



## Short-Term Energy Outlook (STEO)

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### Forecast highlights

#### *Winter Fuels Outlook*

- EIA forecasts that average U.S. household expenditures for most major home heating fuels will be higher this winter compared with last winter. Average increases vary by fuel; natural gas expenditures are forecast to rise by 5%, home heating oil by 20%, and electricity by 3%, while propane expenditures are forecast to remain similar to last year. Most of the increase reflects higher forecast energy prices. U.S. average heating degree days are expected to be 1% higher than last winter. However, realized expenditures are highly dependent on actual weather outcomes ([Winter Fuels Outlook](#)).
- EIA expects natural gas inventories to end October at the lowest levels for that time of year since 2005. Inventories of distillate fuel and propane are also below the five-year (2013–17) average in several regions. Although inventory levels are low, EIA expects fuel supplies to be adequate to meet winter demand.

#### *Global liquid fuels*

- Brent crude oil spot prices averaged \$79 per barrel (b) in September, up \$6/b from August. EIA expects Brent spot prices will average \$74/b in 2018 and \$75/b in 2019. EIA expects West Texas Intermediate (WTI) crude oil prices will average about \$6/b lower than Brent prices in 2018 and in 2019. NYMEX WTI futures and options contract values for January 2019 delivery that traded during the five-day period ending October 4, 2018, suggest a range of \$60/b to \$93/b encompasses the market expectation for January WTI prices at the 95% confidence level.
- EIA estimates that U.S. crude oil production averaged 11.1 million barrels per day (b/d) in September, up slightly from August levels. EIA forecasts that U.S. crude oil production will average 10.7 million b/d in 2018, up from [9.4 million b/d in 2017](#), and will average 11.8 million b/d in 2019.

#### *Natural gas*

- EIA estimates dry natural gas production in the United States averaged 85.1 billion cubic feet per day (Bcf/d) in September, up 0.6 Bcf/d from August. EIA forecasts that dry natural gas production will average 82.7 Bcf/d in 2018, up by 7.9 Bcf/d from 2017 and

establishing a new record high. EIA expects natural gas production will continue to rise in 2019 to an average of 87.7 Bcf/d.

- EIA forecasts that U.S. natural gas storage inventories will total 3.3 trillion cubic feet (Tcf) at the end of October. This level would be 14% lower than both the 2017 end-of-October level and the five-year (2013–17) average for the end of October, and it would also mark the lowest level for that time of year since 2005.
- EIA expects Henry Hub natural gas spot prices to average \$2.99/million British thermal units (MMBtu) in 2018 and \$3.12/MMBtu in 2019. NYMEX futures and options contract values for January 2019 delivery that traded during the five-day period ending October 4, 2018, suggest a range of \$2.22/MMBtu to \$4.85/MMBtu encompasses the market expectation for January Henry Hub natural gas prices at the 95% confidence level.

### *Electricity, coal, renewables, and emissions*

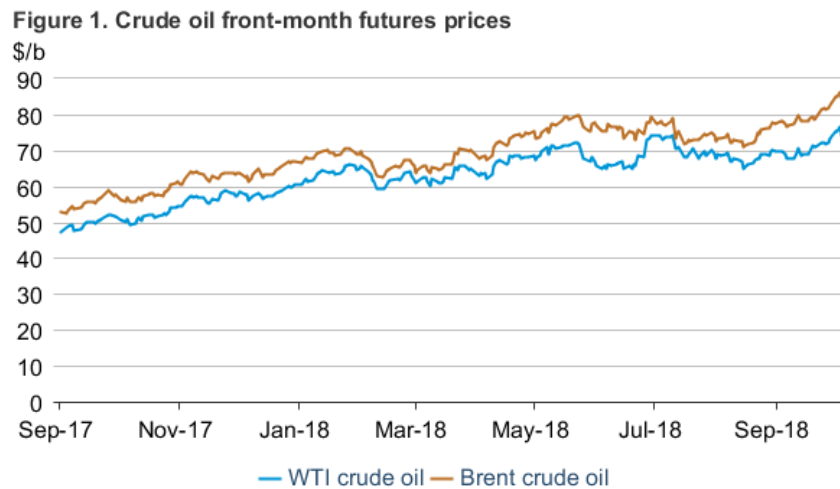
- EIA expects the share of U.S. total utility-scale electricity generation from natural gas-fired power plants to rise from 32% in 2017 to 35% in both 2018 and 2019. EIA's forecast electricity generation share from coal averages 28% in 2018 and 27% in 2019, down from 30% in 2017. The nuclear share of generation was 20% in 2017 and EIA forecasts that it will be slightly below 20% in 2018 and in 2019. Wind, solar, and other nonhydropower renewables provided slightly less than 10% of electricity generation in 2017, and EIA expects them to provide more than 10% in 2018 and nearly 11% in 2019. The generation share of hydropower was 7% in 2017 and EIA forecasts that it will be about the same in 2018 and 2019.
- In 2017, EIA estimates that U.S. wind generation averaged 697,000 megawatthours per day (MWh/d). EIA forecasts that wind generation will rise by 8% to 750,000 MWh/d in 2018 and by a further 6% to 793,000 MWh/d in 2019.
- Solar power generates less electricity in the United States than wind power but continues to grow at a faster rate. EIA expects solar generation will rise from 211,000 MWh/d in 2017 to 267,000 MWh/d in 2018 (an increase of 26%) and to 305,000 MWh/d in 2019 (an increase of 14%).
- EIA forecasts U.S. coal production will decline by 2% to 756 MMst in 2018, despite a 12% (11 MMst) increase in coal exports. The production decrease is largely attributable to a forecast decline of 4% (26 MMst) in domestic coal consumption in 2018. EIA expects coal production to decline by 2% (13 MMst) in 2019 because it forecasts that coal exports and coal consumption will decrease by 7% and 5%, respectively.
- After declining by 0.8% in 2017, EIA forecasts that U.S. energy-related carbon dioxide (CO<sub>2</sub>) emissions will rise by 2.2% in 2018. This increase largely reflects higher natural gas consumption because of a colder winter and a warmer summer than in 2017. EIA expects emissions to decline by 1.1% in 2019, as forecast temperatures are forecast to

return to normal. Energy-related CO2 emissions are sensitive to changes in weather, economic growth, energy prices, and fuel mix.

## Petroleum and natural gas markets review

### Crude oil

**Prices:** The front-month futures price for Brent crude oil settled at \$84.58 per barrel (b) on October 4, an increase of \$6.41/b from September 4. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by \$4.46/b during the same period, settling at \$74.33/b on October 4 (**Figure 1**).



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

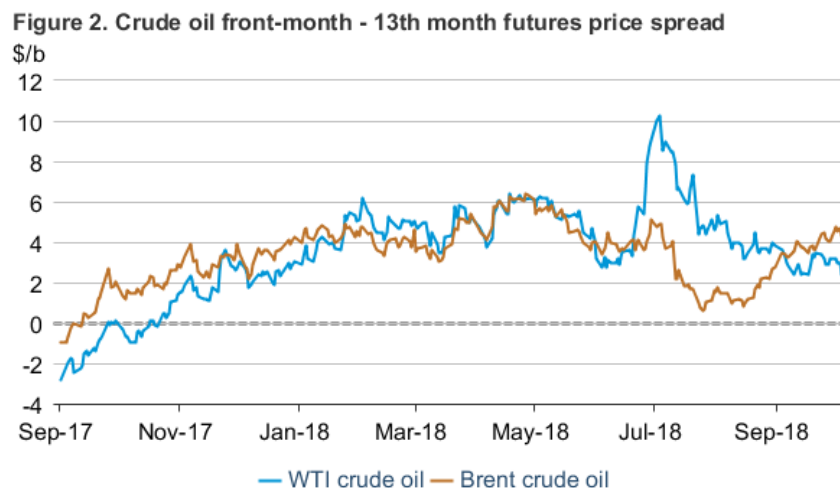
Both Brent and WTI crude oil prices reached four-year highs on October 3. Crude oil prices rose in anticipation of potentially steep declines in Iranian crude oil production and exports as a result of the reinstatement of U.S. sanctions on November 4. Trade press reports that major oil-importing countries including Japan, South Korea, China, and India, are planning or are considering sharp reductions in crude oil imports from Iran. As a result, the amount of Iranian crude oil supply available in the global market may be much lower than market participants initially expected in May, when the United States announced it would exit from the Joint Comprehensive Plan of Action. EIA estimates that Iranian crude oil production fell by more than 0.4 million barrels per day (b/d) since May to an average of 3.4 million b/d in September.

In June, members of the Organization of the Petroleum Exporting Countries (OPEC), along with Russia, agreed to increase oil production levels to the original crude oil production target set in November 2016. In the third quarter of 2018, OPEC members (other than Iran and Venezuela) increased crude oil production by more than the amount that crude oil production in Iran and Venezuela declined. However, recent price increases indicate that oil market participants have concerns about the ability of Saudi Arabia, other OPEC members, and Russia to continue to offset expected further production declines in Iran and in Venezuela. Increases in OPEC crude oil

production to offset declines in Iran and Venezuela have resulted in declining OPEC spare crude oil production capacity. STEO estimates that OPEC spare capacity fell below 1.4 million b/d in September, the lowest level since December 2016 when global oil inventory levels were much higher.

With increased uncertainty about the amount that Iranian crude oil production could decline, and how much of the decline can be offset by other suppliers, STEO now forecasts the Brent crude oil spot price will average \$81/b in the fourth quarter of 2018, up from a forecast of \$76/b in the September STEO. Despite continuing production declines in Iran and Venezuela, EIA forecasts global oil supply and demand to be nearly balanced in 2019 contributing to downward oil price pressures. By the second half of 2019, when transportation constraints in the Permian region of the United States are expected to be alleviated, U.S. crude oil production, and potentially crude oil exports, are expected to increase, which could help keep prices in the mid-\$70/b range.

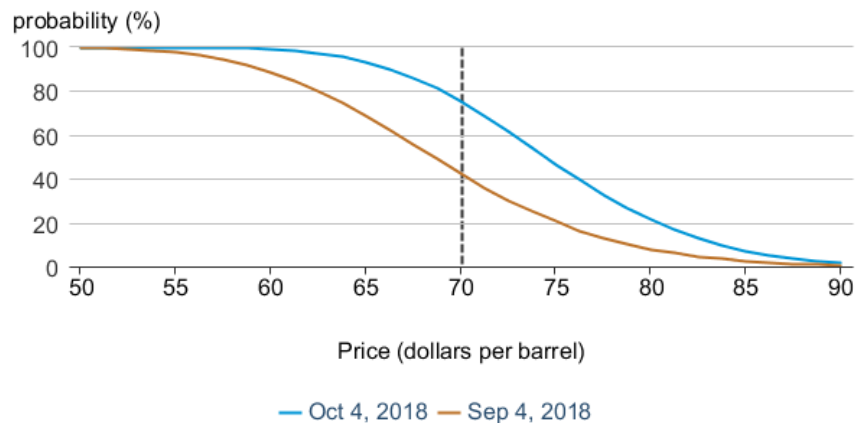
Although both the Brent and WTI front-month futures price rose during the past several weeks, Brent prices increased more than WTI prices. As a result, the Brent futures curve became more backwardated (when near-term contract prices exceed those of longer-dated ones) than the WTI futures curve for the first time since June (Figure 2). From September 4 to October 4, the Brent 1st–13th month futures contract price spread rose from \$3.44/b to \$4.29/b. During the same period, the WTI 1st–13th month futures contract price spread declined from \$3.60/b to \$2.40/b.



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

During September and through the first week of October, the probability that the December 2018 WTI crude oil futures contract will expire at \$70/b increased sharply. A probability calculated using futures and options data indicates that WTI futures prices have a 75% chance of reaching \$70/b at expiration as of October 4 (Figure 3). The probability of reaching \$70/b was at just 42% on September 4.

**Figure 3. Probability of the December 2018 WTI contract expiring above price levels**



 U.S. Energy Information Administration, CME Group

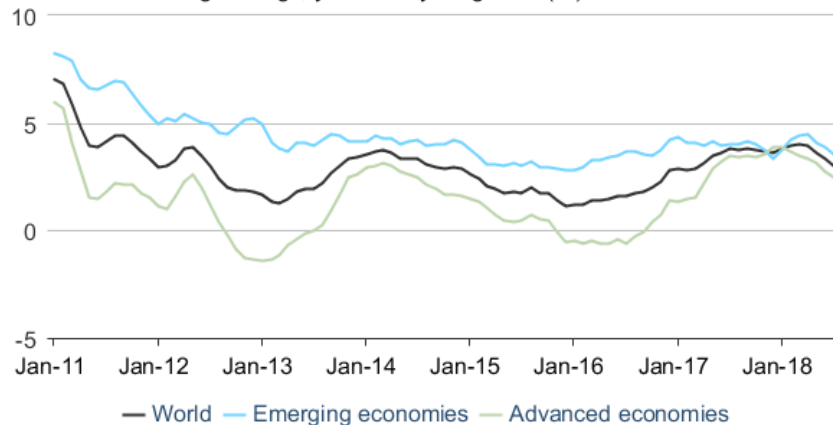
**Economic growth:** Some developed and emerging market economies may be starting to experience slower economic growth, which could result in lower-than-forecast oil demand, especially if crude oil prices continue to rise.

The CPB Netherlands Bureau for Economic Policy Analysis (CPB) publishes [monthly data](#) on global and regional industrial production, an important gauge for economic activity. Using a three-month moving average to smooth out short-term fluctuations, data from the CPB show that industrial production growth in advanced economies has begun to decelerate in January 2018 (**Figure 4**). Industrial production growth in emerging economies has also recently experienced a slight deceleration.

Among advanced economy regions the CPB [tracks](#), the United States is the only region with accelerating industrial production growth, while Japan, the Euro Area, and Other advanced economies are all decelerating. Industrial production growth in the Euro Area, in particular, showed a year-over-year decline in July 2018, the first decline since the beginning of 2017, as industrial production in Germany and Italy showed slowdowns.

Further, growth in gross domestic product (GDP) in 2019 for countries both within and outside the Organization for Economic Cooperation and Development (OECD) has been revised down in recent months. The April 2018 STEO forecast OECD GDP growth of 2.2% for 2019; however, the current STEO forecast OECD GDP to be 2.0% next year. Similarly, non-OECD GDP growth was [revised down](#) from 4.3% to 3.8%. This decline in forecast growth is part of the reason that global oil demand growth for 2019 is forecast to be 1.5 million b/d in the current STEO, compared with 1.8 million b/d in the April STEO.

**Figure 4. Industrial production growth**  
three-month moving average, year-over-year growth (%)



eia CPB Netherlands Bureau for Economic Policy Analysis

**Equity markets:** A divergence between the economic outlooks for the United States compared with that of other countries can be seen in equity market returns. From January 2, 2018, to October 4, 2018, the S&P 500 rose 8% (**Figure 5**). In contrast, the [MSCI Emerging Markets Index](#) fell 14% during the same period. The MSCI Emerging Markets Index consists of equities in 24 developing countries, and Chinese shares account for 30% of the index.

General trends affecting this divergence include interest rate increases by the U.S. Federal Reserve, the strengthening U.S. dollar (USD), and weakening emerging market currencies. Better returns in less risky assets along with concerns about high dollar-denominated debt in certain countries may have affected the outlook and investment in emerging markets more broadly.

Country-specific issues have also affected the MSCI Emerging Markets Index. Weaker-than-expected economic data from China and larger portions of the U.S.-China trade flow that are subject to tariffs have negatively affected Chinese equities. During past several weeks, the Indian rupee fell to record lows against the USD, increasing the cost of imports and resulting in domestic fuel prices reaching record highs. The Indian government may try to support its currency by further increasing interest rates and limiting imports. In Brazil, political uncertainty, currency depreciation, a strike related to high fuel prices, and weak economic fundamentals resulted in a selloff in Brazilian equities earlier in the summer. Rising oil prices could begin to affect oil demand in countries experiencing currency depreciation and/or a slowdown in their economic fundamentals.

**Figure 5. S&P 500 vs. MSCI Emerging Markets Index**  
indexed to January 2, 2018

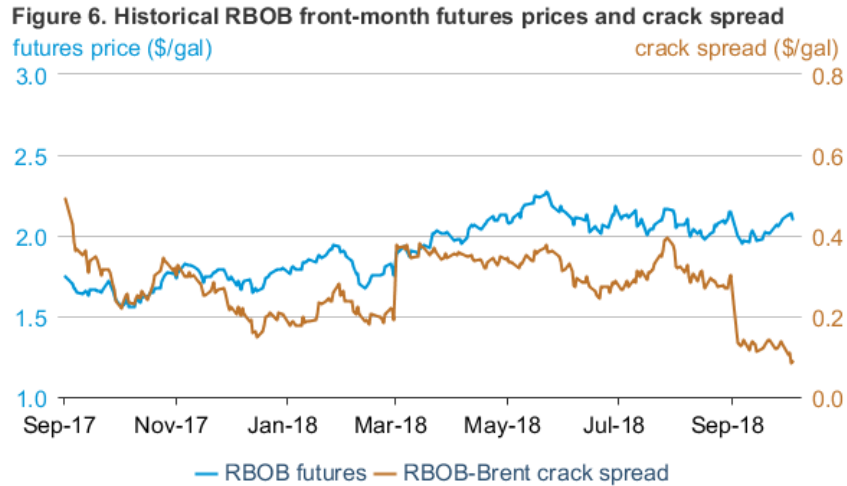


 S&P Dow Jones Indices and MSCI, as compiled by Bloomberg L.P.

## Petroleum products

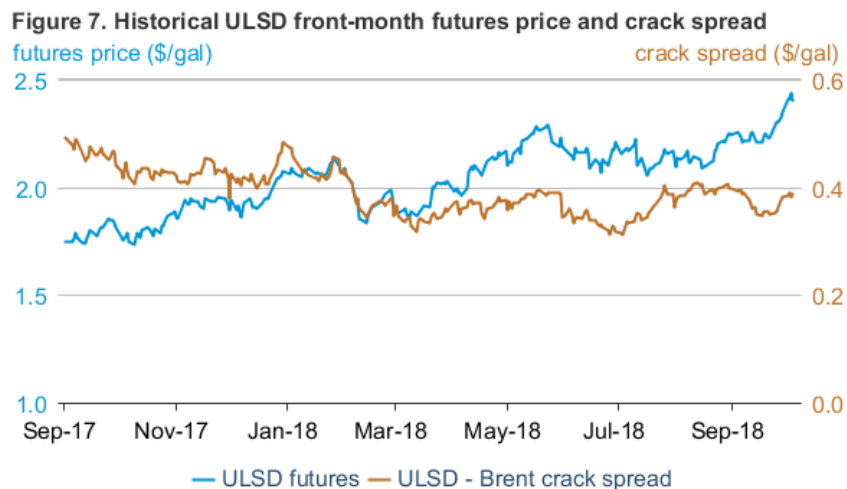
**Gasoline prices:** The front-month futures price of reformulated blendstock for oxygenate blending (RBOB, the petroleum component of gasoline used in many parts of the country) settled at \$2.10 per gallon (gal) on October 4 (**Figure 6**), an increase of 11 cents/gal from September 4. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) decreased by 5 cents/gal to settle at 9 cents/gal during the same period.

The RBOB–Brent crack spread declined as RBOB prices increased less than crude oil prices despite high gasoline demand in September. U.S. gasoline consumption combined with exports totaled 10.1 million barrels per day (b/d) for the four weeks ending September 28, which, if confirmed in monthly data, would be the highest on record for September. However, gasoline production and imports have more than kept pace with demand, resulting in gasoline inventory levels that were much higher than the five-year (2013–17) range on September 28.



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

**Ultra-low sulfur diesel prices:** The ultra-low sulfur diesel (ULSD) front-month futures price settled at \$2.40/gal on October 4 (**Figure 7**), an increase of 15 cents/gal from September 4. The ULSD–Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) declined by 1 cent/gal to settle at 39 cents/gal during the same period. The ULSD–Brent crack spread has been at or higher than the five-year average for most of 2018, but large U.S. distillate inventory growth in September resulted in a ULSD crack spread less than the five-year average. ULSD crack spreads are also declining in Northwest Europe. Rising gasoil inventories in the Amsterdam-Rotterdam-Antwerp (ARA) trading hub may have contributed to lower ARA ULSD-Brent crack spreads. Low water levels on the Rhine River hampered product movements inland and may have contributed to the increase in ARA inventories.

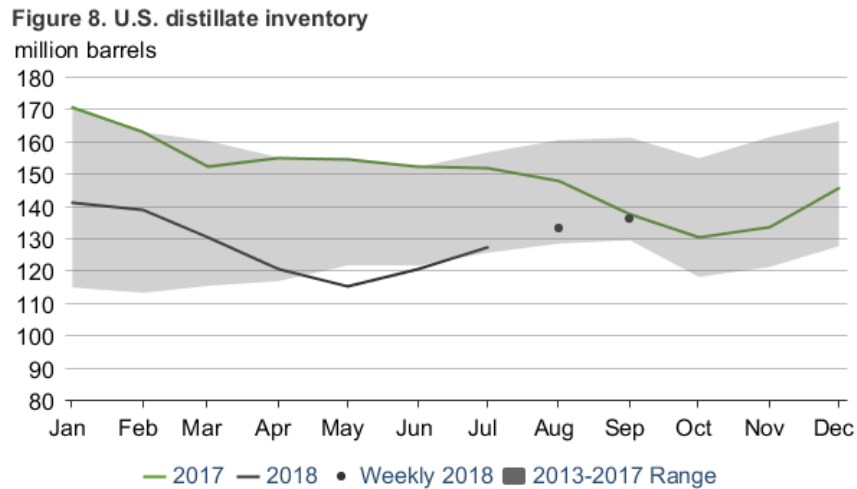


eia CME Group, as compiled by Bloomberg L.P., ULSD=ultra-low sulfur diesel

**U.S. distillate inventories:** U.S. distillate inventories increased by 3.0 million barrels for the four weeks ending September 28, an unusually large build for September. For the first time in 2018,



distillate inventories at the end of September nearly equaled those of the prior year (**Figure 8**). High throughput at U.S. refineries contributed to record-high distillate production for the month of September. Distillate production has set monthly records since June, which has supported inventory growth despite strong consumption and export demand. U.S. consumption and exports combined for the four weeks ending September 28, if confirmed in monthly data, would be the highest for September since 2015.

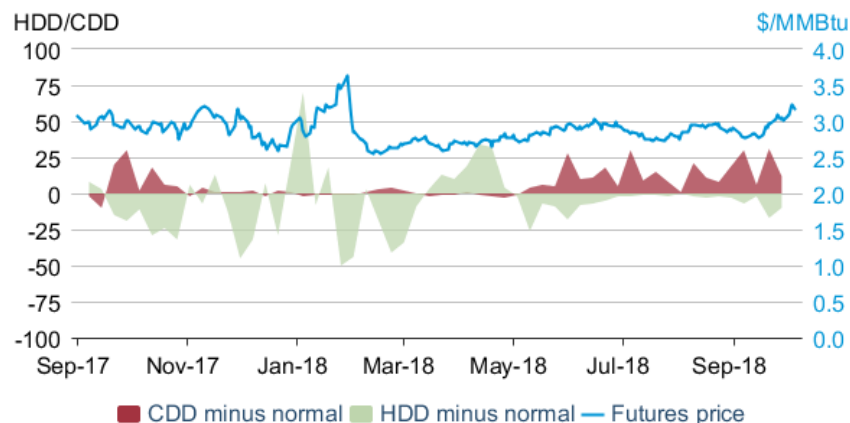


eia U.S. Energy Information Administration

## Natural Gas

**Prices:** The front-month natural gas futures contract for delivery at the Henry Hub settled at \$3.17/million British thermal units (MMBtu) on October 4, an increase of 34 cents/MMBtu from September 4 (**Figure 9**). The Henry Hub natural gas spot price averaged \$2.99/MMBtu in September, 3 cents/MMBtu higher than in August. On September 24, natural gas futures prices rose to more than \$3/MMBtu for the first time since June 2018. Temperatures were higher than normal across much of the Lower 48 states, which contributed to high natural gas demand for power generation and limited significant inventory level gains this month. Working natural gas in underground storage has remained below the five-year (2013–17) average for most of the year. Inventories on September 28 totaled 2,866 billion cubic feet (Bcf), which is 17% less than the five-year average and 18% less than last year at this time.

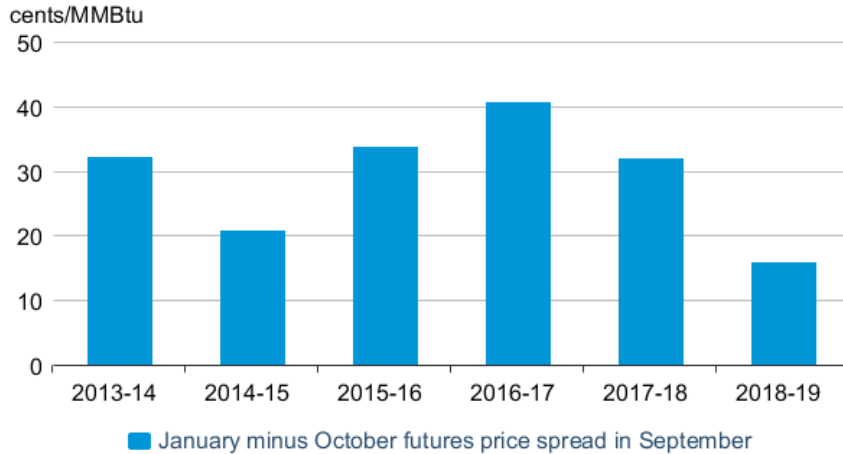
**Figure 9. Natural gas front-month futures prices and actual minus historical average HDD and CDD**



eia CME Group and National Oceanic and Atmospheric Administration, as compiled by Bloomberg L.P.

Prices for natural gas futures contracts for October delivery generally trade at a lower price than contracts for January delivery, when natural gas demand is expected to be much greater. This year, however, the discount of the October contract to the January contract was at its lowest in the past five years. High use of natural gas for electric power generation through the summer months did not allow for sufficiently high injections to compensate for the low inventory level on April 1, the traditional start of the injection season. From June through September, natural gas used for power generation and for LNG exports reached record high levels. Natural gas production also rose to record levels, but the high demand prevented inventory levels from rising sufficiently to account for the initial deficit relative to the five-year average, which reached 607 Bcf as of September 28. The tighter natural gas market this summer contributed to a narrower spread between the October and January natural gas futures prices, which averaged 16 cents/MMBtu during the month of September compared with a range of a 20 cent to 40 cent/MMBtu discount over the past five years (**Figure 10**). In addition, higher natural gas production reduces the need for inventory to meet winter demand, which further contributes to the smaller price spread.

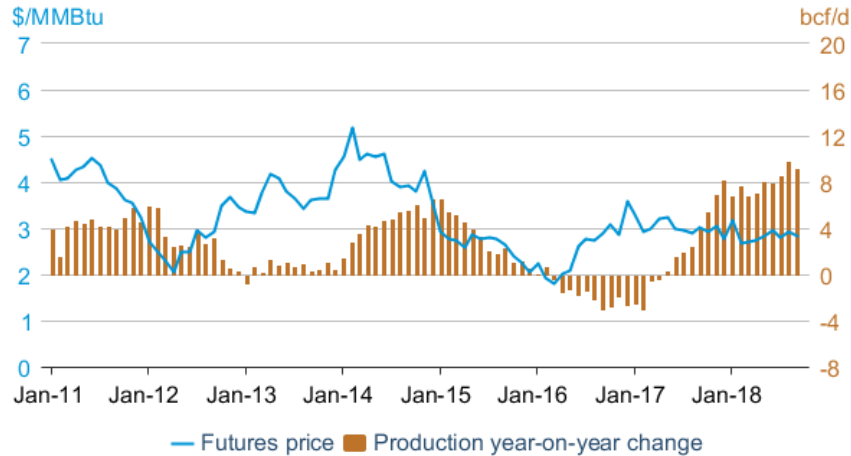
**Figure 10. Average price spread of natural gas futures**



eia Bloomberg L.P.

**U.S. natural gas production:** Total U.S. dry natural gas production reached an estimated 85.1 billion cubic feet per day (Bcf/d) in September, 9.3 Bcf/d higher than year-ago levels and a record high if confirmed in monthly data. Compared with historical levels, front-month natural gas futures prices during this period of production growth have remained steady and not experienced a decline with increased production, likely because of lower-than-average inventory levels (**Figure 11**).

**Figure 11. Natural gas futures prices and year-on-year change in production**



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

## Notable forecast changes

- EIA forecasts that U.S. crude oil production will average 11.8 million barrels per day (b/d) in 2019, which is almost 0.3 million b/d higher than the forecast in the September STEO. The higher production reflects higher-than-expected increases to Texas and North Dakota production in July, revising up the baseline of the forecast, and a response to higher forecast prices.
- EIA forecasts that dry natural gas production will average 82.7 billion cubic feet per day (Bcf/d) in 2018, which is 1.8 Bcf/d higher than the forecast in the September STEO. The higher production reflects higher than expected increases to Texas production in July, increasing the baseline of the forecast. EIA expects natural gas production will continue to rise in 2019 to an average of 87.7 Bcf/d, 3.1 Bcf/d higher than the forecast in the September STEO. The 2019 upward revision is the result of increased expected production in the Haynesville region in response to higher forecast prices, upward revisions to the Permian region in response to higher prices, and expected new pipeline capacity to come online in the second quarter of 2019.
- EIA forecasts Brent crude oil prices to average \$81 per barrel (b) in the fourth quarter of 2018, which is \$5/b higher than forecast in the September STEO. This increase reflects recent price movements incorporated into EIA's forecast, the higher starting point for the forecast, and the possibility that crude oil prices could remain elevated while market participants assess how much crude oil production in Iran will decline in the coming months and the ability of other oil producers to offset lost volumes.
- For more information, see the [detailed table of STEO forecast changes](#).

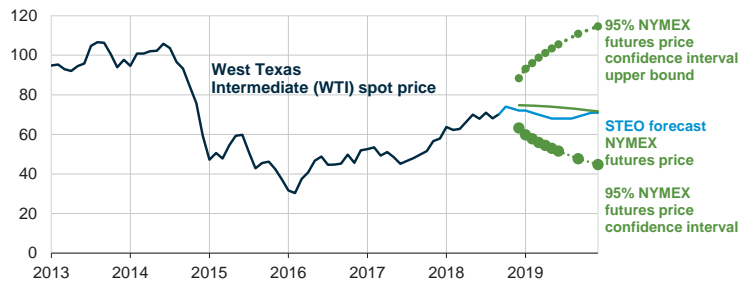
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# Short-Term Energy Outlook

## Chart Gallery for October 2018

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

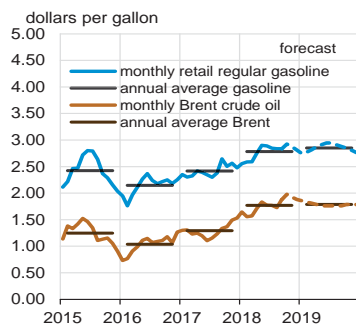


Note: Confidence interval derived from options market information for the five trading days ending Oct 4, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, October 2018, and CME Group

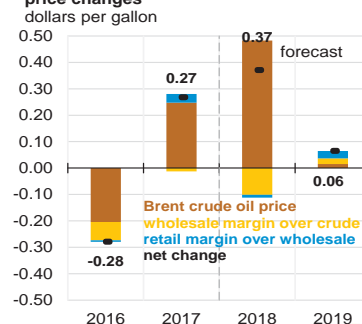


**U.S. gasoline and crude oil prices**

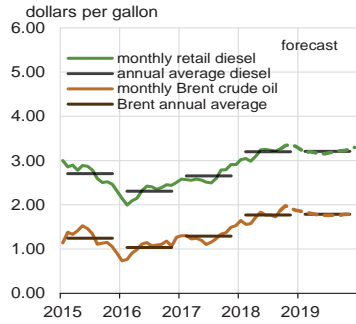


Source: Short-Term Energy Outlook, October 2018

**Components of annual gasoline price changes**

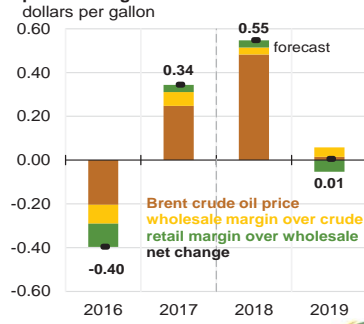


### U.S. diesel and crude oil prices



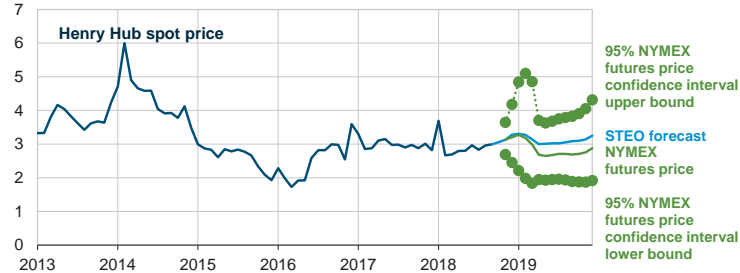
Source: Short-Term Energy Outlook, October 2018

### Components of annual diesel prices changes



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

dollars per million Btu



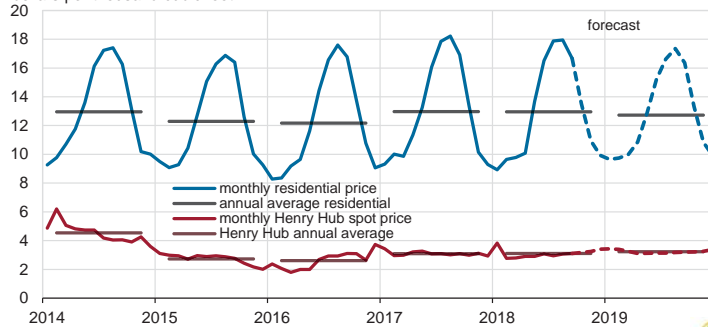
Note: Confidence interval derived from options market information for the five trading days ending Oct 4, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, October 2018, and CME Group



### U.S. natural gas prices

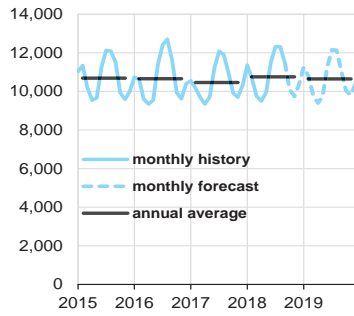
dollars per thousand cubic feet



Source: Short-Term Energy Outlook, October 2018, and Thomson Reuters

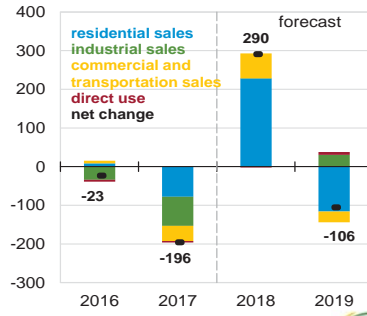


**U.S. electricity consumption**  
million kilowatthours per day

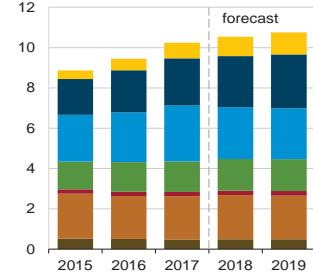


Source: Short-Term Energy Outlook, October 2018

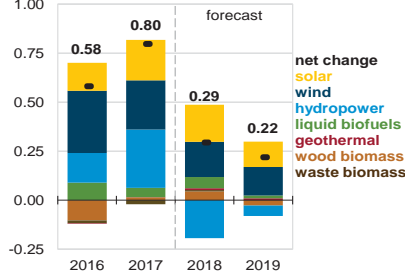
**Components of annual change**  
million kilowatthours per day



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



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

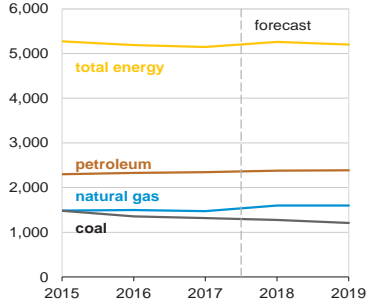


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, October 2018

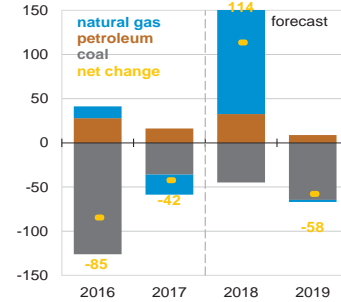


**U.S. annual carbon emissions by source**  
million metric tons



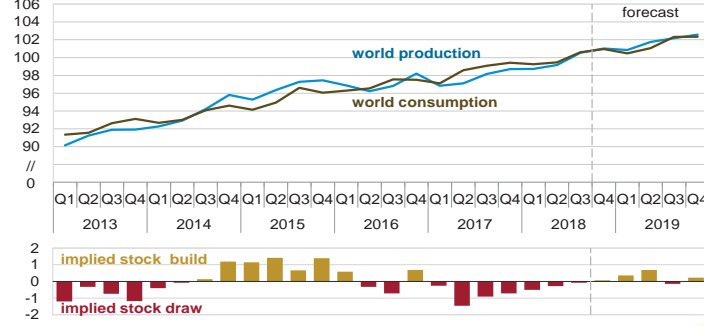
Source: Short-Term Energy Outlook, October 2018

**Components of annual change**  
million metric tons



### World liquid fuels production and consumption balance

million barrels per day

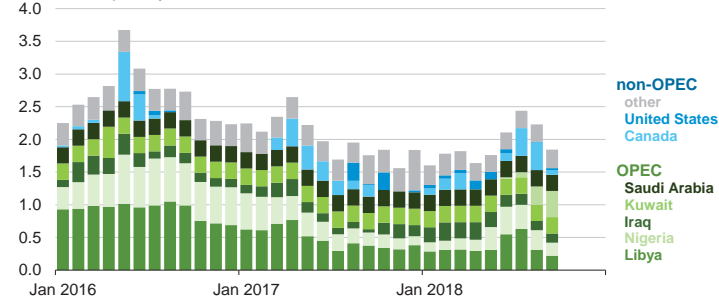


Source: Short-Term Energy Outlook, October 2018



### Estimated unplanned liquid fuels production outages

million barrels per day

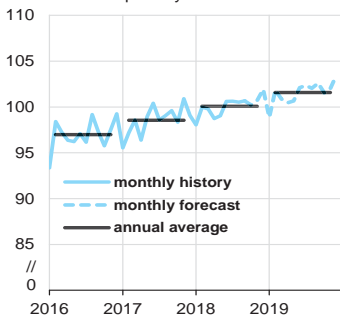


Source: Short-Term Energy Outlook, October 2018



### World liquid fuels consumption

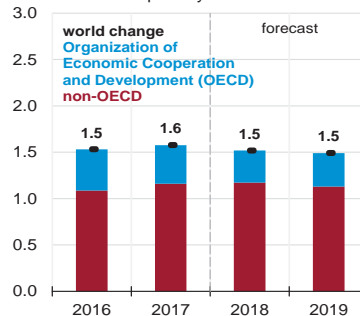
million barrels per day



Source: Short-Term Energy Outlook, October 2018

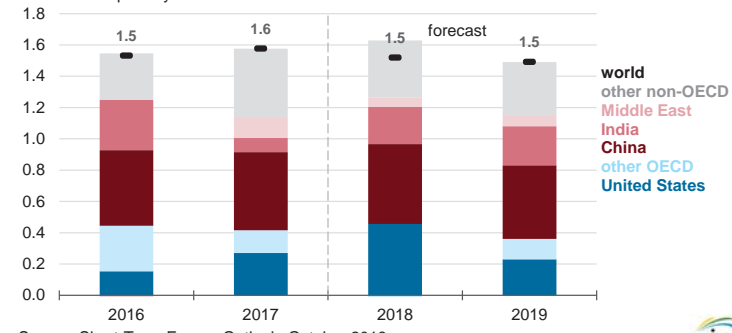
### Components of annual change

million barrels per day





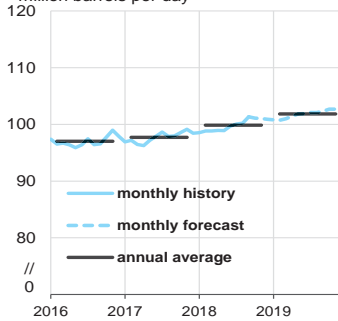
**Annual change in world liquid fuels consumption**  
million barrels per day



Source: Short-Term Energy Outlook, October 2018

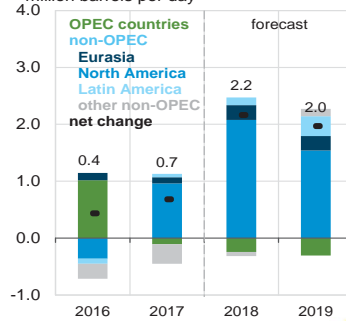


**World crude oil and liquid fuels production**  
million barrels per day

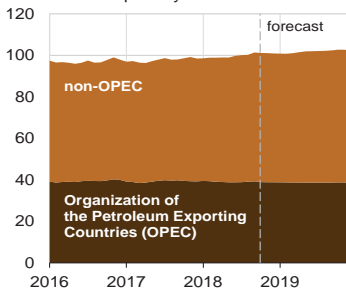


Source: Short-Term Energy Outlook, October 2018

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

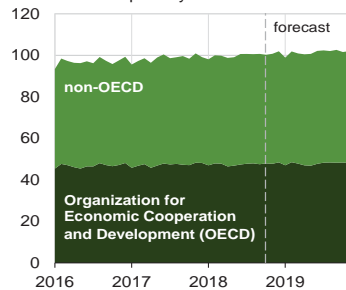


**World liquid fuels production**  
million barrels per day

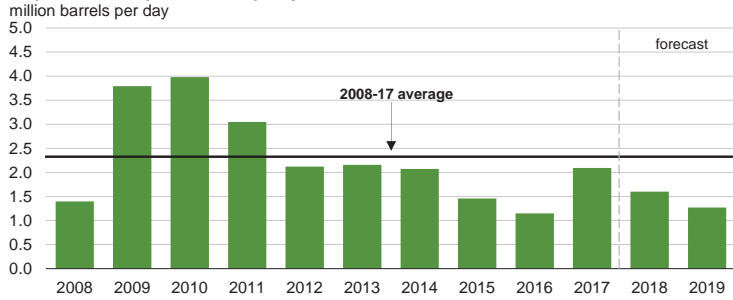


Source: Short-Term Energy Outlook, October 2018

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



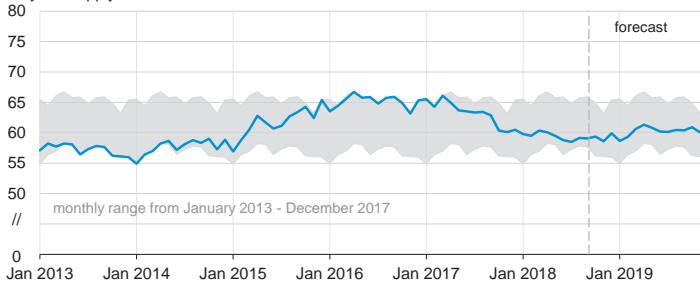
**Organization of the Petroleum Exporting Countries (OPEC)  
surplus crude oil production capacity**



Note: Black line represents 2008-2017 average (2.3 million barrels per day).  
Source: Short-Term Energy Outlook, October 2018



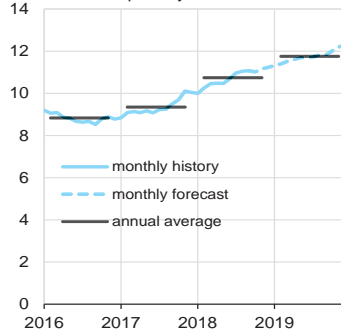
**Organization for Economic Cooperation and Development (OECD)  
commercial inventories of crude oil and other liquids**



Source: Short-Term Energy Outlook, October 2018

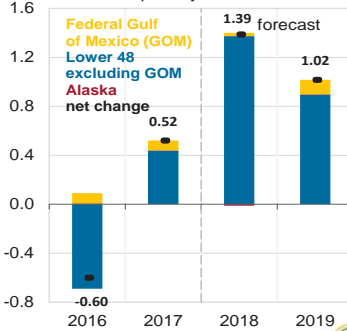


**U.S. crude oil production**

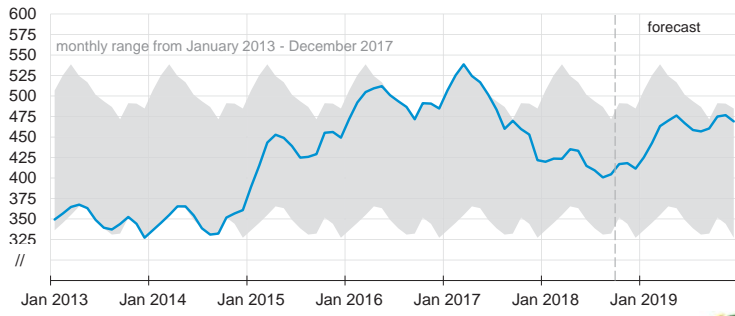


Source: Short-Term Energy Outlook, October 2018

**Components of annual change**



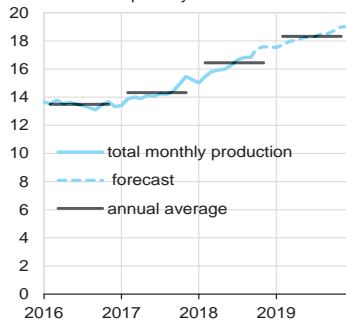
**U.S. commercial crude oil inventories**  
million barrels



Source: Short-Term Energy Outlook, October 2018

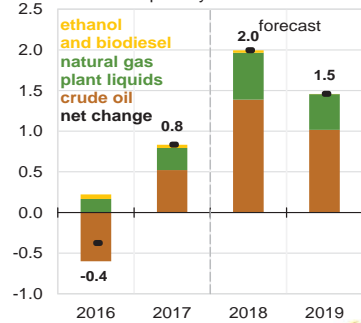


**U.S. crude oil and liquid fuels production**  
million barrels per day

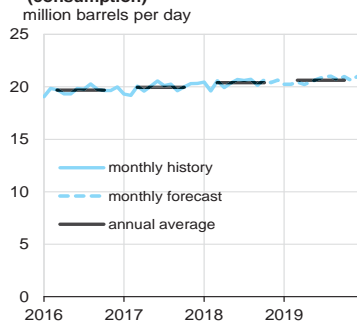


Source: Short-Term Energy Outlook, October 2018

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

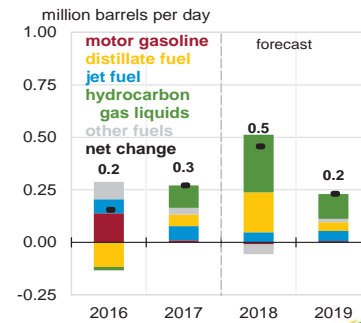


**U.S. liquid fuels product supplied (consumption)**  
million barrels per day

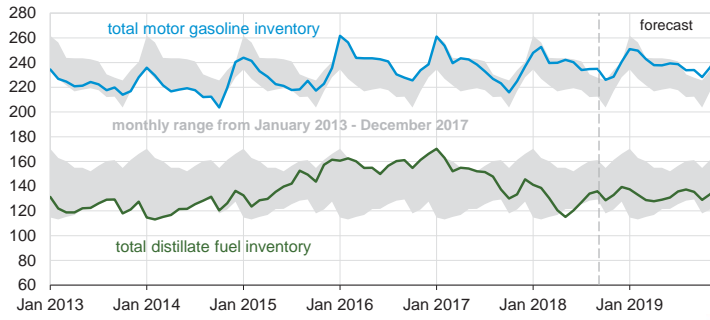


Source: Short-Term Energy Outlook, October 2018

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



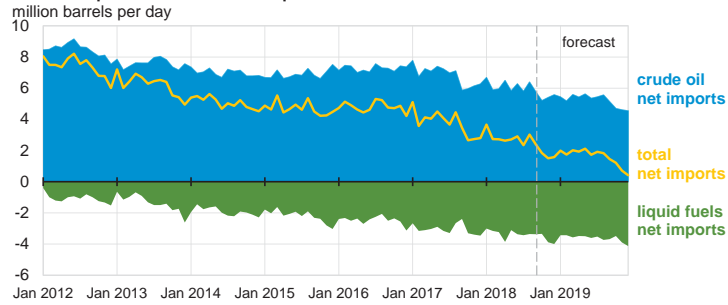
**U.S. gasoline and distillate inventories**  
million barrels



Source: Short-Term Energy Outlook, October 2018



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

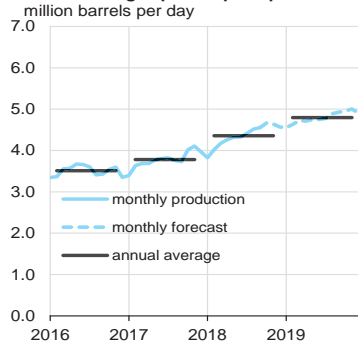


Note: Liquids fuels include: gasoline, distillate fuels, hydrocarbon gas liquids, jet fuel, residual fuel oil, unfinished oils, other hydrocarbons/oxygenates, and other oils.

Source: Short-Term Energy Outlook, October 2018

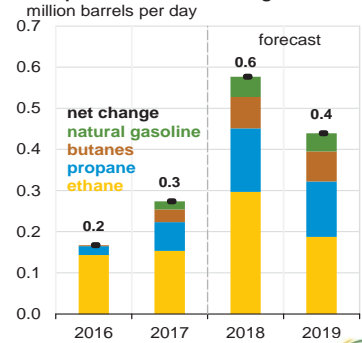


**U.S. natural gas plant liquids production**  
million barrels per day

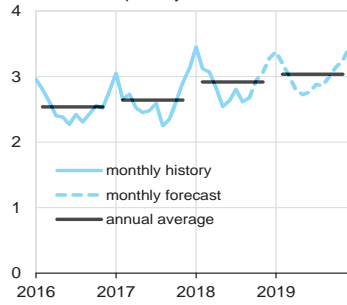


Source: Short-Term Energy Outlook, October 2018

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

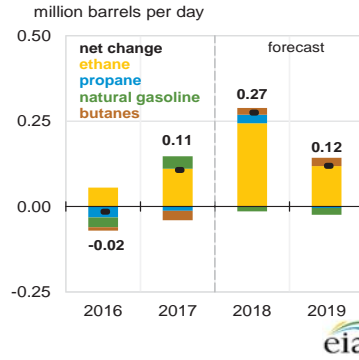


**U.S. hydrocarbon gas liquids product supplied (consumption)**  
million barrels per day

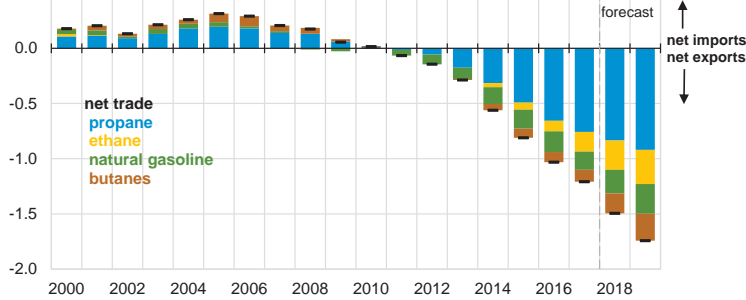


Source: Short-Term Energy Outlook, October 2018

**Components of annual change**



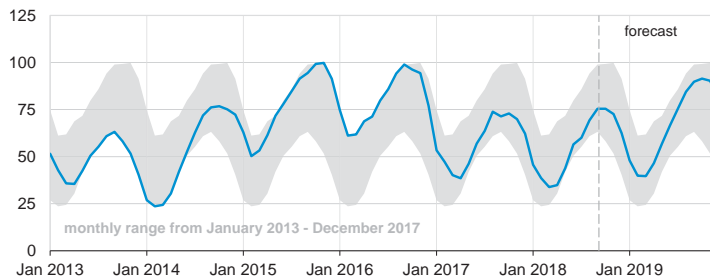
**U.S. net trade of hydrocarbon gas liquids (HGL)**  
million barrels per day



Source: Short-Term Energy Outlook, October 2018



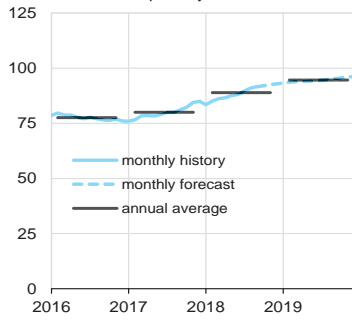
**U.S. commercial propane inventories**  
million barrels



Source: Short-Term Energy Outlook, October 2018

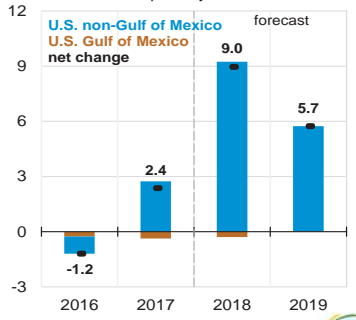


**U.S. marketed natural gas production**  
billion cubic feet per day

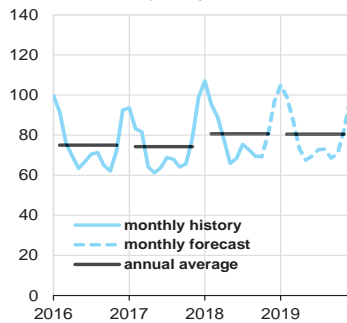


Source: Short-Term Energy Outlook, October 2018

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

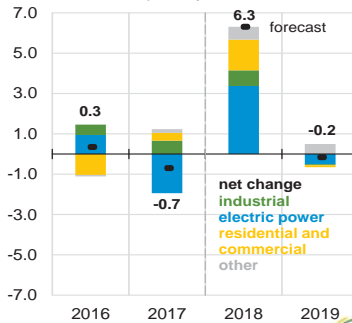


**U.S. natural gas consumption**  
billion cubic feet per day

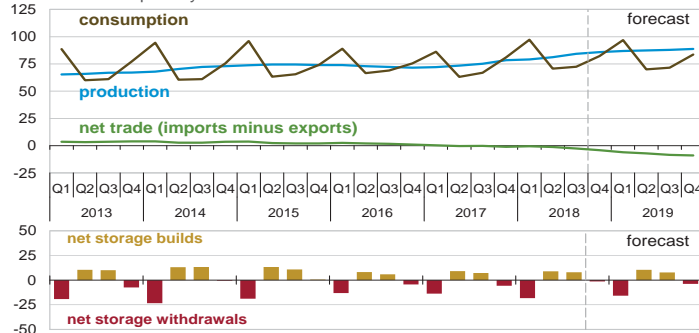


Source: Short-Term Energy Outlook, October 2018

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



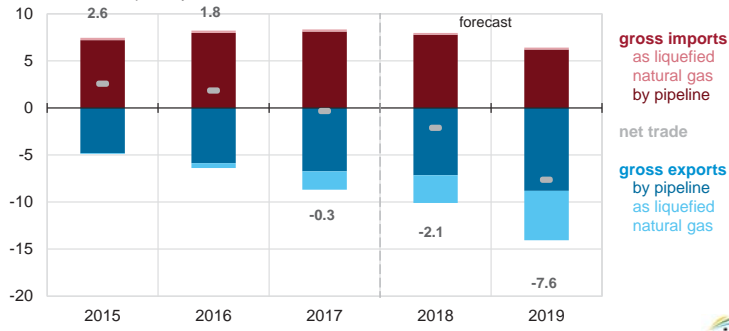
**U.S. natural gas production, consumption, and net imports**  
billion cubic feet per day



Source: Short-Term Energy Outlook, October 2018



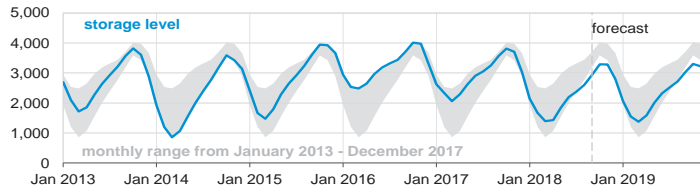
**Annual natural gas trade**  
billion cubic feet per day



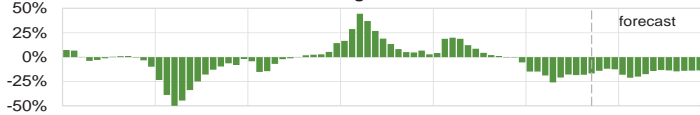
Source: Short-Term Energy Outlook, October 2018



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



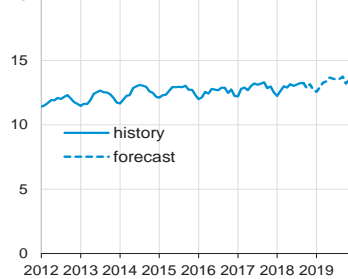
**Percent deviation from 2013 - 2017 average**



Source: Short-Term Energy Outlook, October 2018

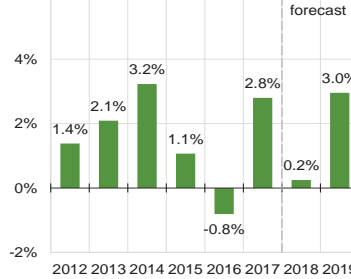


**U.S. monthly residential electricity price**  
cents per kilowatthour

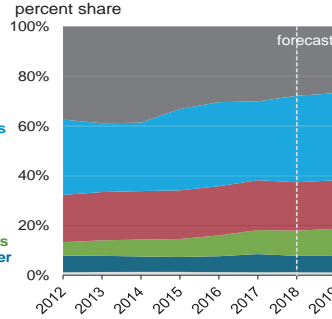
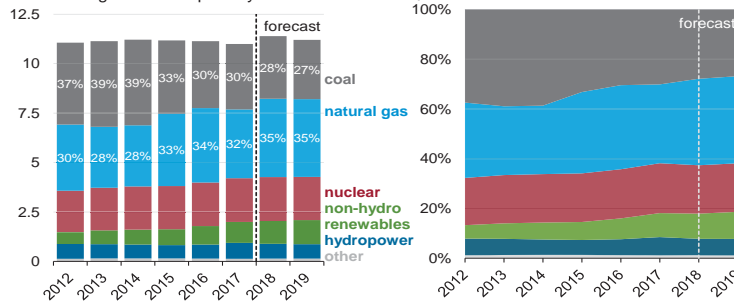


Source: Short-Term Energy Outlook, October 2018

**Annual growth in residential electricity prices**  
percent



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

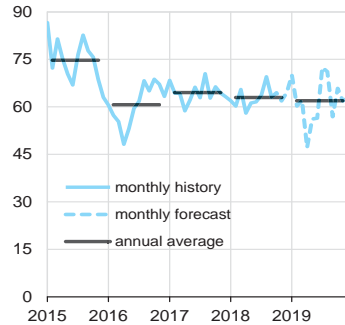


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, October 2018

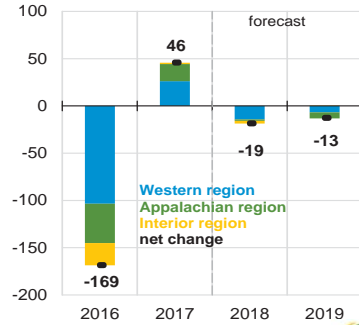


**U.S. coal production**  
million short tons

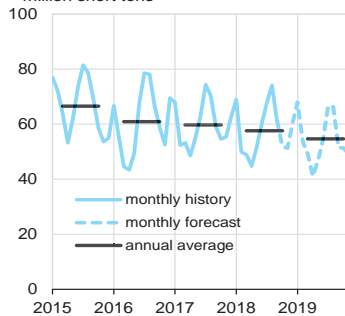


Source: Short-Term Energy Outlook, October 2018

**Components of annual change**  
million short tons

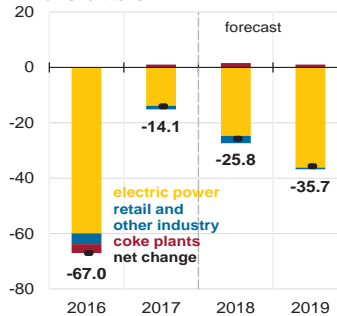


**U.S. coal consumption**  
million short tons



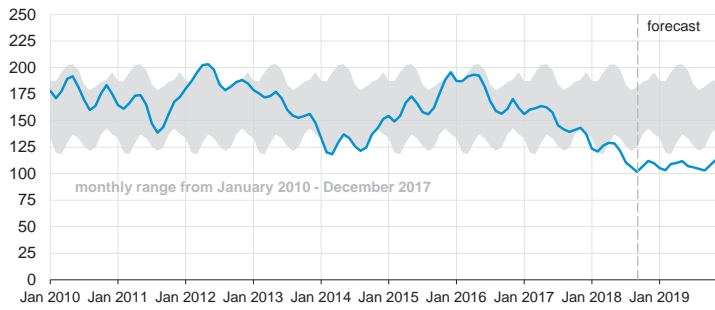
Source: Short-Term Energy Outlook, October 2018

**Components of annual change**  
million short tons





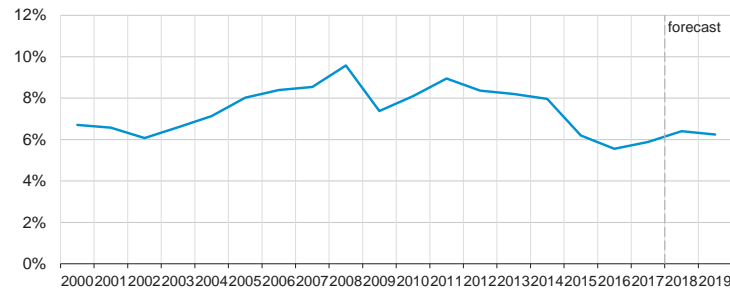
**U.S. electric power coal inventories**  
million short tons



Source: Short-Term Energy Outlook, October 2018



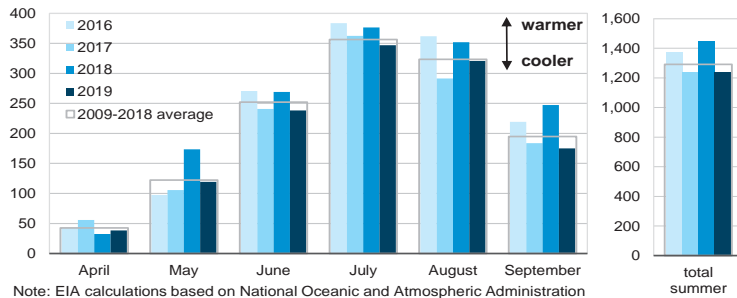
**U.S. annual energy expenditures**  
share of gross domestic product



Source: Short-Term Energy Outlook, October 2018



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

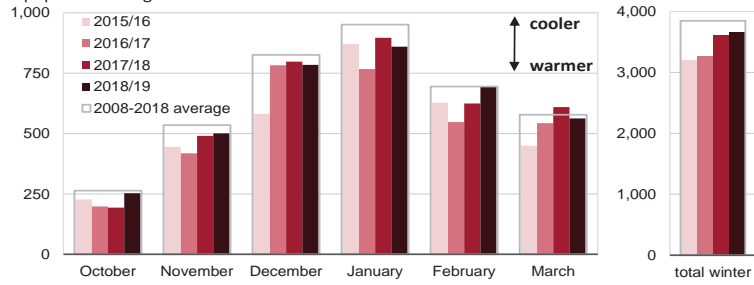


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2018



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

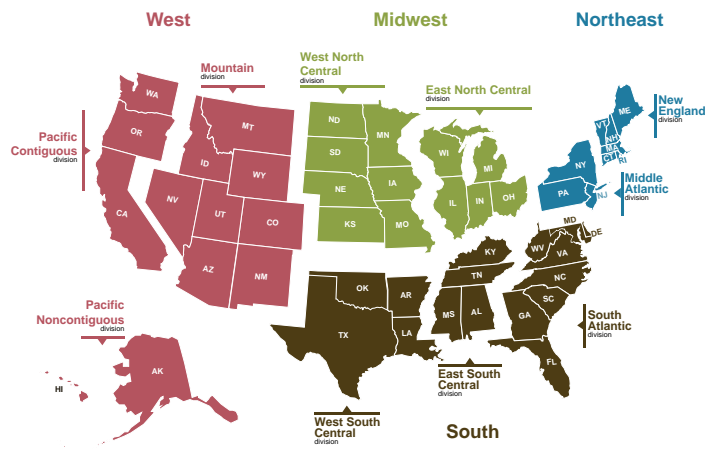


Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2018



**U.S. Census regions and divisions**



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



**Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter**

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

Fuel / Region	Winter of							Forecast	
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	% Change
<b>Natural Gas</b>									
<b>Northeast</b>									
Consumption (Mcf**)	56.2	64.7	71.7	72.2	57.4	61.6	65.3	65.7	0.8
Price (\$/mcf)	12.20	11.71	11.52	10.80	10.18	10.70	11.39	11.00	-3.4
Expenditures (\$)	686	757	826	780	584	659	743	723	-2.6
<b>Midwest</b>									
Consumption (Mcf)	61.2	73.5	84.2	79.1	63.6	64.8	73.9	72.0	-2.6
Price (\$/mcf)	8.96	8.34	8.68	8.54	7.55	8.28	7.83	9.01	15.0
Expenditures (\$)	549	614	731	676	480	536	579	649	12.1
<b>South</b>									
Consumption (Mcf)	40.4	46.6	52.7	50.9	40.3	37.9	45.6	46.7	2.5
Price (\$/mcf)	11.41	10.67	10.71	10.75	10.72	12.04	11.27	10.94	-2.9
Expenditures (\$)	461	497	564	547	432	457	514	511	-0.6
<b>West</b>									
Consumption (Mcf)	48.0	47.4	45.2	40.1	44.7	45.7	43.8	46.1	5.2
Price (\$/mcf)	9.34	9.13	9.96	10.71	9.92	10.68	10.24	11.03	7.7
Expenditures (\$)	448	433	450	430	443	488	449	508	13.3
<b>U.S. Average</b>									
Consumption (Mcf)	51.7	58.4	63.9	60.7	51.8	52.9	57.5	57.8	0.5
Price (\$/mcf)	10.23	9.71	9.95	9.89	9.28	10.06	9.82	10.29	4.8
Expenditures (\$)	529	567	636	600	481	533	565	595	5.3
<b>Heating Oil</b>									
<b>U.S. Average</b>									
Consumption (gallons)	427.4	493.0	547.5	548.2	436.6	468.2	495.7	502.9	1.4
Price (\$/gallon)	3.73	3.87	3.87	3.04	2.06	2.41	2.78	3.27	17.8
Expenditures (\$)	1,594	1,910	2,121	1,668	900	1,128	1,377	1,646	19.5
<b>Electricity</b>									
<b>Northeast</b>									
Consumption (kWh***)	7,610	8,299	8,879	8,927	7,705	8,051	8,345	8,392	0.6
Price (\$/kwh)	0.154	0.152	0.163	0.168	0.164	0.164	0.168	0.172	2.4
Expenditures (\$)	1,173	1,264	1,448	1,501	1,263	1,322	1,405	1,447	3.0
<b>Midwest</b>									
Consumption (kWh)	9,132	10,344	11,363	10,816	9,365	9,479	10,386	10,183	-2.0
Price (\$/kwh)	0.111	0.111	0.112	0.118	0.122	0.123	0.124	0.128	3.2
Expenditures (\$)	1,009	1,152	1,275	1,274	1,138	1,167	1,283	1,299	1.2
<b>South</b>									
Consumption (kWh)	8,793	9,731	10,487	10,300	8,781	8,513	9,548	9,700	1.6
Price (\$/kwh)	0.107	0.107	0.109	0.111	0.110	0.112	0.112	0.113	1.0
Expenditures (\$)	938	1,037	1,140	1,141	967	950	1,072	1,101	2.7
<b>West</b>									
Consumption (kWh)	8,848	8,778	8,487	7,830	8,441	8,567	8,328	8,628	3.6
Price (\$/kwh)	0.115	0.119	0.123	0.127	0.130	0.132	0.136	0.138	1.9
Expenditures (\$)	1,015	1,041	1,045	993	1,095	1,129	1,129	1,191	5.5
<b>U.S. Average</b>									
Consumption (kWh)	8,470	9,193	9,728	9,417	8,456	8,422	9,051	9,165	1.3
Price (\$/kwh)	0.116	0.117	0.120	0.123	0.124	0.125	0.126	0.129	1.9
Expenditures (\$)	983	1,071	1,163	1,158	1,044	1,055	1,145	1,181	3.2

**Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter**

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

Fuel / Region	Winter of							Forecast	
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	% Change
<b>Propane</b>									
<b>Northeast</b>									
Consumption (gallons)	495.6	564.7	624.4	629.7	505.7	542.7	569.5	576.2	1.2
Price* (\$/gallon)	3.34	3.00	3.56	3.00	2.71	3.06	3.25	3.25	0.0
Expenditures (\$)	1,656	1,697	2,223	1,889	1,370	1,661	1,851	1,873	1.2
<b>Midwest</b>									
Consumption (gallons)	596.2	711.7	808.5	755.9	618.3	628.9	715.2	695.8	-2.7
Price* (\$/gallon)	2.23	1.74	2.61	1.91	1.47	1.73	1.93	1.95	1.0
Expenditures (\$)	1,330	1,238	2,110	1,444	909	1,088	1,380	1,357	-1.7
<b>Number of households by primary space heating fuel (thousands)</b>									
<b>Northeast</b>									
Natural gas	11,245	11,356	11,529	11,705	11,802	11,858	12,020	12,184	1.4
Heating oil	5,705	5,464	5,244	5,097	4,923	4,763	4,661	4,519	-3.1
Propane	761	814	846	856	884	933	953	951	-0.2
Electricity	2,896	3,014	3,038	3,093	3,253	3,311	3,369	3,492	3.7
Wood	548	583	585	569	511	474	435	369	-15.2
Other/None	324	377	436	437	433	429	446	481	7.8
<b>Midwest</b>									
Natural gas	18,033	18,072	18,083	18,206	18,241	18,230	18,225	18,182	-0.2
Heating oil	393	360	336	319	301	287	271	251	-7.4
Propane	2,039	2,065	2,089	2,085	2,077	2,062	2,078	2,078	0.0
Electricity	5,123	5,338	5,425	5,514	5,747	5,853	6,049	6,314	4.4
Wood	631	641	632	617	587	551	532	511	-4.0
Other/None	282	319	353	351	354	357	368	388	5.2
<b>South</b>									
Natural gas	13,647	13,694	13,802	13,919	13,948	13,948	14,029	14,109	0.6
Heating oil	790	739	699	681	653	621	603	575	-4.6
Propane	2,025	1,983	1,944	1,925	1,899	1,864	1,854	1,822	-1.7
Electricity	27,305	27,884	28,247	28,843	29,509	29,928	30,544	31,172	2.1
Wood	609	613	616	593	552	507	507	523	3.1
Other/None	305	367	419	407	413	427	441	456	3.4
<b>West</b>									
Natural gas	15,033	15,023	15,068	15,227	15,312	15,436	15,588	15,623	0.2
Heating oil	262	247	235	225	219	215	207	194	-5.9
Propane	886	910	930	915	923	940	934	913	-2.3
Electricity	8,446	8,680	8,759	8,927	9,228	9,345	9,560	9,850	3.0
Wood	737	729	744	749	719	699	696	703	1.1
Other/None	830	903	1,016	1,075	1,087	1,056	1,102	1,196	8.5
<b>U.S. Totals</b>									
Natural gas	57,959	58,145	58,481	59,057	59,303	59,472	59,862	60,098	0.4
Heating oil	7,150	6,810	6,513	6,322	6,095	5,886	5,742	5,539	-3.5
Propane	5,712	5,772	5,810	5,781	5,783	5,799	5,819	5,764	-1.0
Electricity	43,770	44,916	45,470	46,377	47,737	48,436	49,521	50,828	2.6
Wood	2,526	2,565	2,578	2,528	2,369	2,231	2,170	2,106	-3.0
Other/None	1,740	1,967	2,223	2,271	2,287	2,270	2,359	2,521	6.9
<b>Heating degree days</b>									
Northeast	4,219	4,965	5,596	5,647	4,321	4,701	5,014	5,067	1.1
Midwest	4,486	5,545	6,452	6,002	4,688	4,792	5,579	5,411	-3.0
South	2,020	2,428	2,784	2,689	2,013	1,881	2,352	2,420	2.9
West	3,231	3,182	2,990	2,568	2,955	3,045	2,886	3,075	6.6
U.S. Average	3,225	3,721	4,110	3,882	3,202	3,257	3,613	3,653	1.1

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, electronics, and lighting (electricity). Per-household consumption based on EIA's 2015 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

\* Prices exclude taxes

\*\* thousand cubic feet

\*\*\* kilowatthour

**Table 1. U.S. Energy Markets Summary**

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Energy Supply</b>															
Crude Oil Production (a) (million barrels per day) .....	9.02	9.11	9.32	9.95	10.23	10.54	11.03	11.14	11.41	11.66	11.78	12.16	9.35	10.74	11.76
Dry Natural Gas Production (billion cubic feet per day) .....	71.99	73.49	75.09	78.44	79.14	81.21	84.36	85.86	86.83	87.36	87.91	88.80	74.77	82.67	87.73
Coal Production (million short tons) .....	197	187	196	194	188	181	196	191	192	160	200	190	774	756	743
<b>Energy Consumption</b>															
Liquid Fuels (million barrels per day) .....	19.54	20.07	20.01	20.21	20.24	20.33	20.51	20.57	20.32	20.49	20.89	20.87	19.96	20.41	20.64
Natural Gas (billion cubic feet per day) .....	86.21	63.04	66.96	81.02	97.15	70.66	72.49	82.27	96.82	70.06	71.47		74.27	80.58	80.42
Coal (b) (million short tons) .....	173	167	204	173	168	157	203	163	171	142	185	158	717	691	655
Electricity (billion kilowatt hours per day) .....	10.13	10.08	11.66	9.98	10.59	10.31	12.04	10.08	10.61	10.12	11.78	10.08	10.47	10.76	10.65
Renewables (c) (quadrillion Btu) .....	2.78	2.99	2.57	2.66	2.87	3.04	2.65	2.71	2.78	3.07	2.80	2.85	11.00	11.27	11.50
Total Energy Consumption (d) (quadrillion Btu) .....	25.08	23.26	24.38	25.15	26.39	24.07	24.76	24.85	25.97	23.39	24.62	25.10	97.87	100.07	99.08
<b>Energy Prices</b>															
Crude Oil West Texas Intermediate Spot (dollars per barrel) .....	51.64	48.15	48.16	55.27	62.90	68.07	69.69	73.05	71.00	68.34	68.31	70.64	50.79	68.46	69.56
Natural Gas Henry Hub Spot (dollars per million Btu) .....	3.01	3.08	2.95	2.90	3.02	2.85	2.93	3.15	3.24	3.01	3.05	3.16	2.99	2.99	3.12
Coal (dollars per million Btu) .....	2.08	2.12	2.07	2.04	2.06	2.05	2.10	2.12	2.11	2.09	2.10	2.09	2.08	2.09	2.10
<b>Macroeconomic</b>															
Real Gross Domestic Product (billion chained 2012 dollars - SAAR) .....	17,863	17,995	18,121	18,224	18,324	18,515	18,649	18,792	18,922	19,040	19,144	19,244	18,051	18,570	19,087
Percent change from prior year .....	1.9	2.1	2.3	2.5	2.6	2.9	2.9	3.1	3.3	2.8	2.7	2.4	2.2	2.9	2.8
GDP Implicit Price Deflator (Index, 2012=100) .....	107.2	107.6	108.1	108.8	109.3	110.2	110.7	111.3	111.9	112.5	113.2	113.9	107.9	110.4	112.9
Percent change from prior year .....	2.1	1.7	1.9	2.0	2.0	2.4	2.3	2.3	2.3	2.2	2.3	2.3	1.9	2.3	2.3
Real Disposable Personal Income (billion chained 2012 dollars - SAAR) .....	13,835	13,910	13,986	14,066	14,220	14,307	14,391	14,460	14,594	14,688	14,777	14,874	13,949	14,345	14,733
Percent change from prior year .....	2.0	2.7	2.9	2.8	2.8	2.9	2.9	2.8	2.6	2.7	2.7	2.9	2.6	2.8	2.7
Manufacturing Production Index (Index, 2012=100) .....	102.0	102.7	102.2	103.6	104.1	104.8	105.7	106.2	107.1	108.0	108.7	109.1	102.6	105.2	108.2
Percent change from prior year .....	0.6	1.9	1.2	2.1	2.1	2.0	3.4	2.5	2.8	3.1	2.8	2.8	1.5	2.5	2.9
<b>Weather</b>															
U.S. Heating Degree-Days .....	1,858	427	65	1,481	2,131	523	53	1,538	2,115	481	76	1,511	3,832	4,245	4,184
U.S. Cooling Degree-Days .....	70	402	838	114	51	475	976	88	40	396	843	91	1,424	1,590	1,370

- = 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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Crude Oil</b> (dollars per barrel)															
West Texas Intermediate Spot Average .....	<b>51.64</b>	<b>48.15</b>	<b>48.16</b>	<b>55.27</b>	<b>62.90</b>	<b>68.07</b>	<b>69.69</b>	<i>73.05</i>	<i>71.00</i>	<i>68.34</i>	<i>68.31</i>	<i>70.64</i>	<b>50.79</b>	<i>68.46</i>	<i>69.56</i>
Brent Spot Average .....	<b>53.57</b>	<b>49.59</b>	<b>52.09</b>	<b>61.42</b>	<b>66.84</b>	<b>74.53</b>	<b>75.02</b>	<i>81.09</i>	<i>77.00</i>	<i>74.34</i>	<i>74.00</i>	<i>75.00</i>	<b>54.15</b>	<i>74.43</i>	<i>75.06</i>
U.S. Imported Average .....	<b>47.94</b>	<b>46.25</b>	<b>47.43</b>	<b>55.08</b>	<b>58.08</b>	<b>64.86</b>	<b>66.19</b>	<i>69.48</i>	<i>67.49</i>	<i>64.83</i>	<i>64.81</i>	<i>67.16</i>	<b>48.98</b>	<i>64.52</i>	<i>66.02</i>
U.S. Refiner Average Acquisition Cost .....	<b>49.90</b>	<b>47.73</b>	<b>48.31</b>	<b>56.73</b>	<b>61.89</b>	<b>67.36</b>	<b>68.74</b>	<i>71.98</i>	<i>70.00</i>	<i>67.32</i>	<i>67.32</i>	<i>69.67</i>	<b>50.68</b>	<i>67.56</i>	<i>68.55</i>
<b>U.S. Liquid Fuels</b> (cents per gallon)															
<b>Refiner Prices for Resale</b>															
Gasoline .....	<b>163</b>	<b>165</b>	<b>172</b>	<b>175</b>	<b>186</b>	<b>213</b>	<b>215</b>	<i>213</i>	<i>205</i>	<i>217</i>	<i>215</i>	<i>204</i>	<b>169</b>	<i>207</i>	<i>211</i>
Diesel Fuel .....	<b>162</b>	<b>155</b>	<b>169</b>	<b>190</b>	<b>199</b>	<b>219</b>	<b>223</b>	<i>239</i>	<i>226</i>	<i>221</i>	<i>227</i>	<i>231</i>	<b>169</b>	<i>220</i>	<i>226</i>
Heating Oil .....	<b>154</b>	<b>144</b>	<b>154</b>	<b>179</b>	<b>193</b>	<b>205</b>	<b>213</b>	<i>230</i>	<i>223</i>	<i>211</i>	<i>217</i>	<i>224</i>	<b>160</b>	<i>211</i>	<i>220</i>
<b>Refiner Prices to End Users</b>															
Jet Fuel .....	<b>158</b>	<b>151</b>	<b>162</b>	<b>181</b>	<b>197</b>	<b>217</b>	<b>220</b>	<i>236</i>	<i>224</i>	<i>218</i>	<i>224</i>	<i>228</i>	<b>163</b>	<i>218</i>	<i>223</i>
No. 6 Residual Fuel Oil (a) .....	<b>128</b>	<b>120</b>	<b>124</b>	<b>140</b>	<b>149</b>	<b>162</b>	<b>173</b>	<i>176</i>	<i>173</i>	<i>165</i>	<i>165</i>	<i>157</i>	<b>128</b>	<i>165</i>	<i>165</i>
<b>Retail Prices Including Taxes</b>															
Gasoline Regular Grade (b) .....	<b>233</b>	<b>238</b>	<b>244</b>	<b>251</b>	<b>258</b>	<b>285</b>	<b>284</b>	<i>287</i>	<i>278</i>	<i>291</i>	<i>291</i>	<i>281</i>	<b>242</b>	<i>279</i>	<i>285</i>
Gasoline All Grades (b) .....	<b>244</b>	<b>250</b>	<b>255</b>	<b>263</b>	<b>270</b>	<b>294</b>	<b>292</b>	<i>297</i>	<i>289</i>	<i>302</i>	<i>303</i>	<i>293</i>	<b>253</b>	<i>288</i>	<i>297</i>
On-highway Diesel Fuel .....	<b>257</b>	<b>255</b>	<b>263</b>	<b>287</b>	<b>302</b>	<b>320</b>	<b>324</b>	<i>334</i>	<i>321</i>	<i>316</i>	<i>320</i>	<i>326</i>	<b>265</b>	<i>320</i>	<i>321</i>
Heating Oil .....	<b>247</b>	<b>238</b>	<b>234</b>	<b>265</b>	<b>287</b>	<b>299</b>	<b>323</b>	<i>329</i>	<i>326</i>	<i>306</i>	<i>305</i>	<i>317</i>	<b>251</b>	<i>305</i>	<i>318</i>
<b>Natural Gas</b>															
Henry Hub Spot (dollars per thousand cubic feet) .....	<b>3.12</b>	<b>3.19</b>	<b>3.06</b>	<b>3.01</b>	<b>3.13</b>	<b>2.96</b>	<b>3.04</b>	<i>3.27</i>	<i>3.36</i>	<i>3.12</i>	<i>3.17</i>	<i>3.28</i>	<b>3.10</b>	<i>3.10</i>	<i>3.23</i>
Henry Hub Spot (dollars per million Btu) .....	<b>3.01</b>	<b>3.08</b>	<b>2.95</b>	<b>2.90</b>	<b>3.02</b>	<b>2.85</b>	<b>2.93</b>	<i>3.15</i>	<i>3.24</i>	<i>3.01</i>	<i>3.05</i>	<i>3.16</i>	<b>2.99</b>	<i>2.99</i>	<i>3.12</i>
<b>U.S. Retail Prices</b> (dollars per thousand cubic feet)															
Industrial Sector .....	<b>4.46</b>	<b>4.07</b>	<b>3.85</b>	<b>3.97</b>	<b>4.45</b>	<b>3.84</b>	<b>3.84</b>	<i>4.35</i>	<i>4.69</i>	<i>4.06</i>	<i>4.03</i>	<i>4.41</i>	<b>4.10</b>	<i>4.14</i>	<i>4.31</i>
Commercial Sector .....	<b>7.70</b>	<b>8.30</b>	<b>8.69</b>	<b>7.55</b>	<b>7.64</b>	<b>8.08</b>	<b>8.85</b>	<i>7.99</i>	<i>7.90</i>	<i>8.33</i>	<i>8.72</i>	<i>8.01</i>	<b>7.86</b>	<i>7.94</i>	<i>8.10</i>
Residential Sector .....	<b>9.68</b>	<b>12.95</b>	<b>17.64</b>	<b>10.12</b>	<b>9.38</b>	<b>11.96</b>	<b>17.49</b>	<i>10.83</i>	<i>9.77</i>	<i>12.26</i>	<i>16.76</i>	<i>10.76</i>	<b>10.86</b>	<i>10.74</i>	<i>10.94</i>
<b>U.S. Electricity</b>															
<b>Power Generation Fuel Costs</b> (dollars per million Btu)															
Coal .....	<b>2.08</b>	<b>2.12</b>	<b>2.07</b>	<b>2.04</b>	<b>2.06</b>	<b>2.05</b>	<b>2.10</b>	<i>2.12</i>	<i>2.11</i>	<i>2.09</i>	<i>2.10</i>	<i>2.09</i>	<b>2.08</b>	<i>2.09</i>	<i>2.10</i>
Natural Gas .....	<b>3.69</b>	<b>3.38</b>	<b>3.19</b>	<b>3.38</b>	<b>3.98</b>	<b>3.09</b>	<b>3.22</b>	<i>3.54</i>	<i>3.78</i>	<i>3.21</i>	<i>3.23</i>	<i>3.54</i>	<b>3.38</b>	<i>3.42</i>	<i>3.42</i>
Residual Fuel Oil (c) .....	<b>11.16</b>	<b>10.60</b>	<b>10.03</b>	<b>11.93</b>	<b>11.47</b>	<b>13.02</b>	<b>13.57</b>	<i>14.62</i>	<i>14.71</i>	<i>14.75</i>	<i>13.92</i>	<i>13.71</i>	<b>10.97</b>	<i>12.86</i>	<i>14.31</i>
Distillate Fuel Oil .....	<b>12.74</b>	<b>12.23</b>	<b>13.13</b>	<b>14.54</b>	<b>15.77</b>	<b>16.66</b>	<b>17.09</b>	<i>18.33</i>	<i>17.61</i>	<i>17.10</i>	<i>17.37</i>	<i>17.85</i>	<b>13.26</b>	<i>16.61</i>	<i>17.50</i>
<b>Retail Prices</b> (cents per kilowatthour)															
Industrial Sector .....	<b>6.64</b>	<b>6.89</b>	<b>7.27</b>	<b>6.79</b>	<b>6.79</b>	<b>6.87</b>	<b>7.35</b>	<i>6.96</i>	<i>6.85</i>	<i>6.99</i>	<i>7.44</i>	<i>7.03</i>	<b>6.91</b>	<i>7.00</i>	<i>7.09</i>
Commercial Sector .....	<b>10.39</b>	<b>10.68</b>	<b>11.03</b>	<b>10.56</b>	<b>10.51</b>	<b>10.60</b>	<b>11.07</b>	<i>10.72</i>	<i>10.66</i>	<i>10.73</i>	<i>11.14</i>	<i>10.79</i>	<b>10.68</b>	<i>10.74</i>	<i>10.84</i>
Residential Sector .....	<b>12.59</b>	<b>12.99</b>	<b>13.19</b>	<b>12.75</b>	<b>12.57</b>	<b>13.02</b>	<b>13.20</b>	<i>12.89</i>	<i>12.88</i>	<i>13.55</i>	<i>13.59</i>	<i>13.23</i>	<b>12.90</b>	<i>12.93</i>	<i>13.31</i>

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

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

Prices exclude taxes unless otherwise noted.

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

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

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

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

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Supply (million barrels per day) (a)</b>															
OECD .....	27.17	26.87	27.19	28.33	28.85	29.02	29.60	30.48	30.67	30.99	31.18	31.82	27.39	29.49	31.17
U.S. (50 States) .....	15.08	15.40	15.58	16.55	16.77	17.40	18.12	18.33	18.51	18.95	19.22	19.70	15.65	17.66	19.10
Canada .....	5.05	4.60	5.00	5.18	5.32	5.08	4.85	5.25	5.25	5.21	5.21	5.22	4.96	5.12	5.22
Mexico .....	2.35	2.34	2.19	2.16	2.18	2.17	2.13	2.20	2.19	2.17	2.16	2.15	2.26	2.17	2.17
Other OECD .....	4.69	4.54	4.42	4.44	4.60	4.37	4.49	4.71	4.73	4.66	4.58	4.75	4.52	4.54	4.68
Non-OECD .....	69.68	70.24	70.97	70.37	69.88	70.16	70.93	70.53	70.17	70.76	71.00	70.75	70.32	70.38	70.67
OPEC .....	38.87	39.15	39.74	39.38	39.32	38.88	39.11	38.88	38.84	38.67	38.72	38.73	39.29	39.05	38.74
Crude Oil Portion .....	32.25	32.52	33.16	32.78	32.68	32.31	32.52	32.35	32.25	32.07	32.11	32.11	32.68	32.46	32.14
Other Liquids (b) .....	6.61	6.63	6.59	6.60	6.65	6.57	6.60	6.53	6.59	6.60	6.61	6.62	6.61	6.59	6.61
Eurasia .....	14.43	14.30	14.22	14.32	14.40	14.42	14.64	14.85	14.86	14.78	14.78	14.91	14.32	14.58	14.83
China .....	4.81	4.82	4.74	4.75	4.76	4.80	4.76	4.81	4.75	4.78	4.79	4.83	4.78	4.78	4.79
Other Non-OECD .....	11.57	11.97	12.27	11.92	11.40	12.05	12.42	11.99	11.72	12.53	12.71	12.28	11.93	11.97	12.31
Total World Supply .....	96.85	97.11	98.16	98.71	98.74	99.18	100.53	101.01	100.84	101.75	102.18	102.57	97.71	99.87	101.84
Non-OPEC Supply .....	57.98	57.96	58.42	59.32	59.41	60.30	61.42	62.14	62.00	63.08	63.46	63.84	58.42	60.83	63.10
<b>Consumption (million barrels per day) (c)</b>															
OECD .....	46.73	46.87	47.47	47.83	47.58	46.91	47.76	48.04	47.77	47.19	48.31	48.47	47.23	47.58	47.94
U.S. (50 States) .....	19.54	20.07	20.01	20.21	20.24	20.33	20.51	20.57	20.32	20.49	20.89	20.87	19.96	20.41	20.64
U.S. Territories .....	0.16	0.14	0.12	0.09	0.10	0.08	0.09	0.11	0.12	0.11	0.12	0.13	0.13	0.10	0.12
Canada .....	2.37	2.36	2.52	2.52	2.32	2.35	2.48	2.46	2.42	2.37	2.48	2.45	2.44	2.40	2.43
Europe .....	13.82	14.25	14.70	14.40	14.05	14.16	14.61	14.31	14.03	14.25	14.76	14.46	14.30	14.28	14.38
Japan .....	4.30	3.58	3.63	4.06	4.27	3.43	3.55	3.88	4.15	3.40	3.47	3.79	3.89	3.78	3.70
Other OECD .....	6.54	6.46	6.48	6.55	6.60	6.57	6.53	6.71	6.72	6.57	6.60	6.77	6.51	6.60	6.67
Non-OECD .....	50.37	51.71	51.60	51.59	51.67	52.54	52.85	52.91	52.72	53.88	54.01	53.88	51.32	52.50	53.63
Eurasia .....	4.73	4.72	4.99	4.86	4.78	4.83	5.11	4.98	4.78	4.85	5.22	5.07	4.83	4.93	4.98
Europe .....	0.73	0.73	0.74	0.74	0.75	0.74	0.76	0.76	0.75	0.75	0.77	0.77	0.73	0.75	0.76
China .....	13.17	13.61	13.17	13.49	13.80	14.00	13.73	13.95	14.28	14.47	14.20	14.41	13.36	13.87	14.34
Other Asia .....	13.06	13.37	13.08	13.42	13.58	13.76	13.46	13.86	14.08	14.24	13.83	14.16	13.23	13.67	14.07
Other Non-OECD .....	18.69	19.28	19.63	19.07	18.76	19.21	19.79	19.36	18.82	19.57	19.99	19.47	19.17	19.28	19.47
Total World Consumption .....	97.10	98.58	99.08	99.42	99.25	99.46	100.61	100.95	100.48	101.07	102.32	102.35	98.55	100.07	101.56
<b>Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)</b>															
U.S. (50 States) .....	-0.01	0.23	0.35	0.90	0.36	-0.06	-0.42	0.45	-0.31	-0.58	-0.28	0.24	0.37	0.08	-0.23
Other OECD .....	-0.38	0.08	0.34	0.48	-0.03	0.09	0.17	-0.17	-0.02	-0.03	0.14	-0.16	0.13	0.02	-0.02
Other Stock Draws and Balance .....	0.64	1.16	0.23	-0.67	0.17	0.24	0.33	-0.34	-0.04	-0.07	0.28	-0.30	0.34	0.10	-0.03
Total Stock Draw .....	0.26	1.47	0.92	0.72	0.51	0.28	0.08	-0.06	-0.36	-0.68	0.14	-0.22	0.84	0.20	-0.28
<b>End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)</b>															
U.S. Commercial Inventory .....	1,339	1,331	1,304	1,232	1,196	1,207	1,246	1,216	1,246	1,301	1,327	1,308	1,232	1,216	1,308
OECD Commercial Inventory .....	3,029	3,013	2,960	2,843	2,806	2,809	2,831	2,817	2,849	2,908	2,920	2,916	2,843	2,817	2,916

- = 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, Qatar, Saudi Arabia, the United Arab

(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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>North America</b> .....	<b>22.48</b>	<b>22.34</b>	<b>22.77</b>	<b>23.90</b>	<b>24.26</b>	<b>24.65</b>	<b>25.10</b>	<i>25.77</i>	<i>25.95</i>	<i>26.33</i>	<i>26.60</i>	<i>27.07</i>	<b>22.87</b>	<i>24.95</i>	<i>26.49</i>
Canada .....	<b>5.05</b>	<b>4.60</b>	<b>5.00</b>	<b>5.18</b>	<b>5.32</b>	<b>5.08</b>	<b>4.85</b>	<i>5.25</i>	<i>5.25</i>	<i>5.21</i>	<i>5.21</i>	<i>5.22</i>	<b>4.96</b>	<i>5.12</i>	<i>5.22</i>
Mexico .....	<b>2.35</b>	<b>2.34</b>	<b>2.19</b>	<b>2.16</b>	<b>2.18</b>	<b>2.17</b>	<b>2.13</b>	<i>2.20</i>	<i>2.19</i>	<i>2.17</i>	<i>2.16</i>	<i>2.15</i>	<b>2.26</b>	<i>2.17</i>	<i>2.17</i>
United States .....	<b>15.08</b>	<b>15.40</b>	<b>15.58</b>	<b>16.55</b>	<b>16.77</b>	<b>17.40</b>	<b>18.12</b>	<i>18.33</i>	<i>18.51</i>	<i>18.95</i>	<i>19.22</i>	<i>19.70</i>	<b>15.65</b>	<i>17.66</i>	<i>19.10</i>
<b>Central and South America</b> .....	<b>4.91</b>	<b>5.40</b>	<b>5.70</b>	<b>5.33</b>	<b>4.88</b>	<b>5.62</b>	<b>5.92</b>	<i>5.48</i>	<i>5.19</i>	<i>6.03</i>	<i>6.24</i>	<i>5.81</i>	<b>5.34</b>	<i>5.48</i>	<i>5.82</i>
Argentina .....	<b>0.67</b>	<b>0.67</b>	<b>0.67</b>	<b>0.70</b>	<b>0.66</b>	<b>0.68</b>	<b>0.68</b>	<i>0.69</i>	<i>0.66</i>	<i>0.68</i>	<i>0.67</i>	<i>0.68</i>	<b>0.68</b>	<i>0.68</i>	<i>0.67</i>
Brazil .....	<b>2.95</b>	<b>3.44</b>	<b>3.73</b>	<b>3.32</b>	<b>2.95</b>	<b>3.64</b>	<b>3.94</b>	<i>3.49</i>	<i>3.26</i>	<i>4.05</i>	<i>4.29</i>	<i>3.84</i>	<b>3.36</b>	<i>3.51</i>	<i>3.86</i>
Colombia .....	<b>0.87</b>	<b>0.88</b>	<b>0.88</b>	<b>0.89</b>	<b>0.86</b>	<b>0.89</b>	<b>0.88</b>	<i>0.88</i>	<i>0.87</i>	<i>0.89</i>	<i>0.87</i>	<i>0.88</i>	<b>0.88</b>	<i>0.88</i>	<i>0.88</i>
Other Central and S. America .....	<b>0.42</b>	<b>0.42</b>	<b>0.42</b>	<b>0.42</b>	<b>0.41</b>	<b>0.42</b>	<b>0.42</b>	<i>0.42</i>	<i>0.41</i>	<i>0.42</i>	<i>0.41</i>	<i>0.41</i>	<b>0.42</b>	<i>0.41</i>	<i>0.41</i>
<b>Europe</b> .....	<b>4.21</b>	<b>4.04</b>	<b>3.92</b>	<b>3.95</b>	<b>4.08</b>	<b>3.88</b>	<b>3.95</b>	<i>4.15</i>	<i>4.15</i>	<i>4.06</i>	<i>3.95</i>	<i>4.10</i>	<b>4.03</b>	<i>4.02</i>	<i>4.06</i>
Norway .....	<b>2.08</b>	<b>2.00</b>	<b>1.91</b>	<b>1.92</b>	<b>1.97</b>	<b>1.80</b>	<b>1.89</b>	<i>1.94</i>	<i>1.93</i>	<i>1.86</i>	<i>1.88</i>	<i>1.92</i>	<b>1.98</b>	<i>1.90</i>	<i>1.90</i>
United Kingdom .....	<b>1.09</b>	<b>1.07</b>	<b>1.00</b>	<b>1.02</b>	<b>1.11</b>	<b>1.09</b>	<b>1.09</b>	<i>1.22</i>	<i>1.22</i>	<i>1.21</i>	<i>1.09</i>	<i>1.19</i>	<b>1.05</b>	<i>1.13</i>	<i>1.18</i>
<b>Eurasia</b> .....	<b>14.43</b>	<b>14.30</b>	<b>14.22</b>	<b>14.32</b>	<b>14.40</b>	<b>14.42</b>	<b>14.64</b>	<i>14.85</i>	<i>14.86</i>	<i>14.78</i>	<i>14.78</i>	<i>14.91</i>	<b>14.32</b>	<i>14.58</i>	<i>14.83</i>
Azerbaijan .....	<b>0.79</b>	<b>0.80</b>	<b>0.79</b>	<b>0.81</b>	<b>0.82</b>	<b>0.81</b>	<b>0.79</b>	<i>0.78</i>	<i>0.79</i>	<i>0.79</i>	<i>0.78</i>	<i>0.77</i>	<b>0.80</b>	<i>0.80</i>	<i>0.78</i>
Kazakhstan .....	<b>1.87</b>	<b>1.87</b>	<b>1.86</b>	<b>1.92</b>	<b>1.98</b>	<b>1.96</b>	<b>1.93</b>	<i>2.07</i>	<i>2.08</i>	<i>1.99</i>	<i>2.06</i>	<i>2.13</i>	<b>1.88</b>	<i>1.99</i>	<i>2.06</i>
Russia .....	<b>11.32</b>	<b>11.18</b>	<b>11.14</b>	<b>11.16</b>	<b>11.18</b>	<b>11.22</b>	<b>11.48</b>	<i>11.56</i>	<i>11.58</i>	<i>11.59</i>	<i>11.53</i>	<i>11.60</i>	<b>11.20</b>	<i>11.36</i>	<i>11.57</i>
Turkmenistan .....	<b>0.28</b>	<b>0.28</b>	<b>0.28</b>	<b>0.28</b>	<b>0.27</b>	<b>0.28</b>	<b>0.27</b>	<i>0.27</i>	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	<b>0.28</b>	<i>0.27</i>	<i>0.25</i>
Other Eurasia .....	<b>0.16</b>	<b>0.17</b>	<b>0.16</b>	<b>0.16</b>	<b>0.16</b>	<b>0.15</b>	<b>0.17</b>	<i>0.17</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<b>0.16</b>	<i>0.16</i>	<i>0.16</i>
<b>Middle East</b> .....	<b>1.07</b>	<b>1.07</b>	<b>1.07</b>	<b>1.08</b>	<b>1.08</b>	<b>1.08</b>	<b>1.10</b>	<i>1.10</i>	<i>1.13</i>	<i>1.13</i>	<i>1.13</i>	<i>1.13</i>	<b>1.08</b>	<i>1.09</i>	<i>1.13</i>
Oman .....	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.99</b>	<i>0.99</i>	<i>0.99</i>	<i>0.99</i>	<i>1.00</i>	<i>1.00</i>	<b>0.98</b>	<i>0.98</i>	<i>1.00</i>
<b>Asia and Oceania</b> .....	<b>9.36</b>	<b>9.29</b>	<b>9.20</b>	<b>9.19</b>	<b>9.25</b>	<b>9.18</b>	<b>9.23</b>	<i>9.28</i>	<i>9.23</i>	<i>9.25</i>	<i>9.25</i>	<i>9.31</i>	<b>9.26</b>	<i>9.24</i>	<i>9.26</i>
Australia .....	<b>0.34</b>	<b>0.35</b>	<b>0.36</b>	<b>0.34</b>	<b>0.37</b>	<b>0.35</b>	<b>0.37</b>	<i>0.38</i>	<i>0.41</i>	<i>0.43</i>	<i>0.45</i>	<i>0.47</i>	<b>0.35</b>	<i>0.37</i>	<i>0.44</i>
China .....	<b>4.81</b>	<b>4.82</b>	<b>4.74</b>	<b>4.75</b>	<b>4.76</b>	<b>4.80</b>	<b>4.76</b>	<i>4.81</i>	<i>4.75</i>	<i>4.78</i>	<i>4.79</i>	<i>4.83</i>	<b>4.78</b>	<i>4.78</i>	<i>4.79</i>
India .....	<b>1.01</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.01</b>	<b>1.00</b>	<b>0.98</b>	<i>0.99</i>	<i>0.99</i>	<i>0.98</i>	<i>0.98</i>	<i>0.99</i>	<b>1.00</b>	<i>0.99</i>	<i>0.98</i>
Indonesia .....	<b>0.92</b>	<b>0.91</b>	<b>0.90</b>	<b>0.90</b>	<b>0.89</b>	<b>0.90</b>	<b>0.90</b>	<i>0.90</i>	<i>0.88</i>	<i>0.87</i>	<i>0.85</i>	<i>0.84</i>	<b>0.91</b>	<i>0.90</i>	<i>0.86</i>
Malaysia .....	<b>0.76</b>	<b>0.74</b>	<b>0.74</b>	<b>0.75</b>	<b>0.77</b>	<b>0.74</b>	<b>0.76</b>	<i>0.76</i>	<i>0.75</i>	<i>0.75</i>	<i>0.74</i>	<i>0.73</i>	<b>0.75</b>	<i>0.76</i>	<i>0.74</i>
Vietnam .....	<b>0.29</b>	<b>0.29</b>	<b>0.28</b>	<b>0.27</b>	<b>0.27</b>	<b>0.25</b>	<b>0.25</b>	<i>0.23</i>	<i>0.25</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<b>0.28</b>	<i>0.25</i>	<i>0.24</i>
<b>Africa</b> .....	<b>1.51</b>	<b>1.51</b>	<b>1.54</b>	<b>1.55</b>	<b>1.47</b>	<b>1.47</b>	<b>1.48</b>	<i>1.50</i>	<i>1.50</i>	<i>1.50</i>	<i>1.50</i>	<i>1.50</i>	<b>1.53</b>	<i>1.48</i>	<i>1.50</i>
Egypt .....	<b>0.64</b>	<b>0.65</b>	<b>0.66</b>	<b>0.66</b>	<b>0.63</b>	<b>0.63</b>	<b>0.63</b>	<i>0.63</i>	<i>0.61</i>	<i>0.61</i>	<i>0.61</i>	<i>0.61</i>	<b>0.65</b>	<i>0.63</i>	<i>0.61</i>
South Sudan .....	<b>0.15</b>	<b>0.15</b>	<b>0.15</b>	<b>0.15</b>	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<i>0.14</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	<b>0.15</b>	<i>0.13</i>	<i>0.15</i>
<b>Total non-OPEC liquids</b> .....	<b>57.98</b>	<b>57.96</b>	<b>58.42</b>	<b>59.32</b>	<b>59.41</b>	<b>60.30</b>	<b>61.42</b>	<i>62.14</i>	<i>62.00</i>	<i>63.08</i>	<i>63.46</i>	<i>63.84</i>	<b>58.42</b>	<i>60.83</i>	<i>63.10</i>
<b>OPEC non-crude liquids</b> .....	<b>6.61</b>	<b>6.63</b>	<b>6.59</b>	<b>6.60</b>	<b>6.65</b>	<b>6.57</b>	<b>6.60</b>	<i>6.53</i>	<i>6.59</i>	<i>6.60</i>	<i>6.61</i>	<i>6.62</i>	<b>6.61</b>	<i>6.59</i>	<i>6.61</i>
<b>Non-OPEC + OPEC non-crude</b> .....	<b>64.59</b>	<b>64.60</b>	<b>65.00</b>	<b>65.93</b>	<b>66.06</b>	<b>66.87</b>	<b>68.01</b>	<i>68.67</i>	<i>68.59</i>	<i>69.68</i>	<i>70.07</i>	<i>70.46</i>	<b>65.03</b>	<i>67.41</i>	<i>69.71</i>
<b>Unplanned non-OPEC Production Outages</b> .....	<b>0.43</b>	<b>0.68</b>	<b>0.63</b>	<b>0.54</b>	<b>0.53</b>	<b>0.40</b>	<b>0.59</b>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<b>0.57</b>	<i>n/a</i>	<i>n/a</i>

- = no data available

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

**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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Crude Oil</b>															
Algeria .....	<b>1.04</b>	<b>1.03</b>	<b>1.03</b>	<b>1.00</b>	<b>1.02</b>	<b>1.02</b>	<b>1.03</b>	-	-	-	-	-	<b>1.03</b>	-	-
Angola .....	<b>1.64</b>	<b>1.66</b>	<b>1.66</b>	<b>1.63</b>	<b>1.59</b>	<b>1.54</b>	<b>1.56</b>	-	-	-	-	-	<b>1.65</b>	-	-
Congo (Brazzaville) .....	<b>0.18</b>	<b>0.20</b>	<b>0.27</b>	<b>0.30</b>	<b>0.34</b>	<b>0.35</b>	<b>0.30</b>	-	-	-	-	-	<b>0.24</b>	-	-
Ecuador .....	<b>0.53</b>	<b>0.53</b>	<b>0.54</b>	<b>0.52</b>	<b>0.51</b>	<b>0.52</b>	<b>0.53</b>	-	-	-	-	-	<b>0.53</b>	-	-
Equatorial Guinea .....	<b>0.14</b>	<b>0.14</b>	<b>0.13</b>	<b>0.13</b>	<b>0.14</b>	<b>0.13</b>	<b>0.14</b>	-	-	-	-	-	<b>0.13</b>	-	-
Gabon .....	<b>0.19</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.19</b>	-	-	-	-	-	<b>0.20</b>	-	-
Iran .....	<b>3.80</b>	<b>3.81</b>	<b>3.83</b>	<b>3.84</b>	<b>3.83</b>	<b>3.80</b>	<b>3.55</b>	-	-	-	-	-	<b>3.82</b>	-	-
Iraq .....	<b>4.46</b>	<b>4.44</b>	<b>4.50</b>	<b>4.36</b>	<b>4.46</b>	<b>4.50</b>	<b>4.66</b>	-	-	-	-	-	<b>4.44</b>	-	-
Kuwait .....	<b>2.74</b>	<b>2.71</b>	<b>2.72</b>	<b>2.72</b>	<b>2.71</b>	<b>2.71</b>	<b>2.80</b>	-	-	-	-	-	<b>2.72</b>	-	-
Libya .....	<b>0.65</b>	<b>0.72</b>	<b>0.94</b>	<b>0.95</b>	<b>1.00</b>	<b>0.92</b>	<b>0.91</b>	-	-	-	-	-	<b>0.82</b>	-	-
Nigeria .....	<b>1.38</b>	<b>1.49</b>	<b>1.68</b>	<b>1.72</b>	<b>1.72</b>	<b>1.53</b>	<b>1.55</b>	-	-	-	-	-	<b>1.57</b>	-	-
Qatar .....	<b>0.62</b>	<b>0.61</b>	<b>0.61</b>	<b>0.60</b>	<b>0.61</b>	<b>0.61</b>	<b>0.62</b>	-	-	-	-	-	<b>0.61</b>	-	-
Saudi Arabia .....	<b>9.98</b>	<b>10.09</b>	<b>10.18</b>	<b>10.12</b>	<b>10.10</b>	<b>10.20</b>	<b>10.47</b>	-	-	-	-	-	<b>10.09</b>	-	-
United Arab Emirates .....	<b>2.92</b>	<b>2.90</b>	<b>2.92</b>	<b>2.90</b>	<b>2.88</b>	<b>2.86</b>	<b>2.94</b>	-	-	-	-	-	<b>2.91</b>	-	-
Venezuela .....	<b>1.99</b>	<b>1.97</b>	<b>1.95</b>	<b>1.78</b>	<b>1.57</b>	<b>1.42</b>	<b>1.26</b>	-	-	-	-	-	<b>1.92</b>	-	-
OPEC Total .....	<b>32.25</b>	<b>32.52</b>	<b>33.16</b>	<b>32.78</b>	<b>32.68</b>	<b>32.31</b>	<b>32.52</b>	<i>32.35</i>	<i>32.25</i>	<i>32.07</i>	<i>32.11</i>	<i>32.11</i>	<b>32.68</b>	<i>32.46</i>	<i>32.14</i>
<b>Other Liquids (a)</b> .....	<b>6.61</b>	<b>6.63</b>	<b>6.59</b>	<b>6.60</b>	<b>6.65</b>	<b>6.57</b>	<b>6.60</b>	<i>6.53</i>	<i>6.59</i>	<i>6.60</i>	<i>6.61</i>	<i>6.62</i>	<b>6.61</b>	<i>6.59</i>	<i>6.61</i>
<b>Total OPEC Supply</b> .....	<b>38.87</b>	<b>39.15</b>	<b>39.74</b>	<b>39.38</b>	<b>39.32</b>	<b>38.88</b>	<b>39.11</b>	<i>38.88</i>	<i>38.84</i>	<i>38.67</i>	<i>38.72</i>	<i>38.73</i>	<b>39.29</b>	<i>39.05</i>	<i>38.74</i>
<b>Crude Oil Production Capacity</b>															
Africa .....	<b>5.22</b>	<b>5.44</b>	<b>5.91</b>	<b>5.94</b>	<b>6.00</b>	<b>5.70</b>	<b>5.68</b>	<i>5.71</i>	<i>5.76</i>	<i>5.78</i>	<i>5.82</i>	<i>5.84</i>	<b>5.63</b>	<i>5.77</i>	<i>5.80</i>
Middle East .....	<b>26.70</b>	<b>26.69</b>	<b>26.71</b>	<b>26.64</b>	<b>26.51</b>	<b>26.52</b>	<b>26.43</b>	<i>26.16</i>	<i>26.25</i>	<i>26.12</i>	<i>26.14</i>	<i>26.15</i>	<b>26.69</b>	<i>26.40</i>	<i>26.17</i>
South America .....	<b>2.53</b>	<b>2.51</b>	<b>2.49</b>	<b>2.31</b>	<b>2.08</b>	<b>1.94</b>	<b>1.80</b>	<i>1.73</i>	<i>1.60</i>	<i>1.48</i>	<i>1.39</i>	<i>1.30</i>	<b>2.46</b>	<i>1.89</i>	<i>1.44</i>
OPEC Total .....	<b>34.45</b>	<b>34.64</b>	<b>35.11</b>	<b>34.88</b>	<b>34.59</b>	<b>34.16</b>	<b>33.91</b>	<i>33.61</i>	<i>33.60</i>	<i>33.39</i>	<i>33.34</i>	<i>33.29</i>	<b>34.77</b>	<i>34.06</i>	<i>33.41</i>
<b>Surplus Crude Oil Production Capacity</b>															
Africa .....	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.00</b>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<b>0.00</b>	<i>0.00</i>	<i>0.00</i>
Middle East .....	<b>2.19</b>	<b>2.13</b>	<b>1.95</b>	<b>2.10</b>	<b>1.91</b>	<b>1.83</b>	<b>1.39</b>	<i>1.26</i>	<i>1.35</i>	<i>1.32</i>	<i>1.24</i>	<i>1.18</i>	<b>2.09</b>	<i>1.60</i>	<i>1.27</i>
South America .....	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<b>0.00</b>	<i>0.00</i>	<i>0.00</i>
OPEC Total .....	<b>2.19</b>	<b>2.13</b>	<b>1.95</b>	<b>2.10</b>	<b>1.91</b>	<b>1.85</b>	<b>1.39</b>	<i>1.26</i>	<i>1.35</i>	<i>1.32</i>	<i>1.24</i>	<i>1.18</i>	<b>2.09</b>	<i>1.60</i>	<i>1.27</i>
<b>Unplanned OPEC Production Outages</b> .....	<b>1.81</b>	<b>1.60</b>	<b>1.17</b>	<b>1.21</b>	<b>1.21</b>	<b>1.43</b>	<b>1.59</b>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<b>1.45</b>	<i>n/a</i>	<i>n/a</i>

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Qatar, 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 - October 2018

	2017				2018				2019				2017	2018	2019
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
<b>North America</b> .....	<b>23.94</b>	<b>24.48</b>	<b>24.49</b>	<b>24.67</b>	<b>24.56</b>	<b>24.71</b>	<b>24.93</b>	<i>25.00</i>	<i>24.70</i>	<i>24.84</i>	<i>25.35</i>	<i>25.33</i>	<b>24.40</b>	<i>24.80</i>	<i>25.06</i>
Canada .....	<b>2.37</b>	<b>2.36</b>	<b>2.52</b>	<b>2.52</b>	<b>2.32</b>	<b>2.35</b>	<b>2.48</b>	<i>2.46</i>	<i>2.42</i>	<i>2.37</i>	<i>2.48</i>	<i>2.45</i>	<b>2.44</b>	<i>2.40</i>	<i>2.43</i>
Mexico .....	<b>2.02</b>	<b>2.03</b>	<b>1.95</b>	<b>1.93</b>	<b>1.99</b>	<b>2.02</b>	<b>1.93</b>	<i>1.97</i>	<i>1.95</i>	<i>1.97</i>	<i>1.97</i>	<i>2.00</i>	<b>1.98</b>	<i>1.98</i>	<i>1.97</i>
United States .....	<b>19.54</b>	<b>20.07</b>	<b>20.01</b>	<b>20.21</b>	<b>20.24</b>	<b>20.33</b>	<b>20.51</b>	<i>20.57</i>	<i>20.32</i>	<i>20.49</i>	<i>20.89</i>	<i>20.87</i>	<b>19.96</b>	<i>20.41</i>	<i>20.64</i>
<b>Central and South America</b> .....	<b>6.84</b>	<b>6.93</b>	<b>7.06</b>	<b>6.94</b>	<b>6.72</b>	<b>6.75</b>	<b>6.95</b>	<i>6.96</i>	<i>6.74</i>	<i>6.87</i>	<i>6.99</i>	<i>6.98</i>	<b>6.94</b>	<i>6.85</i>	<i>6.89</i>
Brazil .....	<b>2.96</b>	<b>3.00</b>	<b>3.12</b>	<b>3.08</b>	<b>2.98</b>	<b>2.95</b>	<b>3.13</b>	<i>3.15</i>	<i>3.01</i>	<i>3.08</i>	<i>3.16</i>	<i>3.15</i>	<b>3.04</b>	<i>3.05</i>	<i>3.10</i>
<b>Europe</b> .....	<b>14.55</b>	<b>14.98</b>	<b>15.44</b>	<b>15.14</b>	<b>14.80</b>	<b>14.90</b>	<b>15.37</b>	<i>15.08</i>	<i>14.79</i>	<i>15.00</i>	<i>15.53</i>	<i>15.23</i>	<b>15.03</b>	<i>15.04</i>	<i>15.14</i>
<b>Eurasia</b> .....	<b>4.73</b>	<b>4.72</b>	<b>4.99</b>	<b>4.86</b>	<b>4.78</b>	<b>4.83</b>	<b>5.11</b>	<i>4.98</i>	<i>4.78</i>	<i>4.85</i>	<i>5.22</i>	<i>5.07</i>	<b>4.83</b>	<i>4.93</i>	<i>4.98</i>
Russia .....	<b>3.61</b>	<b>3.62</b>	<b>3.82</b>	<b>3.69</b>	<b>3.63</b>	<b>3.70</b>	<b>3.91</b>	<i>3.78</i>	<i>3.62</i>	<i>3.71</i>	<i>4.02</i>	<i>3.86</i>	<b>3.68</b>	<i>3.75</i>	<i>3.80</i>
<b>Middle East</b> .....	<b>8.24</b>	<b>8.77</b>	<b>9.10</b>	<b>8.48</b>	<b>8.30</b>	<b>8.73</b>	<b>9.20</b>	<i>8.59</i>	<i>8.30</i>	<i>8.89</i>	<i>9.30</i>	<i>8.60</i>	<b>8.65</b>	<i>8.71</i>	<i>8.77</i>
<b>Asia and Oceania</b> .....	<b>34.49</b>	<b>34.43</b>	<b>33.83</b>	<b>35.03</b>	<b>35.68</b>	<b>35.15</b>	<b>34.77</b>	<i>35.90</i>	<i>36.72</i>	<i>36.15</i>	<i>35.55</i>	<i>36.58</i>	<b>34.44</b>	<i>35.37</i>	<i>36.25</i>
China .....	<b>13.17</b>	<b>13.61</b>	<b>13.17</b>	<b>13.49</b>	<b>13.80</b>	<b>14.00</b>	<b>13.73</b>	<i>13.95</i>	<i>14.28</i>	<i>14.47</i>	<i>14.20</i>	<i>14.41</i>	<b>13.36</b>	<i>13.87</i>	<i>14.34</i>
Japan .....	<b>4.30</b>	<b>3.58</b>	<b>3.63</b>	<b>4.06</b>	<b>4.27</b>	<b>3.43</b>	<b>3.55</b>	<i>3.88</i>	<i>4.15</i>	<i>3.40</i>	<i>3.47</i>	<i>3.79</i>	<b>3.89</b>	<i>3.78</i>	<i>3.70</i>
India .....	<b>4.40</b>	<b>4.64</b>	<b>4.42</b>	<b>4.75</b>	<b>4.73</b>	<b>4.84</b>	<b>4.61</b>	<i>4.98</i>	<i>5.09</i>	<i>5.15</i>	<i>4.81</i>	<i>5.12</i>	<b>4.55</b>	<i>4.79</i>	<i>5.04</i>
<b>Africa</b> .....	<b>4.32</b>	<b>4.28</b>	<b>4.17</b>	<b>4.29</b>	<b>4.39</b>	<b>4.38</b>	<b>4.29</b>	<i>4.45</i>	<i>4.45</i>	<i>4.46</i>	<i>4.39</i>	<i>4.56</i>	<b>4.27</b>	<i>4.38</i>	<i>4.46</i>
<b>Total OECD Liquid Fuels Consumption</b> .....	<b>46.73</b>	<b>46.87</b>	<b>47.47</b>	<b>47.83</b>	<b>47.58</b>	<b>46.91</b>	<b>47.76</b>	<i>48.04</i>	<i>47.77</i>	<i>47.19</i>	<i>48.31</i>	<i>48.47</i>	<b>47.23</b>	<i>47.58</i>	<i>47.94</i>
<b>Total non-OECD Liquid Fuels Consumption</b> .....	<b>50.37</b>	<b>51.71</b>	<b>51.60</b>	<b>51.59</b>	<b>51.67</b>	<b>52.54</b>	<b>52.85</b>	<i>52.91</i>	<i>52.72</i>	<i>53.88</i>	<i>54.01</i>	<i>53.88</i>	<b>51.32</b>	<i>52.50</i>	<i>53.63</i>
<b>Total World Liquid Fuels Consumption</b> .....	<b>97.10</b>	<b>98.58</b>	<b>99.08</b>	<b>99.42</b>	<b>99.25</b>	<b>99.46</b>	<b>100.61</b>	<i>100.95</i>	<i>100.48</i>	<i>101.07</i>	<i>102.32</i>	<i>102.35</i>	<b>98.55</b>	<i>100.07</i>	<i>101.56</i>
<b>Oil-weighted Real Gross Domestic Product (a)</b>															
World Index, 2015 Q1 = 100 .....	<b>105.7</b>	<b>106.5</b>	<b>107.4</b>	<b>108.2</b>	<b>109.2</b>	<b>110.0</b>	<b>110.7</b>	<i>111.6</i>	<i>112.5</i>	<i>113.2</i>	<i>114.0</i>	<i>114.8</i>	<b>106.9</b>	<i>110.4</i>	<i>113.6</i>
Percent change from prior year .....	<b>3.6</b>	<b>2.9</b>	<b>3.1</b>	<b>3.0</b>	<b>3.4</b>	<b>3.3</b>	<b>3.2</b>	<i>3.1</i>	<i>2.9</i>	<i>2.9</i>	<i>2.9</i>	<i>2.9</i>	<b>3.1</b>	<i>3.2</i>	<i>2.9</i>
OECD Index, 2015 Q1 = 100 .....	<b>103.9</b>	<b>104.5</b>	<b>105.1</b>	<b>105.8</b>	<b>106.5</b>	<b>107.1</b>	<b>107.7</b>	<i>108.3</i>	<i>108.9</i>	<i>109.3</i>	<i>109.8</i>	<i>110.2</i>	<b>104.8</b>	<i>107.4</i>	<i>109.6</i>
Percent change from prior year .....	<b>3.0</b>	<b>2.1</b>	<b>2.4</b>	<b>2.3</b>	<b>2.5</b>	<b>2.5</b>	<b>2.4</b>	<i>2.4</i>	<i>2.3</i>	<i>2.0</i>	<i>2.0</i>	<i>1.8</i>	<b>2.4</b>	<i>2.4</i>	<i>2.0</i>
Non-OECD Index, 2015 Q1 = 100 .....	<b>107.4</b>	<b>108.4</b>	<b>109.5</b>	<b>110.5</b>	<b>111.9</b>	<b>112.8</b>	<b>113.7</b>	<i>114.7</i>	<i>115.9</i>	<i>117.0</i>	<i>118.1</i>	<i>119.3</i>	<b>109.0</b>	<i>113.3</i>	<i>117.6</i>
Percent change from prior year .....	<b>4.2</b>	<b>3.6</b>	<b>3.8</b>	<b>3.7</b>	<b>4.2</b>	<b>4.1</b>	<b>3.9</b>	<i>3.8</i>	<i>3.6</i>	<i>3.7</i>	<i>3.9</i>	<i>4.0</i>	<b>3.8</b>	<i>4.0</i>	<i>3.8</i>
<b>Real U.S. Dollar Exchange Rate (a)</b>															
Index, 2015 Q1 = 100 .....	<b>104.97</b>	<b>103.52</b>	<b>101.97</b>	<b>102.33</b>	<b>100.60</b>	<b>102.57</b>	<b>105.04</b>	<i>105.23</i>	<i>104.29</i>	<i>103.43</i>	<i>102.40</i>	<i>101.46</i>	<b>103.19</b>	<i>103.36</i>	<i>102.89</i>
Percent change from prior year .....	<b>-0.2</b>	<b>0.3</b>	<b>-1.1</b>	<b>-2.4</b>	<b>-4.2</b>	<b>-0.9</b>	<b>3.0</b>	<i>2.8</i>	<i>3.7</i>	<i>0.8</i>	<i>-2.5</i>	<i>-3.6</i>	<b>-0.8</b>	<i>0.2</i>	<i>-0.5</i>

- = no data available

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

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

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

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

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

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



**Table 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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>HGL Production</b>															
<b>Natural Gas Processing Plants</b>															
Ethane .....	1.35	1.41	1.36	1.58	1.59	1.70	1.75	1.85	1.86	1.88	1.92	1.98	1.43	1.72	1.91
Propane .....	1.18	1.22	1.25	1.30	1.29	1.37	1.44	1.46	1.48	1.51	1.54	1.57	1.24	1.39	1.53
Butanes .....	0.63	0.66	0.68	0.69	0.69	0.74	0.77	0.79	0.79	0.81	0.83	0.84	0.67	0.74	0.82
Natural Gasoline (Pentanes Plus) .....	0.41	0.45	0.48	0.46	0.44	0.50	0.54	0.53	0.51	0.54	0.57	0.56	0.45	0.50	0.55
<b>Refinery and Blender Net Production</b>															
Ethane/Ethylene .....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00
Propane .....	0.29	0.32	0.30	0.32	0.30	0.31	0.30	0.30	0.29	0.31	0.30	0.30	0.31	0.30	0.30
Propylene (refinery-grade) .....	0.27	0.29	0.27	0.30	0.28	0.29	0.28	0.28	0.28	0.29	0.28	0.29	0.28	0.28	0.28
Butanes/Butylenes .....	-0.09	0.27	0.16	-0.22	-0.11	0.24	0.18	-0.20	-0.08	0.26	0.19	-0.20	0.03	0.03	0.04
<b>Renewable Fuels and Oxygenate Plant Net Production</b>															
Natural Gasoline (Pentanes Plus) .....	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
<b>HGL Net Imports</b>															
Ethane .....	-0.15	-0.16	-0.20	-0.19	-0.22	-0.29	-0.26	-0.30	-0.30	-0.31	-0.31	-0.32	-0.18	-0.27	-0.31
Propane/Propylene .....	-0.80	-0.73	-0.69	-0.82	-0.72	-0.81	-0.89	-0.91	-0.92	-0.92	-0.89	-0.94	-0.76	-0.83	-0.92
Butanes/Butylenes .....	-0.08	-0.13	-0.11	-0.11	-0.10	-0.20	-0.20	-0.22	-0.23	-0.25	-0.25	-0.25	-0.11	-0.18	-0.24
Natural Gasoline (Pentanes Plus) .....	-0.18	-0.18	-0.16	-0.14	-0.18	-0.23	-0.22	-0.22	-0.26	-0.26	-0.29	-0.26	-0.17	-0.21	-0.27
<b>HGL Refinery and Blender Net Inputs</b>															
Butanes/Butylenes .....	0.43	0.30	0.33	0.50	0.45	0.30	0.32	0.51	0.41	0.30	0.33	0.51	0.39	0.40	0.39
Natural Gasoline (Pentanes Plus) .....	0.16	0.18	0.18	0.19	0.15	0.16	0.18	0.18	0.17	0.18	0.18	0.18	0.18	0.17	0.18
<b>HGL Consumption</b>															
Ethane/Ethylene .....	1.20	1.25	1.15	1.37	1.44	1.45	1.49	1.55	1.55	1.55	1.62	1.69	1.24	1.48	1.60
Propane .....	1.05	0.61	0.68	0.87	1.16	0.60	0.62	0.97	1.07	0.58	0.68	1.01	0.80	0.84	0.83
Propylene (refinery-grade) .....	0.34	0.32	0.28	0.32	0.32	0.31	0.30	0.30	0.31	0.31	0.30	0.30	0.31	0.30	0.30
Butanes/Butylenes .....	0.14	0.23	0.20	0.16	0.20	0.21	0.19	0.20	0.18	0.26	0.25	0.22	0.18	0.20	0.23
Natural Gasoline (Pentanes Plus) .....	0.09	0.08	0.09	0.15	0.10	0.09	0.09	0.07	0.07	0.06	0.06	0.07	0.10	0.09	0.07
<b>HGL Inventories (million barrels)</b>															
Ethane .....	49.66	51.90	51.76	57.72	51.41	47.90	46.89	48.43	47.34	50.46	49.65	49.74	52.78	48.65	49.31
Propane .....	40.18	56.92	71.42	62.21	33.83	56.51	75.43	62.52	39.68	66.47	89.76	81.19	62.21	62.52	81.19
Propylene (refinery-grade) .....	3.66	3.86	4.90	4.61	3.82	3.64	3.96	4.16	3.29	3.12	3.14	3.74	4.61	4.16	3.74
Butanes/Butylenes .....	31.28	56.79	75.55	47.45	32.02	55.37	76.52	45.49	35.60	59.27	76.82	45.79	47.45	45.49	45.79
Natural Gasoline (Pentanes Plus) .....	21.49	20.55	23.40	20.11	19.36	18.59	20.42	23.20	21.84	23.91	25.18	27.09	20.11	23.20	27.09
<b>Refinery and Blender Net Inputs</b>															
Crude Oil .....	15.90	17.13	16.60	16.72	16.41	17.14	17.34	16.72	16.46	17.30	17.44	16.87	16.59	16.91	17.02
Hydrocarbon Gas Liquids .....	0.59	0.48	0.51	0.69	0.61	0.47	0.51	0.69	0.58	0.48	0.52	0.69	0.57	0.57	0.57
Other Hydrocarbons/Oxygenates .....	1.16	1.23	1.22	1.20	1.16	1.23	1.24	1.26	1.20	1.28	1.29	1.28	1.20	1.22	1.26
Unfinished Oils .....	0.26	0.32	0.38	0.45	0.12	0.42	0.41	0.37	0.25	0.43	0.46	0.38	0.35	0.33	0.38
Motor Gasoline Blend Components .....	0.35	0.64	0.67	0.24	0.34	0.70	0.63	0.47	0.57	0.84	0.66	0.49	0.47	0.53	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 .....	18.25	19.80	19.37	19.31	18.63	19.96	20.12	19.51	19.05	20.33	20.37	19.71	19.19	19.56	19.87
<b>Refinery Processing Gain</b>															
.....	1.11	1.15	1.08	1.12	1.11	1.12	1.14	1.12	1.08	1.12	1.14	1.13	1.11	1.12	1.12
<b>Refinery and Blender Net Production</b>															
Hydrocarbon Gas Liquids .....	0.48	0.89	0.73	0.40	0.48	0.84	0.77	0.39	0.49	0.86	0.77	0.39	0.63	0.62	0.63
Finished Motor Gasoline .....	9.53	10.08	10.04	10.15	9.79	10.14	10.14	10.20	9.93	10.34	10.29	10.31	9.95	10.07	10.22
Jet Fuel .....	1.63	1.74	1.75	1.69	1.72	1.83	1.91	1.74	1.68	1.79	1.88	1.77	1.70	1.80	1.78
Distillate Fuel .....	4.75	5.17	4.93	5.25	4.81	5.25	5.26	5.25	5.04	5.35	5.41	5.32	5.02	5.14	5.28
Residual Fuel .....	0.46	0.41	0.43	0.41	0.44	0.40	0.41	0.43	0.44	0.44	0.40	0.40	0.43	0.42	0.42
Other Oils (a) .....	2.51	2.65	2.56	2.53	2.49	2.61	2.77	2.63	2.55	2.66	2.75	2.65	2.56	2.63	2.65
Total Refinery and Blender Net Production .....	19.36	20.95	20.44	20.43	19.74	21.08	21.26	20.63	20.13	21.44	21.51	20.84	20.30	20.68	20.99
<b>Refinery Distillation Inputs</b>															
.....	16.25	17.44	16.91	17.01	16.76	17.50	17.66	16.93	16.67	17.42	17.62	17.07	16.90	17.21	17.20
<b>Refinery Operable Distillation Capacity</b>															
.....	18.62	18.58	18.54	18.52	18.57	18.60	18.60	18.60	18.61	18.61	18.64	18.65	18.56	18.59	18.63
<b>Refinery Distillation Utilization Factor</b>															
.....	0.87	0.94	0.91	0.92	0.90	0.94	0.95	0.91	0.90	0.94	0.95	0.92	0.91	0.93	0.92

- = 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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Prices (cents per gallon)</b>															
<b>Refiner Wholesale Price</b> .....	163	165	172	175	186	213	215	213	205	217	215	204	169	207	211
<b>Gasoline Regular Grade Retail Prices Including Taxes</b>															
PADD 1 .....	231	233	241	249	255	279	278	284	275	284	285	280	239	274	281
PADD 2 .....	223	228	232	242	246	274	276	278	269	283	284	273	231	269	277
PADD 3 .....	210	216	222	225	230	261	258	261	255	267	265	254	218	253	260
PADD 4 .....	227	239	245	252	247	288	297	289	266	284	292	279	241	281	280
PADD 5 .....	276	289	290	299	312	342	335	333	320	344	341	321	288	330	332
U.S. Average .....	233	238	244	251	258	285	284	287	278	291	291	281	242	279	285
<b>Gasoline All Grades Including Taxes</b>	244	250	255	263	270	294	292	297	289	302	303	293	253	288	297
<b>End-of-period Inventories (million barrels)</b>															
<b>Total Gasoline Inventories</b>															
PADD 1 .....	65.5	67.7	59.0	60.6	58.4	66.5	69.0	66.8	67.1	67.7	64.2	68.0	60.6	66.8	68.0
PADD 2 .....	57.3	53.6	50.4	52.2	57.3	53.5	51.4	52.2	55.0	53.1	51.7	53.7	52.2	52.2	53.7
PADD 3 .....	79.1	82.4	77.7	83.3	84.2	82.3	79.6	82.6	82.8	82.3	82.2	85.3	83.3	82.6	85.3
PADD 4 .....	7.9	7.0	6.9	7.6	7.7	7.3	7.0	7.7	7.7	7.6	7.4	7.9	7.6	7.7	7.9
PADD 5 .....	29.7	27.7	29.2	33.1	32.0	30.7	27.9	31.2	30.2	28.6	28.5	31.7	33.1	31.2	31.7
U.S. Total .....	239.6	238.4	223.2	236.8	239.6	240.3	235.0	240.5	242.8	239.3	234.0	246.7	236.8	240.5	246.7
<b>Finished Gasoline Inventories</b>															
U.S. Total .....	21.5	22.5	21.8	24.5	23.1	24.7	25.6	27.5	25.2	24.1	24.7	25.4	24.5	27.5	25.4
<b>Gasoline Blending Components Inventories</b>															
U.S. Total .....	218.0	215.9	201.4	212.3	216.5	215.6	209.4	213.1	217.6	215.3	209.2	221.2	212.3	213.1	221.2

- = no data available

Prices are not adjusted for inflation.

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

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

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

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

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

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Supply (billion cubic feet per day)</b>															
Total Marketed Production .....	<b>77.02</b>	<b>78.62</b>	<b>80.33</b>	<b>83.92</b>	<b>84.93</b>	<b>87.41</b>	<b>90.81</b>	<i>92.49</i>	<i>93.58</i>	<i>94.21</i>	<i>94.86</i>	<i>95.87</i>	<b>79.99</b>	<i>88.94</i>	<i>94.64</i>
Alaska .....	<b>1.01</b>	<b>0.97</b>	<b>0.82</b>	<b>0.98</b>	<b>1.00</b>	<b>0.92</b>	<b>0.88</b>	<i>0.94</i>	<i>1.00</i>	<i>0.86</i>	<i>0.79</i>	<i>0.94</i>	<b>0.94</b>	<i>0.93</i>	<i>0.90</i>
Federal GOM (a) .....	<b>3.24</b>	<b>3.00</b>	<b>2.90</b>	<b>2.49</b>	<b>2.57</b>	<b>2.49</b>	<b>2.74</b>	<i>2.65</i>	<i>2.70</i>	<i>2.65</i>	<i>2.56</i>	<i>2.58</i>	<b>2.90</b>	<i>2.61</i>	<i>2.62</i>
Lower 48 States (excl GOM) .....	<b>72.78</b>	<b>74.65</b>	<b>76.61</b>	<b>80.45</b>	<b>81.37</b>	<b>84.00</b>	<b>87.19</b>	<i>88.90</i>	<i>89.89</i>	<i>90.69</i>	<i>91.51</i>	<i>92.34</i>	<b>76.14</b>	<i>85.39</i>	<i>91.11</i>
Total Dry Gas Production .....	<b>71.99</b>	<b>73.49</b>	<b>75.09</b>	<b>78.44</b>	<b>79.14</b>	<b>81.21</b>	<b>84.36</b>	<i>85.86</i>	<i>86.83</i>	<i>87.36</i>	<i>87.91</i>	<i>88.80</i>	<b>74.77</b>	<i>82.67</i>	<i>87.73</i>
LNG Gross Imports .....	<b>0.29</b>	<b>0.18</b>	<b>0.17</b>	<b>0.21</b>	<b>0.33</b>	<b>0.10</b>	<b>0.15</b>	<i>0.18</i>	<i>0.32</i>	<i>0.17</i>	<i>0.17</i>	<i>0.21</i>	<b>0.21</b>	<i>0.19</i>	<i>0.22</i>
LNG Gross Exports .....	<b>1.63</b>	<b>1.80</b>	<b>1.67</b>	<b>2.64</b>	<b>2.64</b>	<b>2.79</b>	<b>3.04</b>	<i>3.33</i>	<i>4.17</i>	<i>4.47</i>	<i>5.73</i>	<i>6.59</i>	<b>1.94</b>	<i>2.95</i>	<i>5.25</i>
Pipeline Gross Imports .....	<b>8.89</b>	<b>7.76</b>	<b>7.74</b>	<b>8.10</b>	<b>8.76</b>	<b>7.63</b>	<b>7.40</b>	<i>7.40</i>	<i>7.38</i>	<i>5.83</i>	<i>5.45</i>	<i>6.15</i>	<b>8.12</b>	<i>7.79</i>	<i>6.20</i>
Pipeline Gross Exports .....	<b>7.24</b>	<b>6.49</b>	<b>6.43</b>	<b>6.81</b>	<b>7.02</b>	<b>6.15</b>	<b>7.04</b>	<i>8.37</i>	<i>9.61</i>	<i>8.62</i>	<i>8.26</i>	<i>8.78</i>	<b>6.74</b>	<i>7.15</i>	<i>8.81</i>
Supplemental Gaseous Fuels .....	<b>0.17</b>	<b>0.18</b>	<b>0.18</b>	<b>0.19</b>	<b>0.21</b>	<b>0.17</b>	<b>0.19</b>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.21</i>	<i>0.21</i>	<b>0.18</b>	<i>0.19</i>	<i>0.21</i>
Net Inventory Withdrawals .....	<b>13.74</b>	<b>-9.02</b>	<b>-7.20</b>	<b>5.76</b>	<b>18.29</b>	<b>-8.83</b>	<b>-8.01</b>	<i>1.44</i>	<i>15.85</i>	<i>-10.41</i>	<i>-7.71</i>	<i>3.90</i>	<b>0.78</b>	<i>0.65</i>	<i>0.35</i>
Total Supply .....	<b>86.22</b>	<b>64.30</b>	<b>67.88</b>	<b>83.26</b>	<b>97.08</b>	<b>71.33</b>	<b>74.00</b>	<i>83.38</i>	<i>96.81</i>	<i>70.06</i>	<i>72.04</i>	<i>83.90</i>	<b>75.39</b>	<i>81.39</i>	<i>80.64</i>
Balancing Item (b) .....	<b>0.00</b>	<b>-1.25</b>	<b>-0.92</b>	<b>-2.24</b>	<b>0.07</b>	<b>-0.67</b>	<b>-1.51</b>	<i>-1.11</i>	<i>0.01</i>	<i>0.00</i>	<i>-0.57</i>	<i>-0.34</i>	<b>-1.11</b>	<i>-0.81</i>	<i>-0.23</i>
Total Primary Supply .....	<b>86.21</b>	<b>63.04</b>	<b>66.96</b>	<b>81.02</b>	<b>97.15</b>	<b>70.66</b>	<b>72.49</b>	<i>82.27</i>	<i>96.82</i>	<i>70.06</i>	<i>71.47</i>	<i>83.55</i>	<b>74.27</b>	<i>80.58</i>	<i>80.42</i>
<b>Consumption (billion cubic feet per day)</b>															
Residential .....	<b>22.11</b>	<b>6.62</b>	<b>3.54</b>	<b>16.24</b>	<b>25.75</b>	<b>7.97</b>	<b>3.46</b>	<i>16.05</i>	<i>25.35</i>	<i>7.56</i>	<i>3.73</i>	<i>16.08</i>	<b>12.09</b>	<i>13.25</i>	<i>13.13</i>
Commercial .....	<b>13.45</b>	<b>5.81</b>	<b>4.52</b>	<b>10.97</b>	<b>15.35</b>	<b>6.61</b>	<b>4.40</b>	<i>9.89</i>	<i>15.07</i>	<i>6.48</i>	<i>4.75</i>	<i>10.04</i>	<b>8.67</b>	<i>9.03</i>	<i>9.06</i>
Industrial .....	<b>23.13</b>	<b>20.61</b>	<b>20.41</b>	<b>22.98</b>	<b>24.27</b>	<b>21.78</b>	<b>20.89</b>	<i>23.28</i>	<i>23.84</i>	<i>21.50</i>	<i>20.90</i>	<i>23.77</i>	<b>21.78</b>	<i>22.55</i>	<i>22.50</i>
Electric Power (c) .....	<b>20.95</b>	<b>24.00</b>	<b>32.28</b>	<b>24.03</b>	<b>24.53</b>	<b>27.62</b>	<b>36.83</b>	<i>25.80</i>	<i>24.81</i>	<i>27.35</i>	<i>34.74</i>	<i>25.87</i>	<b>25.34</b>	<i>28.72</i>	<i>28.21</i>
Lease and Plant Fuel .....	<b>4.13</b>	<b>4.21</b>	<b>4.30</b>	<b>4.50</b>	<b>4.55</b>	<b>4.68</b>	<b>4.87</b>	<i>4.96</i>	<i>5.01</i>	<i>5.05</i>	<i>5.08</i>	<i>5.14</i>	<b>4.29</b>	<i>4.77</i>	<i>5.07</i>
Pipeline and Distribution Use .....	<b>2.32</b>	<b>1.66</b>	<b>1.77</b>	<b>2.16</b>	<b>2.59</b>	<b>1.88</b>	<b>1.92</b>	<i>2.18</i>	<i>2.61</i>	<i>2.00</i>	<i>2.16</i>	<i>2.53</i>	<b>1.98</b>	<i>2.14</i>	<i>2.32</i>
Vehicle Use .....	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<b>0.13</b>	<i>0.12</i>	<i>0.12</i>
Total Consumption .....	<b>86.21</b>	<b>63.04</b>	<b>66.96</b>	<b>81.02</b>	<b>97.15</b>	<b>70.66</b>	<b>72.49</b>	<i>82.27</i>	<i>96.82</i>	<i>70.06</i>	<i>71.47</i>	<i>83.55</i>	<b>74.27</b>	<i>80.58</i>	<i>80.42</i>
<b>End-of-period Inventories (billion cubic feet)</b>															
Working Gas Inventory .....	<b>2,063</b>	<b>2,907</b>	<b>3,567</b>	<b>3,033</b>	<b>1,392</b>	<b>2,195</b>	<b>2,932</b>	<i>2,800</i>	<i>1,374</i>	<i>2,321</i>	<i>3,030</i>	<i>2,671</i>	<b>3,033</b>	<i>2,800</i>	<i>2,671</i>
East Region (d) .....	<b>260</b>	<b>563</b>	<b>866</b>	<b>710</b>	<b>229</b>	<b>465</b>	<b>769</b>	<i>703</i>	<i>199</i>	<i>467</i>	<i>718</i>	<i>592</i>	<b>710</b>	<i>703</i>	<i>592</i>
Midwest Region (d) .....	<b>477</b>	<b>701</b>	<b>993</b>	<b>829</b>	<b>261</b>	<b>459</b>	<b>845</b>	<i>746</i>	<i>276</i>	<i>551</i>	<i>894</i>	<i>763</i>	<b>829</b>	<i>746</i>	<i>763</i>
South Central Region (d) .....	<b>938</b>	<b>1,139</b>	<b>1,137</b>	<b>1,016</b>	<b>615</b>	<b>846</b>	<b>837</b>	<i>911</i>	<i>575</i>	<i>821</i>	<i>863</i>	<i>828</i>	<b>1,016</b>	<i>911</i>	<i>828</i>
Mountain Region (d) .....	<b>142</b>	<b>184</b>	<b>218</b>	<b>177</b>	<b>87</b>	<b>140</b>	<b>178</b>	<i>162</i>	<i>111</i>	<i>155</i>	<i>196</i>	<i>163</i>	<b>177</b>	<i>162</i>	<i>163</i>
Pacific Region (d) .....	<b>219</b>	<b>288</b>	<b>314</b>	<b>264</b>	<b>169</b>	<b>253</b>	<b>264</b>	<i>239</i>	<i>174</i>	<i>288</i>	<i>321</i>	<i>286</i>	<b>264</b>	<i>239</i>	<i>286</i>
Alaska .....	<b>27</b>	<b>32</b>	<b>39</b>	<b>36</b>	<b>31</b>	<b>33</b>	<b>39</b>	<i>39</i>	<i>39</i>	<i>39</i>	<i>39</i>	<i>39</i>	<b>36</b>	<i>39</i>	<i>39</i>

- = no data available

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

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

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

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

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

LNG: liquefied natural gas.

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

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

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Wholesale/Spot</b>															
Henry Hub Spot Price .....	<b>3.12</b>	<b>3.19</b>	<b>3.06</b>	<b>3.01</b>	<b>3.13</b>	<b>2.96</b>	<b>3.04</b>	<b>3.27</b>	<b>3.36</b>	<b>3.12</b>	<b>3.17</b>	<b>3.28</b>	<b>3.10</b>	3.10	3.23
<b>Residential Retail</b>															
New England .....	<b>12.86</b>	<b>14.09</b>	<b>18.10</b>	<b>13.58</b>	<b>14.53</b>	<b>17.28</b>	<b>18.29</b>	<i>13.72</i>	<i>13.10</i>	<i>13.95</i>	<i>17.17</i>	<i>13.61</i>	<b>13.61</b>	14.99	13.65
Middle Atlantic .....	<b>9.88</b>	<b>12.21</b>	<b>17.18</b>	<b>11.31</b>	<b>10.17</b>	<b>11.92</b>	<b>17.33</b>	<i>10.97</i>	<i>9.99</i>	<i>11.84</i>	<i>16.37</i>	<i>10.85</i>	<b>11.15</b>	11.12	10.95
E. N. Central .....	<b>7.79</b>	<b>11.58</b>	<b>17.93</b>	<b>7.84</b>	<b>7.20</b>	<b>9.77</b>	<b>17.93</b>	<i>9.22</i>	<i>8.16</i>	<i>10.91</i>	<i>16.67</i>	<i>9.02</i>	<b>8.90</b>	8.76	9.36
W. N. Central .....	<b>8.27</b>	<b>11.74</b>	<b>18.64</b>	<b>9.36</b>	<b>8.15</b>	<b>10.48</b>	<b>18.95</b>	<i>10.68</i>	<i>9.70</i>	<i>12.42</i>	<i>17.94</i>	<i>10.01</i>	<b>9.67</b>	9.75	10.72
S. Atlantic .....	<b>11.87</b>	<b>19.32</b>	<b>25.73</b>	<b>12.76</b>	<b>11.07</b>	<b>15.62</b>	<b>23.55</b>	<i>12.90</i>	<i>11.27</i>	<i>16.15</i>	<i>22.36</i>	<i>12.69</i>	<b>14.11</b>	13.07	13.12
E. S. Central .....	<b>10.41</b>	<b>15.64</b>	<b>20.60</b>	<b>11.19</b>	<b>9.61</b>	<b>12.70</b>	<b>20.68</b>	<i>12.12</i>	<i>9.79</i>	<i>14.23</i>	<i>20.38</i>	<i>12.70</i>	<b>11.90</b>	11.29	11.74
W. S. Central .....	<b>10.21</b>	<b>16.31</b>	<b>21.92</b>	<b>13.00</b>	<b>9.27</b>	<b>14.25</b>	<b>20.99</b>	<i>11.11</i>	<i>8.14</i>	<i>13.64</i>	<i>19.93</i>	<i>11.67</i>	<b>13.05</b>	11.27	10.84
Mountain .....	<b>8.25</b>	<b>10.20</b>	<b>13.95</b>	<b>8.70</b>	<b>8.22</b>	<b>10.41</b>	<b>14.80</b>	<i>9.58</i>	<i>9.23</i>	<i>10.43</i>	<i>14.00</i>	<i>9.45</i>	<b>9.14</b>	9.45	9.89
Pacific .....	<b>12.00</b>	<b>12.61</b>	<b>12.88</b>	<b>11.28</b>	<b>11.62</b>	<b>12.02</b>	<b>12.87</b>	<i>11.54</i>	<i>12.43</i>	<i>12.59</i>	<i>12.93</i>	<i>11.87</i>	<b>11.99</b>	11.82	12.34
U.S. Average .....	<b>9.68</b>	<b>12.95</b>	<b>17.64</b>	<b>10.12</b>	<b>9.38</b>	<b>11.96</b>	<b>17.49</b>	<i>10.83</i>	<i>9.77</i>	<i>12.26</i>	<i>16.76</i>	<i>10.76</i>	<b>10.86</b>	10.74	10.94
<b>Commercial Retail</b>															
New England .....	<b>9.66</b>	<b>10.11</b>	<b>10.69</b>	<b>9.78</b>	<b>11.17</b>	<b>12.34</b>	<b>10.97</b>	<i>10.46</i>	<i>10.45</i>	<i>10.51</i>	<i>10.53</i>	<i>10.51</i>	<b>9.86</b>	11.13	10.48
Middle Atlantic .....	<b>7.73</b>	<b>7.46</b>	<b>6.88</b>	<b>7.44</b>	<b>8.13</b>	<b>7.67</b>	<b>7.48</b>	<i>7.79</i>	<i>7.86</i>	<i>7.64</i>	<i>7.03</i>	<i>7.56</i>	<b>7.49</b>	7.87	7.63
E. N. Central .....	<b>6.61</b>	<b>7.87</b>	<b>8.93</b>	<b>6.19</b>	<b>6.19</b>	<b>6.95</b>	<b>8.95</b>	<i>6.97</i>	<i>6.75</i>	<i>7.72</i>	<i>9.10</i>	<i>7.15</i>	<b>6.81</b>	6.75	7.19
W. N. Central .....	<b>6.92</b>	<b>7.69</b>	<b>9.06</b>	<b>7.00</b>	<b>6.96</b>	<b>7.13</b>	<b>9.00</b>	<i>7.47</i>	<i>7.71</i>	<i>8.05</i>	<i>9.07</i>	<i>7.49</i>	<b>7.23</b>	7.29	7.81
S. Atlantic .....	<b>8.79</b>	<b>9.85</b>	<b>9.63</b>	<b>8.74</b>	<b>8.29</b>	<b>9.14</b>	<b>9.76</b>	<i>8.80</i>	<i>8.65</i>	<i>9.45</i>	<i>9.77</i>	<i>8.74</i>	<b>9.05</b>	8.75	8.95
E. S. Central .....	<b>8.92</b>	<b>10.12</b>	<b>10.61</b>	<b>9.16</b>	<b>8.62</b>	<b>9.32</b>	<b>10.53</b>	<i>9.30</i>	<i>8.82</i>	<i>9.78</i>	<i>10.27</i>	<i>9.20</i>	<b>9.38</b>	9.13	9.24
W. S. Central .....	<b>7.55</b>	<b>8.13</b>	<b>8.79</b>	<b>8.11</b>	<b>7.21</b>	<b>7.90</b>	<b>8.64</b>	<i>7.87</i>	<i>7.42</i>	<i>7.84</i>	<i>8.42</i>	<i>7.86</i>	<b>8.02</b>	7.69	7.77
Mountain .....	<b>6.90</b>	<b>7.40</b>	<b>8.30</b>	<b>7.22</b>	<b>7.00</b>	<b>7.52</b>	<b>8.65</b>	<i>7.55</i>	<i>7.72</i>	<i>7.95</i>	<i>8.64</i>	<i>7.58</i>	<b>7.24</b>	7.43	7.82
Pacific .....	<b>9.08</b>	<b>9.05</b>	<b>9.10</b>	<b>8.53</b>	<b>8.90</b>	<b>8.58</b>	<b>9.09</b>	<i>8.57</i>	<i>8.79</i>	<i>8.86</i>	<i>9.15</i>	<i>8.88</i>	<b>8.91</b>	8.77	8.89
U.S. Average .....	<b>7.70</b>	<b>8.30</b>	<b>8.69</b>	<b>7.55</b>	<b>7.64</b>	<b>8.08</b>	<b>8.85</b>	<i>7.99</i>	<i>7.90</i>	<i>8.33</i>	<i>8.72</i>	<i>8.01</i>	<b>7.86</b>	7.94	8.10
<b>Industrial Retail</b>															
New England .....	<b>7.81</b>	<b>7.03</b>	<b>6.37</b>	<b>6.97</b>	<b>9.07</b>	<b>8.74</b>	<b>6.52</b>	<i>7.82</i>	<i>8.42</i>	<i>7.62</i>	<i>6.94</i>	<i>7.84</i>	<b>7.17</b>	8.22	7.83
Middle Atlantic .....	<b>7.71</b>	<b>7.65</b>	<b>7.59</b>	<b>7.69</b>	<b>8.33</b>	<b>8.07</b>	<b>7.55</b>	<i>7.69</i>	<i>8.09</i>	<i>7.44</i>	<i>7.44</i>	<i>7.67</i>	<b>7.68</b>	8.04	7.79
E. N. Central .....	<b>5.92</b>	<b>5.97</b>	<b>5.58</b>	<b>5.32</b>	<b>5.69</b>	<b>5.02</b>	<b>5.47</b>	<i>5.94</i>	<i>6.62</i>	<i>6.29</i>	<i>6.19</i>	<i>6.16</i>	<b>5.69</b>	5.61	6.37
W. N. Central .....	<b>4.98</b>	<b>4.26</b>	<b>4.19</b>	<b>4.66</b>	<b>5.05</b>	<b>4.23</b>	<b>4.36</b>	<i>5.28</i>	<i>5.84</i>	<i>4.94</i>	<i>4.70</i>	<i>5.29</i>	<b>4.56</b>	4.77	5.24
S. Atlantic .....	<b>5.32</b>	<b>4.95</b>	<b>4.87</b>	<b>4.92</b>	<b>5.34</b>	<b>4.67</b>	<b>4.76</b>	<i>5.21</i>	<i>5.54</i>	<i>4.92</i>	<i>4.88</i>	<i>5.24</i>	<b>5.02</b>	5.02	5.17
E. S. Central .....	<b>4.99</b>	<b>4.50</b>	<b>4.30</b>	<b>4.48</b>	<b>4.93</b>	<b>4.21</b>	<b>4.26</b>	<i>4.78</i>	<i>4.99</i>	<i>4.50</i>	<i>4.46</i>	<i>4.88</i>	<b>4.58</b>	4.57	4.73
W. S. Central .....	<b>3.42</b>	<b>3.41</b>	<b>3.29</b>	<b>3.13</b>	<b>3.32</b>	<b>3.09</b>	<b>3.29</b>	<i>3.55</i>	<i>3.63</i>	<i>3.34</i>	<i>3.45</i>	<i>3.57</i>	<b>3.31</b>	3.32	3.50
Mountain .....	<b>5.33</b>	<b>5.40</b>	<b>5.69</b>	<b>5.55</b>	<b>5.44</b>	<b>5.38</b>	<b>5.70</b>	<i>5.98</i>	<i>6.19</i>	<i>5.90</i>	<i>6.11</i>	<i>6.14</i>	<b>5.48</b>	5.64	6.10
Pacific .....	<b>7.24</b>	<b>6.61</b>	<b>6.21</b>	<b>6.27</b>	<b>6.97</b>	<b>6.03</b>	<b>6.43</b>	<i>6.59</i>	<i>7.07</i>	<i>6.52</i>	<i>6.67</i>	<i>6.79</i>	<b>6.62</b>	6.53	6.78
U.S. Average .....	<b>4.46</b>	<b>4.07</b>	<b>3.85</b>	<b>3.97</b>	<b>4.45</b>	<b>3.84</b>	<b>3.84</b>	<i>4.35</i>	<i>4.69</i>	<i>4.06</i>	<i>4.03</i>	<i>4.41</i>	<b>4.10</b>	4.14	4.31

- = 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 - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Supply (million short tons)</b>															
Production .....	197.0	187.1	196.2	193.8	187.6	180.8	196.3	190.9	192.3	159.7	200.5	190.5	774.1	755.6	742.9
Appalachia .....	50.7	51.2	46.3	50.2	50.0	51.6	50.7	44.7	50.9	44.9	49.5	45.2	198.5	196.9	190.5
Interior .....	38.5	36.4	34.9	35.6	34.0	34.6	35.2	38.9	38.8	29.1	37.4	38.0	145.4	142.7	143.2
Western .....	107.8	99.4	115.0	108.0	103.7	94.6	110.4	107.3	102.6	85.7	113.6	107.3	430.2	415.9	409.2
Primary Inventory Withdrawals .....	0.1	1.8	1.4	0.9	-2.8	2.3	0.9	-0.4	-1.0	1.5	1.0	-3.2	4.2	-0.1	-1.7
Imports .....	1.9	2.2	2.3	1.4	1.4	1.5	2.2	2.2	0.9	1.8	2.5	2.2	7.8	7.3	7.5
Exports .....	22.3	21.8	24.6	28.2	27.2	30.9	26.7	23.5	25.0	24.5	25.4	25.6	97.0	108.3	100.4
Metallurgical Coal .....	12.2	13.5	14.8	14.8	14.9	16.9	13.1	12.9	13.3	13.1	13.8	13.9	55.3	57.8	54.1
Steam Coal .....	10.1	8.3	9.8	13.4	12.3	13.9	13.6	10.6	11.7	11.4	11.6	11.7	41.7	50.4	46.3
Total Primary Supply .....	176.8	169.2	175.3	167.9	159.0	153.7	172.7	169.2	167.3	138.5	178.6	163.9	689.1	654.6	648.3
Secondary Inventory Withdrawals .....	1.0	3.7	18.2	2.4	11.4	4.8	19.6	-8.1	1.0	1.6	3.7	-8.4	25.2	27.7	-2.1
Waste Coal (a) .....	2.5	1.8	2.3	2.1	2.8	2.2	2.4	2.4	2.3	2.3	2.3	2.3	8.7	9.7	9.2
Total Supply .....	180.3	174.8	195.8	172.3	173.1	160.8	194.7	163.5	170.7	142.3	184.6	157.8	723.1	692.0	655.4
<b>Consumption (million short tons)</b>															
Coke Plants .....	4.2	4.3	4.5	4.5	4.2	4.6	4.8	5.5	4.7	4.3	5.1	6.1	17.5	19.1	20.1
Electric Power Sector (b) .....	160.3	154.2	190.6	159.6	155.0	144.4	190.7	150.0	157.9	130.3	171.9	143.9	664.7	640.1	603.9
Retail and Other Industry .....	8.9	8.3	8.8	8.7	8.5	7.9	7.7	8.0	8.1	7.8	7.7	7.8	34.7	32.0	31.4
Residential and Commercial .....	0.4	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.2	1.1	0.9	0.7
Other Industrial .....	8.5	8.1	8.6	8.4	8.1	7.7	7.5	7.8	7.9	7.6	7.5	7.6	33.6	31.0	30.7
Total Consumption .....	173.5	166.8	203.9	172.7	167.7	156.9	203.2	163.5	170.7	142.3	184.6	157.8	717.0	691.2	655.4
Discrepancy (c) .....	6.8	7.9	-8.1	-0.4	5.5	3.9	-8.5	0.0	0.0	0.0	0.0	0.0	6.2	0.8	0.0
<b>End-of-period Inventories (million short tons)</b>															
Primary Inventories (d) .....	25.2	23.4	22.0	21.1	23.9	21.6	20.7	21.2	22.1	20.6	19.7	22.9	21.1	21.2	22.9
Secondary Inventories .....	166.6	163.0	144.8	142.4	131.1	126.2	106.7	114.7	113.7	112.1	108.4	116.9	142.4	114.7	116.9
Electric Power Sector .....	161.7	157.7	139.3	137.2	126.4	121.5	101.7	109.8	109.0	107.1	103.1	111.5	137.2	109.8	111.5
Retail and General Industry .....	3.2	3.3	3.5	3.2	2.9	2.9	3.0	2.9	3.1	3.1	3.2	3.2	3.2	2.9	3.2
Coke Plants .....	1.4	1.6	1.7	1.7	1.5	1.6	1.7	1.8	1.3	1.7	1.8	1.9	1.7	1.8	1.9
<b>Coal Market Indicators</b>															
Coal Miner Productivity															
(Tons per hour) .....	6.19	6.19	6.19	6.19	6.10	6.10	6.10	6.10	6.02	6.02	6.02	6.02	6.19	6.10	6.02
Total Raw Steel Production															
(Million short tons per day) .....	0.248	0.247	0.250	0.245	0.251	0.253	0.264	0.236	0.291	0.292	0.274	0.240	0.248	0.251	0.274
Cost of Coal to Electric Utilities															
(Dollars per million Btu) .....	2.08	2.12	2.07	2.04	2.06	2.05	2.10	2.12	2.11	2.09	2.10	2.09	2.08	2.09	2.10

- = no data available

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

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

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

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

**Notes:** The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.**Historical data:** Latest data available from Energy Information Administration databases supporting the following reports: *Quarterly Coal Report*, DOE/EIA-0121; and *Electric Power Monthly*, DOE/EIA-0226.

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

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



**Table 7a. U.S. Electricity Industry Overview**

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Electricity Supply (billion kilowatthours per day)</b>															
Electricity Generation .....	<b>10.58</b>	<b>10.69</b>	<b>12.15</b>	<b>10.57</b>	<b>11.11</b>	<b>11.13</b>	<b>12.78</b>	<i>10.57</i>	<i>11.05</i>	<i>10.79</i>	<i>12.33</i>	<i>10.63</i>	<b>11.00</b>	<i>11.40</i>	<i>11.20</i>
Electric Power Sector (a) .....	<b>10.15</b>	<b>10.27</b>	<b>11.71</b>	<b>10.14</b>	<b>10.67</b>	<b>10.70</b>	<b>12.34</b>	<i>10.15</i>	<i>10.62</i>	<i>10.37</i>	<i>11.88</i>	<i>10.19</i>	<b>10.57</b>	<i>10.97</i>	<i>10.77</i>
Comm. and Indus. Sectors (b) .....	<b>0.43</b>	<b>0.42</b>	<b>0.44</b>	<b>0.42</b>	<b>0.43</b>	<b>0.42</b>	<b>0.44</b>	<i>0.41</i>	<i>0.43</i>	<i>0.43</i>	<i>0.45</i>	<i>0.44</i>	<b>0.43</b>	<i>0.43</i>	<i>0.43</i>
Net Imports .....	<b>0.18</b>	<b>0.15</b>	<b>0.17</b>	<b>0.11</b>	<b>0.14</b>	<b>0.15</b>	<b>0.17</b>	<i>0.13</i>	<i>0.15</i>	<i>0.15</i>	<i>0.17</i>	<i>0.13</i>	<b>0.15</b>	<i>0.15</i>	<i>0.15</i>
Total Supply .....	<b>10.76</b>	<b>10.84</b>	<b>12.32</b>	<b>10.68</b>	<b>11.25</b>	<b>11.27</b>	<b>12.95</b>	<i>10.70</i>	<i>11.20</i>	<i>10.94</i>	<i>12.50</i>	<i>10.76</i>	<b>11.15</b>	<i>11.54</i>	<i>11.35</i>
Losses and Unaccounted for (c) .....	<b>0.63</b>	<b>0.77</b>	<b>0.65</b>	<b>0.70</b>	<b>0.66</b>	<b>0.96</b>	<b>0.90</b>	<i>0.62</i>	<i>0.58</i>	<i>0.82</i>	<i>0.72</i>	<i>0.68</i>	<b>0.69</b>	<i>0.79</i>	<i>0.70</i>
<b>Electricity Consumption (billion kilowatthours per day unless noted)</b>															
Retail Sales .....	<b>9.75</b>	<b>9.70</b>	<b>11.28</b>	<b>9.60</b>	<b>10.20</b>	<b>9.94</b>	<b>11.66</b>	<i>9.71</i>	<i>10.24</i>	<i>9.74</i>	<i>11.38</i>	<i>9.70</i>	<b>10.09</b>	<i>10.38</i>	<i>10.27</i>
Residential Sector .....	<b>3.71</b>	<b>3.43</b>	<b>4.46</b>	<b>3.51</b>	<b>4.09</b>	<b>3.60</b>	<b>4.73</b>	<i>3.59</i>	<i>4.08</i>	<i>3.42</i>	<i>4.50</i>	<i>3.56</i>	<b>3.78</b>	<i>4.01</i>	<i>3.89</i>
Commercial Sector .....	<b>3.51</b>	<b>3.64</b>	<b>4.08</b>	<b>3.55</b>	<b>3.59</b>	<b>3.70</b>	<b>4.18</b>	<i>3.57</i>	<i>3.60</i>	<i>3.65</i>	<i>4.10</i>	<i>3.57</i>	<b>3.70</b>	<i>3.76</i>	<i>3.73</i>
Industrial Sector .....	<b>2.50</b>	<b>2.62</b>	<b>2.72</b>	<b>2.53</b>	<b>2.50</b>	<b>2.62</b>	<b>2.73</b>	<i>2.53</i>	<i>2.53</i>	<i>2.66</i>	<i>2.76</i>	<i>2.55</i>	<b>2.59</b>	<i>2.59</i>	<i>2.63</i>
Transportation Sector .....	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<b>0.02</b>	<i>0.02</i>	<i>0.02</i>
Direct Use (d) .....	<b>0.38</b>	<b>0.37</b>	<b>0.38</b>	<b>0.37</b>	<b>0.38</b>	<b>0.37</b>	<b>0.39</b>	<i>0.36</i>	<i>0.38</i>	<i>0.38</i>	<i>0.39</i>	<i>0.38</i>	<b>0.38</b>	<i>0.38</i>	<i>0.38</i>
Total Consumption .....	<b>10.13</b>	<b>10.08</b>	<b>11.66</b>	<b>9.98</b>	<b>10.59</b>	<b>10.31</b>	<b>12.04</b>	<i>10.08</i>	<i>10.61</i>	<i>10.12</i>	<i>11.78</i>	<i>10.08</i>	<b>10.47</b>	<i>10.76</i>	<i>10.65</i>
Average residential electricity usage per customer (kWh) .....	<b>2,532</b>	<b>2,365</b>	<b>3,109</b>	<b>2,446</b>	<b>2,760</b>	<b>2,457</b>	<b>3,300</b>	<i>2,474</i>	<i>2,724</i>	<i>2,304</i>	<i>3,070</i>	<i>2,426</i>	<b>10,453</b>	<i>10,991</i>	<i>10,524</i>
<b>Prices</b>															
<b>Power Generation Fuel Costs (dollars per million Btu)</b>															
Coal .....	<b>2.08</b>	<b>2.12</b>	<b>2.07</b>	<b>2.04</b>	<b>2.06</b>	<b>2.05</b>	<b>2.10</b>	<i>2.12</i>	<i>2.11</i>	<i>2.09</i>	<i>2.10</i>	<i>2.09</i>	<b>2.08</b>	<i>2.09</i>	<i>2.10</i>
Natural Gas .....	<b>3.69</b>	<b>3.38</b>	<b>3.19</b>	<b>3.38</b>	<b>3.98</b>	<b>3.09</b>	<b>3.22</b>	<i>3.54</i>	<i>3.78</i>	<i>3.21</i>	<i>3.23</i>	<i>3.54</i>	<b>3.38</b>	<i>3.42</i>	<i>3.42</i>
Residual Fuel Oil .....	<b>11.16</b>	<b>10.60</b>	<b>10.03</b>	<b>11.93</b>	<b>11.47</b>	<b>13.02</b>	<b>13.57</b>	<i>14.62</i>	<i>14.71</i>	<i>14.75</i>	<i>13.92</i>	<i>13.71</i>	<b>10.97</b>	<i>12.86</i>	<i>14.31</i>
Distillate Fuel Oil .....	<b>12.74</b>	<b>12.23</b>	<b>13.13</b>	<b>14.54</b>	<b>15.77</b>	<b>16.66</b>	<b>17.09</b>	<i>18.33</i>	<i>17.61</i>	<i>17.10</i>	<i>17.37</i>	<i>17.85</i>	<b>13.26</b>	<i>16.61</i>	<i>17.50</i>
<b>Retail Prices (cents per kilowatthour)</b>															
Residential Sector .....	<b>12.59</b>	<b>12.99</b>	<b>13.19</b>	<b>12.75</b>	<b>12.57</b>	<b>13.02</b>	<b>13.20</b>	<i>12.89</i>	<i>12.88</i>	<i>13.55</i>	<i>13.59</i>	<i>13.23</i>	<b>12.90</b>	<i>12.93</i>	<i>13.31</i>
Commercial Sector .....	<b>10.39</b>	<b>10.68</b>	<b>11.03</b>	<b>10.56</b>	<b>10.51</b>	<b>10.60</b>	<b>11.07</b>	<i>10.72</i>	<i>10.66</i>	<i>10.73</i>	<i>11.14</i>	<i>10.79</i>	<b>10.68</b>	<i>10.74</i>	<i>10.84</i>
Industrial Sector .....	<b>6.64</b>	<b>6.89</b>	<b>7.27</b>	<b>6.79</b>	<b>6.79</b>	<b>6.87</b>	<b>7.35</b>	<i>6.96</i>	<i>6.85</i>	<i>6.99</i>	<i>7.44</i>	<i>7.03</i>	<b>6.91</b>	<i>7.00</i>	<i>7.09</i>

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

Prices are not adjusted for inflation.

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

(b) Generation supplied by CHP and electricity-only plants operated by businesses in the commercial and industrial sectors, primarily for onsite use.

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

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

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

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

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

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Residential Sector</b>															
New England .....	142	119	143	126	141	111	160	127	142	111	141	125	133	135	130
Middle Atlantic .....	368	307	403	327	394	323	453	329	393	313	408	321	351	375	359
E. N. Central .....	507	435	545	475	552	480	607	474	543	441	562	469	491	528	504
W. N. Central .....	298	246	303	261	327	274	320	266	317	245	314	268	277	297	286
S. Atlantic .....	891	891	1,131	889	1,040	920	1,182	918	1,047	875	1,135	904	951	1,015	990
E. S. Central .....	305	277	368	288	368	301	390	303	367	276	374	295	310	340	328
W. S. Central .....	501	536	760	516	608	581	799	534	598	545	783	537	579	631	616
Mountain .....	245	259	347	232	239	263	357	236	244	258	351	237	271	274	273
Pacific contiguous .....	439	346	447	381	411	339	451	388	418	339	422	387	404	397	391
AK and HI .....	14	12	12	13	14	12	12	13	14	12	12	13	13	13	13
Total .....	3,712	3,428	4,458	3,507	4,093	3,604	4,732	3,589	4,083	3,415	4,500	3,556	3,778	4,005	3,889
<b>Commercial Sector</b>															
New England .....	155	150	168	149	142	136	167	149	143	136	157	146	156	148	146
Middle Atlantic .....	423	404	462	412	431	411	477	410	429	406	456	407	425	433	424
E. N. Central .....	489	486	537	482	499	501	555	482	498	488	539	481	498	509	501
W. N. Central .....	272	270	302	269	282	282	306	269	282	274	306	271	278	285	283
S. Atlantic .....	785	853	941	807	811	862	957	809	808	850	938	806	847	860	851
E. S. Central .....	225	241	275	229	241	253	285	229	242	246	281	229	243	252	249
W. S. Central .....	471	522	598	501	498	542	622	515	510	542	633	526	523	545	553
Mountain .....	246	265	301	249	249	270	307	251	251	268	305	252	265	269	269
Pacific contiguous .....	431	431	480	438	423	426	484	438	422	427	472	438	445	443	440
AK and HI .....	16	16	16	16	16	15	16	16	16	15	16	16	16	16	16
Total .....	3,513	3,637	4,079	3,551	3,592	3,698	4,178	3,568	3,601	3,652	4,102	3,572	3,696	3,760	3,733
<b>Industrial Sector</b>															
New England .....	46	46	49	47	42	43	46	45	41	42	44	44	47	44	43
Middle Atlantic .....	192	194	204	195	196	194	206	196	199	197	209	198	196	198	201
E. N. Central .....	495	504	522	489	499	517	521	489	505	525	527	490	502	507	512
W. N. Central .....	228	240	253	235	232	242	255	239	240	250	264	245	239	242	250
S. Atlantic .....	362	386	390	372	366	388	391	369	366	387	390	365	377	379	377
E. S. Central .....	267	275	280	262	260	264	273	255	258	263	271	252	271	263	261
W. S. Central .....	480	503	511	484	466	497	515	494	480	512	530	505	495	493	507
Mountain .....	210	228	245	210	209	229	248	213	214	234	253	216	223	225	229
Pacific contiguous .....	211	230	253	220	213	231	257	221	214	233	259	222	229	230	232
AK and HI .....	13	14	14	13	13	13	14	13	13	13	14	13	14	13	13
Total .....	2,504	2,619	2,722	2,526	2,497	2,619	2,727	2,534	2,530	2,658	2,761	2,550	2,593	2,595	2,625
<b>Total All Sectors (a)</b>															
New England .....	345	317	362	323	327	292	375	323	328	291	344	317	337	329	320
Middle Atlantic .....	994	915	1,079	943	1,033	939	1,147	946	1,032	926	1,083	936	983	1,016	994
E. N. Central .....	1,493	1,427	1,605	1,447	1,552	1,500	1,685	1,446	1,548	1,455	1,629	1,442	1,493	1,546	1,519
W. N. Central .....	798	755	857	765	842	798	882	774	840	770	884	784	794	824	819
S. Atlantic .....	2,042	2,134	2,465	2,070	2,220	2,174	2,534	2,099	2,224	2,115	2,466	2,078	2,179	2,257	2,221
E. S. Central .....	797	793	924	779	870	818	948	788	866	785	926	776	823	856	838
W. S. Central .....	1,452	1,561	1,869	1,501	1,572	1,620	1,937	1,544	1,588	1,600	1,946	1,568	1,597	1,669	1,676
Mountain .....	701	752	893	691	697	762	912	700	709	761	910	706	760	768	772
Pacific contiguous .....	1,084	1,010	1,184	1,042	1,049	997	1,194	1,049	1,057	1,001	1,155	1,049	1,080	1,073	1,066
AK and HI .....	43	41	43	43	42	41	43	42	42	40	42	42	42	42	42
Total .....	9,750	9,704	11,280	9,605	10,205	9,941	11,656	9,710	10,235	9,745	11,384	9,698	10,088	10,380	10,267

- = no data available

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

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

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

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.**Historical data:** Latest data available from Energy Information Administration databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226; and *Electric Power Annual*, DOE/EIA-0348.

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

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

**Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour)**  
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Residential Sector</b>															
New England .....	18.57	18.92	18.97	19.28	20.42	20.59	19.62	20.11	21.27	21.55	21.07	21.08	18.93	20.14	21.23
Middle Atlantic .....	15.55	16.27	16.43	15.87	15.61	16.21	16.29	16.03	15.88	16.64	16.83	16.42	16.04	16.04	16.44
E. N. Central .....	12.90	13.58	13.28	13.19	12.94	13.48	13.34	13.56	13.43	14.15	13.92	14.00	13.23	13.32	13.86
W. N. Central .....	10.94	12.66	13.16	11.51	10.91	12.48	13.01	11.74	11.30	13.13	13.42	12.01	12.07	12.03	12.45
S. Atlantic .....	11.69	12.01	12.26	11.81	11.61	11.90	11.99	11.78	11.76	12.26	12.37	12.06	11.96	11.83	12.11
E. S. Central .....	11.08	11.44	11.32	11.20	10.86	11.40	11.12	11.23	11.25	12.09	11.48	11.45	11.26	11.14	11.54
W. S. Central .....	10.54	10.93	10.87	10.76	10.54	11.04	10.88	10.78	10.69	11.38	11.16	10.99	10.79	10.81	11.06
Mountain .....	11.28	12.16	12.31	11.82	11.57	12.25	12.35	12.02	11.83	12.57	12.68	12.31	11.94	12.09	12.38
Pacific .....	14.51	14.69	16.50	14.37	14.86	15.27	17.04	14.63	15.11	15.71	17.57	15.08	15.07	15.51	15.90
U.S. Average .....	12.59	12.99	13.19	12.75	12.57	13.02	13.20	12.89	12.88	13.55	13.59	13.23	12.90	12.93	13.31
<b>Commercial Sector</b>															
New England .....	14.64	14.65	15.30	15.20	16.56	15.92	15.67	15.58	16.32	15.29	15.35	15.27	14.95	15.91	15.55
Middle Atlantic .....	12.07	12.75	13.34	12.08	12.07	12.21	13.30	12.11	12.02	12.16	13.27	12.27	12.58	12.46	12.45
E. N. Central .....	10.02	10.24	10.05	9.99	10.10	10.15	10.22	10.17	10.32	10.43	10.41	10.30	10.08	10.16	10.37
W. N. Central .....	9.12	10.11	10.57	9.26	9.17	10.03	10.60	9.46	9.35	10.33	10.88	9.74	9.79	9.84	10.10
S. Atlantic .....	9.44	9.38	9.55	9.53	9.56	9.30	9.43	9.60	9.86	9.53	9.56	9.69	9.48	9.47	9.65
E. S. Central .....	10.58	10.56	10.62	10.57	10.51	10.48	10.43	10.70	10.56	10.80	10.54	10.75	10.58	10.53	10.66
W. S. Central .....	8.37	8.40	8.38	8.28	8.38	8.19	8.12	8.14	7.99	7.82	7.82	8.09	8.36	8.20	7.92
Mountain .....	9.14	9.92	10.04	9.49	9.25	9.87	9.98	9.64	9.25	9.90	10.03	9.72	9.67	9.71	9.74
Pacific .....	12.53	13.56	15.36	13.61	12.86	13.99	16.27	14.31	13.68	14.56	16.89	14.46	13.82	14.43	14.96
U.S. Average .....	10.39	10.68	11.03	10.56	10.51	10.60	11.07	10.72	10.66	10.73	11.14	10.79	10.68	10.74	10.84
<b>Industrial Sector</b>															
New England .....	12.38	12.19	12.55	12.37	13.49	12.60	12.75	12.61	13.95	12.90	12.94	12.72	12.37	12.85	13.11
Middle Atlantic .....	6.94	6.94	6.88	6.81	7.20	6.80	6.93	6.88	7.02	6.74	6.88	6.84	6.89	6.95	6.87
E. N. Central .....	7.03	7.05	7.04	6.96	7.08	6.96	7.09	7.11	7.13	7.06	7.15	7.16	7.02	7.06	7.12
W. N. Central .....	6.89	7.35	8.07	6.87	7.05	7.39	8.10	7.01	7.16	7.52	8.21	7.10	7.31	7.40	7.51
S. Atlantic .....	6.31	6.39	6.79	6.34	6.45	6.40	6.82	6.54	6.47	6.51	6.87	6.56	6.46	6.56	6.61
E. S. Central .....	5.90	5.96	6.18	5.89	5.74	5.91	6.06	6.01	5.86	6.10	6.17	6.09	5.98	5.93	6.06
W. S. Central .....	5.28	5.55	5.72	5.41	5.43	5.42	5.90	5.63	5.47	5.59	6.02	5.74	5.50	5.60	5.71
Mountain .....	6.08	6.54	7.12	6.13	6.10	6.48	7.00	6.14	6.22	6.64	7.18	6.30	6.50	6.46	6.61
Pacific .....	8.23	9.35	10.73	9.73	8.63	9.51	10.98	9.88	8.74	9.55	11.03	9.93	9.57	9.82	9.88
U.S. Average .....	6.64	6.89	7.27	6.79	6.79	6.87	7.35	6.96	6.85	6.99	7.44	7.03	6.91	7.00	7.09
<b>All Sectors (a)</b>															
New England .....	15.93	15.87	16.35	16.35	17.79	17.17	17.00	16.92	18.13	17.29	17.36	17.19	16.13	17.21	17.50
Middle Atlantic .....	12.35	12.68	13.26	12.29	12.48	12.46	13.33	12.38	12.51	12.50	13.36	12.53	12.67	12.69	12.75
E. N. Central .....	10.00	10.13	10.16	10.01	10.13	10.12	10.37	10.24	10.37	10.34	10.56	10.43	10.08	10.22	10.43
W. N. Central .....	9.15	10.06	10.75	9.29	9.26	10.07	10.75	9.49	9.46	10.31	10.99	9.69	9.84	9.91	10.13
S. Atlantic .....	9.86	9.93	10.35	9.93	10.00	9.88	10.22	10.01	10.19	10.10	10.43	10.17	10.04	10.04	10.23
E. S. Central .....	9.20	9.27	9.55	9.23	9.23	9.35	9.48	9.38	9.45	9.68	9.64	9.50	9.32	9.36	9.57
W. S. Central .....	8.10	8.35	8.67	8.21	8.34	8.36	8.67	8.25	8.25	8.32	8.67	8.32	8.35	8.42	8.41
Mountain .....	8.97	9.67	10.12	9.25	9.10	9.67	10.10	9.38	9.22	9.80	10.26	9.54	9.55	9.61	9.75
Pacific .....	12.48	12.98	14.79	13.06	12.78	13.38	15.40	13.48	13.24	13.77	15.81	13.72	13.38	13.83	14.18
U.S. Average .....	10.26	10.47	10.98	10.37	10.42	10.50	11.07	10.54	10.60	10.70	11.21	10.69	10.54	10.65	10.82

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Fuel Consumption for Electricity Generation, All Sectors</b>															
<b>United States</b>															
Coal (thousand st/d) .....	1,777	1,692	2,068	1,731	1,719	1,585	2,071	1,626	1,748	1,426	1,862	1,558	1,818	1,751	1,649
Natural Gas (million cf/d) .....	21,452	24,555	32,799	24,545	25,006	28,172	37,284	26,267	25,363	27,993	35,382	26,536	25,865	29,208	28,840
Petroleum (thousand b/d) .....	107	100	105	111	178	95	114	101	135	105	115	102	106	122	114
Residual Fuel Oil .....	26	27	28	33	51	27	28	25	39	26	29	26	29	33	30
Distillate Fuel Oil .....	28	24	23	32	71	26	25	27	34	25	24	27	27	37	28
Petroleum Coke (a) .....	49	45	48	42	47	39	57	45	56	51	58	45	46	47	53
Other Petroleum Liquids (b) ....	4	4	7	5	9	4	4	4	5	3	4	4	5	5	4
<b>Northeast Census Region</b>															
Coal (thousand st/d) .....	75	63	66	65	76	63	116	85	83	42	73	77	67	85	69
Natural Gas (million cf/d) .....	3,603	3,640	4,893	3,706	3,635	3,923	5,698	3,999	3,959	4,257	5,357	4,172	3,963	4,319	4,440
Petroleum (thousand b/d) .....	7	4	7	18	53	6	7	6	22	4	6	6	9	18	10
<b>South Census Region</b>															
Coal (thousand st/d) .....	715	761	902	705	659	671	848	625	666	599	773	602	771	701	660
Natural Gas (million cf/d) .....	12,471	15,401	19,033	14,045	14,832	17,387	21,443	15,019	14,593	16,927	20,599	15,089	15,252	17,183	16,814
Petroleum (thousand b/d) .....	47	42	43	40	70	39	49	42	56	46	51	42	43	50	49
<b>Midwest Census Region</b>															
Coal (thousand st/d) .....	717	655	787	688	745	656	807	649	706	601	752	621	712	714	670
Natural Gas (million cf/d) .....	2,186	2,134	3,249	2,676	2,915	3,251	3,928	2,924	3,161	3,048	3,889	3,122	2,564	3,256	3,306
Petroleum (thousand b/d) .....	15	16	16	16	19	15	19	17	20	19	21	17	16	17	19
<b>West Census Region</b>															
Coal (thousand st/d) .....	269	213	313	273	240	196	300	267	292	184	263	258	267	251	249
Natural Gas (million cf/d) .....	3,192	3,378	5,624	4,117	3,625	3,611	6,214	4,325	3,650	3,762	5,538	4,152	4,085	4,450	4,280
Petroleum (thousand b/d) .....	39	37	39	37	36	36	39	37	37	36	37	36	38	37	37
<b>End-of-period U.S. Fuel Inventories Held by Electric Power Sector</b>															
Coal (million short tons) .....	161.7	157.7	139.3	137.2	126.4	121.5	101.7	109.8	109.0	107.1	103.1	111.5	137.2	109.8	111.5
Residual Fuel Oil (mmb) .....	12.5	11.9	11.4	11.0	10.3	10.0	10.2	10.9	10.9	10.9	10.9	11.5	11.0	10.9	11.5
Distillate Fuel Oil (mmb) .....	17.0	16.6	16.4	15.8	15.0	14.8	15.0	15.5	15.7	15.6	15.6	16.0	15.8	15.5	16.0
Petroleum Coke (mmb) .....	4.3	4.3	4.9	5.6	5.3	5.1	5.6	5.5	5.4	5.3	5.2	5.1	5.6	5.5	5.1

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

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

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

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

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

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

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



**Table 8b. U.S. Renewable Electricity Generation and Capacity**  
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2018

	2017				2018				2019				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
<b>Renewable Energy Electric Generating Capacity (megawatts, end of period)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	7,233	7,269	7,326	7,313	7,254	7,227	7,223	7,257	7,420	7,413	7,413	7,407	7,313	7,257	7,407
Waste .....	4,202	4,238	4,241	4,234	4,212	4,184	4,180	4,215	4,219	4,212	4,212	4,206	4,234	4,215	4,206
Wood .....	3,031	3,031	3,085	3,079	3,042	3,042	3,042	3,042	3,201	3,201	3,201	3,201	3,079	3,042	3,201
Conventional Hydroelectric .....	79,336	79,343	79,437	79,432	79,447	79,415	79,415	79,559	79,593	79,624	79,584	79,628	79,432	79,559	79,628
Geothermal .....	2,449	2,449	2,449	2,486	2,499	2,499	2,499	2,499	2,507	2,507	2,507	2,542	2,486	2,499	2,542
Large-Scale Solar (b) .....	22,591	23,624	24,134	26,432	27,940	28,770	29,360	32,252	32,770	33,181	33,474	35,782	26,432	32,252	35,782
Wind .....	82,919	83,378	84,109	87,488	88,537	88,661	89,633	95,661	96,418	97,590	98,834	106,641	87,488	95,661	106,641
<b>Other Sectors (c)</b>															
Biomass .....	6,686	6,690	6,688	6,657	6,655	6,620	6,620	6,629	6,629	6,604	6,606	6,620	6,657	6,629	6,620
Waste .....	881	885	883	872	872	872	872	872	872	872	874	888	872	872	888
Wood .....	5,805	5,805	5,805	5,785	5,783	5,747	5,747	5,757	5,757	5,732	5,732	5,732	5,785	5,757	5,732
Conventional Hydroelectric .....	357	357	357	357	357	357	357	364	364	364	364	364	357	364	364
Large-Scale Solar (b) .....	322	340	340	349	355	362	364	363	365	364	364	364	349	363	364
Small-Scale Solar (d) .....	13,639	14,481	15,299	16,224	16,972	17,960	18,935	19,893	20,901	21,941	23,022	24,146	16,224	19,893	24,146
Residential Sector .....	8,167	8,667	9,159	9,670	10,170	10,720	11,277	11,865	12,485	13,118	13,773	14,449	9,670	11,865	14,449
Commercial Sector .....	4,174	4,453	4,710	5,130	5,290	5,791	6,080	6,382	6,700	7,034	7,386	7,756	5,130	6,382	7,756
Industrial Sector .....	1,298	1,361	1,430	1,425	1,512	1,448	1,578	1,646	1,716	1,788	1,863	1,940	1,425	1,646	1,940
Wind .....	94	93	93	97	103	100	107	107	107	107	107	107	97	107	107
<b>Renewable Electricity Generation (thousand megawatthours per day)</b>															
<b>Electric Power Sector (a)</b>															
Biomass .....	90	86	90	90	92	84	89	87	88	87	96	90	89	88	90
Waste .....	49	47	47	47	49	47	47	48	48	49	50	49	48	48	49
Wood .....	41	39	43	43	43	37	42	39	40	39	46	41	41	40	41
Conventional Hydroelectric .....	913	1,005	713	643	850	933	655	607	738	866	735	640	818	760	744
Geothermal .....	45	43	44	43	45	43	45	46	46	45	45	46	44	45	45
Large-Scale Solar (b) .....	100	182	173	118	136	228	215	150	157	244	239	167	143	182	202
Wind .....	767	748	501	770	866	819	533	783	839	854	607	872	696	749	793
<b>Other Sectors (c)</b>															
Biomass .....	87	84	88	86	88	87	88	86	88	87	88	86	86	87	87
Waste .....	78	75	79	77	79	78	79	77	79	78	79	77	77	78	78
Wood .....	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Conventional Hydroelectric .....	5	5	4	4	5	5	4	4	5	5	4	4	5	4	4
Large-Scale Solar (b) .....	1	2	2	1	1	3	3	2	3	3	3	3	2	2	3
Small-Scale Solar (d) .....	51	78	79	55	65	97	98	69	80	119	120	85	66	82	101
Residential Sector .....	29	46	46	32	37	57	57	40	46	70	71	50	38	48	59
Commercial Sector .....	17	24	25	17	21	31	32	22	26	38	39	27	21	27	33
Industrial Sector .....	5	8	8	6	6	9	9	7	7	11	11	8	7	8	9
Wind .....	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1

-- = no data available

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

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

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

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

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

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

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

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









## Appendix to the October 2018 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**

	August 2018	September 2018	August-September 2018 Average	August-September 2017 Average	2015 – 2017 Average
<b>Global Petroleum and Other Liquids (million barrels per day)</b>					
Global Petroleum and Other Liquids Production (a)	100.2	101.3	100.8	97.9	97.1
Global Petroleum and Other Liquids Consumption (b)	100.5	100.7	100.6	99.3	97.0
Biofuels Production (c)	3.0	3.0	3.0	2.9	2.3
Biofuels Consumption (c)	2.4	2.4	2.4	2.4	2.3
Iran Liquid Fuels Production	4.4	4.4	4.4	4.7	4.2
Iran Liquid Fuels Consumption	1.7	1.7	1.7	1.7	1.8
<b>Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)</b>					
Production (d)	92.8	94.0	93.4	90.4	90.6
Consumption (d)	96.4	96.6	96.5	95.2	92.9
Production minus Consumption	-3.6	-2.6	-3.1	-4.8	-2.3
World Inventory Net Withdrawals Including Iran	0.3	-0.7	-0.2	1.4	-0.1
Estimated OECD Inventory Level (e) (million barrels)	2,812	2,831	2,822	2,980	2,968
OPEC Surplus Crude Oil Production Capacity (f)	1.4	1.3	1.4	1.9	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	August 2018	September 2018	August-September 2018 Average	August-September 2017 Average	2015 – 2017 Average
Brent Front Month Futures Price (\$ per barrel)	73.84	79.11	76.22	53.56	51.16
WTI Front Month Futures Price (\$ per barrel)	67.85	70.08	68.86	48.91	47.69
Dubai Front Month Futures Price (\$ per barrel)	72.67	78.75	75.42	52.15	48.82
Brent 1st - 13th Month Futures Spread (\$ per barrel)	1.61	3.76	2.58	0.04	-3.90
WTI 1st - 13th Month Futures Spread (\$ per barrel)	3.98	2.95	3.51	-1.18	-4.26
RBOB Front Month Futures Price (\$ per gallon)	2.05	2.01	2.04	1.66	1.55
Heating Oil Front Month Futures Price (\$ per gallon)	2.15	2.25	2.20	1.71	1.56
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.30	0.13	0.22	0.39	0.34
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.40	0.37	0.38	0.43	0.34

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

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

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

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