3**	**28.1**	*40.4*	*30.6*	*35.8*	*28.3*	*38.0*	*30.5*	**137.5**	*134.3*	*132.6*
E. N. Central	**49.7**	**43.7**	**55.5**	**44.4**	**50.0**	**38.9**	*55.2*	*43.8*	*50.0*	*39.6*	*51.9*	*43.7*	**193.3**	*188.0*	*185.2*
W. N. Central	**29.4**	**24.9**	**29.2**	**25.0**	**29.9**	**21.9**	*29.2*	*24.8*	*29.4*	*22.1*	*28.8*	*24.8*	**108.5**	*105.9*	*105.0*
S. Atlantic	**93.6**	**83.7**	**109.0**	**86.4**	**88.3**	**84.8**	*107.6*	*83.3*	*92.6*	*81.7*	*105.4*	*83.7*	**372.6**	*364.0*	*363.4*
E. S. Central	**33.1**	**27.4**	**36.5**	**28.2**	**30.6**	**25.9**	*35.0*	*26.8*	*32.6*	*25.7*	*35.4*	*26.9*	**125.1**	*118.3*	*120.6*
W. S. Central	**54.8**	**53.0**	**73.9**	**49.1**	**51.8**	**49.8**	*70.5*	*48.3*	*53.5*	*51.5*	*73.0*	*49.0*	**230.7**	*220.5*	*227.0*
Mountain	**21.5**	**23.9**	**33.1**	**21.6**	**23.1**	**22.1**	*32.6*	*21.8*	*23.2*	*23.4*	*32.8*	*22.1*	**100.2**	*99.7*	*101.5*
Pacific contiguous	**38.0**	**30.8**	**40.4**	**34.6**	**39.0**	**30.1**	*37.9*	*35.0*	*38.6*	*30.2*	*38.2*	*35.2*	**143.8**	*142.0*	*142.2*
AK and HI	**1.2**	**1.1**	**1.2**	**1.2**	**1.2**	**1.1**	*1.1*	*1.2*	*1.2*	*1.0*	*1.1*	*1.2*	**4.7**	*4.6*	*4.6*
Total	**369.3**	**328.0**	**434.4**	**332.6**	**361.7**	**312.8**	*423.0*	*326.5*	*369.6*	*313.7*	*417.5*	*328.1*	**1,464.4**	*1,424.1*	*1,428.8*
Commercial Sector															
New England	**12.7**	**12.4**	**14.7**	**12.5**	**12.8**	**12.4**	*14.0*	*12.2*	*12.6*	*12.0*	*13.2*	*11.8*	**52.3**	*51.3*	*49.6*
Middle Atlantic	**38.8**	**37.4**	**44.1**	**37.7**	**38.6**	**36.9**	*42.9*	*37.1*	*38.6*	*36.5*	*41.4*	*37.0*	**158.1**	*155.5*	*153.5*
E. N. Central	**44.9**	**45.6**	**51.1**	**44.5**	**44.6**	**43.6**	*51.0*	*44.4*	*44.8*	*43.9*	*49.3*	*44.4*	**186.1**	*183.5*	*182.3*
W. N. Central	**25.4**	**25.7**	**28.3**	**25.0**	**25.6**	**24.3**	*28.3*	*25.1*	*25.8*	*24.6*	*28.2*	*25.2*	**104.4**	*103.3*	*103.8*
S. Atlantic	**73.0**	**78.4**	**89.7**	**75.3**	**72.1**	**79.7**	*88.8*	*74.4*	*72.8*	*77.7*	*87.2*	*74.5*	**316.4**	*315.1*	*312.2*
E. S. Central	**21.7**	**23.0**	**27.2**	**22.1**	**21.0**	**22.6**	*26.9*	*21.9*	*21.5*	*22.6*	*27.0*	*21.9*	**94.0**	*92.5*	*93.1*
W. S. Central	**45.1**	**50.0**	**58.6**	**47.5**	**45.0**	**49.1**	*58.7*	*48.4*	*46.8*	*50.7*	*60.1*	*49.0*	**201.2**	*201.1*	*206.6*
Mountain	**22.4**	**24.5**	**28.4**	**23.2**	**22.7**	**23.8**	*28.3*	*23.4*	*23.0*	*24.8*	*28.4*	*23.7*	**98.5**	*98.1*	*99.9*
Pacific contiguous	**39.1**	**38.6**	**43.5**	**38.9**	**38.0**	**38.6**	*42.6*	*38.9*	*38.6*	*38.9*	*42.7*	*39.0*	**160.1**	*158.2*	*159.2*
AK and HI	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	**5.7**	*5.6*	*5.6*
Total	**324.5**	**337.1**	**387.0**	**328.2**	**321.7**	**332.4**	*382.9*	*327.3*	*325.7*	*333.0*	*379.1*	*327.9*	**1,376.7**	*1,364.2*	*1,365.8*
Industrial Sector															
New England	**3.8**	**3.9**	**4.3**	**4.0**	**3.8**	**3.9**	*4.2*	*4.0*	*3.8*	*3.9*	*4.1*	*3.9*	**16.0**	*15.9*	*15.8*
Middle Atlantic	**17.7**	**17.7**	**19.7**	**18.0**	**17.7**	**17.2**	*19.3*	*17.7*	*17.7*	*17.1*	*18.9*	*17.6*	**73.0**	*71.8*	*71.3*
E. N. Central	**44.9**	**47.1**	**48.8**	**45.4**	**44.8**	**45.9**	*47.1*	*44.0*	*44.6*	*45.6*	*45.8*	*43.6*	**186.1**	*181.8*	*179.6*
W. N. Central	**20.9**	**22.0**	**23.6**	**22.0**	**21.1**	**22.1**	*23.4*	*21.8*	*21.5*	*22.3*	*23.6*	*22.1*	**88.5**	*88.4*	*89.5*
S. Atlantic	**33.0**	**35.3**	**37.1**	**34.0**	**33.0**	**34.8**	*35.9*	*32.7*	*32.3*	*33.6*	*34.6*	*31.9*	**139.4**	*136.4*	*132.5*
E. S. Central	**23.1**	**23.8**	**26.4**	**24.0**	**23.4**	**24.0**	*25.8*	*23.4*	*23.1*	*23.3*	*25.3*	*22.8*	**97.3**	*96.7*	*94.5*
W. S. Central	**42.0**	**45.5**	**47.8**	**44.7**	**44.2**	**47.3**	*48.3*	*44.5*	*45.1*	*47.7*	*49.2*	*45.3*	**180.0**	*184.3*	*187.2*
Mountain	**18.8**	**20.8**	**23.1**	**20.2**	**19.2**	**20.8**	*23.3*	*20.2*	*19.5*	*21.2*	*23.4*	*20.5*	**82.8**	*83.6*	*84.7*
Pacific contiguous	**19.5**	**21.0**	**23.7**	**20.8**	**19.0**	**21.0**	*23.6*	*20.6*	*19.0*	*21.0*	*23.8*	*20.8*	**85.0**	*84.3*	*84.6*
AK and HI	**1.2**	**1.2**	**1.3**	**1.2**	**1.1**	**1.2**	*1.3*	*1.3*	*1.1*	*1.2*	*1.3*	*1.3*	**4.9**	*4.8*	*4.9*
Total	**224.8**	**238.2**	**255.9**	**234.2**	**227.4**	**238.2**	*252.3*	*230.3*	*227.9*	*236.8*	*250.0*	*229.8*	**953.1**	*948.1*	*944.5*
Total All Sectors (a)															
New England	**29.3**	**26.6**	**33.2**	**27.7**	**29.2**	**26.4**	*31.8*	*27.3*	*29.3*	*26.1*	*30.3*	*26.9*	**116.7**	*114.7*	*112.6*
Middle Atlantic	**93.0**	**85.4**	**106.4**	**87.7**	**92.6**	**83.0**	*103.5*	*86.3*	*93.0*	*82.8*	*99.3*	*86.0*	**372.6**	*365.4*	*361.1*
E. N. Central	**139.7**	**136.5**	**155.6**	**134.4**	**139.6**	**128.5**	*153.5*	*132.3*	*139.6*	*129.3*	*147.1*	*131.8*	**566.1**	*554.0*	*547.7*
W. N. Central	**75.7**	**72.6**	**81.2**	**72.0**	**76.7**	**68.4**	*80.9*	*71.7*	*76.6*	*69.0*	*80.6*	*72.1*	**301.4**	*297.7*	*298.3*
S. Atlantic	**199.8**	**197.8**	**236.1**	**196.0**	**193.7**	**199.7**	*232.7*	*190.7*	*198.0*	*193.3*	*227.6*	*190.5*	**829.8**	*816.8*	*809.4*
E. S. Central	**78.0**	**74.1**	**90.0**	**74.3**	**75.0**	**72.5**	*87.8*	*72.1*	*77.3*	*71.6*	*87.7*	*71.6*	**316.4**	*307.4*	*308.2*
W. S. Central	**141.9**	**148.5**	**180.4**	**141.4**	**141.1**	**146.2**	*177.6*	*141.3*	*145.4*	*149.9*	*182.4*	*143.4*	**612.2**	*606.2*	*621.1*
Mountain	**62.7**	**69.3**	**84.7**	**65.0**	**65.1**	**66.8**	*84.2*	*65.5*	*65.9*	*69.4*	*84.7*	*66.2*	**281.7**	*281.6*	*286.2*
Pacific contiguous	**96.7**	**90.6**	**107.8**	**94.5**	**96.2**	**90.0**	*104.4*	*94.8*	*96.4*	*90.3*	*104.9*	*95.2*	**389.7**	*385.4*	*386.9*
AK and HI	**3.8**	**3.7**	**3.9**	**3.9**	**3.7**	**3.6**	*3.9*	*3.9*	*3.7*	*3.6*	*3.9*	*3.9*	**15.3**	*15.0*	*15.0*
Total	**920.6**	**905.2**	**1,079.3**	**896.9**	**912.8**	**885.2**	*1,060.1*	*885.9*	*925.1*	*885.4*	*1,048.5*	*887.5*	**3,801.9**	*3,744.0*	*3,746.5*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Residential Sector															
New England	**20.56**	**20.57**	**20.39**	**20.64**	**21.05**	**21.52**	*21.23*	*21.19*	*21.28*	*21.50*	*21.31*	*21.40*	**20.53**	*21.24*	*21.36*
Middle Atlantic	**15.62**	**16.21**	**16.34**	**15.80**	**15.20**	**16.09**	*16.11*	*15.40*	*14.82*	*15.94*	*16.36*	*15.84*	**16.00**	*15.70*	*15.73*
E. N. Central	**12.94**	**13.48**	**13.09**	**13.19**	**12.93**	**13.84**	*13.33*	*13.40*	*13.17*	*14.17*	*13.83*	*13.90*	**13.16**	*13.34*	*13.74*
W. N. Central	**10.90**	**12.63**	**13.10**	**11.39**	**10.71**	**12.94**	*13.36*	*11.68*	*11.08*	*13.39*	*13.93*	*12.16*	**12.00**	*12.12*	*12.60*
S. Atlantic	**11.66**	**11.90**	**11.82**	**11.62**	**11.71**	**12.12**	*11.91*	*11.67*	*11.57*	*12.04*	*11.88*	*11.75*	**11.75**	*11.85*	*11.81*
E. S. Central	**10.86**	**11.40**	**11.16**	**11.17**	**11.11**	**11.74**	*11.47*	*11.48*	*11.23*	*12.01*	*11.71*	*11.76*	**11.14**	*11.44*	*11.66*
W. S. Central	**10.52**	**11.01**	**10.97**	**10.83**	**10.79**	**11.46**	*11.20*	*10.77*	*10.55*	*11.25*	*11.13*	*10.88*	**10.85**	*11.07*	*10.96*
Mountain	**11.58**	**12.24**	**12.26**	**11.76**	**11.52**	**12.19**	*12.32*	*11.85*	*11.63*	*12.41*	*12.62*	*12.20*	**12.00**	*12.00*	*12.25*
Pacific	**14.88**	**15.27**	**17.07**	**14.77**	**14.86**	**15.81**	*17.46*	*15.03*	*15.19*	*16.35*	*17.88*	*15.33*	**15.55**	*15.80*	*16.19*
U.S. Average	**12.59**	**13.03**	**13.15**	**12.75**	**12.66**	**13.33**	*13.32*	*12.86*	*12.66*	*13.43*	*13.47*	*13.12*	**12.89**	*13.05*	*13.17*
Commercial Sector															
New England	**16.59**	**15.92**	**16.19**	**16.44**	**16.72**	**16.16**	*16.45*	*16.61*	*16.77*	*16.14*	*16.50*	*16.80*	**16.28**	*16.49*	*16.56*
Middle Atlantic	**12.10**	**12.22**	**13.17**	**12.08**	**11.56**	**12.20**	*12.93*	*11.64*	*11.10*	*11.90*	*12.86*	*11.80*	**12.42**	*12.11*	*11.93*
E. N. Central	**10.10**	**10.15**	**10.08**	**10.10**	**10.14**	**10.26**	*10.16*	*10.10*	*10.13*	*10.31*	*10.33*	*10.33*	**10.11**	*10.16*	*10.28*
W. N. Central	**9.18**	**10.03**	**10.38**	**9.23**	**8.97**	**10.07**	*10.44*	*9.33*	*9.16*	*10.39*	*10.90*	*9.76*	**9.73**	*9.72*	*10.07*
S. Atlantic	**9.61**	**9.30**	**9.18**	**9.41**	**9.45**	**9.37**	*9.21*	*9.36*	*9.31*	*9.23*	*9.12*	*9.37*	**9.36**	*9.34*	*9.25*
E. S. Central	**10.51**	**10.48**	**10.34**	**10.54**	**10.71**	**10.71**	*10.55*	*10.73*	*10.88*	*10.94*	*10.80*	*11.03*	**10.46**	*10.67*	*10.91*
W. S. Central	**8.37**	**8.17**	**8.12**	**7.94**	**8.15**	**8.15**	*7.97*	*7.69*	*7.87*	*7.97*	*7.93*	*7.75*	**8.15**	*7.98*	*7.88*
Mountain	**9.27**	**9.88**	**10.01**	**9.36**	**9.20**	**9.64**	*9.92*	*9.31*	*9.19*	*9.70*	*10.06*	*9.51*	**9.66**	*9.54*	*9.64*
Pacific	**12.91**	**14.02**	**15.81**	**14.10**	**12.99**	**14.14**	*16.21*	*14.45*	*13.19*	*14.28*	*16.39*	*14.75*	**14.25**	*14.50*	*14.70*
U.S. Average	**10.54**	**10.60**	**10.89**	**10.55**	**10.41**	**10.66**	*10.91*	*10.51*	*10.32*	*10.62*	*10.96*	*10.67*	**10.66**	*10.63*	*10.65*
Industrial Sector															
New England	**13.46**	**12.60**	**12.83**	**12.98**	**13.31**	**12.62**	*12.55*	*12.67*	*13.28*	*12.63*	*12.70*	*12.84*	**12.96**	*12.78*	*12.86*
Middle Atlantic	**7.26**	**6.82**	**6.86**	**6.79**	**6.73**	**6.58**	*6.47*	*6.36*	*6.59*	*6.52*	*6.52*	*6.43*	**6.93**	*6.54*	*6.51*
E. N. Central	**7.10**	**6.96**	**6.99**	**7.01**	**7.02**	**6.90**	*6.89*	*6.90*	*7.07*	*7.00*	*7.04*	*7.06*	**7.01**	*6.93*	*7.04*
W. N. Central	**7.04**	**7.38**	**7.99**	**6.93**	**7.13**	**7.38**	*8.17*	*7.11*	*7.35*	*7.61*	*8.43*	*7.34*	**7.35**	*7.46*	*7.70*
S. Atlantic	**6.54**	**6.40**	**6.60**	**6.39**	**6.22**	**6.30**	*6.42*	*6.18*	*6.16*	*6.28*	*6.47*	*6.24*	**6.48**	*6.28*	*6.29*
E. S. Central	**5.74**	**5.92**	**5.87**	**5.88**	**5.71**	**5.86**	*5.74*	*5.74*	*5.71*	*5.90*	*5.82*	*5.83*	**5.86**	*5.76*	*5.81*
W. S. Central	**5.42**	**5.41**	**5.65**	**5.27**	**5.25**	**5.31**	*5.44*	*5.03*	*5.24*	*5.37*	*5.55*	*5.14*	**5.44**	*5.26*	*5.33*
Mountain	**6.10**	**6.48**	**6.93**	**6.05**	**6.13**	**6.24**	*6.70*	*5.91*	*6.13*	*6.28*	*6.80*	*6.00*	**6.41**	*6.26*	*6.32*
Pacific	**8.63**	**9.52**	**11.17**	**9.89**	**8.68**	**9.57**	*11.29*	*10.01*	*8.91*	*9.87*	*11.66*	*10.34*	**9.87**	*9.96*	*10.27*
U.S. Average	**6.81**	**6.87**	**7.22**	**6.82**	**6.66**	**6.77**	*7.09*	*6.68*	*6.69*	*6.85*	*7.24*	*6.82*	**6.93**	*6.81*	*6.91*
All Sectors (a)															
New England	**17.86**	**17.16**	**17.49**	**17.58**	**18.11**	**17.65**	*17.91*	*17.82*	*18.24*	*17.67*	*17.98*	*18.06*	**17.53**	*17.88*	*17.99*
Middle Atlantic	**12.50**	**12.47**	**13.23**	**12.30**	**12.01**	**12.34**	*12.95*	*11.89*	*11.67*	*12.16*	*12.99*	*12.13*	**12.65**	*12.32*	*12.25*
E. N. Central	**10.14**	**10.11**	**10.18**	**10.07**	**10.13**	**10.14**	*10.29*	*10.12*	*10.24*	*10.32*	*10.53*	*10.43*	**10.13**	*10.18*	*10.38*
W. N. Central	**9.26**	**10.12**	**10.66**	**9.27**	**9.14**	**10.12**	*10.83*	*9.46*	*9.39*	*10.45*	*11.26*	*9.84*	**9.85**	*9.90*	*10.25*
S. Atlantic	**10.06**	**9.88**	**9.99**	**9.86**	**9.92**	**10.00**	*10.03*	*9.82*	*9.85*	*9.90*	*9.99*	*9.89*	**9.95**	*9.95*	*9.91*
E. S. Central	**9.25**	**9.36**	**9.36**	**9.27**	**9.31**	**9.47**	*9.50*	*9.39*	*9.48*	*9.68*	*9.74*	*9.65*	**9.31**	*9.42*	*9.64*
W. S. Central	**8.33**	**8.34**	**8.63**	**8.10**	**8.21**	**8.36**	*8.57*	*7.90*	*8.04*	*8.27*	*8.57*	*7.99*	**8.37**	*8.28*	*8.24*
Mountain	**9.12**	**9.68**	**10.05**	**9.13**	**9.12**	**9.42**	*9.96*	*9.11*	*9.14*	*9.57*	*10.15*	*9.32*	**9.54**	*9.44*	*9.59*
Pacific	**12.81**	**13.39**	**15.25**	**13.40**	**12.88**	**13.62**	*15.53*	*13.68*	*13.13*	*13.93*	*15.85*	*13.99*	**13.76**	*13.97*	*14.27*
U.S. Average	**10.45**	**10.50**	**10.93**	**10.39**	**10.36**	**10.56**	*10.96*	*10.38*	*10.36*	*10.61*	*11.07*	*10.58*	**10.58**	*10.58*	*10.67*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
United States															
Natural Gas	**286.4**	**321.7**	**445.4**	**312.1**	**316.1**	**329.6**	*464.9*	*339.6*	*306.3*	*345.5*	*448.2*	*322.9*	**1,365.7**	*1,450.1*	*1,423.0*
Coal	**279.3**	**258.3**	**325.5**	**275.5**	**257.7**	**213.6**	*272.8*	*220.0*	*255.0*	*190.5*	*262.7*	*226.8*	**1,138.5**	*964.1*	*934.9*
Nuclear	**206.5**	**196.1**	**209.5**	**195.0**	**203.5**	**193.9**	*207.3*	*200.7*	*205.9*	*185.1*	*202.5*	*198.0*	**807.1**	*805.5*	*791.5*
Renewable Energy Sources:	**179.9**	**192.8**	**149.5**	**156.7**	**170.9**	**199.3**	*158.0*	*163.9*	*185.3*	*214.1*	*173.5*	*178.2*	**678.7**	*692.1*	*751.2*
Conventional Hydropower	**76.7**	**85.4**	**63.7**	**64.3**	**71.6**	**82.0**	*64.3*	*63.0*	*72.2*	*80.6*	*67.1*	*63.5*	**290.1**	*281.0*	*283.4*
Wind	**78.2**	**74.7**	**53.5**	**68.4**	**74.2**	**83.2**	*60.8*	*77.1*	*85.2*	*94.8*	*67.7*	*87.2*	**274.7**	*295.3*	*334.9*
Solar (a)	**12.6**	**20.9**	**20.2**	**12.2**	**13.4**	**22.8**	*22.4*	*13.9*	*16.5*	*27.3*	*28.2*	*17.4*	**65.9**	*72.6*	*89.5*
Biomass	**8.3**	**7.7**	**7.9**	**7.6**	**7.5**	**7.2**	*6.4*	*5.7*	*7.1*	*7.5*	*6.4*	*6.0*	**31.4**	*26.8*	*26.9*
Geothermal	**4.1**	**4.0**	**4.3**	**4.2**	**4.1**	**4.1**	*4.1*	*4.2*	*4.3*	*3.9*	*4.1*	*4.1*	**16.7**	*16.5*	*16.5*
Pumped Storage Hydropower	**-1.4**	**-1.2**	**-2.0**	**-1.4**	**-1.1**	**-0.9**	*-2.2*	*-1.4*	*-1.2*	*-0.8*	*-2.0*	*-1.3*	**-5.9**	*-5.5*	*-5.3*
Petroleum (b)	**8.8**	**4.5**	**5.3**	**4.5**	**4.8**	**4.5**	*5.6*	*4.5*	*4.9*	*4.4*	*5.5*	*4.5*	**23.1**	*19.3*	*19.4*
Other Gases	**1.0**	**1.0**	**1.1**	**0.9**	**1.1**	**1.0**	*1.1*	*1.0*	*1.1*	*1.2*	*1.1*	*0.9*	**4.0**	*4.3*	*4.3*
Other Nonrenewable Fuels (c)	**1.8**	**1.8**	**1.5**	**1.9**	**1.7**	**1.8**	*1.6*	*1.9*	*1.7*	*1.8*	*1.5*	*1.8*	**7.0**	*7.0*	*6.7*
Total Generation	**962.3**	**975.0**	**1,135.7**	**945.2**	**954.6**	**943.2**	*1,111.3*	*931.7*	*960.4*	*942.6*	*1,095.0*	*933.2*	**4,018.3**	*3,940.8*	*3,931.1*
New England (ISO-NE)															
Natural Gas	**10.4**	**10.0**	**16.3**	**11.4**	**10.7**	**10.3**	*17.3*	*12.6*	*11.7*	*11.9*	*15.5*	*11.5*	**48.1**	*50.8*	*50.5*
Coal	**0.6**	**0.2**	**0.1**	**0.2**	**0.3**	**0.0**	*0.1*	*0.2*	*0.3*	*0.0*	*0.1*	*0.2*	**1.1**	*0.6*	*0.6*
Nuclear	**8.2**	**8.3**	**8.4**	**6.5**	**8.6**	**6.7**	*7.3*	*7.3*	*7.1*	*5.4*	*7.3*	*6.4*	**31.4**	*29.9*	*26.2*
Conventional hydropower	**1.8**	**1.9**	**1.8**	**2.2**	**2.3**	**2.0**	*1.8*	*2.0*	*2.1*	*1.8*	*1.7*	*1.9*	**7.8**	*8.2*	*7.5*
Nonhydro renewables (d)	**2.8**	**2.6**	**2.6**	**2.6**	**2.7**	**2.8**	*2.6*	*2.5*	*2.9*	*2.9*	*2.6*	*2.6*	**10.7**	*10.6*	*10.9*
Other energy sources (e)	**1.3**	**0.4**	**0.3**	**0.3**	**0.3**	**0.4**	*0.5*	*0.5*	*0.4*	*0.5*	*0.4*	*0.4*	**2.3**	*1.7*	*1.7*
Total generation	**25.1**	**23.4**	**29.6**	**23.3**	**24.8**	**22.2**	*29.5*	*25.2*	*24.4*	*22.5*	*27.5*	*23.0*	**101.3**	*101.7*	*97.5*
Net energy for load (f)	**30.2**	**27.2**	**34.5**	**28.9**	**29.7**	**26.0**	*33.1*	*28.4*	*30.3*	*27.4*	*31.9*	*28.4*	**120.8**	*117.2*	*118.0*
New York (NYISO)															
Natural Gas	**10.8**	**12.6**	**19.3**	**12.7**	**11.9**	**11.4**	*17.0*	*12.4*	*11.7*	*16.4*	*21.0*	*15.6*	**55.4**	*52.8*	*64.7*
Coal	**0.4**	**0.0**	**0.2**	**0.1**	**0.3**	**0.0**	*0.1*	*0.1*	*0.2*	*0.0*	*0.0*	*0.1*	**0.7**	*0.5*	*0.3*
Nuclear	**10.9**	**10.0**	**10.5**	**11.4**	**10.4**	**10.7**	*11.3*	*11.6*	*11.3*	*8.3*	*8.7*	*9.2*	**42.9**	*44.0*	*37.5*
Conventional hydropower	**7.4**	**7.8**	**7.6**	**8.1**	**7.7**	**7.7**	*7.6*	*7.2*	*7.2*	*7.1*	*7.2*	*7.0*	**30.8**	*30.2*	*28.5*
Nonhydro renewables (d)	**1.8**	**1.7**	**1.5**	**1.6**	**1.7**	**1.8**	*1.6*	*1.7*	*1.7*	*2.0*	*1.7*	*1.9*	**6.6**	*6.8*	*7.3*
Other energy sources (e)	**1.3**	**0.2**	**0.1**	**0.1**	**0.4**	**0.1**	*0.3*	*0.2*	*0.5*	*0.2*	*0.3*	*0.2*	**1.8**	*1.0*	*1.1*
Total generation	**32.6**	**32.3**	**39.3**	**34.0**	**32.5**	**31.8**	*37.8*	*33.1*	*32.5*	*33.9*	*38.9*	*34.1*	**138.2**	*135.2*	*139.4*
Net energy for load (f)	**38.2**	**36.5**	**46.1**	**36.9**	**37.7**	**34.8**	*44.4*	*36.6*	*38.1*	*36.2*	*43.0*	*36.7*	**157.7**	*153.4*	*154.0*
Mid-Atlantic (PJM)															
Natural Gas	**54.6**	**56.6**	**78.4**	**60.3**	**68.5**	**63.2**	*88.4*	*73.5*	*68.2*	*74.5*	*91.6*	*73.5*	**249.9**	*293.6*	*307.9*
Coal	**61.8**	**51.6**	**62.4**	**50.7**	**53.3**	**42.3**	*51.2*	*43.2*	*59.5*	*25.5*	*39.4*	*43.0*	**226.6**	*190.0*	*167.3*
Nuclear	**71.7**	**69.2**	**73.2**	**71.3**	**69.6**	**67.8**	*70.3*	*67.7*	*70.0*	*65.3*	*67.7*	*68.0*	**285.4**	*275.4*	*271.0*
Conventional hydropower	**2.4**	**2.7**	**2.6**	**3.4**	**3.3**	**2.8**	*2.6*	*3.0*	*3.0*	*2.5*	*2.4*	*2.9*	**11.2**	*11.7*	*10.9*
Nonhydro renewables (d)	**9.7**	**8.3**	**6.9**	**8.6**	**9.4**	**9.5**	*7.5*	*9.2*	*9.9*	*10.3*	*7.9*	*10.0*	**33.6**	*35.6*	*38.0*
Other energy sources (e)	**1.9**	**0.5**	**0.4**	**0.7**	**0.7**	**0.8**	*1.3*	*1.1*	*1.2*	*1.1*	*1.2*	*1.1*	**3.4**	*3.9*	*4.7*
Total generation	**202.1**	**188.9**	**223.9**	**195.1**	**204.8**	**183.9**	*219.0*	*197.8*	*211.8*	*179.2*	*210.2*	*198.7*	**810.1**	*805.5*	*799.9*
Net energy for load (f)	**199.9**	**184.3**	**217.1**	**188.0**	**197.0**	**175.4**	*209.0*	*181.9*	*198.0*	*175.3*	*204.1*	*182.2*	**789.4**	*763.3*	*759.6*
Southeast (SERC)															
Natural Gas	**55.7**	**59.0**	**76.1**	**55.7**	**56.0**	**59.6**	*74.5*	*58.9*	*61.2*	*65.4*	*72.7*	*58.4*	**246.5**	*249.0*	*257.7*
Coal	**44.3**	**45.0**	**53.9**	**42.3**	**35.1**	**40.6**	*48.7*	*31.1*	*36.2*	*36.0*	*46.5*	*31.8*	**185.5**	*155.6*	*150.5*
Nuclear	**52.0**	**50.7**	**53.5**	**48.5**	**52.3**	**51.9**	*54.3*	*53.2*	*52.0*	*49.4*	*54.1*	*53.0*	**204.8**	*211.8*	*208.5*
Conventional hydropower	**7.4**	**8.2**	**7.6**	**10.5**	**10.5**	**8.7**	*7.7*	*9.1*	*9.5*	*7.7*	*7.0*	*8.9*	**33.7**	*35.9*	*33.2*
Nonhydro renewables (d)	**2.7**	**3.8**	**3.7**	**2.5**	**2.8**	**4.0**	*3.9*	*2.4*	*3.2*	*5.5*	*5.5*	*3.2*	**12.7**	*13.2*	*17.5*
Other energy sources (e)	**0.4**	**-0.1**	**-0.5**	**-0.1**	**0.0**	**0.0**	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	**-0.3**	*0.5*	*0.9*
Total generation	**162.5**	**166.6**	**194.3**	**159.4**	**156.7**	**164.8**	*189.2*	*155.1*	*162.4*	*164.3*	*186.0*	*155.5*	**682.9**	*665.9*	*668.2*
Net energy for load (f)	**165.2**	**165.4**	**191.9**	**158.9**	**160.1**	**161.1**	*187.1*	*156.7*	*165.8*	*158.0*	*183.8*	*156.0*	**681.4**	*665.1*	*663.5*
Florida (FRCC)															
Natural Gas	**34.0**	**41.8**	**50.6**	**39.2**	**35.5**	**45.6**	*51.4*	*29.3*	*31.2*	*40.1*	*49.1*	*30.4*	**165.5**	*161.7*	*150.9*
Coal	**6.3**	**6.7**	**7.8**	**6.1**	**3.7**	**4.9**	*5.4*	*9.8*	*7.2*	*4.9*	*5.6*	*8.0*	**26.9**	*23.9*	*25.7*
Nuclear	**7.5**	**7.7**	**7.0**	**7.1**	**7.6**	**6.4**	*7.3*	*7.5*	*7.2*	*6.7*	*7.4*	*7.8*	**29.3**	*28.8*	*29.1*
Conventional hydropower	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	*0.2*	*0.2*
Nonhydro renewables (d)	**1.3**	**1.3**	**1.3**	**1.3**	**1.5**	**1.7**	*1.4*	*1.4*	*1.9*	*2.3*	*2.1*	*1.8*	**5.2**	*6.0*	*8.0*
Other energy sources (e)	**1.0**	**0.8**	**1.1**	**0.7**	**0.8**	**0.9**	*1.1*	*0.6*	*0.8*	*0.8*	*1.1*	*0.6*	**3.5**	*3.3*	*3.2*
Total generation	**50.2**	**58.4**	**67.9**	**54.3**	**49.2**	**59.5**	*66.7*	*48.5*	*48.4*	*54.8*	*65.3*	*48.7*	**230.7**	*223.9*	*217.2*
Net energy for load (f)	**49.5**	**59.1**	**68.5**	**54.0**	**48.5**	**61.6**	*66.8*	*51.7*	*48.7*	*57.4*	*65.8*	*51.8*	**231.0**	*228.6*	*223.7*

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) 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Midwest (MISO)															
Natural Gas	**34.0**	**41.7**	**49.4**	**30.7**	**35.1**	**39.7**	*54.1*	*42.9*	*34.3*	*44.1*	*52.3*	*38.7*	**155.8**	*171.8*	*169.4*
Coal	**82.5**	**77.8**	**93.6**	**80.7**	**77.5**	**62.4**	*77.8*	*60.6*	*71.7*	*60.8*	*75.1*	*61.4*	**334.6**	*278.3*	*268.9*
Nuclear	**26.4**	**22.9**	**25.7**	**23.3**	**25.3**	**22.7**	*26.5*	*25.8*	*26.9*	*22.3*	*26.8*	*24.9*	**98.3**	*100.2*	*100.9*
Conventional hydropower	**2.7**	**2.8**	**2.1**	**2.3**	**2.5**	**2.7**	*2.2*	*2.1*	*2.3*	*2.4*	*2.0*	*2.0*	**10.0**	*9.4*	*8.7*
Nonhydro renewables (d)	**18.1**	**15.0**	**11.9**	**16.0**	**17.1**	**17.4**	*13.3*	*17.8*	*20.2*	*20.7*	*16.1*	*21.2*	**60.9**	*65.6*	*78.2*
Other energy sources (e)	**2.0**	**1.7**	**1.9**	**1.7**	**1.9**	**1.7**	*2.5*	*2.2*	*2.2*	*2.1*	*2.5*	*1.9*	**7.2**	*8.3*	*8.6*
Total generation	**165.8**	**161.8**	**184.6**	**154.7**	**159.4**	**146.6**	*176.3*	*151.3*	*157.5*	*152.3*	*174.7*	*150.1*	**666.8**	*633.6*	*634.7*
Net energy for load (f)	**162.0**	**163.4**	**184.8**	**158.9**	**161.1**	**153.6**	*181.3*	*158.0*	*162.4*	*156.8*	*177.3*	*157.3*	**669.1**	*654.0*	*653.8*
Central (Southwest Power Pool)															
Natural Gas	**11.9**	**18.1**	**22.5**	**12.6**	**13.3**	**15.6**	*23.5*	*16.9*	*16.3*	*16.8*	*21.4*	*15.4*	**65.0**	*69.4*	*69.9*
Coal	**27.9**	**24.5**	**34.2**	**27.3**	**27.3**	**18.5**	*29.7*	*18.5*	*21.6*	*15.9*	*30.2*	*17.7*	**113.8**	*93.9*	*85.5*
Nuclear	**4.2**	**2.8**	**4.3**	**3.5**	**4.4**	**4.3**	*4.3*	*2.5*	*4.1*	*4.2*	*4.4*	*3.6*	**14.8**	*15.6*	*16.3*
Conventional hydropower	**4.0**	**4.3**	**3.1**	**3.6**	**3.8**	**4.1**	*3.2*	*3.1*	*3.4*	*3.6*	*2.9*	*3.0*	**14.9**	*14.2*	*13.0*
Nonhydro renewables (d)	**18.7**	**18.5**	**13.1**	**16.6**	**18.1**	**20.2**	*15.4*	*19.4*	*21.1*	*23.0*	*16.5*	*21.1*	**66.9**	*73.1*	*81.8*
Other energy sources (e)	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.3**	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	**0.8**	*0.9*	*0.7*
Total generation	**66.9**	**68.3**	**77.3**	**63.7**	**67.1**	**63.1**	*76.2*	*60.6*	*66.8*	*63.6*	*75.5*	*61.1*	**276.2**	*267.0*	*267.0*
Net energy for load (f)	**60.1**	**63.8**	**74.0**	**58.9**	**60.4**	**59.5**	*73.1*	*58.3*	*60.5*	*59.7*	*72.2*	*58.8*	**256.8**	*251.3*	*251.2*
Texas (ERCOT)															
Natural Gas	**33.6**	**41.2**	**56.9**	**34.3**	**34.0**	**41.6**	*57.9*	*37.8*	*27.7*	*37.2*	*50.8*	*28.7*	**166.1**	*171.3*	*144.4*
Coal	**18.6**	**22.0**	**26.4**	**22.6**	**18.1**	**18.1**	*23.1*	*16.0*	*20.6*	*18.9*	*25.9*	*21.7*	**89.6**	*75.4*	*87.1*
Nuclear	**10.8**	**10.2**	**10.9**	**9.3**	**10.4**	**9.6**	*10.8*	*10.4*	*11.2*	*8.8*	*11.0*	*10.4*	**41.2**	*41.2*	*41.5*
Conventional hydropower	**0.2**	**0.3**	**0.2**	**0.4**	**0.4**	**0.3**	*0.2*	*0.3*	*0.4*	*0.3*	*0.2*	*0.3*	**1.1**	*1.3*	*1.2*
Nonhydro renewables (d)	**19.4**	**21.9**	**15.0**	**17.5**	**19.5**	**23.7**	*17.3*	*20.1*	*23.4*	*29.3*	*22.5*	*24.4*	**73.7**	*80.5*	*99.5*
Other energy sources (e)	**0.3**	**0.4**	**0.0**	**0.3**	**0.4**	**0.4**	*0.0*	*0.3*	*0.4*	*0.4*	*0.0*	*0.3*	**1.0**	*1.1*	*1.1*
Total generation	**83.0**	**95.9**	**109.5**	**84.4**	**82.8**	**93.7**	*109.4*	*84.9*	*83.7*	*94.9*	*110.3*	*85.9*	**372.8**	*370.8*	*374.8*
Net energy for load (f)	**83.0**	**95.9**	**109.5**	**84.4**	**82.8**	**93.7**	*109.4*	*84.9*	*83.7*	*94.9*	*110.3*	*85.9*	**372.8**	*370.8*	*374.8*
Northwest															
Natural Gas	**17.4**	**16.2**	**28.7**	**19.4**	**20.9**	**16.4**	*32.8*	*20.8*	*13.3*	*15.1*	*27.7*	*16.3*	**81.7**	*90.9*	*72.3*
Coal	**25.2**	**20.0**	**30.8**	**30.5**	**29.7**	**17.9**	*25.5*	*27.0*	*28.8*	*19.9*	*29.9*	*31.4*	**106.6**	*100.0*	*110.0*
Nuclear	**2.5**	**2.1**	**2.5**	**2.5**	**2.5**	**1.3**	*2.3*	*2.5*	*2.5*	*2.3*	*2.3*	*2.5*	**9.7**	*8.6*	*9.6*
Conventional hydropower	**43.6**	**45.2**	**27.9**	**27.6**	**30.9**	**38.4**	*28.3*	*30.7*	*34.3*	*41.2*	*33.6*	*32.1*	**144.3**	*128.3*	*141.1*
Nonhydro renewables (d)	**12.5**	**12.7**	**10.7**	**10.6**	**10.6**	**13.5**	*11.5*	*11.1*	*11.6*	*14.0*	*11.6*	*12.6*	**46.5**	*46.7*	*49.8*
Other energy sources (e)	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	*0.4*	*0.3*	*0.2*	*0.3*	*0.4*	*0.3*	**1.0**	*1.1*	*1.2*
Total generation	**101.5**	**96.5**	**101.0**	**90.9**	**94.7**	**87.7**	*100.9*	*92.4*	*90.7*	*92.7*	*105.6*	*95.1*	**389.8**	*375.6*	*384.1*
Net energy for load (f)	**88.9**	**82.7**	**91.6**	**86.3**	**90.9**	**81.7**	*90.5*	*85.8*	*87.5*	*82.1*	*91.0*	*86.2*	**349.5**	*348.8*	*346.8*
Southwest															
Natural Gas	**6.1**	**10.9**	**18.2**	**12.2**	**10.5**	**12.8**	*21.3*	*12.9*	*8.3*	*10.6*	*21.7*	*14.2*	**47.4**	*57.6*	*54.8*
Coal	**9.3**	**8.9**	**12.9**	**11.7**	**9.7**	**7.1**	*8.8*	*10.6*	*6.9*	*6.7*	*6.9*	*8.2*	**42.9**	*36.3*	*28.6*
Nuclear	**8.5**	**7.3**	**8.5**	**6.8**	**8.6**	**7.5**	*8.6*	*7.8*	*8.7*	*7.4*	*8.6*	*7.7*	**31.1**	*32.5*	*32.4*
Conventional hydropower	**2.9**	**4.0**	**3.6**	**2.4**	**3.0**	**4.3**	*3.7*	*1.9*	*2.8*	*3.8*	*3.4*	*1.9*	**13.0**	*13.0*	*11.9*
Nonhydro renewables (d)	**2.1**	**2.8**	**2.3**	**2.0**	**2.1**	**2.9**	*2.5*	*2.2*	*2.5*	*3.1*	*2.6*	*2.4*	**9.1**	*9.7*	*10.5*
Other energy sources (e)	**0.0**	**0.0**	**0.0**	**0.0**	**-0.1**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	*0.0*	*0.1*
Total generation	**28.9**	**34.0**	**45.6**	**35.1**	**33.9**	**34.7**	*45.0*	*35.5*	*29.1*	*31.6*	*43.2*	*34.4*	**143.5**	*149.1*	*138.3*
Net energy for load (f)	**22.5**	**28.8**	**35.3**	**23.6**	**23.2**	**26.3**	*34.8*	*23.6*	*22.8*	*27.6*	*35.0*	*23.7*	**110.2**	*107.9*	*109.1*
California															
Natural Gas	**17.1**	**13.1**	**27.9**	**23.0**	**18.6**	**12.8**	*26.0*	*20.9*	*21.6*	*12.7*	*23.8*	*19.4*	**81.0**	*78.3*	*77.5*
Coal	**1.9**	**1.3**	**2.5**	**2.8**	**2.2**	**1.3**	*2.0*	*2.4*	*1.7*	*1.5*	*2.6*	*2.8*	**8.5**	*7.8*	*8.6*
Nuclear	**3.7**	**4.9**	**4.9**	**4.7**	**3.8**	**4.9**	*4.4*	*4.4*	*4.8*	*4.9*	*4.3*	*4.4*	**18.2**	*17.5*	*18.5*
Conventional hydropower	**3.8**	**7.6**	**6.7**	**3.3**	**7.0**	**10.6**	*6.6*	*2.9*	*6.8*	*9.8*	*6.2*	*2.9*	**21.4**	*27.2*	*25.7*
Nonhydro renewables (d)	**13.8**	**18.3**	**16.4**	**12.8**	**13.6**	**19.4**	*16.2*	*12.7*	*14.4*	*20.1*	*16.8*	*13.2*	**61.3**	*61.8*	*64.5*
Other energy sources (e)	**0.0**	**0.1**	**0.1**	**-0.1**	**-0.2**	**0.2**	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	**0.1**	*0.1*	*0.2*
Total generation	**40.2**	**45.3**	**58.6**	**46.6**	**45.0**	**49.0**	*55.2*	*43.3*	*49.4*	*49.0*	*53.9*	*42.7*	**190.6**	*192.6*	*195.1*
Net energy for load (f)	**59.1**	**64.2**	**78.3**	**62.7**	**59.5**	**63.4**	*75.8*	*61.9*	*58.9*	*63.6*	*76.7*	*62.3*	**264.3**	*260.6*	*261.7*

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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Electric Power Sector															
Geothermal	**0.038**	**0.037**	**0.039**	**0.039**	**0.038**	**0.037**	*0.038*	*0.038*	*0.040*	*0.036*	*0.038*	*0.038*	**0.154**	*0.152*	*0.152*
Hydroelectric Power (a)	**0.706**	**0.787**	**0.587**	**0.592**	**0.660**	**0.757**	*0.593*	*0.582*	*0.667*	*0.744*	*0.620*	*0.586*	**2.673**	*2.592*	*2.617*
Solar (b)	**0.116**	**0.193**	**0.186**	**0.113**	**0.124**	**0.211**	*0.206*	*0.128*	*0.152*	*0.252*	*0.261*	*0.161*	**0.608**	*0.669*	*0.826*
Waste Biomass (c)	**0.073**	**0.070**	**0.067**	**0.069**	**0.066**	**0.064**	*0.061*	*0.061*	*0.063*	*0.066*	*0.061*	*0.062*	**0.280**	*0.253*	*0.252*
Wood Biomass	**0.057**	**0.052**	**0.055**	**0.051**	**0.054**	**0.051**	*0.039*	*0.029*	*0.050*	*0.052*	*0.039*	*0.032*	**0.215**	*0.172*	*0.174*
Wind	**0.722**	**0.689**	**0.494**	**0.631**	**0.685**	**0.766**	*0.561*	*0.712*	*0.787*	*0.875*	*0.625*	*0.805*	**2.536**	*2.723*	*3.092*
Subtotal	**1.712**	**1.830**	**1.428**	**1.495**	**1.627**	**1.886**	*1.499*	*1.550*	*1.758*	*2.026*	*1.644*	*1.685*	**6.465**	*6.562*	*7.113*
Industrial Sector															
Biofuel Losses and Co-products (d)	**0.202**	**0.204**	**0.211**	**0.206**	**0.194**	**0.203**	*0.202*	*0.203*	*0.202*	*0.205*	*0.207*	*0.207*	**0.823**	*0.801*	*0.821*
Geothermal	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	**0.004**	*0.004*	*0.004*
Hydroelectric Power (a)	**0.003**	**0.003**	**0.003**	**0.003**	**0.002**	**0.003**	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	**0.013**	*0.012*	*0.012*
Solar (b)	**0.005**	**0.007**	**0.008**	**0.005**	**0.006**	**0.009**	*0.009*	*0.006*	*0.007*	*0.010*	*0.010*	*0.007*	**0.025**	*0.029*	*0.034*
Waste Biomass (c)	**0.044**	**0.041**	**0.039**	**0.044**	**0.043**	**0.040**	*0.041*	*0.043*	*0.042*	*0.041*	*0.041*	*0.042*	**0.168**	*0.167*	*0.166*
Wood Biomass	**0.382**	**0.382**	**0.389**	**0.388**	**0.371**	**0.361**	*0.360*	*0.356*	*0.344*	*0.340*	*0.351*	*0.353*	**1.540**	*1.449*	*1.389*
Subtotal	**0.637**	**0.635**	**0.648**	**0.648**	**0.616**	**0.613**	*0.611*	*0.611*	*0.595*	*0.595*	*0.608*	*0.611*	**2.567**	*2.451*	*2.410*
Commercial Sector															
Geothermal	**0.005**	**0.005**	**0.005**	**0.005**	**0.006**	**0.005**	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	*0.006*	**0.020**	*0.023*	*0.022*
Solar (b)	**0.019**	**0.029**	**0.029**	**0.020**	**0.022**	**0.033**	*0.034*	*0.024*	*0.028*	*0.040*	*0.041*	*0.029*	**0.096**	*0.113*	*0.139*
Waste Biomass (c)	**0.011**	**0.011**	**0.010**	**0.011**	**0.011**	**0.010**	*0.011*	*0.011*	*0.011*	*0.010*	*0.011*	*0.011*	**0.044**	*0.043*	*0.043*
Wood Biomass	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	*0.022*	*0.021*	*0.021*	*0.021*	*0.022*	*0.021*	**0.084**	*0.084*	*0.085*
Subtotal	**0.063**	**0.072**	**0.072**	**0.064**	**0.067**	**0.077**	*0.079*	*0.069*	*0.072*	*0.083*	*0.086*	*0.074*	**0.271**	*0.291*	*0.316*
Residential Sector															
Geothermal	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	*0.010*	**0.040**	*0.039*	*0.039*
Solar (e)	**0.044**	**0.067**	**0.067**	**0.046**	**0.051**	**0.078**	*0.078*	*0.054*	*0.057*	*0.087*	*0.088*	*0.061*	**0.224**	*0.260*	*0.293*
Wood Biomass	**0.128**	**0.129**	**0.130**	**0.130**	**0.131**	**0.131**	*0.131*	*0.131*	*0.131*	*0.131*	*0.131*	*0.131*	**0.517**	*0.523*	*0.523*
Subtotal	**0.181**	**0.206**	**0.207**	**0.186**	**0.191**	**0.218**	*0.218*	*0.194*	*0.197*	*0.227*	*0.228*	*0.201*	**0.780**	*0.822*	*0.854*
Transportation Sector															
Biomass-based Diesel (f)	**0.054**	**0.068**	**0.071**	**0.063**	**0.058**	**0.071**	*0.072*	*0.085*	*0.072*	*0.085*	*0.078*	*0.082*	**0.256**	*0.286*	*0.317*
Ethanol (f)	**0.273**	**0.287**	**0.294**	**0.289**	**0.274**	**0.290**	*0.292*	*0.286*	*0.276*	*0.296*	*0.299*	*0.291*	**1.142**	*1.142*	*1.163*
Subtotal	**0.327**	**0.355**	**0.365**	**0.351**	**0.333**	**0.357**	*0.364*	*0.371*	*0.348*	*0.381*	*0.377*	*0.374*	**1.398**	*1.425*	*1.480*
All Sectors Total															
Biomass-based Diesel (f)	**0.054**	**0.068**	**0.071**	**0.063**	**0.058**	**0.071**	*0.072*	*0.085*	*0.072*	*0.085*	*0.078*	*0.082*	**0.256**	*0.286*	*0.317*
Biofuel Losses and Co-products (d)	**0.202**	**0.204**	**0.211**	**0.206**	**0.194**	**0.203**	*0.202*	*0.203*	*0.202*	*0.205*	*0.207*	*0.207*	**0.823**	*0.801*	*0.821*
Ethanol (f)	**0.283**	**0.297**	**0.305**	**0.300**	**0.285**	**0.305**	*0.298*	*0.297*	*0.287*	*0.308*	*0.310*	*0.302*	**1.185**	*1.185*	*1.207*
Geothermal	**0.054**	**0.053**	**0.055**	**0.055**	**0.055**	**0.054**	*0.055*	*0.055*	*0.056*	*0.053*	*0.054*	*0.054*	**0.218**	*0.219*	*0.217*
Hydroelectric Power (a)	**0.710**	**0.791**	**0.590**	**0.596**	**0.663**	**0.760**	*0.597*	*0.586*	*0.670*	*0.748*	*0.623*	*0.590*	**2.688**	*2.606*	*2.630*
Solar (b)(e)	**0.184**	**0.295**	**0.289**	**0.184**	**0.202**	**0.335**	*0.327*	*0.212*	*0.244*	*0.389*	*0.400*	*0.259*	**0.951**	*1.077*	*1.291*
Waste Biomass (c)	**0.128**	**0.122**	**0.117**	**0.125**	**0.120**	**0.114**	*0.113*	*0.115*	*0.116*	*0.116*	*0.113*	*0.116*	**0.492**	*0.462*	*0.461*
Wood Biomass	**0.587**	**0.584**	**0.596**	**0.590**	**0.577**	**0.561**	*0.551*	*0.537*	*0.546*	*0.544*	*0.543*	*0.537*	**2.357**	*2.225*	*2.170*
Wind	**0.722**	**0.689**	**0.494**	**0.631**	**0.685**	**0.766**	*0.561*	*0.712*	*0.787*	*0.875*	*0.625*	*0.805*	**2.536**	*2.723*	*3.092*
Total Consumption	**2.920**	**3.097**	**2.721**	**2.745**	**2.833**	**3.148**	*2.771*	*2.795*	*2.971*	*3.313*	*2.943*	*2.945*	**11.482**	*11.547*	*12.172*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	**7,244**	**7,216**	**7,187**	**7,128**	**6,964**	**7,041**	*6,939*	*6,966*	*6,966*	*6,900*	*6,900*	*6,944*	**7,128**	*6,966*	*6,944*
Waste	**4,205**	**4,177**	**4,167**	**4,163**	**4,128**	**4,105**	*4,092*	*4,120*	*4,120*	*4,054*	*4,054*	*4,055*	**4,163**	*4,120*	*4,055*
Wood	**3,039**	**3,039**	**3,020**	**2,965**	**2,835**	**2,936**	*2,847*	*2,847*	*2,847*	*2,847*	*2,847*	*2,889*	**2,965**	*2,847*	*2,889*
Conventional Hydroelectric	**79,501**	**79,462**	**79,461**	**79,579**	**79,468**	**79,604**	*79,489*	*79,436*	*79,568*	*79,583*	*79,698*	*79,793*	**79,579**	*79,436*	*79,793*
Geothermal	**2,396**	**2,396**	**2,396**	**2,398**	**2,395**	**2,403**	*2,403*	*2,403*	*2,403*	*2,403*	*2,493*	*2,518*	**2,398**	*2,403*	*2,518*
Large-Scale Solar (b)	**27,960**	**28,816**	**29,349**	**31,467**	**32,517**	**33,357**	*34,274*	*37,266*	*38,879*	*42,635*	*43,643*	*47,323*	**31,467**	*37,266*	*47,323*
Wind	**88,646**	**89,095**	**89,803**	**94,276**	**96,444**	**97,932**	*100,224*	*106,597*	*108,219*	*109,744*	*111,220*	*119,211*	**94,276**	*106,597*	*119,211*
Other Sectors (c)															
Biomass	**6,682**	**6,676**	**6,664**	**6,663**	**6,596**	**6,545**	*6,553*	*6,537*	*6,575*	*6,575*	*6,575*	*6,567*	**6,663**	*6,537*	*6,567*
Waste	**850**	**849**	**845**	**845**	**845**	**846**	*846*	*862*	*862*	*862*	*862*	*862*	**845**	*862*	*862*
Wood	**5,832**	**5,827**	**5,819**	**5,819**	**5,751**	**5,699**	*5,707*	*5,675*	*5,713*	*5,713*	*5,713*	*5,705*	**5,819**	*5,675*	*5,705*
Conventional Hydroelectric	**284**	**284**	**284**	**284**	**290**	**290**	*290*	*290*	*290*	*290*	*290*	*290*	**284**	*290*	*290*
Large-Scale Solar (b)	**358**	**365**	**372**	**378**	**381**	**385**	*395*	*397*	*397*	*400*	*400*	*400*	**378**	*397*	*400*
Small-Scale Solar (d)	**17,048**	**17,887**	**18,712**	**19,521**	**20,585**	**21,289**	*22,081*	*22,969*	*23,926*	*24,960*	*26,081*	*27,288*	**19,521**	*22,969*	*27,288*
Residential Sector	**10,155**	**10,660**	**11,179**	**11,664**	**12,440**	**12,830**	*13,227*	*13,701*	*14,225*	*14,806*	*15,452*	*16,163*	**11,664**	*13,701*	*16,163*
Commercial Sector	**5,501**	**5,778**	**6,026**	**6,286**	**6,533**	**6,769**	*7,101*	*7,450*	*7,816*	*8,201*	*8,605*	*9,029*	**6,286**	*7,450*	*9,029*
Industrial Sector	**1,391**	**1,449**	**1,507**	**1,571**	**1,612**	**1,690**	*1,753*	*1,818*	*1,885*	*1,953*	*2,023*	*2,096*	**1,571**	*1,818*	*2,096*
Wind	**115**	**112**	**118**	**118**	**118**	**123**	*127*	*127*	*127*	*127*	*127*	*127*	**118**	*127*	*127*
Renewable Electricity Generation (billion kilowatthours)															
Electric Power Sector (a)															
Biomass	**8.3**	**7.7**	**7.9**	**7.6**	**7.5**	**7.2**	*6.4*	*5.7*	*7.1*	*7.5*	*6.4*	*6.0*	**31.4**	*26.8*	*26.9*
Waste	**4.6**	**4.5**	**4.4**	**4.5**	**4.2**	**4.2**	*4.0*	*4.0*	*4.1*	*4.3*	*4.0*	*4.0*	**18.1**	*16.4*	*16.4*
Wood	**3.6**	**3.2**	**3.4**	**3.1**	**3.3**	**3.0**	*2.4*	*1.7*	*3.0*	*3.2*	*2.4*	*1.9*	**13.3**	*10.4*	*10.5*
Conventional Hydroelectric	**76.7**	**85.4**	**63.7**	**64.3**	**71.6**	**82.0**	*64.3*	*63.0*	*72.2*	*80.6*	*67.1*	*63.5*	**290.1**	*281.0*	*283.4*
Geothermal	**4.1**	**4.0**	**4.3**	**4.2**	**4.1**	**4.1**	*4.1*	*4.2*	*4.3*	*3.9*	*4.1*	*4.1*	**16.7**	*16.5*	*16.5*
Large-Scale Solar (b)	**12.6**	**20.9**	**20.2**	**12.2**	**13.4**	**22.8**	*22.4*	*13.9*	*16.5*	*27.3*	*28.2*	*17.4*	**65.9**	*72.6*	*89.5*
Wind	**78.2**	**74.7**	**53.5**	**68.4**	**74.2**	**83.2**	*60.8*	*77.1*	*85.2*	*94.8*	*67.7*	*87.2*	**274.7**	*295.3*	*334.9*
Other Sectors (c)															
Biomass	**7.9**	**7.8**	**7.9**	**7.7**	**7.5**	**7.4**	*7.9*	*7.7*	*7.5*	*7.4*	*7.9*	*7.7*	**31.3**	*30.5*	*30.6*
Waste	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.7**	*0.8*	*0.8*	*0.8*	*0.7*	*0.8*	*0.8*	**3.3**	*3.1*	*3.2*
Wood	**7.0**	**7.0**	**7.1**	**6.9**	**6.7**	**6.7**	*7.1*	*6.9*	*6.7*	*6.7*	*7.1*	*6.9*	**28.1**	*27.4*	*27.4*
Conventional Hydroelectric	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	**0.4**	*0.4*	*0.4*	*0.3*	*0.4*	*0.4*	*0.4*	**1.6**	*1.5*	*1.5*
Large-Scale Solar (b)	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	*0.3*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	**0.7**	*0.9*	*1.1*
Small-Scale Solar (d)	**5.8**	**8.8**	**8.8**	**6.1**	**7.0**	**10.5**	*10.6*	*7.4*	*8.2*	*12.3*	*12.5*	*8.8*	**29.5**	*35.5*	*41.9*
Residential Sector	**3.3**	**5.1**	**5.1**	**3.5**	**4.1**	**6.3**	*6.3*	*4.3*	*4.7*	*7.2*	*7.3*	*5.1*	**17.1**	*20.9*	*24.3*
Commercial Sector	**2.0**	**2.9**	**2.9**	**2.0**	**2.3**	**3.4**	*3.4*	*2.4*	*2.8*	*4.1*	*4.2*	*2.9*	**9.8**	*11.5*	*13.9*
Industrial Sector	**0.5**	**0.8**	**0.8**	**0.6**	**0.6**	**0.9**	*0.9*	*0.7*	*0.7*	*1.0*	*1.1*	*0.8*	**2.6**	*3.1*	*3.6*
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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Macroeconomic															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	**18,324**	**18,512**	**18,665**	**18,765**	**18,910**	**19,009**	*19,093*	*19,190*	*19,276*	*19,362*	*19,443*	*19,526*	**18,566**	*19,051*	*19,402*
Real Personal Consumption Expend. (billion chained 2012 dollars - SAAR)	**12,723**	**12,842**	**12,953**	**13,032**	**13,062**	**13,183**	*13,242*	*13,321*	*13,398*	*13,475*	*13,557*	*13,639*	**12,888**	*13,202*	*13,518*
Real Private Fixed Investment (billion chained 2012 dollars - SAAR)	**3,271**	**3,322**	**3,332**	**3,357**	**3,383**	**3,380**	*3,390*	*3,410*	*3,418*	*3,424*	*3,438*	*3,453*	**3,321**	*3,391*	*3,433*
Business Inventory Change (billion chained 2012 dollars - SAAR)	**36**	**-10**	**93**	**107**	**122**	**79**	*78*	*61*	*57*	*47*	*45*	*41*	**57**	*85*	*47*
Real Government Expenditures (billion chained 2012 dollars - SAAR)	**3,152**	**3,172**	**3,192**	**3,189**	**3,211**	**3,251**	*3,257*	*3,264*	*3,274*	*3,293*	*3,293*	*3,295*	**3,176**	*3,246*	*3,289*
Real Exports of Goods & Services (billion chained 2012 dollars - SAAR)	**2,518**	**2,574**	**2,542**	**2,553**	**2,587**	**2,581**	*2,623*	*2,653*	*2,680*	*2,702*	*2,722*	*2,741*	**2,547**	*2,611*	*2,711*
Real Imports of Goods & Services (billion chained 2012 dollars - SAAR)	**3,420**	**3,415**	**3,492**	**3,509**	**3,492**	**3,504**	*3,540*	*3,561*	*3,596*	*3,628*	*3,663*	*3,696*	**3,459**	*3,524*	*3,646*
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	**14,220**	**14,282**	**14,375**	**14,489**	**14,561**	**14,609**	*14,720*	*14,800*	*14,894*	*15,002*	*15,100*	*15,188*	**14,341**	*14,672*	*15,046*
Non-Farm Employment (millions)	**148.0**	**148.7**	**149.4**	**150.1**	**150.7**	**151.1**	*151.6*	*152.0*	*152.5*	*153.0*	*153.1*	*153.3*	**149.1**	*151.4*	*153.0*
Civilian Unemployment Rate (percent)	**4.1**	**3.9**	**3.8**	**3.8**	**3.9**	**3.6**	*3.6*	*3.5*	*3.6*	*3.6*	*3.7*	*3.8*	**3.9**	*3.6*	*3.7*
Housing Starts (millions - SAAR)	**1.32**	**1.26**	**1.23**	**1.19**	**1.21**	**1.26**	*1.22*	*1.21*	*1.22*	*1.21*	*1.22*	*1.23*	**1.25**	*1.23*	*1.22*
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	**106.7**	**107.9**	**109.3**	**110.3**	**109.8**	**109.5**	*109.7*	*110.2*	*110.6*	*110.7*	*110.9*	*111.2*	**108.6**	*109.8*	*110.9*
Manufacturing	**104.8**	**105.5**	**106.6**	**107.0**	**106.5**	**105.9**	*106.1*	*106.6*	*107.0*	*107.1*	*107.4*	*107.8*	**106.0**	*106.3*	*107.3*
Food	**113.3**	**114.3**	**114.9**	**113.2**	**115.0**	**114.9**	*115.1*	*115.5*	*115.9*	*116.3*	*116.8*	*117.4*	**113.9**	*115.2*	*116.6*
Paper	**96.0**	**95.9**	**96.0**	**96.0**	**94.1**	**92.4**	*92.0*	*91.8*	*91.5*	*91.2*	*90.9*	*90.6*	**96.0**	*92.6*	*91.0*
Petroleum and Coal Products	**106.7**	**106.8**	**107.5**	**106.7**	**106.2**	**105.5**	*105.3*	*105.5*	*105.8*	*106.0*	*106.1*	*106.2*	**106.9**	*105.6*	*106.0*
Chemicals	**98.4**	**100.2**	**101.3**	**101.8**	**101.5**	**101.6**	*101.8*	*102.2*	*102.8*	*103.3*	*104.0*	*104.6*	**100.4**	*101.8*	*103.7*
Nonmetallic Mineral Products	**119.1**	**120.4**	**119.0**	**119.9**	**119.6**	**118.8**	*118.7*	*118.7*	*118.8*	*118.9*	*119.2*	*119.4*	**119.6**	*119.0*	*119.1*
Primary Metals	**95.8**	**96.2**	**97.5**	**100.7**	**98.0**	**97.2**	*96.3*	*96.0*	*95.5*	*94.5*	*93.8*	*92.9*	**97.6**	*96.9*	*94.2*
Coal-weighted Manufacturing (a)	**103.6**	**104.7**	**105.3**	**106.0**	**105.0**	**104.6**	*104.3*	*104.4*	*104.3*	*104.1*	*104.2*	*104.1*	**104.9**	*104.5*	*104.2*
Distillate-weighted Manufacturing (a)	**111.3**	**111.8**	**112.2**	**112.0**	**111.6**	**111.2**	*111.1*	*111.3*	*111.5*	*111.5*	*111.7*	*111.9*	**111.8**	*111.3*	*111.6*
Electricity-weighted Manufacturing (a)	**104.5**	**105.4**	**106.5**	**107.1**	**106.3**	**106.0**	*105.7*	*105.8*	*106.0*	*106.1*	*106.2*	*106.3*	**105.9**	*106.0*	*106.2*
Natural Gas-weighted Manufacturing (a)	**104.3**	**105.8**	**106.8**	**107.0**	**106.1**	**106.0**	*105.8*	*105.9*	*106.2*	*106.3*	*106.6*	*106.8*	**106.0**	*106.0*	*106.4*
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)	**2.49**	**2.51**	**2.52**	**2.53**	**2.53**	**2.55**	*2.56*	*2.58*	*2.60*	*2.61*	*2.62*	*2.63*	**2.51**	*2.56*	*2.61*
Producer Price Index: All Commodities (index, 1982=1.00)	**2.00**	**2.01**	**2.03**	**2.04**	**2.01**	**2.01**	*2.00*	*2.02*	*2.03*	*2.03*	*2.04*	*2.05*	**2.02**	*2.01*	*2.04*
Producer Price Index: Petroleum (index, 1982=1.00)	**1.98**	**2.22**	**2.26**	**2.10**	**1.84**	**2.06**	*1.95*	*1.92*	*1.90*	*1.97*	*1.97*	*1.90*	**2.14**	*1.94*	*1.93*
GDP Implicit Price Deflator (index, 2012=100)	**109.3**	**110.2**	**110.7**	**111.1**	**111.4**	**111.9**	*112.6*	*113.2*	*113.9*	*114.5*	*115.2*	*115.9*	**110.3**	*112.3*	*114.9*
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	**8,198**	**9,192**	**9,114**	**8,810**	**8,239**	**9,337**	*9,218*	*8,902*	*8,377*	*9,394*	*9,299*	*8,982*	**8,831**	*8,927*	*9,014*
Air Travel Capacity (Available ton-miles/day, thousands)	**603**	**664**	**667**	**661**	**641**	**674**	*680*	*658*	*638*	*671*	*681*	*658*	**649**	*663*	*662*
Aircraft Utilization (Revenue ton-miles/day, thousands)	**368**	**414**	**418**	**394**	**379**	**428**	*436*	*415*	*396*	*431*	*437*	*417*	**398**	*415*	*420*
Airline Ticket Price Index (index, 1982-1984=100)	**262.8**	**277.9**	**259.7**	**259.3**	**255.7**	**275.8**	*253.2*	*266.2*	*284.0*	*302.8*	*274.6*	*286.9*	**264.9**	*262.7*	*287.1*
Raw Steel Production (million short tons per day)	**0.251**	**0.253**	**0.263**	**0.270**	**0.273**	**0.271**	*0.258*	*0.252*	*0.256*	*0.258*	*0.256*	*0.259*	**0.259**	*0.263*	*0.257*
Carbon Dioxide (CO2) Emissions (million metric tons)															
Petroleum	**578**	**592**	**602**	**599**	**573**	**587**	*606*	*601*	*580*	*588*	*609*	*602*	**2,372**	*2,367*	*2,379*
Natural Gas	**478**	**349**	**370**	**431**	**504**	**350**	*383*	*446*	*498*	*362*	*376*	*435*	**1,629**	*1,683*	*1,671*
Coal	**307**	**287**	**355**	**310**	**289**	**245**	*304*	*252*	*286*	*224*	*296*	*260*	**1,259**	*1,090*	*1,066*
Total Energy (c)	**1,366**	**1,232**	**1,330**	**1,343**	**1,368**	**1,185**	*1,296*	*1,301*	*1,367*	*1,177*	*1,284*	*1,300*	**5,271**	*5,151*	*5,128*

- = 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 - August 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Real Gross State Product (Billion $2009)															
New England	**971**	**973**	**981**	**985**	**993**	**998**	*1,001*	*1,005*	*1,009*	*1,013*	*1,017*	*1,021*	**978**	*999*	*1,015*
Middle Atlantic	**2,720**	**2,748**	**2,768**	**2,776**	**2,796**	**2,812**	*2,819*	*2,832*	*2,842*	*2,853*	*2,862*	*2,872*	**2,753**	*2,815*	*2,857*
E. N. Central	**2,483**	**2,494**	**2,519**	**2,528**	**2,544**	**2,552**	*2,560*	*2,570*	*2,580*	*2,586*	*2,590*	*2,597*	**2,506**	*2,556*	*2,588*
W. N. Central	**1,150**	**1,168**	**1,173**	**1,177**	**1,184**	**1,188**	*1,192*	*1,197*	*1,201*	*1,205*	*1,209*	*1,214*	**1,167**	*1,190*	*1,207*
S. Atlantic	**3,259**	**3,286**	**3,325**	**3,339**	**3,367**	**3,385**	*3,403*	*3,421*	*3,439*	*3,457*	*3,475*	*3,494*	**3,302**	*3,394*	*3,466*
E. S. Central	**812**	**821**	**827**	**831**	**836**	**839**	*843*	*846*	*849*	*852*	*855*	*858*	**823**	*841*	*854*
W. S. Central	**2,225**	**2,248**	**2,263**	**2,294**	**2,313**	**2,327**	*2,340*	*2,354*	*2,366*	*2,382*	*2,396*	*2,409*	**2,258**	*2,333*	*2,388*
Mountain	**1,197**	**1,210**	**1,224**	**1,234**	**1,245**	**1,253**	*1,261*	*1,269*	*1,276*	*1,283*	*1,291*	*1,298*	**1,216**	*1,257*	*1,287*
Pacific	**3,540**	**3,597**	**3,616**	**3,636**	**3,667**	**3,690**	*3,710*	*3,730*	*3,748*	*3,766*	*3,783*	*3,799*	**3,597**	*3,699*	*3,774*
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	**98.8**	**99.2**	**99.7**	**99.5**	**98.9**	**97.4**	*97.5*	*97.7*	*97.9*	*97.9*	*98.1*	*98.3*	**99.3**	*97.9*	*98.0*
Middle Atlantic	**98.6**	**99.0**	**99.6**	**99.8**	**98.8**	**97.5**	*97.6*	*97.9*	*98.2*	*98.2*	*98.4*	*98.6*	**99.3**	*98.0*	*98.4*
E. N. Central	**107.6**	**108.2**	**109.2**	**109.3**	**108.6**	**107.5**	*107.6*	*108.0*	*108.4*	*108.3*	*108.4*	*108.6*	**108.6**	*107.9*	*108.4*
W. N. Central	**104.2**	**104.9**	**106.2**	**106.7**	**106.1**	**105.3**	*105.5*	*106.0*	*106.5*	*106.7*	*107.0*	*107.4*	**105.5**	*105.7*	*106.9*
S. Atlantic	**108.8**	**109.7**	**110.7**	**110.9**	**110.5**	**110.7**	*110.9*	*111.3*	*111.7*	*111.8*	*112.1*	*112.5*	**110.0**	*110.9*	*112.0*
E. S. Central	**109.8**	**110.2**	**111.2**	**111.7**	**111.4**	**110.4**	*110.6*	*111.1*	*111.5*	*111.6*	*111.9*	*112.2*	**110.7**	*110.9*	*111.8*
W. S. Central	**98.7**	**99.7**	**100.9**	**101.6**	**101.5**	**101.4**	*101.6*	*102.2*	*102.8*	*103.1*	*103.5*	*103.9*	**100.2**	*101.7*	*103.3*
Mountain	**112.2**	**113.5**	**115.3**	**116.4**	**116.1**	**116.5**	*116.8*	*117.5*	*118.1*	*118.5*	*119.0*	*119.6*	**114.3**	*116.7*	*118.8*
Pacific	**104.5**	**105.1**	**105.7**	**106.4**	**105.9**	**105.8**	*105.9*	*106.4*	*106.8*	*106.9*	*107.3*	*107.7*	**105.4**	*106.0*	*107.2*
Real Personal Income (Billion $2009)															
New England	**861**	**859**	**864**	**866**	**870**	**874**	*880*	*884*	*889*	*895*	*900*	*904*	**862**	*877*	*897*
Middle Atlantic	**2,224**	**2,233**	**2,246**	**2,245**	**2,255**	**2,265**	*2,280*	*2,289*	*2,300*	*2,314*	*2,326*	*2,336*	**2,237**	*2,272*	*2,319*
E. N. Central	**2,349**	**2,348**	**2,364**	**2,376**	**2,391**	**2,399**	*2,414*	*2,425*	*2,439*	*2,453*	*2,465*	*2,475*	**2,359**	*2,407*	*2,458*
W. N. Central	**1,087**	**1,096**	**1,098**	**1,111**	**1,114**	**1,118**	*1,126*	*1,132*	*1,139*	*1,148*	*1,156*	*1,163*	**1,098**	*1,123*	*1,152*
S. Atlantic	**3,068**	**3,076**	**3,107**	**3,128**	**3,155**	**3,171**	*3,199*	*3,220*	*3,243*	*3,271*	*3,296*	*3,319*	**3,095**	*3,186*	*3,283*
E. S. Central	**861**	**864**	**869**	**874**	**880**	**883**	*888*	*892*	*897*	*903*	*908*	*912*	**867**	*886*	*905*
W. S. Central	**1,875**	**1,884**	**1,897**	**1,909**	**1,923**	**1,933**	*1,949*	*1,961*	*1,976*	*1,993*	*2,007*	*2,020*	**1,891**	*1,941*	*1,999*
Mountain	**1,100**	**1,103**	**1,115**	**1,128**	**1,138**	**1,146**	*1,157*	*1,165*	*1,173*	*1,185*	*1,194*	*1,203*	**1,112**	*1,151*	*1,189*
Pacific	**2,664**	**2,683**	**2,698**	**2,725**	**2,743**	**2,763**	*2,786*	*2,803*	*2,820*	*2,842*	*2,862*	*2,879*	**2,692**	*2,774*	*2,851*
Households (Thousands)															
New England	**5,914**	**5,926**	**5,944**	**5,955**	**5,965**	**5,971**	*5,980*	*5,990*	*6,001*	*6,012*	*6,019*	*6,027*	**5,955**	*5,990*	*6,027*
Middle Atlantic	**16,210**	**16,249**	**16,300**	**16,331**	**16,355**	**16,368**	*16,391*	*16,417*	*16,444*	*16,473*	*16,493*	*16,514*	**16,331**	*16,417*	*16,514*
E. N. Central	**19,003**	**19,037**	**19,090**	**19,121**	**19,149**	**19,167**	*19,195*	*19,227*	*19,258*	*19,301*	*19,333*	*19,365*	**19,121**	*19,227*	*19,365*
W. N. Central	**8,604**	**8,627**	**8,658**	**8,680**	**8,701**	**8,718**	*8,738*	*8,760*	*8,782*	*8,806*	*8,826*	*8,845*	**8,680**	*8,760*	*8,845*
S. Atlantic	**25,469**	**25,561**	**25,679**	**25,771**	**25,861**	**25,942**	*26,029*	*26,121*	*26,215*	*26,317*	*26,404*	*26,491*	**25,771**	*26,121*	*26,491*
E. S. Central	**7,626**	**7,641**	**7,665**	**7,682**	**7,699**	**7,714**	*7,731*	*7,750*	*7,768*	*7,788*	*7,805*	*7,823*	**7,682**	*7,750*	*7,823*
W. S. Central	**14,686**	**14,731**	**14,793**	**14,843**	**14,891**	**14,935**	*14,984*	*15,038*	*15,093*	*15,151*	*15,203*	*15,255*	**14,843**	*15,038*	*15,255*
Mountain	**9,244**	**9,292**	**9,349**	**9,394**	**9,437**	**9,474**	*9,515*	*9,556*	*9,597*	*9,641*	*9,680*	*9,719*	**9,394**	*9,556*	*9,719*
Pacific	**18,859**	**18,903**	**18,966**	**19,010**	**19,055**	**19,093**	*19,142*	*19,196*	*19,252*	*19,311*	*19,360*	*19,411*	**19,010**	*19,196*	*19,411*
Total Non-farm Employment (Millions)															
New England	**7.4**	**7.4**	**7.5**	**7.5**	**7.5**	**7.5**	*7.5*	*7.5*	*7.5*	*7.6*	*7.6*	*7.6*	**7.5**	*7.5*	*7.6*
Middle Atlantic	**19.7**	**19.8**	**19.9**	**19.9**	**20.0**	**20.0**	*20.1*	*20.1*	*20.2*	*20.2*	*20.2*	*20.2*	**19.8**	*20.1*	*20.2*
E. N. Central	**22.1**	**22.2**	**22.2**	**22.3**	**22.4**	**22.4**	*22.4*	*22.5*	*22.5*	*22.6*	*22.5*	*22.5*	**22.2**	*22.4*	*22.5*
W. N. Central	**10.7**	**10.7**	**10.8**	**10.8**	**10.8**	**10.8**	*10.8*	*10.9*	*10.9*	*10.9*	*10.9*	*10.9*	**10.7**	*10.8*	*10.9*
S. Atlantic	**28.5**	**28.6**	**28.7**	**28.9**	**29.1**	**29.1**	*29.2*	*29.3*	*29.5*	*29.6*	*29.6*	*29.7*	**28.7**	*29.2*	*29.6*
E. S. Central	**8.1**	**8.2**	**8.2**	**8.2**	**8.3**	**8.3**	*8.3*	*8.3*	*8.4*	*8.4*	*8.4*	*8.4*	**8.2**	*8.3*	*8.4*
W. S. Central	**17.3**	**17.4**	**17.5**	**17.6**	**17.6**	**17.7**	*17.8*	*17.9*	*17.9*	*18.0*	*18.1*	*18.1*	**17.4**	*17.8*	*18.0*
Mountain	**10.7**	**10.8**	**10.9**	**10.9**	**11.0**	**11.1**	*11.1*	*11.2*	*11.2*	*11.3*	*11.3*	*11.4*	**10.8**	*11.1*	*11.3*
Pacific	**23.3**	**23.4**	**23.5**	**23.6**	**23.7**	**23.9**	*24.0*	*24.0*	*24.1*	*24.2*	*24.2*	*24.3*	**23.5**	*23.9*	*24.2*

- = no data available

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

Regions refer to U.S. Census divisions.

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

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

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

Projections: Macroeconomic projections are based on the IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

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

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Heating Degree Days															
New England	**3,053**	**905**	**70**	**2,304**	**3,226**	**898**	*122*	*2,163*	*3,153*	*851*	*130*	*2,158*	**6,332**	*6,410*	*6,293*
Middle Atlantic	**2,939**	**755**	**37**	**2,049**	**2,985**	**629**	*85*	*1,993*	*2,918*	*678*	*81*	*1,983*	**5,781**	*5,691*	*5,659*
E. N. Central	**3,211**	**826**	**61**	**2,338**	**3,331**	**764**	*128*	*2,243*	*3,125*	*718*	*124*	*2,231*	**6,435**	*6,465*	*6,197*
W. N. Central	**3,421**	**828**	**121**	**2,601**	**3,646**	**773**	*153*	*2,422*	*3,199*	*696*	*163*	*2,418*	**6,972**	*6,994*	*6,476*
South Atlantic	**1,442**	**218**	**2**	**968**	**1,336**	**128**	*13*	*967*	*1,400*	*185*	*13*	*962*	**2,631**	*2,445*	*2,560*
E. S. Central	**1,815**	**325**	**2**	**1,339**	**1,716**	**195**	*22*	*1,308*	*1,799*	*236*	*20*	*1,303*	**3,482**	*3,240*	*3,357*
W. S. Central	**1,192**	**142**	**3**	**911**	**1,211**	**90**	*4*	*800*	*1,160*	*82*	*4*	*800*	**2,248**	*2,106*	*2,046*
Mountain	**2,122**	**600**	**123**	**1,960**	**2,430**	**790**	*132*	*1,821*	*2,196*	*691*	*152*	*1,822*	**4,805**	*5,173*	*4,861*
Pacific	**1,439**	**540**	**83**	**1,101**	**1,687**	**576**	*80*	*1,198*	*1,493*	*567*	*87*	*1,190*	**3,164**	*3,541*	*3,337*
U.S. Average	**2,129**	**522**	**48**	**1,578**	**2,211**	**481**	*72*	*1,527*	*2,100*	*477*	*74*	*1,520*	**4,278**	*4,291*	*4,171*
Heating Degree Days, Prior 10-year Average															
New England	**3,172**	**817**	**119**	**2,121**	**3,166**	**820**	*111*	*2,122*	*3,153*	*823*	*103*	*2,116*	**6,229**	*6,218*	*6,195*
Middle Atlantic	**2,947**	**646**	**81**	**1,949**	**2,956**	**650**	*76*	*1,941*	*2,948*	*643*	*71*	*1,937*	**5,623**	*5,623*	*5,600*
E. N. Central	**3,209**	**692**	**116**	**2,210**	**3,196**	**697**	*112*	*2,199*	*3,198*	*698*	*108*	*2,194*	**6,228**	*6,203*	*6,199*
W. N. Central	**3,264**	**705**	**144**	**2,379**	**3,255**	**702**	*140*	*2,380*	*3,287*	*703*	*136*	*2,367*	**6,492**	*6,477*	*6,492*
South Atlantic	**1,476**	**177**	**12**	**974**	**1,480**	**176**	*11*	*964*	*1,459*	*169*	*11*	*956*	**2,639**	*2,631*	*2,595*
E. S. Central	**1,868**	**217**	**18**	**1,301**	**1,862**	**222**	*17*	*1,292*	*1,850*	*215*	*17*	*1,281*	**3,404**	*3,392*	*3,363*
W. S. Central	**1,181**	**80**	**4**	**801**	**1,183**	**85**	*4*	*807*	*1,199*	*83*	*3*	*789*	**2,066**	*2,079*	*2,074*
Mountain	**2,194**	**737**	**144**	**1,841**	**2,164**	**714**	*139*	*1,856*	*2,192*	*719*	*136*	*1,829*	**4,916**	*4,873*	*4,876*
Pacific	**1,465**	**592**	**84**	**1,182**	**1,444**	**582**	*82*	*1,174*	*1,456*	*580*	*84*	*1,163*	**3,322**	*3,282*	*3,282*
U.S. Average	**2,160**	**478**	**71**	**1,524**	**2,150**	**475**	*68*	*1,518*	*2,149*	*472*	*66*	*1,505*	**4,233**	*4,211*	*4,193*
Cooling Degree Days															
New England	**0**	**80**	**581**	**0**	**0**	**67**	*480*	*1*	*0*	*88*	*413*	*2*	**661**	*549*	*502*
Middle Atlantic	**0**	**175**	**705**	**4**	**0**	**145**	*609*	*4*	*0*	*157*	*539*	*5*	**884**	*759*	*701*
E. N. Central	**0**	**332**	**637**	**4**	**0**	**174**	*597*	*6*	*0*	*220*	*531*	*7*	**974**	*777*	*759*
W. N. Central	**2**	**440**	**686**	**6**	**0**	**222**	*677*	*9*	*3*	*267*	*657*	*10*	**1,133**	*909*	*937*
South Atlantic	**138**	**730**	**1,270**	**280**	**155**	**759**	*1,186*	*233*	*123*	*649*	*1,153*	*232*	**2,418**	*2,333*	*2,157*
E. S. Central	**37**	**651**	**1,161**	**81**	**28**	**548**	*1,037*	*63*	*28*	*518*	*1,039*	*65*	**1,929**	*1,675*	*1,650*
W. S. Central	**126**	**1,004**	**1,564**	**165**	**72**	**818**	*1,470*	*197*	*86*	*862*	*1,488*	*197*	**2,859**	*2,556*	*2,633*
Mountain	**21**	**509**	**1,000**	**51**	**10**	**336**	*948*	*77*	*17*	*426*	*929*	*78*	**1,581**	*1,372*	*1,450*
Pacific	**31**	**181**	**720**	**73**	**21**	**165**	*588*	*58*	*27*	*170*	*588*	*59*	**1,006**	*833*	*845*
U.S. Average	**52**	**478**	**958**	**98**	**46**	**398**	*875*	*92*	*43*	*400*	*848*	*93*	**1,586**	*1,412*	*1,384*
Cooling Degree Days, Prior 10-year Average															
New England	**0**	**81**	**433**	**1**	**0**	**79**	*455*	*1*	*0*	*82*	*471*	*1*	**515**	*535*	*555*
Middle Atlantic	**0**	**166**	**566**	**5**	**0**	**165**	*588*	*6*	*0*	*170*	*607*	*6*	**738**	*759*	*783*
E. N. Central	**3**	**228**	**533**	**7**	**3**	**242**	*548*	*7*	*3*	*240*	*573*	*8*	**771**	*800*	*824*
W. N. Central	**7**	**277**	**659**	**11**	**7**	**298**	*668*	*11*	*7*	*296*	*691*	*12*	**953**	*985*	*1,006*
South Atlantic	**119**	**675**	**1,161**	**227**	**121**	**685**	*1,180*	*239*	*127*	*697*	*1,191*	*240*	**2,182**	*2,224*	*2,254*
E. S. Central	**34**	**539**	**1,031**	**63**	**36**	**554**	*1,049*	*67*	*36*	*556*	*1,064*	*70*	**1,667**	*1,706*	*1,726*
W. S. Central	**100**	**887**	**1,532**	**204**	**104**	**897**	*1,552*	*205*	*100*	*892*	*1,553*	*210*	**2,722**	*2,758*	*2,755*
Mountain	**24**	**426**	**923**	**84**	**25**	**438**	*933*	*81*	*24*	*432*	*935*	*83*	**1,457**	*1,477*	*1,475*
Pacific	**30**	**185**	**621**	**78**	**31**	**185**	*631*	*77*	*31*	*185*	*624*	*77*	**914**	*923*	*917*
U.S. Average	**45**	**408**	**856**	**94**	**46**	**417**	*873*	*97*	*47*	*420*	*885*	*98*	**1,403**	*1,433*	*1,450*

- = 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 August 2019 *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

	June 2019	July 2019	June 2019 – July 2019 Average	June 2018 – July 2018 Average	2016 – 2018 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	100.8	100.5	100.6	100.8	98.8
Global Petroleum and Other Liquids Consumption (b)	101.1	101.5	101.3	100.8	98.5
Biofuels Production (c)	3.1	3.1	3.1	3.1	2.5
Biofuels Consumption (c)	2.4	2.4	2.4	2.4	2.3
Iran Liquid Fuels Production	3.1	2.9	3.0	4.6	4.5
Iran Liquid Fuels Consumption	1.9	1.9	1.9	1.8	1.8
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	94.7	94.5	94.6	93.2	91.8
Consumption (d)	96.8	97.2	97.0	96.6	94.4
Production minus Consumption	-2.2	-2.7	-2.5	-3.5	-2.6
World Inventory Net Withdrawals Including Iran	0.3	1.0	0.7	0.0	-0.3
Estimated OECD Inventory Level (e) (million barrels)	2,903	2,887	2,895	2,815	2,960
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	2.1	2.3	2.2	1.4	1.6

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	June 2019	July 2019	June 2019 – July 2019 Average	June 2018 – July 2018 Average	2016 – 2018 Average
Brent Front Month Futures Price ($ per barrel)	63.04	64.21	63.65	75.45	57.19
WTI Front Month Futures Price ($ per barrel)	54.71	57.55	56.20	68.95	53.07
Dubai Front Month Futures Price ($ per barrel)	61.85	63.67	62.80	73.28	55.04
Brent 1st - 13th Month Futures Spread ($ per barrel)	3.05	2.75	2.89	3.17	-0.56
WTI 1st - 13th Month Futures Spread ($ per barrel)	1.22	2.05	1.65	5.57	-0.92
RBOB Front Month Futures Price ($ per gallon)	1.78	1.90	1.84	2.10	1.65
Heating Oil Front Month Futures Price ($ per gallon)	1.85	1.92	1.89	2.14	1.71
RBOB - Brent Futures Crack Spread ($ per gallon)	0.28	0.37	0.33	0.30	0.29
Heating Oil - Brent Futures Crack Spread ($ per gallon)	0.35	0.39	0.37	0.34	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 r*eformulated blendstock for oxygenate blending traded on the NYMEX.*
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).