



Short-Term Energy Outlook (STEO)

Forecast highlights

Winter Fuels Outlook

- EIA forecasts that average household expenditures for all major home heating fuels will rise this winter because of expected colder weather and higher energy costs. Average increases vary by fuel, with natural gas expenditures forecast to rise by 12%, home heating oil by 17%, electricity by 8%, and propane by 18%. Most of the increase reflects expected colder weather rather than higher energy costs. A warmer-than-forecast winter would see lower increases in expenditures, and a colder-than-forecast winter would see higher increases in expenditures ([Winter Fuels Outlook](#)).

Global liquid fuels

- North Sea Brent crude oil spot prices averaged \$56 per barrel (b) in September, an increase of \$4/b from the average in August. EIA forecasts Brent spot prices to average \$52/b in 2017 and \$54/b in 2018, which is \$1/b higher in 2017 and \$2/b higher in 2018 compared with last month's forecast. West Texas Intermediate (WTI) average crude oil prices are forecast to be \$3.50/b lower than Brent prices in 2018. NYMEX contract values for January 2018 delivery that traded during the five-day period ending October 5 suggest that a range of \$40/b to \$65/b encompasses the market expectation for January WTI prices at the 95% confidence level.
- After reaching a two-year high of \$2.69 per gallon (gal) on September 11, U.S. regular gasoline retail prices fell to an average of \$2.57/gal as of October 2, as U.S. refinery capacity and gasoline production gradually came back online following [Hurricane Harvey](#). EIA forecasts the U.S. regular gasoline retail price will average \$2.49/gal in October and fall to an average of \$2.33/gal in December.
- U.S. crude oil production is estimated to have averaged 9.3 million barrels per day (b/d) in September, an increase of about 250,000 b/d from the August average. Crude oil production in the Gulf of Mexico is estimated to have increased to a monthly average of 1.7 million b/d in September, following Hurricane Harvey, an increase of 70,000 b/d from the August level. EIA forecasts total U.S. crude oil production to average 9.2 million b/d in 2017 and 9.9 million b/d in 2018, which would mark the highest annual average production in U.S. history, surpassing the previous record of 9.6 million b/d in 1970.

Natural gas

- U.S. dry natural gas production is forecast to average 73.6 billion cubic feet per day (Bcf/d) in 2017, a 0.8 Bcf/d increase from the 2016 level. Natural gas production in 2018 is forecast to be 4.9 Bcf/d higher than the 2017 level.
- In September, the average Henry Hub natural gas spot price was \$2.98 per million British thermal units (MMBtu), up 8 cents/MMBtu from the August level. Expected growth in natural gas exports and domestic natural gas consumption in 2018 contribute to the forecast Henry Hub natural gas spot price rising from an annual average of \$3.03/MMBtu in 2017 to \$3.19/MMBtu in 2018. NYMEX contract values for January 2018 delivery that traded during the five-day period ending October 5 suggest that a range of \$2.28/MMBtu to \$4.63/MMBtu encompasses the market expectation for January Henry Hub natural gas prices at the 95% confidence level.

Electricity, coal, renewables, and emissions

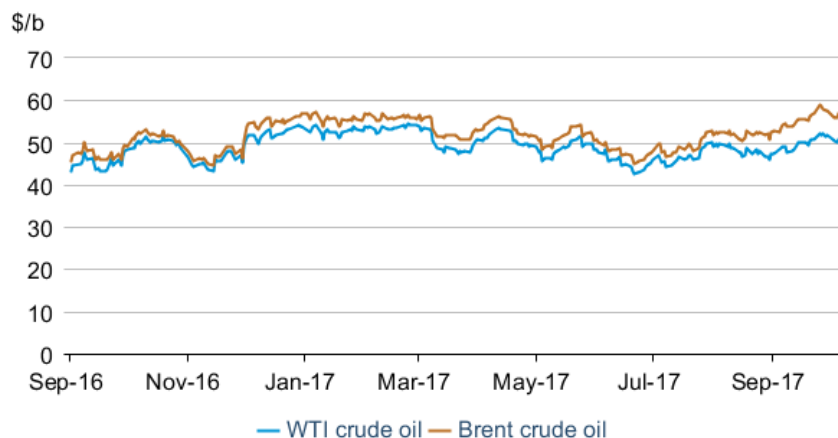
- EIA expects the share of U.S. total utility-scale electricity generation from natural gas to fall from 34% in 2016 to about 31% in 2017 as a result of higher natural gas prices and increased electricity generation from renewables and coal. In 2018, natural gas's generation share is expected to rise to 32%. Coal's forecast generation share rises from 30% last year to 31% in 2017 and is expected to stay at that level in 2018.
- U.S. coal production for September 2017 was an estimated 66 million short tons (MMst), up 1 MMst (1%) from September 2016. Coal production for the first nine months of 2017 was 591 MMst, 62 MMst (12%) higher than in the same period in 2016. Coal production is expected to increase by 8% in 2017 and by less than 1% in 2018.
- Coal exports for the first seven months of 2017 totaled 51 MMst, which was 62% higher than in the same period of 2016. EIA expects growth in coal exports to slow, with exports for all of 2017 forecast at 75 MMst, 15 MMst (24%) higher than the 2016 level.
- [U.S. wind electricity generating capacity](#) at the end of 2016 was 82 gigawatts (GW). EIA expects wind capacity additions to bring total wind capacity to 88 GW by the end of 2017 and to 96 GW by the end of 2018.
- Total U.S. utility-scale solar electricity generating capacity at the end of 2016 was 22 GW. EIA expects solar capacity additions to bring total utility-scale solar capacity to 27 GW by the end of 2017 and to more than 30 GW by the end of 2018. Generation from small-scale solar (installations less than 1 megawatt) is expected to increase by 28% in 2017 and by 23% in 2018.
- After declining by 1.7% in 2016, U.S. energy-related carbon dioxide (CO₂) emissions are projected to decrease by 0.6% in 2017 and then to increase by 2.2% in 2018. Energy-related CO₂ emissions are affected by changes in weather, economic growth, and energy prices.

Petroleum and natural gas markets review

Crude oil

Prices: The Brent crude oil front-month futures price increased by \$4.25 per barrel (b) from September 1 to settle at \$57.00/b on October 5, 2017. West Texas Intermediate (WTI) crude oil prices increased by \$3.50/b during the same period, settling at \$50.79/b (**Figure 1**). September Brent and WTI monthly average spot prices were \$4.45/b and \$1.71/b higher, respectively, than the August average spot prices.

Figure 1. Crude oil front-month futures prices



The oil industry on the U.S. Gulf Coast began to resume normal operations throughout September after [refineries and ports were shut down in late August](#) because of Hurricane Harvey. [U.S. Gulf Coast refinery utilization](#) reached 86% for the week ending September 29, 10 percentage points below the week ending August 25, but only 5 percentage points below five-year average utilization for this time of year. [Hurricane Irma](#), which made landfall in Florida on September 10, did not significantly affect U.S. crude oil supply or refining operations, but because of increased evacuation-related demand, tanker truck limitations, and power outages, many retail gasoline stations were out of service.

Higher crude oil prices over the past month reflect declining global oil inventories, increasing expectations for global economic and oil demand growth, and geopolitical events. EIA estimates that global oil inventories fell by 0.5 million barrels per day (b/d) in the third quarter of 2017. This draw marked the third consecutive quarterly draw, the longest such stretch since 2013–14.

Falling production from the Organization of the Petroleum Exporting Countries (OPEC) has contributed to global oil inventory withdrawals in 2017. EIA estimates that OPEC crude oil production averaged 32.9 million b/d in the third quarter of 2017, down from an average of 33.4 million b/d in November 2016 (before the group's [voluntary production reductions](#)). Libya, which is exempt from any production reductions, increased crude oil output in September, but a

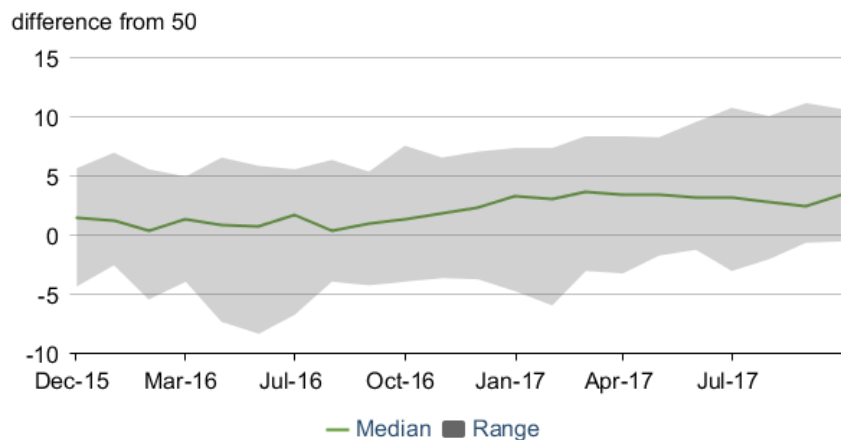
shutdown at one of its largest oil fields at the beginning of October presents uncertainty about the country’s longer-term production potential. Total OPEC crude oil production in the fourth quarter of 2017 is forecast to decline from the third quarter, averaging 32.7 million b/d.

Although unplanned OPEC supply outages remain low, crude oil prices may have increased based on a referendum in the Kurdistan Region of Iraq on September 25, where the majority of people voted for independence. Turkey sided with Iraq’s central government in opposing the vote. Turkey threatened to disrupt pipeline flows of approximately 0.5 million b/d of crude oil produced in the Kurdistan Region that is exported from the Turkish port of Ceyhan.

Economic conditions appear to be strengthening globally, which could contribute to oil demand growth in 2018. Manufacturing Purchasing Managers’ Indexes (PMI) in many countries continued to indicate expanding activity in September. The PMI is a leading indicator of economic activity, surveying purchasing managers in manufacturing businesses on expectations of output, new orders, employment, and other measures. An index level above 50 indicates expansion in manufacturing activity. Among these 27 countries’ manufacturing PMI surveys in September—10 of which are from outside the Organization for Economic Cooperation and Development (OECD)—25 countries had readings greater than 50, with the median at 53 (**Figure 2**). A total of 9 countries had survey readings greater than or equal to 55, and 2 had readings at 60 or higher.

Continued expansion of business activity in these countries could raise expectations for global gross domestic product (GDP) growth in the fourth quarter of 2017 and indicate higher consumption of crude oil and petroleum products. Expanding manufacturing and economic activity is a particularly important source of growth in distillate fuel consumption. EIA forecasts global liquid fuels consumption to grow by 1.6 million b/d in 2018 and to be more than 100 million b/d consistently by the middle of 2018.

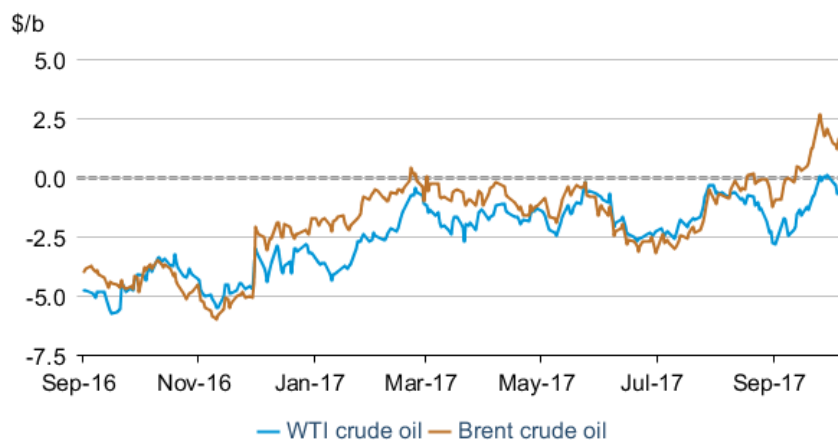
Figure 2. Median and range Purchasing Managers' Indexes for 27 countries



eia IHS Markit, Bloomberg, L.P.

Increases in front-month prices compared with longer-dated futures contracts typically reflect an increased need for oil inventories to meet demand. The Brent 1st–13th month futures price spread reached the highest level in more than three years in late September, closing at \$1.63/b on October 5 (**Figure 3**). OECD total liquid fuel inventories declined from 2.997 billion barrels (8% higher than the five-year average) at the end of the second quarter of 2017 to 2.982 billion barrels (6% above the five-year average) at the end of the third quarter of 2017. Weekly crude oil inventories at the Amsterdam, Rotterdam, and Antwerp (ARA) hub in Europe fell 3.8 million barrels from the end of August to the end of September. In addition, total U.S. inventories of crude oil and petroleum products declined by 44.4 million barrels from the last week of June to the last week of September. During the past five years, inventories have typically increased by 10.9 million barrels over that period. Outside the OECD, trade press reports that crude oil inventories at Saldanha Bay, South Africa, were sold in recent weeks. The Saldanha Bay crude oil storage center can hold approximately 45 million barrels and is a key location for crude oil trade to East Asia and the Atlantic Basin.

Figure 3. Crude oil front-month - 13th month futures price spread



eia Bloomberg L.P.

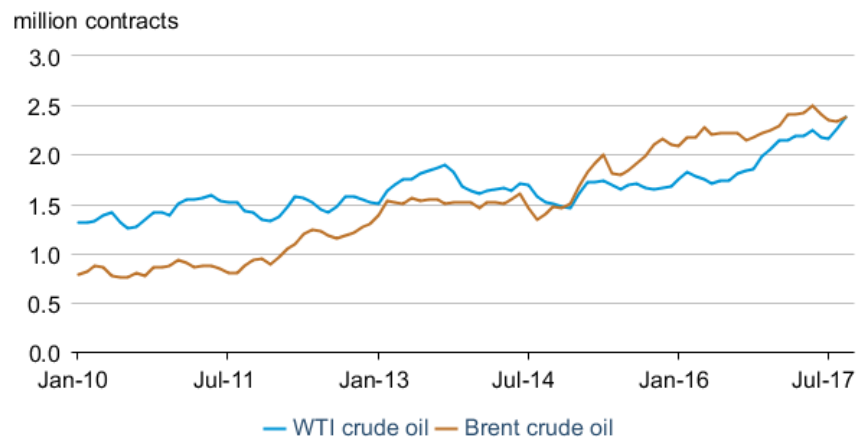
The shape of the Brent futures curve remains steeper than that of the WTI futures curve, as the WTI 1st–13th spread settled at -66 cents/b on October 5. The difference stems partly from the disruptive effects of Hurricane Harvey on the U.S. refining system, which contributed to a build in crude oil inventories in Cushing, Oklahoma, the physical delivery point for the WTI futures contract. However, part of the price difference between Brent and WTI partly reflects the expectations of increasing U.S. liquid fuels production in 2018.

The Brent-WTI spot price spread averaged \$6.40/b in September. Although EIA expects the hurricane-related increase in the spread to subside, EIA forecasts the Brent-WTI spot price spread to average \$3.50/b in 2018, which is higher than the first half of 2017 average of \$1.69/b. The wider spread allows for increasing [crude oil exports](#) to more varied and distant locations amid rising U.S. production. Asia, in particular, has become a growing destination for U.S. crude oil exports.

Brent and WTI open interest: Trading activity in Brent and WTI futures contracts as measured by [open interest](#), or the number of futures contracts opened but not settled, reached new highs in 2017. Brent average daily open interest reached an all-time high of 2.5 million contracts in May, whereas WTI reached an all-time high of 2.4 million contracts in September (**Figure 4**). All classifications of traders, as defined by the [U.S. Commodity Futures Trading Commission](#), increased their open interest during the past several years.

WTI open interest overtook Brent in September. A contributing factor could be increased [hedging](#) among U.S. crude oil producers. Open interest in short positions (which locks in prices for a producer’s future production) among swap dealers (entities that hedge futures on behalf of oil companies) neared its all-time high for the week ending September 26 at 0.53 million contracts.

Figure 4. Average daily open interest in Brent and WTI futures contracts



 U.S. Energy Information Administration, Bloomberg L.P.

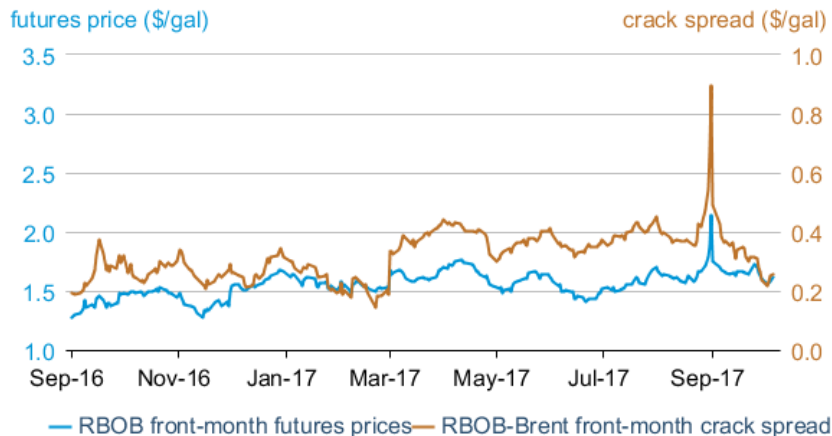
Petroleum products

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) declined by 14 cents per gallon (gal) from September 1 to settle at \$1.61/gal on October 5 (**Figure 5**). The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) declined by 24 cents/gal over the same period, settling at 25 cents/gal. EIA compares RBOB prices to Brent prices because [EIA research indicates U.S. gasoline prices usually move with Brent prices](#), the international crude oil benchmark.

As the effects from Hurricane Harvey on gasoline production and transportation began to subside in September, gasoline prices and crack spreads declined. Only one refinery on the U.S. Gulf Coast [remained offline](#) as of October 4. No refineries were affected by Hurricane Irma, but because of increased evacuation-related demand, tanker truck limitations, and power outages, many retail gasoline stations were out of service. Following the hurricanes, the RBOB-Brent crack spread returned to seasonally lower levels, which typically occurs because winter-grade

gasoline is cheaper for refineries to produce. Both U.S. consumption and exports of gasoline in the four weeks ending September 29 were close to their respective levels in September 2016, according to the *Petroleum Supply Monthly* (PSM).

Figure 5. Historical RBOB futures prices and crack spread



 Bloomberg L.P., RBOB=reformulated blendstock for oxygenate blending

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) futures price increased by 4 cents/gal from September 1 to settle at \$1.79/gal on October 5. On September 25, ULSD prices rose to the highest point since mid-2015. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) declined by 6 cents/gal over the same period and settled at 43 cents/gal (**Figure 6**).

Despite the decline in the ULSD crack spread, which reflected a return to more normal petroleum market operations following Hurricane Harvey, the average ULSD crack spread in September was 47 cents/gal, the highest for that month since 2008. According to the PSM, U.S. [distillate exports](#) set their third consecutive monthly record in July at 1.7 million b/d and U.S. distillate consumption in 2017 has generally remained close to or higher than 2016 levels. Increased consumption and exports of distillate indicates increased global economic growth, because distillate is primarily used to [power large trucks and rail](#) and is also used in industrial applications. Broad-based expansion in manufacturing PMIs in most countries, along with [increased world trade momentum](#), is likely contributing to increased distillate demand.

Figure 6. Historical ULSD futures price and crack spread

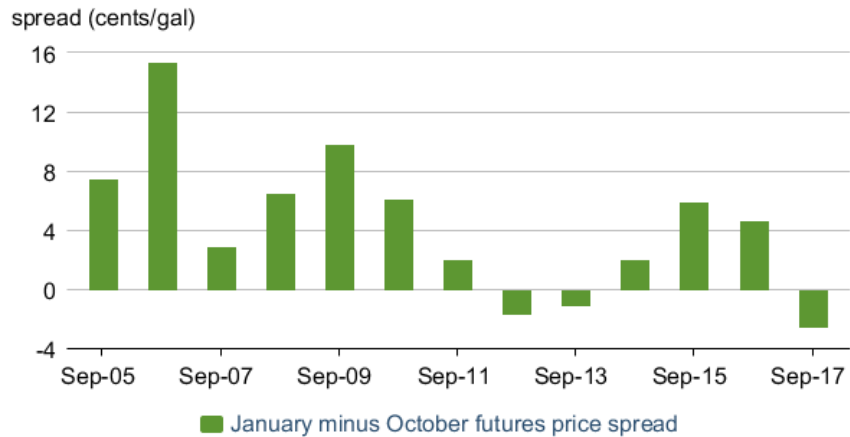


eia Bloomberg L.P., ULSD=ultra-low sulfur diesel

ULSD prices typically rise during the winter months, when demand for home heating is highest. From 2005 to 2016, distillate futures prices during September for October delivery were on average 5 cents/gal lower than distillate prices during September for delivery the following January. However, in September 2017, ULSD prices for January delivery were trading lower than those for October delivery because of a backwardated ULSD futures curve (where near-term contract prices are higher than farther-dated ones) and the [gradual reduction of seasonality](#) in the U.S. distillate market. In September 2017, the January 2018 ULSD contract was 3 cents/gal lower on average than the October 2017 ULSD contract (**Figure 7**), the largest deficit since at least 2000.

Distillate stocks in the United States, ARA, and Singapore (whose data combine distillate and jet fuel) were all lower than their respective five-year averages during the last week of September. As noted in EIA's [2017 Winter Fuels Outlook](#), temperatures this winter are expected to be colder than last winter, which was warmer than average. The U.S. East Coast, the region of the United States with the most households using heating oil for heating purposes, is expected to be colder than last winter; however, temperatures are forecasted to be near the five-year average. EIA projects U.S. distillate consumption to be 3% higher than last winter, but higher refinery runs this winter are expected to help moderate ULSD prices.

Figure 7. Average price spread of ULSD futures

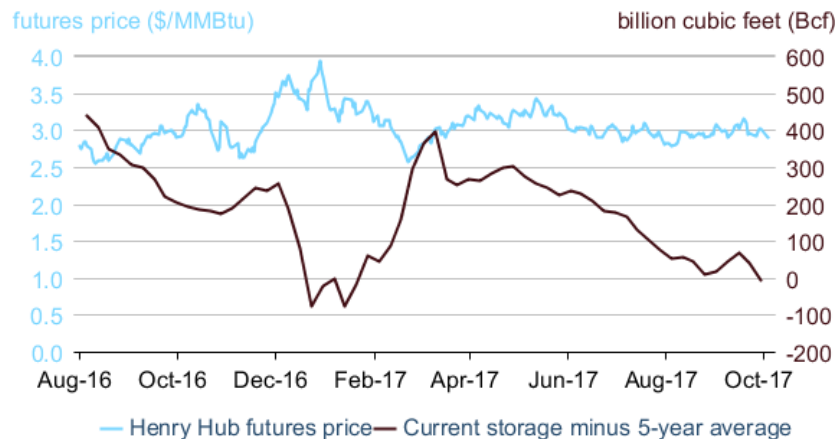


eia U.S. Energy Information Administration, Bloomberg L.P.

Natural Gas

Prices and storage: The front month futures price of natural gas for delivery at Henry Hub settled at \$2.92 per million British thermal units (MMBtu) on October 5, a decrease of 15 cents/MMBtu from September 1 (**Figure 8**). Futures prices declined in early September, largely because of reduced demand related to [Hurricane Irma in Florida](#). Most electricity generation in Florida is natural gas-fired, and electricity generation in Florida on September 11 was 41% lower than the average of the first seven days of September. Injections of working natural gas into underground storage exceeded market expectations and historical averages for the first three weeks in September, which further contributed to lower prices. The Henry Hub natural gas spot price averaged \$2.98/MMBtu in September, 8 cents/MMBtu higher than in August.

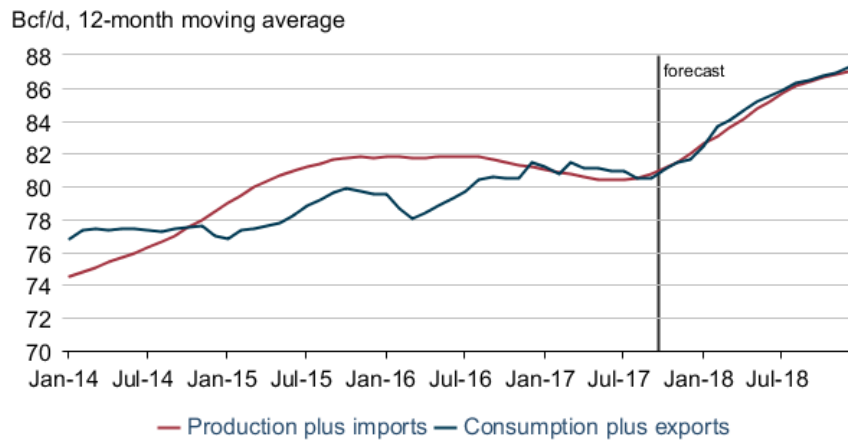
Figure 8. U.S. natural gas prices and storage



eia U.S. Energy Information Administration, Bloomberg L.P.

As rising natural gas production keeps pace with increasing consumption and demand for exports—particularly for liquefied natural gas (LNG)—EIA projects a balanced market from the last quarter of 2017 through 2018 (**Figure 9**). LNG export capacity is expected to increase, with LNG exports projected to exceed 3 billion cubic feet per day (Bcf/d) in 2018, 66% higher than in 2017. In addition, increased takeaway capacity out of the [Marcellus/Utica shale plays](#) as a result of several new projects (such as the Rover and Nexus Gas Transmission pipelines) will help increase production. EIA forecasts a year-over-year increase in dry natural gas production of 4.9 Bcf/d in 2018 to a record of 78.5 Bcf/d.

Figure 9. Natural gas production plus imports and consumption plus exports



 U.S. Energy Information Administration

Notable forecast changes

- EIA forecasts the Brent crude oil spot price will average \$54/b in 2018 and the WTI spot price will average \$3.50/b less than the Brent price. In the previous STEO, EIA had forecast that the WTI price would be \$2.00/b less than the Brent price in 2018. The wider spread allows for increasing [crude oil exports](#) to more varied and distant locations amid rising U.S. production. Asia, in particular, has become a growing destination for U.S. crude oil exports.
- For more information, see the [detailed STEO table of forecast changes](#).

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

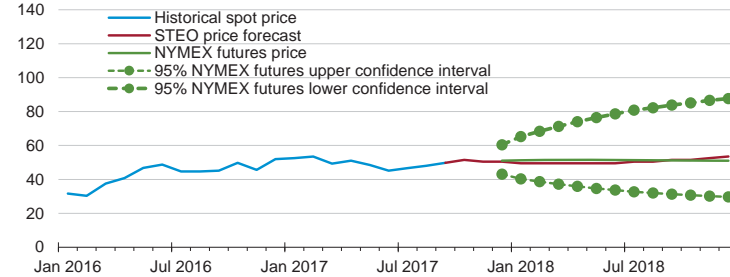


Short-Term Energy Outlook

Chart Gallery for October 2017

West Texas Intermediate (WTI) crude oil price

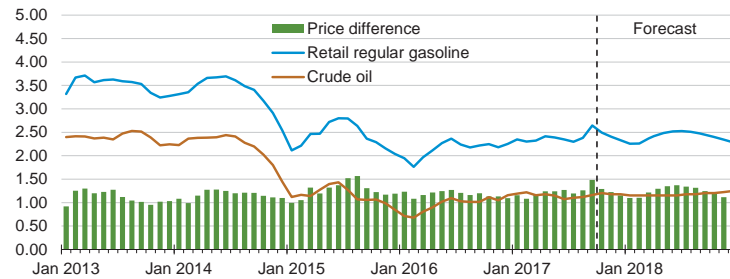
dollars per barrel



Note: Confidence interval derived from options market information for the 5 trading days ending Oct 5, 2017. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Source: Short-Term Energy Outlook, October 2017, and CME Group.

U.S. gasoline and crude oil prices

dollars per gallon

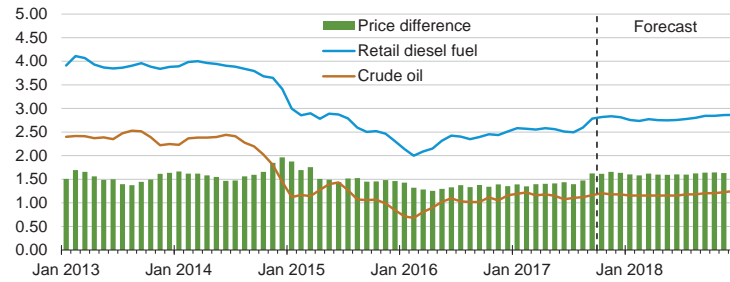


Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.

Source: Short-Term Energy Outlook, October 2017.

U.S. diesel fuel and crude oil prices

dollars per gallon

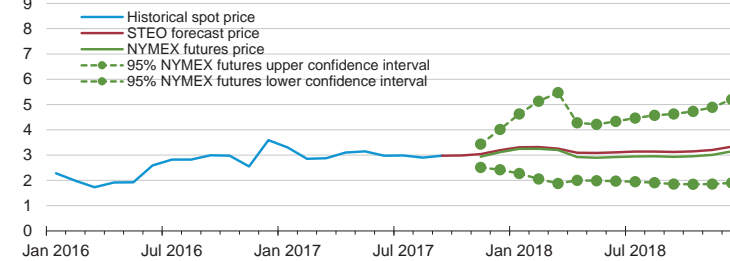


Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.

Source: Short-Term Energy Outlook, October 2017.

Henry Hub natural gas price

dollars per million Btu

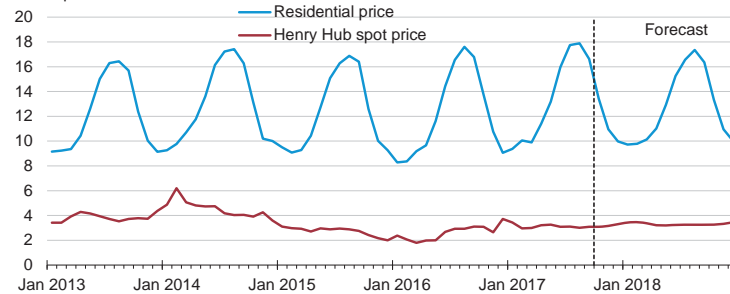


Note: Confidence interval derived from options market information for the 5 trading days ending Oct 5, 2017. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, October 2017, and CME Group.

U.S. natural gas prices

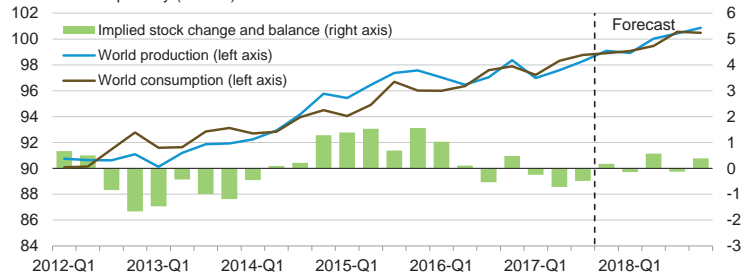
dollars per thousand cubic feet



Source: Short-Term Energy Outlook, October 2017.

World liquid fuels production and consumption balance

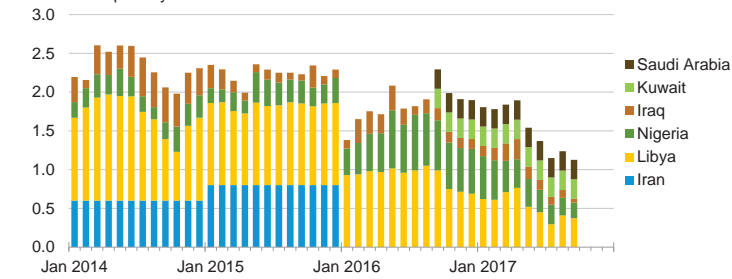
million barrels per day (MMb/d)



Source: Short-Term Energy Outlook, October 2017.

Estimated historical unplanned OPEC crude oil production outages

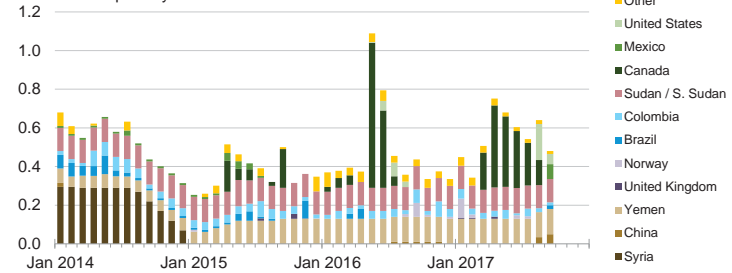
million barrels per day



Source: Short-Term Energy Outlook, October 2017.

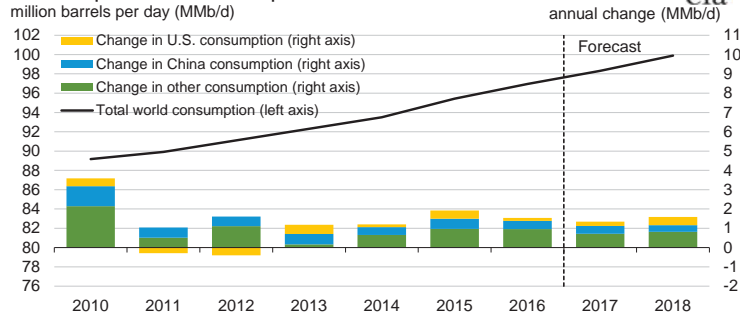
Estimated historical unplanned non-OPEC liquid fuels production outages

million barrels per day



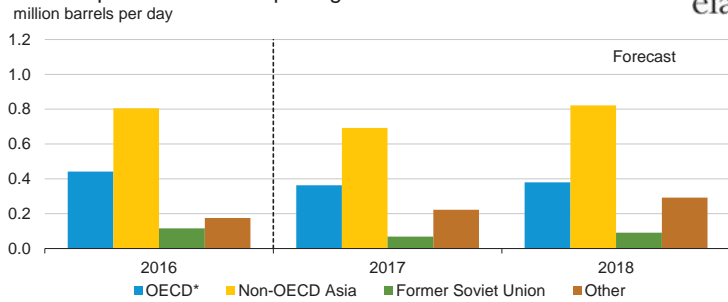
Source: Short-Term Energy Outlook, October 2017.

World liquid fuels consumption



Source: Short-Term Energy Outlook, October 2017.

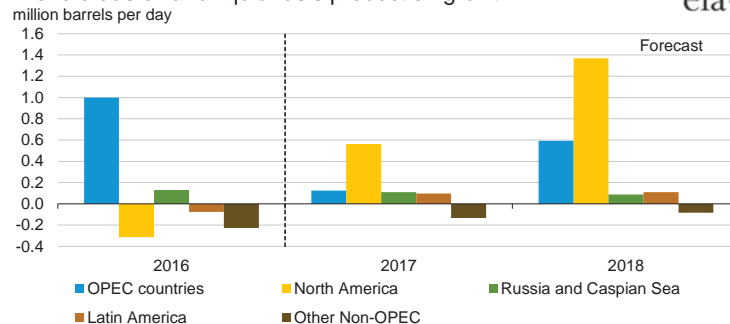
World liquid fuels consumption growth



* Countries belonging to the Organization for Economic Cooperation and Development

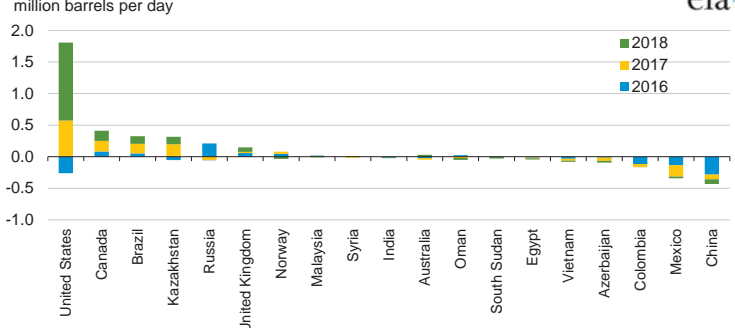
Source: Short-Term Energy Outlook, October 2017.

World crude oil and liquid fuels production growth



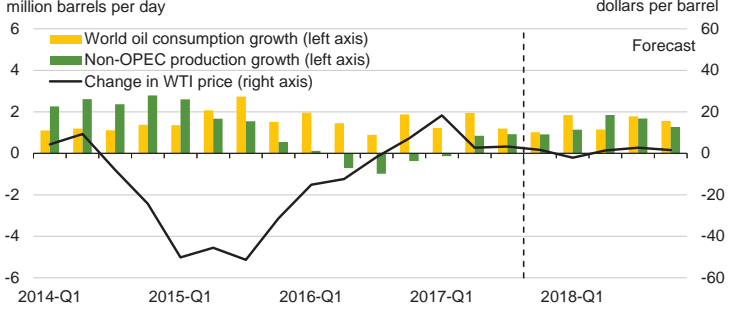
Source: Short-Term Energy Outlook, October 2017.

Non-OPEC crude oil and liquid fuels production growth



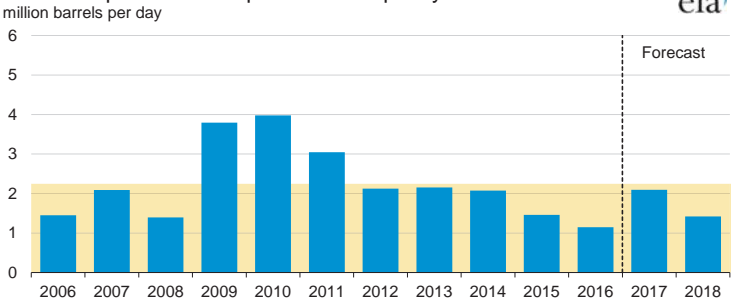
Source: Short-Term Energy Outlook, October 2017.

World consumption and non-OPEC production growth



Source: Short-Term Energy Outlook, October 2017.

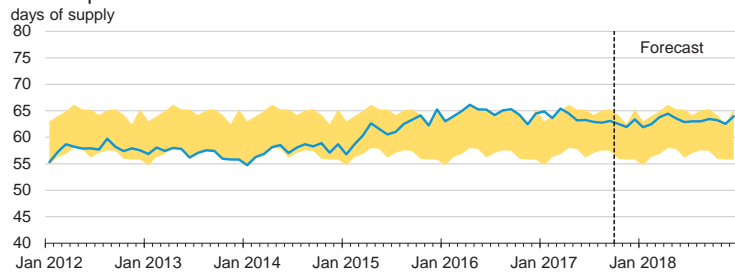
OPEC surplus crude oil production capacity



Note: Shaded area represents 2006-2016 average (2.2 million barrels per day).

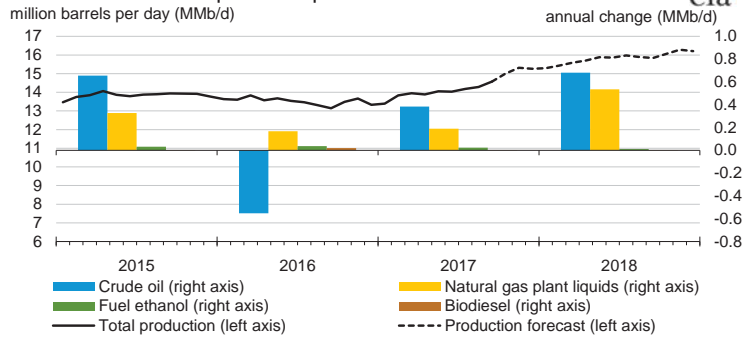
Source: Short-Term Energy Outlook, October 2017.

OECD commercial stocks of crude oil and other liquids



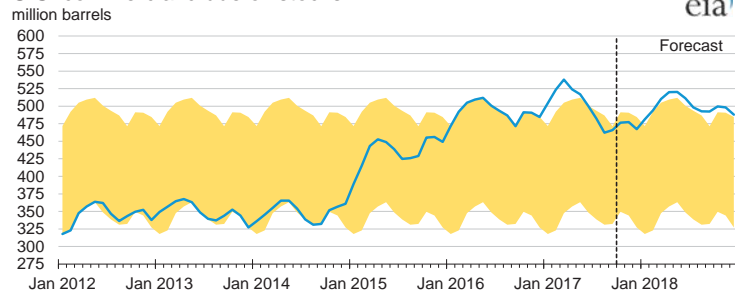
Note: Colored band around days of supply of crude oil and other liquids stocks represents the range between the minimum and maximum from Jan. 2012 - Dec. 2016.
Source: Short-Term Energy Outlook, October 2017.

U.S. crude oil and liquid fuels production



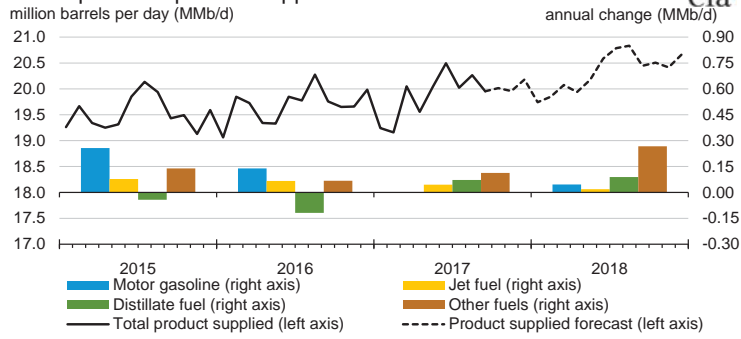
Source: Short-Term Energy Outlook, October 2017.

U.S. commercial crude oil stocks



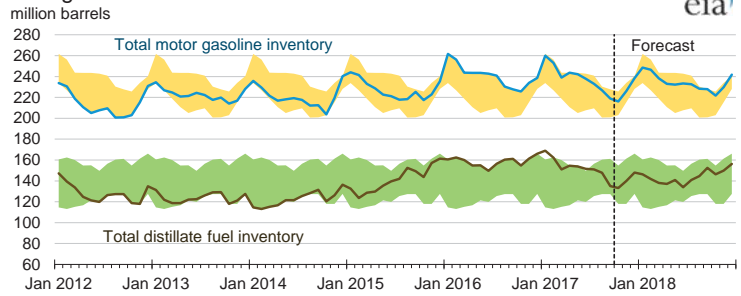
Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2012 - Dec. 2016.
Source: Short-Term Energy Outlook, October 2017.

U.S. liquid fuels product supplied



Source: Short-Term Energy Outlook, October 2017.

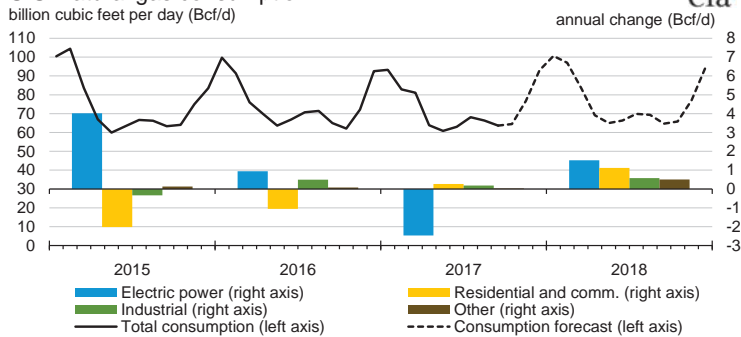
U.S. gasoline and distillate inventories



Note: Colored bands around storage levels represent the range between the minimum and maximum from Jan. 2012 - Dec. 2016.

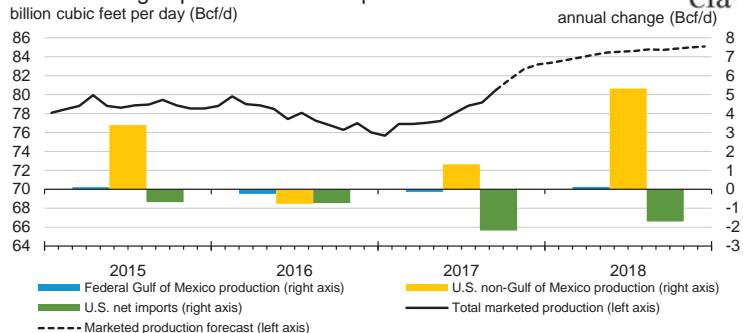
Source: Short-Term Energy Outlook, October 2017.

U.S. natural gas consumption



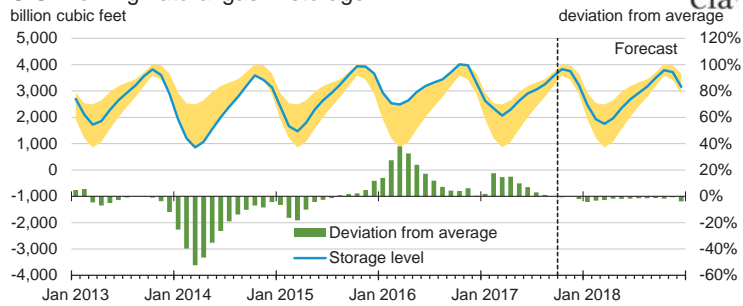
Source: Short-Term Energy Outlook, October 2017.

U.S. natural gas production and imports



Source: Short-Term Energy Outlook, October 2017.

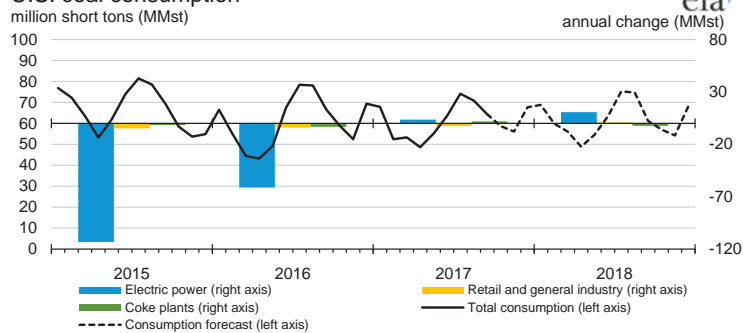
U.S. working natural gas in storage



Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2012 - Dec. 2016.

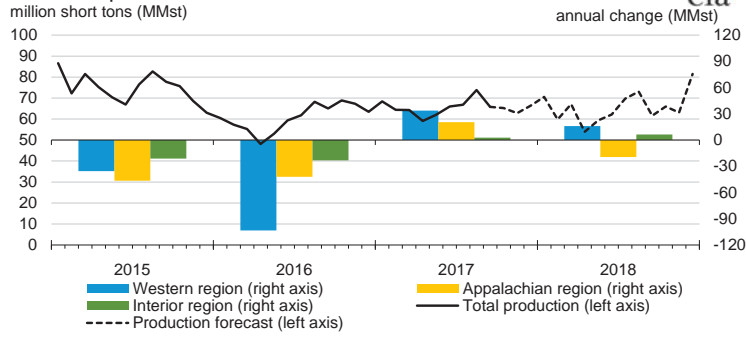
Source: Short-Term Energy Outlook, October 2017.

U.S. coal consumption

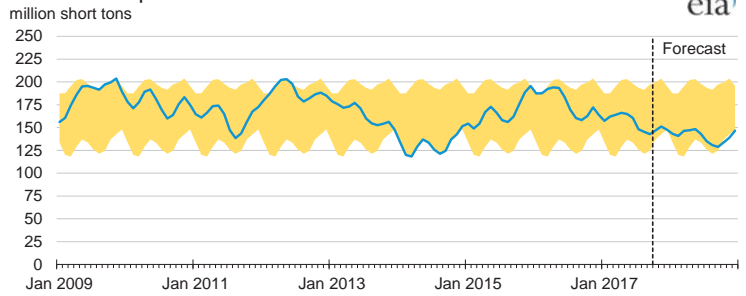


Source: Short-Term Energy Outlook, October 2017.

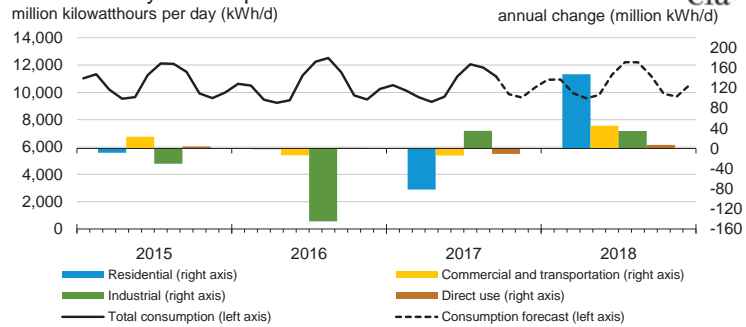
U.S. coal production



U.S. electric power coal stocks

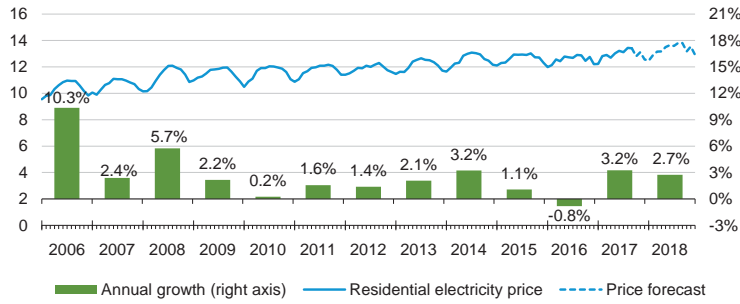


U.S. electricity consumption



U.S. residential electricity price

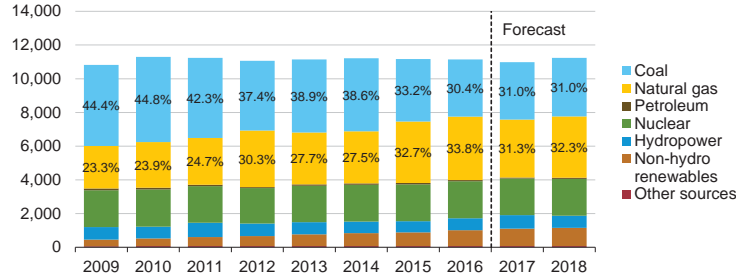
cents per kilowatthour



Source: Short-Term Energy Outlook, October 2017.

U.S. electricity generation by fuel, all sectors

thousand megawatthours per day

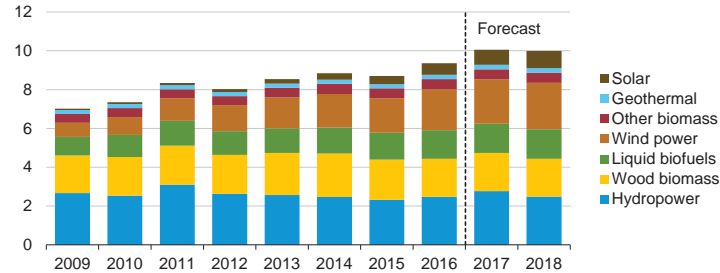


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, October 2017.

U.S. renewable energy supply

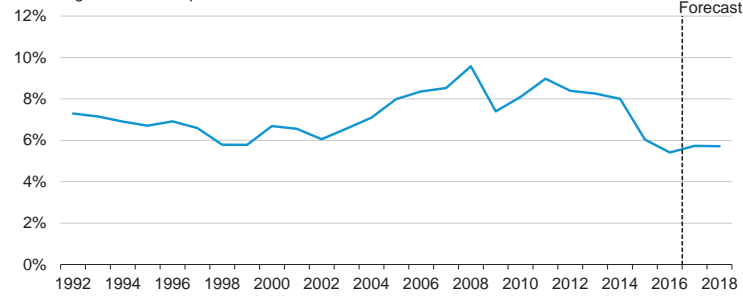
quadrillion British thermal units (Btu)



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.

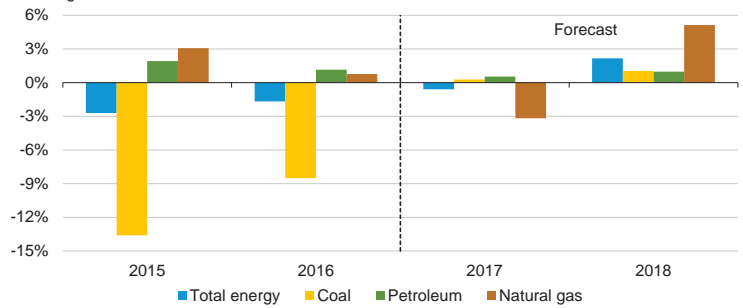
Source: Short-Term Energy Outlook, October 2017.

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



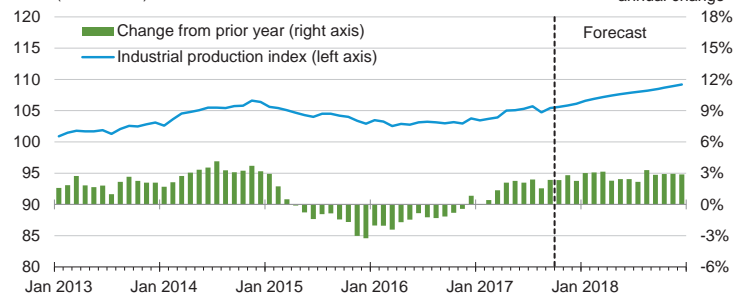
Source: Short-Term Energy Outlook, October 2017.

U.S. energy-related carbon dioxide emissions annual growth



Source: Short-Term Energy Outlook, October 2017.

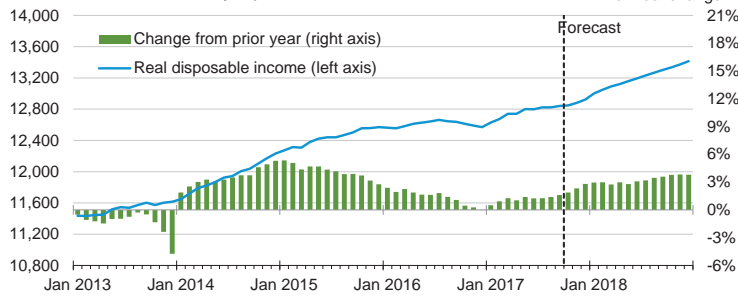
U.S. total industrial production index index (2007 = 100)



Source: Short-Term Energy Outlook, October 2017.

U.S. disposable income

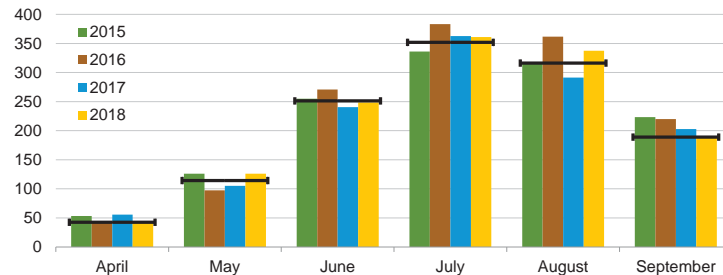
billion 2009 dollars, seasonally adjusted



Source: Short-Term Energy Outlook, October 2017.

U.S. summer cooling degree days

population-weighted

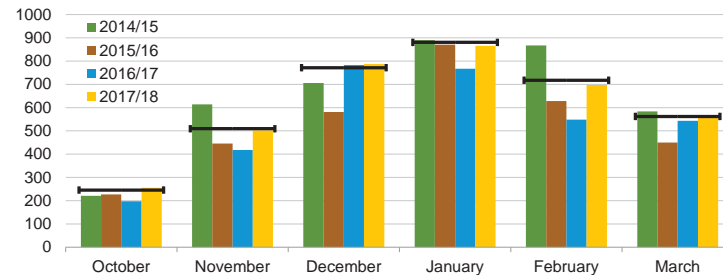


Note: EIA calculations based on from the National Oceanic and Atmospheric Administration data. Horizontal lines indicate each month's prior 10-year average (2008-2017). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2017.

U.S. winter heating degree days

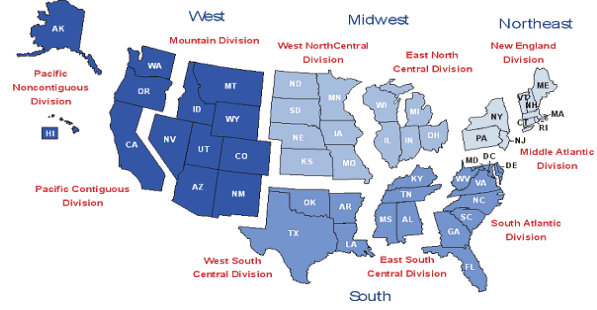
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Horizontal lines indicate each month's prior 10-year average (Oct 2007 - Mar 2017). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2017.

U.S. census regions and divisions



Source: Short-Term Energy Outlook, October 2017.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

Fuel / Region	Winter of							Forecast	
	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	80.7	66.5	76.1	84.1	84.7	67.8	72.6	76.4	5.2
Price (\$/mcf)	12.66	12.21	11.71	11.53	10.82	10.19	10.74	11.21	4.4
Expenditures (\$)	1,022	812	891	969	916	691	779	856	9.9
Midwest									
Consumption (Mcf)	80.3	65.4	77.6	88.1	83.1	67.7	68.9	77.1	11.9
Price (\$/mcf)	9.23	8.99	8.36	8.69	8.56	7.58	8.31	8.92	7.3
Expenditures (\$)	740	587	648	766	711	513	573	688	20.1
South									
Consumption (Mcf)	49.3	40.8	46.5	52.1	50.5	40.7	38.6	46.1	19.6
Price (\$/mcf)	11.02	11.45	10.71	10.77	10.82	10.81	12.28	11.56	-5.8
Expenditures (\$)	543	468	498	561	546	440	474	533	12.6
West									
Consumption (Mcf)	49.4	49.1	48.6	46.4	41.5	45.9	46.8	48.2	2.9
Price (\$/mcf)	9.67	9.35	9.13	9.96	10.72	9.93	10.69	10.81	1.2
Expenditures (\$)	478	459	444	462	444	456	501	521	4.2
U.S. Average									
Consumption (Mcf)	65.0	55.7	62.5	68.0	64.8	55.8	56.9	62.1	9.2
Price (\$/mcf)	10.46	10.25	9.72	9.97	9.91	9.30	10.11	10.36	2.5
Expenditures (\$)	680	571	607	678	642	519	575	644	11.9
Heating Oil									
U.S. Average									
Consumption (gallons)	580.8	471.2	545.6	607.3	608.1	481.8	517.7	549.6	6.2
Price (\$/gallon)	3.38	3.73	3.87	3.88	3.04	2.06	2.41	2.66	10.4
Expenditures (\$)	1,966	1,757	2,114	2,353	1,849	993	1,248	1,462	17.2
Electricity									
Northeast									
Consumption (kWh***)	7,076	6,437	6,863	7,223	7,253	6,497	6,713	6,878	2.5
Price (\$/kwh)	0.154	0.154	0.152	0.163	0.168	0.164	0.165	0.168	1.7
Expenditures (\$)	1,091	993	1,046	1,177	1,219	1,069	1,108	1,154	4.2
Midwest									
Consumption (kWh)	8,733	7,898	8,589	9,169	8,857	8,031	8,097	8,563	5.8
Price (\$/kwh)	0.105	0.111	0.112	0.112	0.118	0.121	0.123	0.127	2.9
Expenditures (\$)	915	875	958	1,031	1,045	974	996	1,084	8.8
South									
Consumption (kWh)	8,221	7,467	7,974	8,382	8,281	7,460	7,314	7,909	8.1
Price (\$/kwh)	0.104	0.107	0.107	0.109	0.111	0.111	0.112	0.115	2.5
Expenditures (\$)	855	798	851	913	919	825	819	907	10.8
West									
Consumption (kWh)	7,217	7,192	7,151	6,983	6,602	6,955	7,030	7,143	1.6
Price (\$/kwh)	0.112	0.115	0.119	0.123	0.127	0.130	0.132	0.135	2.4
Expenditures (\$)	809	825	848	861	836	902	926	964	4.1
U.S. Average									
Consumption (kWh)	7,843	7,252	7,671	7,981	7,801	7,242	7,227	7,651	5.9
Price (\$/kwh)	0.113	0.116	0.117	0.120	0.123	0.124	0.125	0.128	2.2
Expenditures (\$)	884	842	895	955	960	896	906	980	8.1

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

Fuel / Region	Winter of							Forecast	
	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	% Change
Propane									
Northeast									
Consumption (gallons)	717.6	595.7	676.0	745.4	751.5	607.8	650.8	680.6	4.6
Price* (\$/gallon)	3.24	3.34	3.00	3.56	3.00	2.71	3.06	3.25	6.2
Expenditures (\$)	2,322	1,991	2,031	2,654	2,254	1,647	1,992	2,212	11.1
Midwest									
Consumption (gallons)	792.0	644.4	766.4	868.7	813.2	667.7	679.2	761.5	12.1
Price* (\$/gallon)	2.11	2.23	1.74	2.61	1.91	1.47	1.73	1.87	8.1
Expenditures (\$)	1,674	1,437	1,334	2,267	1,553	981	1,175	1,424	21.2
Number of households by primary space heating fuel (thousands)									
Northeast									
Natural gas	11,118	11,236	11,345	11,522	11,694	11,786	11,913	12,011	0.8
Heating oil	5,858	5,701	5,458	5,241	5,092	4,913	4,767	4,620	-3.1
Propane	744	761	813	845	855	888	899	901	0.2
Electricity	2,776	2,894	3,011	3,036	3,090	3,243	3,356	3,421	1.9
Wood	512	548	582	585	569	515	442	388	-12.1
Other/None	315	324	377	436	437	430	445	468	5.1
Midwest									
Natural gas	17,977	18,019	18,054	18,072	18,190	18,204	18,151	18,022	-0.7
Heating oil	419	393	360	336	319	301	283	263	-7.1
Propane	2,073	2,037	2,063	2,088	2,083	2,074	2,061	2,050	-0.5
Electricity	4,922	5,119	5,333	5,422	5,509	5,726	5,926	6,111	3.1
Wood	618	631	640	632	616	584	566	553	-2.3
Other/None	289	282	319	353	350	352	363	375	3.3
South									
Natural gas	13,657	13,636	13,681	13,793	13,907	13,954	14,029	14,013	-0.1
Heating oil	853	790	738	698	681	653	624	595	-4.6
Propane	2,098	2,024	1,982	1,943	1,923	1,900	1,875	1,831	-2.3
Electricity	26,555	27,283	27,857	28,230	28,817	29,521	30,111	30,619	1.7
Wood	599	609	612	616	592	547	545	569	4.4
Other/None	309	304	367	419	407	414	423	429	1.5
West									
Natural gas	15,020	15,021	15,009	15,059	15,213	15,317	15,432	15,456	0.2
Heating oil	279	261	247	234	225	220	212	202	-4.9
Propane	914	885	909	930	914	926	921	901	-2.3
Electricity	8,126	8,439	8,671	8,754	8,919	9,214	9,460	9,689	2.4
Wood	725	736	728	744	748	717	714	718	0.7
Other/None	850	829	903	1,015	1,074	1,082	1,097	1,156	5.4
U.S. Totals									
Natural gas	57,771	57,912	58,088	58,446	59,004	59,262	59,525	59,502	0.0
Heating oil	7,408	7,145	6,803	6,509	6,317	6,087	5,885	5,679	-3.5
Propane	5,829	5,707	5,766	5,806	5,776	5,787	5,756	5,683	-1.3
Electricity	42,380	43,734	44,873	45,442	46,335	47,704	48,854	49,841	2.0
Wood	2,454	2,524	2,563	2,576	2,526	2,362	2,266	2,229	-1.7
Other/None	1,763	1,739	1,965	2,222	2,269	2,278	2,328	2,428	4.3
Heating degree days									
Northeast	5,338	4,219	4,965	5,596	5,647	4,324	4,705	4,993	6.1
Midwest	5,774	4,485	5,545	6,452	6,002	4,688	4,792	5,504	14.9
South	2,629	2,020	2,428	2,784	2,689	2,012	1,881	2,387	26.9
West	3,259	3,231	3,183	2,991	2,568	2,955	3,046	3,169	4.1
U.S. Average	3,939	3,225	3,721	4,110	3,881	3,202	3,257	3,673	12.7

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, and lighting (electricity). Per-household consumption based on an average of EIA 2005 and 2009 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Energy Supply															
Crude Oil Production (a) (million barrels per day)	9.14	8.82	8.65	8.81	9.02	9.13	9.22	9.60	9.80	9.95	9.86	10.08	8.86	9.24	9.92
Dry Natural Gas Production (billion cubic feet per day)	74.14	73.28	72.45	71.55	71.42	72.15	74.07	76.82	77.82	78.47	78.72	78.92	72.85	73.63	78.49
Coal Production (million short tons)	173	161	195	200	197	187	206	194	197	175	204	211	728	785	788
Energy Consumption															
Liquid Fuels (million barrels per day)	19.54	19.50	19.94	19.77	19.49	20.03	20.08	20.05	19.89	20.23	20.69	20.53	19.69	19.92	20.34
Natural Gas (billion cubic feet per day)	89.02	66.66	69.14	75.63	85.83	62.54	66.07	78.14	93.68	66.82	68.00		75.10	73.11	76.84
Coal (b) (million short tons)	166	160	223	181	174	167	209	182	185	167	211	179	730	733	742
Electricity (billion kilowatt hours per day)	10.19	9.96	12.09	9.84	10.11	10.05	11.69	9.95	10.59	10.22	11.89	10.04	10.52	10.45	10.69
Renewables (c) (quadrillion Btu)	2.60	2.59	2.43	2.53	2.76	2.96	2.57	2.56	2.64	2.84	2.64	2.68	10.14	10.85	10.80
Total Energy Consumption (d) (quadrillion Btu)	25.26	22.95	24.79	24.45	25.02	23.18	24.08	24.41	25.56	23.18	24.51	24.73	97.45	96.68	97.98
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	33.35	45.46	44.85	49.18	51.64	48.15	48.13	50.85	49.50	49.50	50.80	52.45	43.33	49.69	50.57
Natural Gas Henry Hub Spot (dollars per million Btu)	2.00	2.14	2.88	3.04	3.01	3.08	2.95	3.07	3.30	3.10	3.14	3.23	2.51	3.03	3.19
Coal (dollars per million Btu)	2.13	2.13	2.11	2.08	2.08	2.12	2.16	2.17	2.18	2.19	2.21	2.20	2.11	2.14	2.20
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	16,572	16,664	16,778	16,851	16,903	17,030	17,113	17,223	17,360	17,478	17,574	17,681	16,716	17,067	17,523
Percent change from prior year	1.4	1.2	1.5	1.8	2.0	2.2	2.0	2.2	2.7	2.6	2.7	2.7	1.5	2.1	2.7
GDP Implicit Price Deflator (Index, 2009=100)	110.6	111.3	111.6	112.2	112.8	113.0	113.6	114.2	114.9	115.6	116.3	116.9	111.4	113.4	115.9
Percent change from prior year	1.2	1.2	1.2	1.5	2.0	1.6	1.7	1.8	1.9	2.3	2.3	2.3	1.3	1.8	2.2
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	12,568	12,627	12,649	12,591	12,680	12,781	12,829	12,884	13,047	13,158	13,266	13,374	12,609	12,794	13,211
Percent change from prior year	2.2	1.7	1.4	0.2	0.9	1.2	1.4	2.3	2.9	3.0	3.4	3.8	1.4	1.5	3.3
Manufacturing Production Index (Index, 2012=100)	102.9	102.6	102.7	103.1	103.7	104.4	104.3	104.9	105.8	106.6	107.1	107.9	102.8	104.3	106.8
Percent change from prior year	0.3	0.1	-0.1	0.5	0.8	1.7	1.6	1.8	2.0	2.1	2.7	2.8	0.2	1.5	2.4
Weather															
U.S. Heating Degree-Days	1,948	481	51	1,399	1,859	428	74	1,545	2,128	481	72	1,518	3,879	3,906	4,199
U.S. Cooling Degree-Days	54	411	965	129	70	401	857	90	45	418	886	102	1,559	1,418	1,452

- = 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. Macroeconomic projections are based on Global Insight 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	33.35	45.46	44.85	49.18	51.64	48.15	48.13	<i>50.85</i>	<i>49.50</i>	<i>49.50</i>	<i>50.80</i>	<i>52.45</i>	43.33	<i>49.69</i>	<i>50.57</i>
Brent Spot Average	33.89	45.57	45.80	49.25	53.57	49.59	52.09	<i>54.52</i>	<i>53.00</i>	<i>53.00</i>	<i>54.30</i>	<i>55.95</i>	43.74	<i>52.43</i>	<i>54.07</i>
U.S. Imported Average	28.85	40.32	41.19	44.44	47.94	46.12	45.54	<i>47.33</i>	<i>46.00</i>	<i>46.00</i>	<i>47.32</i>	<i>49.03</i>	38.70	<i>46.73</i>	<i>47.03</i>
U.S. Refiner Average Acquisition Cost	30.84	42.23	42.90	46.56	49.91	47.66	47.32	<i>49.83</i>	<i>48.50</i>	<i>48.50</i>	<i>49.82</i>	<i>51.52</i>	40.69	<i>48.64</i>	<i>49.59</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	119	158	150	153	163	165	174	<i>165</i>	<i>155</i>	<i>172</i>	<i>170</i>	<i>156</i>	145	<i>167</i>	<i>164</i>
Diesel Fuel	109	141	145	156	162	155	168	<i>178</i>	<i>170</i>	<i>170</i>	<i>177</i>	<i>178</i>	138	<i>166</i>	<i>174</i>
Heating Oil	99	125	132	146	154	144	156	<i>171</i>	<i>168</i>	<i>161</i>	<i>167</i>	<i>172</i>	124	<i>156</i>	<i>168</i>
Refiner Prices to End Users															
Jet Fuel	107	134	137	149	158	150	164	<i>173</i>	<i>167</i>	<i>165</i>	<i>172</i>	<i>174</i>	132	<i>162</i>	<i>170</i>
No. 6 Residual Fuel Oil (a)	69	88	103	115	128	120	122	<i>124</i>	<i>122</i>	<i>119</i>	<i>123</i>	<i>127</i>	94	<i>124</i>	<i>122</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	190	225	221	223	233	238	244	<i>241</i>	<i>230</i>	<i>249</i>	<i>249</i>	<i>234</i>	215	<i>239</i>	<i>241</i>
Gasoline All Grades (b)	200	235	232	234	244	250	255	<i>253</i>	<i>241</i>	<i>260</i>	<i>260</i>	<i>246</i>	226	<i>250</i>	<i>252</i>
On-highway Diesel Fuel	208	230	238	247	257	255	263	<i>282</i>	<i>276</i>	<i>275</i>	<i>281</i>	<i>286</i>	231	<i>264</i>	<i>279</i>
Heating Oil	195	205	211	233	247	238	236	<i>264</i>	<i>268</i>	<i>255</i>	<i>259</i>	<i>269</i>	210	<i>250</i>	<i>266</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	2.07	2.22	2.99	3.15	3.12	3.19	3.06	<i>3.19</i>	<i>3.42</i>	<i>3.21</i>	<i>3.25</i>	<i>3.35</i>	2.61	<i>3.14</i>	<i>3.31</i>
Henry Hub Spot (dollars per million Btu)	2.00	2.14	2.88	3.04	3.01	3.08	2.95	<i>3.07</i>	<i>3.30</i>	<i>3.10</i>	<i>3.14</i>	<i>3.23</i>	2.51	<i>3.03</i>	<i>3.19</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	3.44	2.93	3.64	4.04	4.53	4.12	3.95	<i>4.30</i>	<i>4.74</i>	<i>4.14</i>	<i>4.14</i>	<i>4.47</i>	3.52	<i>4.24</i>	<i>4.39</i>
Commercial Sector	6.87	7.26	8.24	7.52	7.71	8.33	8.82	<i>7.98</i>	<i>7.93</i>	<i>8.38</i>	<i>8.79</i>	<i>8.05</i>	7.29	<i>8.02</i>	<i>8.13</i>
Residential Sector	8.51	11.15	16.96	10.18	9.73	12.92	17.40	<i>10.83</i>	<i>9.86</i>	<i>12.45</i>	<i>16.74</i>	<i>10.81</i>	10.04	<i>11.10</i>	<i>10.99</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.13	2.13	2.11	2.08	2.08	2.12	2.16	<i>2.17</i>	<i>2.18</i>	<i>2.19</i>	<i>2.21</i>	<i>2.20</i>	2.11	<i>2.14</i>	<i>2.20</i>
Natural Gas	2.65	2.51	3.00	3.36	3.69	3.38	3.25	<i>3.67</i>	<i>4.16</i>	<i>3.58</i>	<i>3.45</i>	<i>3.85</i>	2.88	<i>3.47</i>	<i>3.72</i>
Residual Fuel Oil (c)	6.15	8.51	9.70	9.08	11.16	10.60	9.91	<i>10.46</i>	<i>10.29</i>	<i>10.85</i>	<i>10.52</i>	<i>10.61</i>	8.41	<i>10.51</i>	<i>10.56</i>
Distillate Fuel Oil	9.00	11.01	11.64	12.14	12.75	12.24	10.92	<i>11.50</i>	<i>12.40</i>	<i>11.74</i>	<i>10.24</i>	<i>10.50</i>	10.86	<i>11.92</i>	<i>11.29</i>
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.42	6.67	7.20	6.67	6.65	6.88	7.42	<i>6.95</i>	<i>6.86</i>	<i>7.09</i>	<i>7.63</i>	<i>7.11</i>	6.75	<i>6.99</i>	<i>7.18</i>
Commercial Sector	10.12	10.34	10.68	10.27	10.38	10.67	10.90	<i>10.29</i>	<i>10.50</i>	<i>10.75</i>	<i>10.97</i>	<i>10.42</i>	10.37	<i>10.57</i>	<i>10.67</i>
Residential Sector	12.20	12.66	12.81	12.45	12.61	13.00	13.32	<i>12.80</i>	<i>12.81</i>	<i>13.46</i>	<i>13.73</i>	<i>13.18</i>	12.55	<i>12.96</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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Supply (million barrels per day) (a)															
OECD	27.02	25.97	26.32	26.86	26.98	26.77	26.87	27.93	28.19	28.52	28.54	29.12	26.54	27.14	28.60
U.S. (50 States)	14.99	14.94	14.68	14.81	15.03	15.34	15.31	16.02	16.26	16.66	16.73	17.00	14.86	15.43	16.66
Canada	4.73	3.99	4.70	4.95	4.88	4.54	4.80	4.83	4.85	4.87	4.95	5.03	4.59	4.76	4.92
Mexico	2.57	2.52	2.48	2.39	2.36	2.34	2.29	2.27	2.25	2.24	2.30	2.33	2.49	2.31	2.28
Other OECD	4.74	4.52	4.45	4.70	4.71	4.55	4.48	4.81	4.83	4.75	4.56	4.76	4.60	4.64	4.72
Non-OECD	70.01	70.51	70.73	71.51	70.00	70.82	71.41	71.15	70.74	71.51	71.89	71.74	70.69	70.85	71.47
OPEC	38.77	39.00	39.35	39.81	38.84	39.28	39.68	39.62	39.66	39.87	40.14	40.13	39.23	39.36	39.95
Crude Oil Portion	32.24	32.47	32.76	33.25	32.08	32.28	32.89	32.73	32.75	32.93	33.16	33.11	32.68	32.50	32.99
Other Liquids (b)	6.52	6.53	6.59	6.56	6.77	7.00	6.78	6.89	6.90	6.94	6.98	7.02	6.55	6.86	6.96
Eurasia	14.34	14.10	13.92	14.52	14.43	14.31	14.28	14.32	14.43	14.43	14.35	14.48	14.22	14.33	14.42
China	5.02	4.90	4.79	4.77	4.82	4.82	4.75	4.79	4.69	4.72	4.72	4.76	4.87	4.79	4.72
Other Non-OECD	11.88	12.50	12.67	12.40	11.91	12.41	12.71	12.43	11.96	12.48	12.68	12.38	12.37	12.37	12.38
Total World Supply	97.03	96.47	97.04	98.36	96.98	97.59	98.29	99.08	98.93	100.03	100.43	100.86	97.23	97.99	100.07
Non-OPEC Supply	58.26	57.47	57.69	58.55	58.13	58.31	58.61	59.46	59.27	60.15	60.29	60.74	57.99	58.63	60.12
Consumption (million barrels per day) (c)															
OECD	46.73	46.09	47.31	47.38	46.88	47.00	47.48	47.60	47.46	46.89	48.02	48.11	46.88	47.24	47.62
U.S. (50 States)	19.54	19.50	19.94	19.77	19.49	20.03	20.08	20.05	19.89	20.23	20.69	20.53	19.69	19.92	20.34
U.S. Territories	0.28	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.28	0.29	0.31
Canada	2.33	2.32	2.46	2.40	2.35	2.36	2.46	2.44	2.41	2.35	2.46	2.44	2.38	2.40	2.41
Europe	13.62	13.93	14.45	14.19	13.89	14.25	14.60	14.24	14.08	14.14	14.54	14.28	14.05	14.25	14.26
Japan	4.44	3.70	3.79	4.18	4.33	3.64	3.67	4.05	4.24	3.47	3.58	3.96	4.03	3.92	3.81
Other OECD	6.52	6.36	6.40	6.56	6.52	6.44	6.38	6.54	6.53	6.40	6.44	6.59	6.46	6.47	6.49
Non-OECD	49.27	50.28	50.27	50.51	50.34	51.31	51.30	51.30	51.61	52.57	52.54	52.36	50.08	51.07	52.27
Eurasia	4.68	4.55	4.91	4.90	4.73	4.71	4.98	4.86	4.76	4.81	5.08	4.95	4.76	4.82	4.90
Europe	0.69	0.70	0.72	0.72	0.70	0.71	0.73	0.73	0.71	0.72	0.74	0.74	0.71	0.72	0.73
China	12.29	12.64	12.31	12.55	13.00	13.00	12.67	12.73	13.42	13.33	13.00	13.06	12.45	12.85	13.20
Other Asia	12.87	13.06	12.63	13.08	13.01	13.42	12.92	13.44	13.63	13.91	13.40	13.74	12.91	13.20	13.67
Other Non-OECD	18.74	19.33	19.70	19.26	18.90	19.47	20.00	19.54	19.09	19.80	20.33	19.87	19.26	19.48	19.78
Total World Consumption	96.00	96.36	97.58	97.88	97.22	98.31	98.77	98.91	99.07	99.46	100.56	100.47	96.96	98.31	99.89
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	-0.47	-0.28	-0.02	0.24	0.00	0.22	0.08	0.57	-0.23	-0.43	-0.24	0.54	-0.13	0.22	-0.09
Other OECD	0.03	-0.13	-0.10	0.60	-0.47	0.03	0.14	-0.26	0.13	-0.05	0.13	-0.32	0.10	-0.14	-0.03
Other Stock Draws and Balance	-0.60	0.30	0.66	-1.31	0.71	0.47	0.26	-0.49	0.24	-0.10	0.24	-0.61	-0.24	0.24	-0.06
Total Stock Draw	-1.03	-0.11	0.54	-0.48	0.25	0.72	0.49	-0.18	0.14	-0.57	0.13	-0.39	-0.27	0.32	-0.17
End-of-period Commercial Crude Oil and Other Liquids Inventories															
U.S. Commercial Inventory	1,329	1,354	1,356	1,334	1,338	1,330	1,328	1,286	1,308	1,349	1,373	1,335	1,334	1,286	1,335
OECD Commercial Inventory	3,000	3,039	3,047	2,966	3,008	2,997	2,982	2,964	2,975	3,020	3,032	3,024	2,966	2,964	3,024

- = 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, Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, Venezuela.

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

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

 (c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the *EIA Petroleum Supply Monthly*, DOE/EIA-0109.

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
North America	22.29	21.45	21.86	22.16	22.27	22.22	22.39	<i>23.12</i>	<i>23.36</i>	<i>23.77</i>	<i>23.98</i>	<i>24.36</i>	21.94	<i>22.50</i>	<i>23.87</i>
Canada	4.73	3.99	4.70	4.95	4.88	4.54	4.80	<i>4.83</i>	<i>4.85</i>	<i>4.87</i>	<i>4.95</i>	<i>5.03</i>	4.59	<i>4.76</i>	<i>4.92</i>
Mexico	2.57	2.52	2.48	2.39	2.36	2.34	2.29	<i>2.27</i>	<i>2.25</i>	<i>2.24</i>	<i>2.30</i>	<i>2.33</i>	2.49	<i>2.31</i>	<i>2.28</i>
United States	14.99	14.94	14.68	14.81	15.03	15.34	15.31	<i>16.02</i>	<i>16.26</i>	<i>16.66</i>	<i>16.73</i>	<i>17.00</i>	14.86	<i>15.43</i>	<i>16.66</i>
Central and South America	4.72	5.41	5.64	5.32	4.91	5.48	5.69	<i>5.40</i>	<i>5.01</i>	<i>5.57</i>	<i>5.81</i>	<i>5.53</i>	5.27	<i>5.37</i>	<i>5.48</i>
Argentina	0.70	0.71	0.73	0.71	0.67	0.67	0.70	<i>0.69</i>	<i>0.67</i>	<i>0.66</i>	<i>0.69</i>	<i>0.69</i>	0.71	<i>0.68</i>	<i>0.68</i>
Brazil	2.63	3.36	3.63	3.32	2.95	3.44	3.72	<i>3.43</i>	<i>3.06</i>	<i>3.55</i>	<i>3.85</i>	<i>3.56</i>	3.23	<i>3.39</i>	<i>3.51</i>
Colombia	0.98	0.93	0.87	0.87	0.87	0.88	0.86	<i>0.86</i>	<i>0.86</i>	<i>0.88</i>	<i>0.85</i>	<i>0.86</i>	0.91	<i>0.87</i>	<i>0.86</i>
Other Central and S. America	0.42	0.42	0.42	0.42	0.42	0.49	0.41	<i>0.41</i>	<i>0.42</i>	<i>0.49</i>	<i>0.42</i>	<i>0.42</i>	0.42	<i>0.43</i>	<i>0.44</i>
Europe	4.21	4.02	3.91	4.19	4.22	4.06	3.95	<i>4.28</i>	<i>4.28</i>	<i>4.20</i>	<i>3.99</i>	<i>4.17</i>	4.08	<i>4.13</i>	<i>4.16</i>
Norway	2.04	1.95	1.91	2.12	2.09	2.01	1.94	<i>2.10</i>	<i>2.08</i>	<i>1.98</i>	<i>1.94</i>	<i>2.01</i>	2.00	<i>2.04</i>	<i>2.00</i>
United Kingdom	1.13	1.09	1.01	1.03	1.10	1.07	1.00	<i>1.16</i>	<i>1.19</i>	<i>1.21</i>	<i>1.05</i>	<i>1.16</i>	1.06	<i>1.08</i>	<i>1.15</i>
Eurasia	14.34	14.10	13.92	14.52	14.43	14.31	14.28	<i>14.32</i>	<i>14.43</i>	<i>14.43</i>	<i>14.35</i>	<i>14.48</i>	14.22	<i>14.33</i>	<i>14.42</i>
Azerbaijan	0.87	0.87	0.84	0.80	0.79	0.80	0.79	<i>0.78</i>	<i>0.78</i>	<i>0.78</i>	<i>0.76</i>	<i>0.74</i>	0.84	<i>0.79</i>	<i>0.77</i>
Kazakhstan	1.76	1.63	1.57	1.83	1.87	1.87	1.88	<i>1.96</i>	<i>2.00</i>	<i>1.99</i>	<i>2.00</i>	<i>2.06</i>	1.70	<i>1.90</i>	<i>2.01</i>
Russia	11.27	11.17	11.08	11.45	11.32	11.18	11.14	<i>11.11</i>	<i>11.18</i>	<i>11.20</i>	<i>11.13</i>	<i>11.22</i>	11.24	<i>11.19</i>	<i>11.18</i>
Turkmenistan	0.27	0.26	0.26	0.28	0.28	0.28	0.29	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	0.27	<i>0.28</i>	<i>0.29</i>
Other Eurasia	0.17	0.17	0.17	0.17	0.16	0.17	0.18	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.18</i>	<i>0.17</i>	0.17	<i>0.17</i>	<i>0.17</i>
Middle East	1.14	1.14	1.14	1.14	1.07	1.07	1.12	<i>1.11</i>	<i>1.11</i>	<i>1.09</i>	<i>1.07</i>	<i>1.05</i>	1.14	<i>1.09</i>	<i>1.08</i>
Oman	1.02	1.01	1.02	1.02	0.98	0.98	1.01	<i>1.01</i>	<i>0.99</i>	<i>0.97</i>	<i>0.95</i>	<i>0.94</i>	1.02	<i>0.99</i>	<i>0.96</i>
Asia and Oceania	9.73	9.53	9.41	9.37	9.37	9.30	9.29	<i>9.32</i>	<i>9.25</i>	<i>9.26</i>	<i>9.27</i>	<i>9.32</i>	9.51	<i>9.32</i>	<i>9.27</i>
Australia	0.39	0.37	0.41	0.37	0.35	0.36	0.36	<i>0.36</i>	<i>0.37</i>	<i>0.38</i>	<i>0.39</i>	<i>0.41</i>	0.39	<i>0.36</i>	<i>0.39</i>
China	5.02	4.90	4.79	4.77	4.82	4.82	4.75	<i>4.79</i>	<i>4.69</i>	<i>4.72</i>	<i>4.72</i>	<i>4.76</i>	4.87	<i>4.79</i>	<i>4.72</i>
India	1.00	0.99	0.99	0.99	1.01	1.00	1.00	<i>1.00</i>	<i>1.00</i>	<i>0.99</i>	<i>0.99</i>	<i>0.99</i>	0.99	<i>1.00</i>	<i>1.00</i>
Indonesia	0.96	0.96	0.96	0.95	0.92	0.92	0.91	<i>0.90</i>	<i>0.90</i>	<i>0.90</i>	<i>0.90</i>	<i>0.90</i>	0.96	<i>0.91</i>	<i>0.90</i>
Malaysia	0.76	0.75	0.74	0.75	0.75	0.72	0.74	<i>0.74</i>	<i>0.74</i>	<i>0.74</i>	<i>0.74</i>	<i>0.73</i>	0.75	<i>0.74</i>	<i>0.74</i>
Vietnam	0.33	0.33	0.31	0.31	0.30	0.30	0.28	<i>0.28</i>	<i>0.28</i>	<i>0.27</i>	<i>0.27</i>	<i>0.27</i>	0.32	<i>0.29</i>	<i>0.27</i>
Africa	1.83	1.83	1.81	1.85	1.85	1.88	1.89	<i>1.91</i>	<i>1.83</i>	<i>1.83</i>	<i>1.82</i>	<i>1.82</i>	1.83	<i>1.88</i>	<i>1.83</i>
Egypt	0.70	0.69	0.69	0.69	0.68	0.68	0.68	<i>0.67</i>	<i>0.67</i>	<i>0.66</i>	<i>0.66</i>	<i>0.65</i>	0.69	<i>0.68</i>	<i>0.66</i>
South Sudan	0.15	0.16	0.15	0.15	0.15	0.15	0.15	<i>0.15</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	0.15	<i>0.15</i>	<i>0.12</i>
Total non-OPEC liquids	58.26	57.47	57.69	58.55	58.13	58.31	58.61	<i>59.46</i>	<i>59.27</i>	<i>60.15</i>	<i>60.29</i>	<i>60.74</i>	57.99	<i>58.63</i>	<i>60.12</i>
OPEC non-crude liquids	6.52	6.53	6.59	6.56	6.77	7.00	6.78	<i>6.89</i>	<i>6.90</i>	<i>6.94</i>	<i>6.98</i>	<i>7.02</i>	6.55	<i>6.86</i>	<i>6.96</i>
Non-OPEC + OPEC non-crude	64.79	64.00	64.29	65.11	64.90	65.31	65.39	<i>66.35</i>	<i>66.18</i>	<i>67.10</i>	<i>67.27</i>	<i>67.76</i>	64.55	<i>65.49</i>	<i>67.08</i>
Unplanned non-OPEC Production Outages	0.38	0.76	0.42	0.34	0.43	0.68	0.55	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.47	<i>n/a</i>	<i>n/a</i>

- = no data available

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Crude Oil															
Algeria	1.05	1.04	1.05	1.05	1.04	1.03	1.03	-	-	-	-	-	1.05	-	-
Angola	1.78	1.79	1.79	1.64	1.64	1.66	1.66	-	-	-	-	-	1.75	-	-
Ecuador	0.54	0.55	0.55	0.55	0.53	0.53	0.53	-	-	-	-	-	0.55	-	-
Equatorial Guinea	0.16	0.16	0.16	0.16	0.14	0.14	0.13	-	-	-	-	-	0.16	-	-
Gabon	0.21	0.21	0.21	0.21	0.19	0.20	0.20	-	-	-	-	-	0.21	-	-
Iran	3.25	3.61	3.67	3.73	3.80	3.81	3.83	-	-	-	-	-	3.57	-	-
Iraq	4.29	4.39	4.43	4.61	4.46	4.44	4.50	-	-	-	-	-	4.43	-	-
Kuwait	2.88	2.79	2.91	2.92	2.74	2.71	2.72	-	-	-	-	-	2.87	-	-
Libya	0.35	0.31	0.29	0.58	0.65	0.72	0.94	-	-	-	-	-	0.38	-	-
Nigeria	1.73	1.44	1.27	1.42	1.38	1.49	1.68	-	-	-	-	-	1.46	-	-
Qatar	0.66	0.68	0.66	0.66	0.62	0.61	0.61	-	-	-	-	-	0.67	-	-
Saudi Arabia	10.20	10.33	10.60	10.55	9.98	10.06	10.18	-	-	-	-	-	10.42	-	-
United Arab Emirates	2.85	2.93	3.06	3.09	2.92	2.90	2.92	-	-	-	-	-	2.98	-	-
Venezuela	2.30	2.23	2.11	2.07	1.99	1.97	1.96	-	-	-	-	-	2.18	-	-
OPEC Total	32.24	32.47	32.76	33.25	32.08	32.28	32.89	32.73	32.75	32.93	33.16	33.11	32.68	32.50	32.99
Other Liquids (a)	6.52	6.53	6.59	6.56	6.77	7.00	6.78	6.89	6.90	6.94	6.98	7.02	6.55	6.86	6.96
Total OPEC Supply	38.77	39.00	39.35	39.81	38.84	39.28	39.68	39.62	39.66	39.87	40.14	40.13	39.23	39.36	39.95
Crude Oil Production Capacity															
Africa	5.28	4.96	4.78	5.07	5.04	5.24	5.64	5.62	5.56	5.53	5.52	5.53	5.02	5.39	5.54
Middle East	25.54	25.95	26.27	26.56	26.70	26.69	26.71	26.73	26.72	26.37	26.53	26.54	26.08	26.71	26.54
South America	2.84	2.78	2.66	2.62	2.53	2.51	2.49	2.46	2.40	2.35	2.32	2.25	2.73	2.50	2.33
OPEC Total	33.66	33.69	33.71	34.25	34.27	34.44	34.85	34.81	34.68	34.25	34.37	34.33	33.83	34.59	34.41
Surplus Crude Oil Production Capacity															
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Middle East	1.42	1.22	0.95	1.00	2.19	2.16	1.95	2.08	1.93	1.32	1.22	1.22	1.15	2.09	1.42
South America	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPEC Total	1.42	1.22	0.95	1.00	2.19	2.16	1.95	2.08	1.93	1.32	1.22	1.22	1.15	2.09	1.42
Unplanned OPEC Production Outages	2.09	2.44	2.34	1.93	1.81	1.60	1.17	n/a	n/a	n/a	n/a	n/a	2.20	n/a	n/a

- = no data available

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, 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 2017

	2016				2017				2018				2016	2017	2018
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	23.94	23.85	24.42	24.20	23.81	24.37	24.53	<i>24.49</i>	<i>24.28</i>	<i>24.58</i>	<i>25.12</i>	<i>24.95</i>	24.10	<i>24.30</i>	<i>24.74</i>
Canada	2.33	2.32	2.46	2.40	2.35	2.36	2.46	<i>2.44</i>	<i>2.41</i>	<i>2.35</i>	<i>2.46</i>	<i>2.44</i>	2.38	<i>2.40</i>	<i>2.41</i>
Mexico	2.05	2.02	2.01	2.03	1.96	1.98	1.98	<i>1.99</i>	<i>1.97</i>	<i>1.99</i>	<i>1.96</i>	<i>1.97</i>	2.03	<i>1.98</i>	<i>1.97</i>
United States	19.54	19.50	19.94	19.77	19.49	20.03	20.08	<i>20.05</i>	<i>19.89</i>	<i>20.23</i>	<i>20.69</i>	<i>20.53</i>	19.69	<i>19.92</i>	<i>20.34</i>
Central and South America	7.06	7.21	7.31	7.24	7.08	7.10	7.23	<i>7.21</i>	<i>6.95</i>	<i>7.12</i>	<i>7.23</i>	<i>7.22</i>	7.21	<i>7.16</i>	<i>7.13</i>
Brazil	2.90	2.95	3.01	2.95	2.94	2.86	2.93	<i>2.94</i>	<i>2.83</i>	<i>2.88</i>	<i>2.95</i>	<i>2.96</i>	2.95	<i>2.92</i>	<i>2.90</i>
Europe	14.31	14.62	15.16	14.91	14.59	14.95	15.33	<i>14.96</i>	<i>14.79</i>	<i>14.85</i>	<i>15.28</i>	<i>15.01</i>	14.75	<i>14.96</i>	<i>14.99</i>
Eurasia	4.68	4.55	4.91	4.90	4.73	4.71	4.98	<i>4.86</i>	<i>4.76</i>	<i>4.81</i>	<i>5.08</i>	<i>4.95</i>	4.76	<i>4.82</i>	<i>4.90</i>
Russia	3.53	3.43	3.72	3.71	3.57	3.58	3.78	<i>3.66</i>	<i>3.57</i>	<i>3.64</i>	<i>3.85</i>	<i>3.72</i>	3.60	<i>3.65</i>	<i>3.70</i>
Middle East	8.33	8.74	9.10	8.59	8.35	8.90	9.40	<i>8.82</i>	<i>8.57</i>	<i>9.13</i>	<i>9.61</i>	<i>9.02</i>	8.69	<i>8.87</i>	<i>9.08</i>
Asia and Oceania	33.53	33.22	32.58	33.83	34.37	33.98	33.08	<i>34.22</i>	<i>35.28</i>	<i>34.55</i>	<i>33.86</i>	<i>34.83</i>	33.29	<i>33.91</i>	<i>34.63</i>
China	12.29	12.64	12.31	12.55	13.00	13.00	12.67	<i>12.73</i>	<i>13.42</i>	<i>13.33</i>	<i>13.00</i>	<i>13.06</i>	12.45	<i>12.85</i>	<i>13.20</i>
Japan	4.44	3.70	3.79	4.18	4.33	3.64	3.67	<i>4.05</i>	<i>4.24</i>	<i>3.47</i>	<i>3.58</i>	<i>3.96</i>	4.03	<i>3.92</i>	<i>3.81</i>
India	4.56	4.50	4.19	4.61	4.51	4.67	4.28	<i>4.78</i>	<i>4.94</i>	<i>4.97</i>	<i>4.57</i>	<i>4.89</i>	4.46	<i>4.56</i>	<i>4.84</i>
Africa	4.15	4.18	4.10	4.21	4.29	4.29	4.23	<i>4.34</i>	<i>4.43</i>	<i>4.42</i>	<i>4.37</i>	<i>4.48</i>	4.16	<i>4.29</i>	<i>4.43</i>
Total OECD Liquid Fuels Consumption	46.73	46.09	47.31	47.38	46.88	47.00	47.48	<i>47.60</i>	<i>47.46</i>	<i>46.89</i>	<i>48.02</i>	<i>48.11</i>	46.88	<i>47.24</i>	<i>47.62</i>
Total non-OECD Liquid Fuels Consumption	49.27	50.28	50.27	50.51	50.34	51.31	51.30	<i>51.30</i>	<i>51.61</i>	<i>52.57</i>	<i>52.54</i>	<i>52.36</i>	50.08	<i>51.07</i>	<i>52.27</i>
Total World Liquid Fuels Consumption	96.00	96.36	97.58	97.88	97.22	98.31	98.77	<i>98.91</i>	<i>99.07</i>	<i>99.46</i>	<i>100.56</i>	<i>100.47</i>	96.96	<i>98.31</i>	<i>99.89</i>
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100	119.8	120.5	121.4	122.3	123.1	124.0	124.8	<i>125.8</i>	<i>126.8</i>	<i>127.9</i>	<i>128.8</i>	<i>129.8</i>	121.0	<i>124.4</i>	<i>128.3</i>
Percent change from prior year	2.3	2.3	2.4	2.6	2.7	2.9	2.8	<i>2.9</i>	<i>3.0</i>	<i>3.1</i>	<i>3.2</i>	<i>3.2</i>	2.4	<i>2.8</i>	<i>3.1</i>
OECD Index, 2010 Q1 = 100	112.0	112.6	113.1	113.8	114.3	115.1	115.6	<i>116.2</i>	<i>116.9</i>	<i>117.6</i>	<i>118.2</i>	<i>118.9</i>	112.9	<i>115.3</i>	<i>117.9</i>
Percent change from prior year	1.6	1.6	1.6	1.9	2.0	2.2	2.2	<i>2.1</i>	<i>2.3</i>	<i>2.2</i>	<i>2.3</i>	<i>2.3</i>	1.7	<i>2.1</i>	<i>2.3</i>
Non-OECD Index, 2010 Q1 = 100	129.5	130.4	131.6	132.8	133.9	135.1	136.2	<i>137.7</i>	<i>139.0</i>	<i>140.7</i>	<i>142.0</i>	<i>143.6</i>	131.0	<i>135.8</i>	<i>141.3</i>
Percent change from prior year	3.1	3.2	3.4	3.4	3.5	3.6	3.6	<i>3.7</i>	<i>3.8</i>	<i>4.1</i>	<i>4.2</i>	<i>4.3</i>	3.3	<i>3.6</i>	<i>4.1</i>
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100	128.59	127.88	128.40	131.58	132.28	131.11	131.03	<i>131.98</i>	<i>132.97</i>	<i>133.52</i>	<i>133.68</i>	<i>133.88</i>	129.11	<i>131.60</i>	<i>133.51</i>
Percent change from prior year	8.0	7.1	4.7	5.6	2.9	2.5	2.0	<i>0.3</i>	<i>0.5</i>	<i>1.8</i>	<i>2.0</i>	<i>1.4</i>	6.3	<i>1.9</i>	<i>1.5</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.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	9.14	8.82	8.65	8.81	9.02	9.13	9.22	9.60	9.80	9.95	9.86	10.08	8.86	9.24	9.92
Alaska	0.51	0.49	0.45	0.51	0.52	0.50	0.43	0.49	0.51	0.48	0.43	0.49	0.49	0.48	0.48
Federal Gulf of Mexico (b)	1.59	1.57	1.56	1.67	1.76	1.65	1.69	1.70	1.78	1.81	1.69	1.79	1.60	1.70	1.77
Lower 48 States (excl GOM)	7.05	6.76	6.64	6.63	6.74	6.98	7.10	7.40	7.52	7.66	7.74	7.79	6.77	7.06	7.68
Crude Oil Net Imports (c)	7.33	7.05	7.37	7.28	7.24	7.24	6.67	6.26	6.48	6.88	6.60	5.76	7.26	6.85	6.43
SPR Net Withdrawals	0.00	0.00	0.00	0.00	0.04	0.14	0.06	0.11	0.01	0.02	0.02	0.14	0.00	0.09	0.05
Commercial Inventory Net Withdrawals	-0.61	0.04	0.32	-0.14	-0.59	0.41	0.37	-0.01	-0.48	-0.01	0.20	0.05	-0.10	0.05	-0.06
Crude Oil Adjustment (d)	0.10	0.28	0.17	0.12	0.21	0.21	0.19	0.15	0.19	0.19	0.21	0.15	0.17	0.19	0.19
Total Crude Oil Input to Refineries	15.96	16.20	16.52	16.07	15.91	17.13	16.52	16.11	16.01	17.02	16.89	16.17	16.19	16.42	16.53
Other Supply															
Refinery Processing Gain	1.08	1.12	1.15	1.11	1.09	1.13	1.06	1.09	1.06	1.10	1.11	1.09	1.12	1.09	1.09
Natural Gas Plant Liquids Production	3.42	3.64	3.48	3.50	3.54	3.70	3.63	3.93	4.01	4.19	4.33	4.41	3.51	3.70	4.24
Renewables and Oxygenate Production (e)	1.13	1.14	1.18	1.18	1.17	1.16	1.18	1.17	1.15	1.17	1.18	1.18	1.16	1.17	1.17
Fuel Ethanol Production	0.99	0.98	1.01	1.03	1.04	1.01	1.03	1.03	1.02	1.04	1.04	1.05	1.00	1.03	1.04
Petroleum Products Adjustment (f)	0.21	0.22	0.22	0.21	0.21	0.22	0.22	0.23	0.23	0.25	0.24	0.24	0.22	0.22	0.24
Product Net Imports (c)	-2.41	-2.49	-2.27	-2.68	-2.96	-2.99	-2.00	-2.65	-2.81	-3.07	-2.61	-2.92	-2.46	-2.65	-2.85
Hydrocarbon Gas Liquids	-0.98	-1.07	-0.95	-1.12	-1.20	-1.18	-1.00	-1.36	-1.33	-1.39	-1.39	-1.55	-1.03	-1.18	-1.42
Unfinished Oils	0.35	0.46	0.42	0.37	0.37	0.34	0.32	0.26	0.36	0.41	0.42	0.32	0.40	0.32	0.38
Other HC/Oxygenates	-0.11	-0.09	-0.06	-0.06	-0.13	-0.09	-0.06	-0.05	-0.09	-0.06	-0.04	-0.05	-0.08	-0.08	-0.06
Motor Gasoline Blend Comp.	0.34	0.64	0.58	0.52	0.43	0.68	0.58	0.49	0.48	0.66	0.49	0.46	0.52	0.55	0.52
Finished Motor Gasoline	-0.57	-0.49	-0.46	-0.78	-0.66	-0.62	-0.60	-0.56	-0.80	-0.64	-0.41	-0.60	-0.58	-0.61	-0.61
Jet Fuel	-0.02	-0.04	-0.02	-0.03	-0.04	-0.07	-0.01	0.01	0.03	0.04	0.04	0.00	-0.03	-0.03	0.03
Distillate Fuel Oil	-0.82	-1.19	-1.11	-1.00	-1.01	-1.36	-1.25	-0.78	-0.89	-1.35	-1.09	-0.92	-1.03	-1.10	-1.06
Residual Fuel Oil	-0.09	-0.09	-0.10	-0.09	-0.10	-0.11	-0.13	-0.11	-0.07	-0.13	-0.10	-0.10	-0.09	-0.11	-0.10
Other Oils (g)	-0.51	-0.62	-0.58	-0.48	-0.61	-0.60	-0.34	-0.55	-0.50	-0.60	-0.52	-0.49	-0.55	-0.52	-0.53
Product Inventory Net Withdrawals	0.15	-0.32	-0.34	0.38	0.56	-0.33	-0.18	0.47	0.23	-0.43	-0.46	0.36	-0.03	0.13	-0.08
Total Supply	19.54	19.50	19.94	19.77	19.52	20.03	20.17	20.36	19.89	20.23	20.69	20.53	19.69	20.02	20.34
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	2.79	2.35	2.39	2.62	2.79	2.45	2.47	2.79	2.96	2.63	2.80	3.10	2.54	2.63	2.87
Unfinished Oils	0.03	-0.02	-0.01	0.02	0.02	0.02	0.00	0.00	0.00	-0.03	-0.03	0.01	0.00	0.01	-0.01
Motor Gasoline	9.08	9.40	9.58	9.20	8.95	9.54	9.52	9.26	8.95	9.54	9.63	9.32	9.32	9.32	9.36
Fuel Ethanol blended into Motor Gasoline	0.90	0.93	0.96	0.94	0.90	0.96	0.95	0.94	0.92	0.98	0.99	0.96	0.93	0.94	0.96
Jet Fuel	1.51	1.62	1.69	1.63	1.60	1.68	1.70	1.65	1.61	1.72	1.73	1.66	1.61	1.66	1.68
Distillate Fuel Oil	3.93	3.79	3.80	3.99	3.95	3.91	3.88	4.06	4.09	3.96	3.98	4.12	3.88	3.95	4.04
Residual Fuel Oil	0.29	0.37	0.33	0.32	0.37	0.37	0.28	0.30	0.35	0.32	0.32	0.30	0.33	0.33	0.32
Other Oils (g)	1.91	1.99	2.16	1.99	1.83	2.06	2.22	1.99	1.93	2.10	2.26	2.02	2.01	2.02	2.08
Total Consumption	19.54	19.50	19.94	19.77	19.49	20.03	20.08	20.05	19.89	20.23	20.69	20.53	19.69	19.92	20.34
Total Petroleum and Other Liquids Net Imports	4.92	4.56	5.10	4.60	4.28	4.25	4.45	3.61	3.67	3.81	3.99	2.83	4.79	4.15	3.58
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	504.8	500.9	471.5	484.6	537.9	500.4	466.0	467.2	510.2	511.2	492.5	488.0	484.6	467.2	488.0
Hydrocarbon Gas Liquids	152.5	209.9	250.8	200.2	148.1	190.6	239.1	190.1	161.0	212.1	251.1	205.2	200.2	190.1	205.2
Unfinished Oils	91.6	86.8	83.5	80.3	89.3	88.7	89.6	80.6	90.0	88.8	86.1	79.9	80.3	80.6	79.9
Other HC/Oxygenates	29.1	27.9	27.4	29.0	32.6	29.3	30.0	30.7	32.4	31.4	30.7	31.3	29.0	30.7	31.3
Total Motor Gasoline	243.7	242.7	227.7	238.6	239.0	237.9	218.8	238.5	238.2	233.3	228.0	241.7	238.6	238.5	241.7
Finished Motor Gasoline	26.3	24.7	24.8	28.4	21.7	22.5	22.1	27.7	24.7	23.4	24.0	25.4	28.4	27.7	25.4
Motor Gasoline Blend Comp.	217.5	218.0	202.9	210.2	217.2	215.5	196.8	210.8	213.5	209.9	204.0	216.4	210.2	210.8	216.4
Jet Fuel	44.3	40.7	44.9	43.0	42.3	41.0	43.4	41.5	41.0	42.1	43.4	41.1	43.0	41.5	41.1
Distillate Fuel Oil	160.1	149.8	161.1	166.1	151.1	151.6	135.1	148.0	138.1	133.9	152.4	156.3	166.1	148.0	156.3
Residual Fuel Oil	44.5	40.4	38.9	41.5	40.8	35.2	36.6	37.6	39.9	40.3	38.9	39.3	41.5	37.6	39.3
Other Oils (g)	58.6	55.5	50.3	51.2	56.6	55.2	49.6	52.0	57.5	55.5	49.7	52.2	51.2	52.0	52.2
Total Commercial Inventory	1,329	1,354	1,356	1,334	1,338	1,330	1,328	1,286	1,308	1,349	1,373	1,335	1,334	1,286	1,335
Crude Oil in SPR	695	695	695	695	692	679	673	663	662	660	658	646	695	663	646

- = no data available

(a) Includes lease condensate.

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

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

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

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

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

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

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

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
HGL Production															
Natural Gas Processing Plants															
Ethane	1.22	1.38	1.20	1.29	1.33	1.39	1.40	1.51	1.59	1.68	1.76	1.83	1.27	1.41	1.72
Propane	1.16	1.18	1.17	1.15	1.16	1.21	1.21	1.27	1.28	1.31	1.33	1.36	1.17	1.21	1.32
Butanes	0.63	0.64	0.65	0.63	0.63	0.65	0.66	0.69	0.69	0.71	0.73	0.73	0.64	0.66	0.72
Natural Gasoline (Pentanes Plus)	0.41	0.43	0.46	0.43	0.41	0.45	0.48	0.47	0.45	0.49	0.51	0.49	0.43	0.45	0.48
Refinery and Blender Net Production															
Ethane/Ethylene	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Propane/Propylene	0.59	0.60	0.58	0.58	0.57	0.61	0.58	0.59	0.59	0.62	0.60	0.59	0.59	0.59	0.60
Butanes/Butylenes	-0.11	0.26	0.20	-0.20	-0.09	0.27	0.18	-0.17	-0.06	0.25	0.18	-0.18	0.04	0.05	0.05
Renewable Fuels and Oxygenate Plant Net Production															
Natural Gasoline (Pentanes Plus)	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
HGL Net Imports															
Ethane	-0.08	-0.09	-0.10	-0.11	-0.15	-0.16	-0.19	-0.21	-0.27	-0.28	-0.29	-0.30	-0.09	-0.18	-0.28
Propane/Propylene	-0.64	-0.66	-0.57	-0.76	-0.79	-0.71	-0.62	-0.76	-0.72	-0.73	-0.68	-0.88	-0.66	-0.72	-0.75
Butanes/Butylenes	-0.07	-0.13	-0.09	-0.10	-0.09	-0.12	-0.12	-0.15	-0.10	-0.15	-0.17	-0.13	-0.10	-0.12	-0.14
Natural Gasoline (Pentanes Plus)	-0.20	-0.19	-0.19	-0.15	-0.18	-0.18	-0.20	-0.23	-0.24	-0.23	-0.26	-0.25	-0.18	-0.20	-0.24
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.43	0.29	0.32	0.53	0.43	0.30	0.30	0.47	0.41	0.30	0.32	0.49	0.39	0.38	0.38
Natural Gasoline (Pentanes Plus)	0.14	0.15	0.15	0.14	0.16	0.18	0.16	0.15	0.15	0.16	0.16	0.16	0.15	0.16	0.16
HGL Consumption															
Ethane/Ethylene	1.13	1.12	1.11	1.15	1.19	1.23	1.20	1.28	1.29	1.39	1.48	1.53	1.13	1.22	1.42
Propane/Propylene	1.43	0.92	0.98	1.19	1.39	0.92	0.97	1.23	1.40	0.92	1.01	1.25	1.13	1.12	1.14
Butanes/Butylenes	0.18	0.27	0.23	0.16	0.12	0.23	0.22	0.21	0.21	0.27	0.25	0.26	0.21	0.20	0.24
Natural Gasoline (Pentanes Plus)	0.04	0.04	0.07	0.11	0.10	0.08	0.07	0.07	0.05	0.06	0.06	0.07	0.07	0.08	0.06
HGL Inventories (million barrels)															
Ethane/Ethylene	31.69	42.32	48.71	50.55	49.65	51.89	51.87	55.26	56.57	59.85	59.62	60.95	43.35	52.19	59.26
Propane/Propylene	66.95	85.41	104.34	84.08	43.98	61.08	79.37	66.97	43.80	69.50	91.79	75.22	84.08	66.97	75.22
Butanes/Butylenes	32.46	54.17	73.48	40.38	31.68	57.24	75.62	46.17	38.53	61.02	76.66	47.21	40.38	46.17	47.21
Natural Gasoline (Pentanes Plus)	20.43	21.25	25.31	25.05	21.49	20.55	22.93	21.66	20.32	21.84	22.84	22.63	25.05	21.66	22.63
Refinery and Blender Net Inputs															
Crude Oil	15.96	16.20	16.52	16.07	15.91	17.13	16.52	16.11	16.01	17.02	16.89	16.17	16.19	16.42	16.53
Hydrocarbon Gas Liquids	0.58	0.43	0.47	0.67	0.58	0.48	0.46	0.63	0.56	0.46	0.48	0.64	0.54	0.54	0.54
Other Hydrocarbons/Oxygenates	1.15	1.22	1.23	1.19	1.16	1.24	1.23	1.26	1.19	1.28	1.31	1.28	1.20	1.22	1.27
Unfinished Oils	0.22	0.53	0.47	0.38	0.25	0.33	0.31	0.35	0.25	0.45	0.48	0.38	0.40	0.31	0.39
Motor Gasoline Blend Components	0.34	0.83	0.90	0.47	0.39	0.65	0.70	0.49	0.56	0.82	0.67	0.47	0.64	0.56	0.63
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	19.22	19.59	18.78	18.30	19.83	18.98	18.84	18.57	20.03	19.83	18.96	18.96	18.99	19.35
Refinery Processing Gain															
.....	1.08	1.12	1.15	1.11	1.09	1.13	1.06	1.09	1.06	1.10	1.11	1.09	1.12	1.09	1.09
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.48	0.87	0.79	0.39	0.48	0.89	0.77	0.42	0.53	0.88	0.79	0.41	0.63	0.64	0.65
Finished Motor Gasoline	9.71	10.07	10.18	10.01	9.57	10.10	10.01	10.01	9.81	10.27	10.15	10.08	10.00	9.92	10.08
Jet Fuel	1.58	1.62	1.76	1.64	1.63	1.74	1.74	1.62	1.57	1.69	1.71	1.63	1.65	1.68	1.65
Distillate Fuel	4.68	4.79	4.92	4.94	4.75	5.18	4.85	4.89	4.79	5.18	5.18	4.99	4.83	4.92	5.04
Residual Fuel	0.40	0.42	0.42	0.44	0.46	0.41	0.42	0.42	0.44	0.45	0.41	0.40	0.42	0.43	0.43
Other Oils (a)	2.47	2.57	2.68	2.48	2.50	2.64	2.50	2.57	2.48	2.67	2.72	2.54	2.55	2.55	2.60
Total Refinery and Blender Net Production	19.33	20.34	20.74	19.89	19.40	20.97	20.04	19.93	19.63	21.13	20.95	20.05	20.08	20.08	20.44
Refinery Distillation Inputs															
.....	16.26	16.50	16.89	16.41	16.23	17.42	16.84	16.40	16.27	17.18	17.14	16.45	16.51	16.73	16.76
Refinery Operable Distillation Capacity															
.....	18.32	18.36	18.44	18.49	18.62	18.58	18.57	18.57	18.57	18.60	18.60	18.60	18.40	18.58	18.60
Refinery Distillation Utilization Factor															
.....	0.89	0.90	0.92	0.89	0.87	0.94	0.91	0.88	0.88	0.92	0.92	0.88	0.90	0.90	0.90

- = 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Prices (cents per gallon)															
Refiner Wholesale Price	119	158	150	153	163	165	174	165	<i>155</i>	<i>172</i>	<i>170</i>	<i>156</i>	145	<i>167</i>	<i>164</i>
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	187	220	215	223	231	233	242	245	<i>232</i>	<i>245</i>	<i>245</i>	<i>235</i>	212	<i>238</i>	<i>239</i>
PADD 2	176	221	215	212	223	228	232	231	<i>218</i>	<i>241</i>	<i>241</i>	<i>225</i>	207	<i>229</i>	<i>232</i>
PADD 3	167	201	199	201	210	216	222	215	<i>205</i>	<i>222</i>	<i>219</i>	<i>206</i>	192	<i>216</i>	<i>213</i>
PADD 4	184	220	226	220	227	239	245	240	<i>215</i>	<i>237</i>	<i>247</i>	<i>231</i>	213	<i>238</i>	<i>233</i>
PADD 5	241	265	264	263	276	289	290	276	<i>270</i>	<i>299</i>	<i>298</i>	<i>277</i>	259	<i>283</i>	<i>287</i>
U.S. Average	190	225	221	223	233	238	244	241	<i>230</i>	<i>249</i>	<i>249</i>	<i>234</i>	215	<i>239</i>	<i>241</i>
Gasoline All Grades Including Taxes	200	235	232	234	244	250	255	253	<i>241</i>	<i>260</i>	<i>260</i>	<i>246</i>	226	<i>250</i>	<i>252</i>
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	65.9	73.1	58.8	65.4	65.3	67.2	56.9	<i>63.8</i>	<i>66.0</i>	<i>66.2</i>	<i>62.5</i>	<i>65.4</i>	65.4	<i>63.8</i>	<i>65.4</i>
PADD 2	57.1	53.9	51.1	53.2	57.0	53.6	50.3	<i>52.4</i>	<i>53.5</i>	<i>50.9</i>	<i>49.6</i>	<i>52.3</i>	53.2	<i>52.4</i>	<i>52.3</i>
PADD 3	82.9	80.3	83.2	82.8	79.1	82.4	76.0	<i>82.6</i>	<i>81.0</i>	<i>80.6</i>	<i>80.7</i>	<i>84.7</i>	82.8	<i>82.6</i>	<i>84.7</i>
PADD 4	8.4	7.4	6.9	7.9	7.9	7.0	6.9	<i>7.8</i>	<i>7.4</i>	<i>7.4</i>	<i>7.3</i>	<i>8.0</i>	7.9	<i>7.8</i>	<i>8.0</i>
PADD 5	29.4	27.9	27.6	29.3	29.7	27.7	28.7	<i>31.8</i>	<i>30.2</i>	<i>28.2</i>	<i>27.9</i>	<i>31.4</i>	29.3	<i>31.8</i>	<i>31.4</i>
U.S. Total	243.7	242.7	227.7	238.6	239.0	237.9	218.8	<i>238.5</i>	<i>238.2</i>	<i>233.3</i>	<i>228.0</i>	<i>241.7</i>	238.6	<i>238.5</i>	<i>241.7</i>
Finished Gasoline Inventories															
U.S. Total	26.3	24.7	24.8	28.4	21.7	22.5	22.1	<i>27.7</i>	<i>24.7</i>	<i>23.4</i>	<i>24.0</i>	<i>25.4</i>	28.4	<i>27.7</i>	<i>25.4</i>
Gasoline Blending Components Inventories															
U.S. Total	217.5	218.0	202.9	210.2	217.2	215.5	196.8	<i>210.8</i>	<i>213.5</i>	<i>209.9</i>	<i>204.0</i>	<i>216.4</i>	210.2	<i>210.8</i>	<i>216.4</i>

- = no data available

Prices are not adjusted for inflation.

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

Regions refer to 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Supply (billion cubic feet per day)															
Total Marketed Production	79.19	78.27	77.39	76.42	76.47	77.43	79.50	<i>82.51</i>	<i>83.64</i>	<i>84.39</i>	<i>84.71</i>	<i>84.98</i>	77.81	<i>78.99</i>	<i>84.44</i>
Alaska	0.98	0.86	0.81	1.04	1.01	0.97	0.82	<i>0.94</i>	<i>1.00</i>	<i>0.85</i>	<i>0.77</i>	<i>0.93</i>	0.92	<i>0.93</i>	<i>0.89</i>
Federal GOM (a)	3.40	3.28	3.21	3.30	3.35	3.07	2.99	<i>3.22</i>	<i>3.35</i>	<i>3.33</i>	<i>3.21</i>	<i>3.22</i>	3.30	<i>3.16</i>	<i>3.28</i>
Lower 48 States (excl GOM)	74.81	74.13	73.36	72.09	72.12	73.38	75.68	<i>78.35</i>	<i>79.29</i>	<i>80.21</i>	<i>80.73</i>	<i>80.83</i>	73.59	<i>74.91</i>	<i>80.27</i>
Total Dry Gas Production	74.14	73.28	72.45	71.55	71.42	72.15	74.07	<i>76.82</i>	<i>77.82</i>	<i>78.47</i>	<i>78.72</i>	<i>78.92</i>	72.85	<i>73.63</i>	<i>78.49</i>
LNG Gross Imports	0.33	0.19	0.18	0.26	0.29	0.18	0.17	<i>0.22</i>	<i>0.29</i>	<i>0.16</i>	<i>0.18</i>	<i>0.22</i>	0.24	<i>0.21</i>	<i>0.21</i>
LNG Gross Exports	0.15	0.40	0.64	0.85	1.63	1.80	1.61	<i>2.30</i>	<i>2.97</i>	<i>2.91</i>	<i>2.99</i>	<i>3.31</i>	0.51	<i>1.84</i>	<i>3.05</i>
Pipeline Gross Imports	8.08	7.84	8.14	7.82	8.89	7.76	7.72	<i>7.59</i>	<i>8.93</i>	<i>7.87</i>	<i>7.90</i>	<i>7.84</i>	7.97	<i>7.99</i>	<i>8.13</i>
Pipeline Gross Exports	5.63	5.64	5.93	6.28	7.24	6.49	6.31	<i>6.78</i>	<i>7.73</i>	<i>7.06</i>	<i>6.93</i>	<i>7.63</i>	5.87	<i>6.70</i>	<i>7.34</i>
Supplemental Gaseous Fuels	0.16	0.16	0.16	0.15	0.16	0.13	0.16	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	0.16	<i>0.15</i>	<i>0.16</i>
Net Inventory Withdrawals	13.09	-7.78	-5.64	4.32	13.72	-9.02	-7.09	<i>3.75</i>	<i>16.27</i>	<i>-10.12</i>	<i>-9.05</i>	<i>3.78</i>	0.99	<i>0.29</i>	<i>0.16</i>
Total Supply	90.03	67.66	68.71	76.98	85.61	62.91	67.10	<i>79.44</i>	<i>92.78</i>	<i>66.57</i>	<i>67.99</i>	<i>79.99</i>	75.83	<i>73.73</i>	<i>76.77</i>
Balancing Item (b)	-1.01	-1.00	0.43	-1.35	0.22	-0.37	-1.03	<i>-1.31</i>	<i>0.91</i>	<i>0.25</i>	<i>0.01</i>	<i>-0.89</i>	-0.73	<i>-0.63</i>	<i>0.06</i>
Total Primary Supply	89.02	66.66	69.14	75.63	85.83	62.54	66.07	<i>78.14</i>	<i>93.68</i>	<i>66.82</i>	<i>68.00</i>	<i>79.10</i>	75.10	<i>73.11</i>	<i>76.84</i>
Consumption (billion cubic feet per day)															
Residential	22.23	7.08	3.44	14.79	22.17	6.65	3.49	<i>15.86</i>	<i>25.08</i>	<i>7.17</i>	<i>3.51</i>	<i>15.55</i>	11.87	<i>12.00</i>	<i>12.77</i>
Commercial	13.33	5.95	4.53	10.15	13.51	5.84	4.53	<i>10.69</i>	<i>14.83</i>	<i>6.00</i>	<i>4.53</i>	<i>10.61</i>	8.48	<i>8.62</i>	<i>8.97</i>
Industrial	22.47	20.02	20.07	21.84	22.96	20.45	19.92	<i>21.83</i>	<i>23.35</i>	<i>21.00</i>	<i>20.67</i>	<i>22.45</i>	21.10	<i>21.28</i>	<i>21.86</i>
Electric Power (c)	24.17	27.45	34.91	22.54	20.63	23.57	31.91	<i>23.01</i>	<i>23.17</i>	<i>26.01</i>	<i>32.60</i>	<i>23.48</i>	27.28	<i>24.81</i>	<i>26.33</i>
Lease and Plant Fuel	4.42	4.37	4.32	4.27	4.27	4.32	4.44	<i>4.61</i>	<i>4.67</i>	<i>4.71</i>	<i>4.73</i>	<i>4.74</i>	4.34	<i>4.41</i>	<i>4.71</i>
Pipeline and Distribution Use	2.28	1.68	1.75	1.92	2.18	1.59	1.67	<i>2.03</i>	<i>2.47</i>	<i>1.80</i>	<i>1.84</i>	<i>2.14</i>	1.91	<i>1.86</i>	<i>2.06</i>
Vehicle Use	0.11	0.11	0.12	0.12	0.12	0.12	0.12	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	0.11	<i>0.12</i>	<i>0.12</i>
Total Consumption	89.02	66.66	69.14	75.63	85.83	62.54	66.07	<i>78.14</i>	<i>93.68</i>	<i>66.82</i>	<i>68.00</i>	<i>79.10</i>	75.10	<i>73.11</i>	<i>76.84</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	2,486	3,186	3,705	3,297	2,063	2,908	3,559	<i>3,214</i>	<i>1,750</i>	<i>2,671</i>	<i>3,503</i>	<i>3,156</i>	3,297	<i>3,214</i>	<i>3,156</i>
East Region (d)	436	654	898	721	260	563	864	<i>742</i>	<i>288</i>	<i>571</i>	<i>825</i>	<i>696</i>	721	<i>742</i>	<i>696</i>
Midwest Region (d)	543	763	1,042	906	478	702	993	<i>860</i>	<i>342</i>	<i>601</i>	<i>964</i>	<i>830</i>	906	<i>860</i>	<i>830</i>
South Central Region (d)	1,071	1,227	1,176	1,162	938	1,139	1,131	<i>1,102</i>	<i>759</i>	<i>999</i>	<i>1,135</i>	<i>1,108</i>	1,162	<i>1,102</i>	<i>1,108</i>
Mountain Region (d)	144	196	232	204	142	184	221	<i>192</i>	<i>125</i>	<i>164</i>	<i>217</i>	<i>199</i>	204	<i>192</i>	<i>199</i>
Pacific Region (d)	266	316	321	271	219	288	312	<i>279</i>	<i>198</i>	<i>297</i>	<i>324</i>	<i>284</i>	271	<i>279</i>	<i>284</i>
Alaska	25	30	36	33	27	32	38	<i>38</i>	<i>38</i>	<i>38</i>	<i>38</i>	<i>38</i>	33	<i>38</i>	<i>38</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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Wholesale/Spot															
Henry Hub Spot Price	2.07	2.22	2.99	3.15	3.12	3.19	3.06	3.19	3.42	3.21	3.25	3.35	2.61	3.14	3.31
Residential Retail															
New England	11.73	13.06	17.73	13.35	12.85	14.08	17.82	13.59	13.13	14.14	17.07	13.67	12.83	13.58	13.71
Middle Atlantic	8.84	10.69	16.15	10.23	9.92	12.18	17.08	11.18	10.27	12.34	16.68	11.24	10.05	11.11	11.29
E. N. Central	6.78	9.36	17.80	8.25	7.77	11.52	17.70	9.26	8.20	11.06	16.78	9.11	8.25	9.39	9.38
W. N. Central	7.38	10.51	17.80	9.11	8.32	11.85	18.61	10.05	9.04	11.84	17.74	9.84	8.96	9.97	10.18
S. Atlantic	10.05	15.16	23.15	12.90	12.27	18.99	23.58	13.01	11.50	16.48	22.38	12.94	12.45	14.23	13.28
E. S. Central	8.54	13.14	19.55	11.35	10.53	15.83	20.72	12.52	10.03	14.50	20.35	12.91	10.52	12.50	11.95
W. S. Central	8.29	14.15	21.03	13.26	10.33	16.49	21.29	12.21	9.35	14.30	19.90	12.29	11.61	12.82	11.79
Mountain	8.23	9.66	13.77	8.53	8.21	10.17	14.49	9.54	9.12	10.40	13.89	9.36	8.98	9.42	9.78
Pacific	10.95	11.32	13.01	12.19	12.02	12.64	12.93	11.28	12.14	12.42	12.92	11.68	11.68	12.00	12.14
U.S. Average	8.51	11.15	16.96	10.18	9.73	12.92	17.40	10.83	9.86	12.45	16.74	10.81	10.04	11.10	10.99
Commercial Retail															
New England	8.80	9.56	10.40	9.55	9.55	10.08	10.57	10.38	10.69	10.62	10.47	10.08	9.32	9.97	10.50
Middle Atlantic	6.93	6.45	6.06	6.78	7.66	7.42	7.42	7.91	8.09	7.97	7.32	7.81	6.68	7.66	7.90
E. N. Central	5.86	6.61	8.77	6.52	6.63	7.87	9.02	7.07	6.83	7.87	9.21	7.22	6.40	7.15	7.27
W. N. Central	6.22	6.71	8.48	6.79	6.96	7.79	9.03	7.34	7.60	8.11	9.15	7.52	6.66	7.38	7.77
S. Atlantic	7.54	8.33	9.32	8.54	8.86	10.06	9.80	8.96	8.83	9.54	10.08	9.08	8.18	9.22	9.18
E. S. Central	7.49	8.57	9.75	9.03	9.05	10.28	10.57	9.17	8.65	9.68	10.24	9.20	8.36	9.47	9.14
W. S. Central	6.27	6.88	8.27	8.11	7.63	8.20	8.58	7.73	7.28	7.65	8.28	7.83	7.18	7.92	7.64
Mountain	6.95	7.10	7.96	6.89	6.88	7.37	8.45	7.34	7.49	7.79	8.58	7.51	7.06	7.28	7.67
Pacific	8.44	8.15	9.22	9.19	9.04	8.99	9.06	8.61	8.67	8.49	8.92	8.74	8.75	8.91	8.70
U.S. Average	6.87	7.26	8.24	7.52	7.71	8.33	8.82	7.98	7.93	8.38	8.79	8.05	7.29	8.02	8.13
Industrial Retail															
New England	6.88	6.69	6.13	6.95	7.81	7.04	6.64	8.27	8.68	7.96	7.37	8.36	6.73	7.56	8.22
Middle Atlantic	6.51	5.99	6.27	6.76	7.69	7.59	8.23	7.99	8.20	7.61	7.59	7.86	6.45	7.81	7.94
E. N. Central	5.04	4.73	5.45	5.41	5.86	5.96	5.60	5.81	6.51	6.23	6.19	6.13	5.14	5.83	6.32
W. N. Central	4.42	3.56	4.06	4.50	5.05	4.30	4.32	5.06	5.64	4.91	4.75	5.30	4.18	4.72	5.19
S. Atlantic	4.40	3.78	4.43	4.82	5.35	5.03	4.94	5.30	5.58	5.07	5.07	5.42	4.37	5.17	5.31
E. S. Central	3.99	3.40	4.12	4.63	5.06	4.59	4.49	4.88	5.12	4.65	4.64	5.04	4.04	4.77	4.88
W. S. Central	2.29	2.16	3.07	3.21	3.47	3.42	3.37	3.41	3.63	3.40	3.52	3.58	2.69	3.42	3.53
Mountain	5.27	4.96	5.44	5.11	5.31	5.36	5.70	5.79	5.98	5.82	6.15	6.15	5.19	5.54	6.03
Pacific	6.64	6.01	6.67	7.11	7.45	6.89	6.61	6.66	7.06	6.61	6.71	6.85	6.64	6.93	6.83
U.S. Average	3.44	2.93	3.64	4.04	4.53	4.12	3.95	4.30	4.74	4.14	4.14	4.47	3.52	4.24	4.39

- = 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Supply (million short tons)															
Production	173.0	160.5	195.1	199.5	197.0	187.1	206.5	194.4	197.4	175.4	204.4	210.6	728.2	785.0	787.8
Appalachia	44.3	43.2	44.8	47.6	50.7	51.3	50.1	48.4	48.4	45.0	42.8	44.8	180.0	200.5	181.0
Interior	36.9	34.4	35.7	37.2	38.5	36.4	38.4	33.7	38.3	33.2	39.4	42.4	144.2	146.9	153.3
Western	91.8	82.8	114.6	114.8	107.8	99.4	117.9	112.4	110.7	97.2	122.2	123.4	404.0	437.6	453.5
Primary Inventory Withdrawals	-1.4	0.2	3.6	-0.1	-1.0	0.5	2.9	-0.8	-1.1	-0.3	3.2	-3.0	2.2	1.6	-1.2
Imports	2.7	2.3	2.7	2.1	1.9	2.2	2.8	2.2	1.5	2.3	3.0	2.6	9.8	9.1	9.4
Exports	14.2	14.2	12.6	19.3	22.3	21.8	19.4	11.4	17.0	16.1	15.9	15.4	60.3	74.8	64.4
Metallurgical Coal	10.2	10.1	9.1	11.6	12.2	13.5	11.7	8.1	9.9	11.8	11.4	10.8	40.9	45.5	44.0
Steam Coal	4.0	4.2	3.5	7.7	10.1	8.3	7.7	3.2	7.1	4.3	4.4	4.6	19.3	29.4	20.4
Total Primary Supply	160.1	148.8	188.9	182.2	175.6	168.0	192.8	184.5	180.8	161.3	194.7	194.8	680.0	720.9	731.5
Secondary Inventory Withdrawals	4.1	9.2	25.2	-5.6	0.8	3.1	17.9	-4.5	1.5	3.2	14.0	-17.7	32.9	17.2	1.0
Waste Coal (a)	2.5	1.9	2.4	2.0	2.4	1.7	2.5	2.5	2.4	2.4	2.4	2.4	8.7	9.2	9.6
Total Supply	166.7	159.9	216.5	178.5	178.8	172.8	213.2	182.5	184.7	166.8	211.1	179.5	721.7	747.2	742.1
Consumption (million short tons)															
Coke Plants	4.1	4.1	4.2	4.1	4.2	4.3	4.6	5.2	3.7	3.3	4.0	5.0	16.5	18.3	16.0
Electric Power Sector (b)	152.2	147.2	210.3	167.6	160.5	154.6	196.9	169.0	172.2	155.2	198.5	165.6	677.3	680.9	691.6
Retail and Other Industry	9.6	8.7	8.7	9.0	8.9	8.3	7.9	8.3	8.8	8.3	8.5	8.9	36.0	33.5	34.5
Residential and Commercial	0.4	0.2	0.2	0.3	0.4	0.2	0.1	0.2	0.3	0.1	0.1	0.2	1.2	0.9	0.7
Other Industrial	9.2	8.5	8.5	8.7	8.5	8.1	7.8	8.1	8.5	8.2	8.4	8.7	34.9	32.5	33.8
Total Consumption	166.0	160.0	223.1	180.7	173.6	167.2	209.4	182.5	184.7	166.8	211.1	179.5	729.8	732.7	742.1
Discrepancy (c)	0.7	-0.1	-6.6	-2.2	5.2	5.5	3.8	0.0	0.0	0.0	0.0	0.0	-8.1	14.5	0.0
End-of-period Inventories (million short tons)															
Primary Inventories (d)	37.3	37.1	33.6	33.7	34.7	34.2	31.3	32.1	33.2	33.5	30.3	33.3	33.7	32.1	33.3
Secondary Inventories	198.5	189.2	164.0	169.6	168.9	165.8	147.9	152.4	150.9	147.7	133.7	151.4	169.6	152.4	151.4
Electric Power Sector	192.3	183.2	158.2	163.9	163.9	160.5	142.7	147.6	146.4	143.0	128.8	146.5	163.9	147.6	146.5
Retail and General Industry	4.0	3.8	3.7	3.6	3.2	3.3	3.3	2.8	3.0	3.0	3.1	3.0	3.6	2.8	3.0
Coke Plants	1.9	1.8	1.7	1.7	1.4	1.6	1.7	1.7	1.2	1.6	1.6	1.6	1.7	1.7	1.6
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.23	6.23	6.23	6.23	6.19	6.19	6.19	6.19	6.10	6.10	6.10	6.10	6.23	6.19	6.10
Total Raw Steel Production															
(Million short tons per day)	0.238	0.247	0.238	0.230	0.248	0.247	0.250	0.219	0.260	0.252	0.230	0.199	0.239	0.241	0.235
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.13	2.13	2.11	2.08	2.08	2.12	2.16	2.17	2.18	2.19	2.21	2.20	2.11	2.14	2.20

- = 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Electricity Supply (billion kilowatthours per day)															
Electricity Generation	10.67	10.75	12.76	10.39	10.53	10.67	12.27	<i>10.46</i>	<i>11.01</i>	<i>10.91</i>	<i>12.45</i>	<i>10.60</i>	11.15	<i>10.99</i>	<i>11.24</i>
Electric Power Sector (a)	10.23	10.32	12.32	9.96	10.10	10.25	11.84	<i>10.05</i>	<i>10.58</i>	<i>10.49</i>	<i>12.00</i>	<i>10.18</i>	10.71	<i>10.56</i>	<i>10.81</i>
Comm. and Indus. Sectors (b)	0.44	0.43	0.45	0.42	0.43	0.41	0.43	<i>0.41</i>	<i>0.43</i>	<i>0.43</i>	<i>0.45</i>	<i>0.42</i>	0.44	<i>0.42</i>	<i>0.43</i>
Net Imports	0.18	0.18	0.22	0.19	0.19	0.19	0.17	<i>0.14</i>	<i>0.15</i>	<i>0.15</i>	<i>0.17</i>	<i>0.12</i>	0.19	<i>0.17</i>	<i>0.15</i>
Total Supply	10.85	10.93	12.98	10.58	10.72	10.86	12.44	<i>10.60</i>	<i>11.15</i>	<i>11.06</i>	<i>12.61</i>	<i>10.72</i>	11.34	<i>11.16</i>	<i>11.39</i>
Losses and Unaccounted for (c)	0.66	0.97	0.90	0.73	0.61	0.81	0.75	<i>0.65</i>	<i>0.56</i>	<i>0.84</i>	<i>0.73</i>	<i>0.68</i>	0.82	<i>0.71</i>	<i>0.70</i>
Electricity Consumption (billion kilowatthours per day unless noted)															
Retail Sales	9.81	9.58	11.69	9.47	9.73	9.68	11.31	<i>9.59</i>	<i>10.21</i>	<i>9.85</i>	<i>11.49</i>	<i>9.67</i>	10.14	<i>10.08</i>	<i>10.31</i>
Residential Sector	3.81	3.37	4.77	3.42	3.70	3.42	4.47	<i>3.45</i>	<i>4.06</i>	<i>3.49</i>	<i>4.58</i>	<i>3.51</i>	3.85	<i>3.76</i>	<i>3.91</i>
Commercial Sector	3.49	3.62	4.20	3.55	3.51	3.63	4.09	<i>3.57</i>	<i>3.58</i>	<i>3.69</i>	<i>4.12</i>	<i>3.58</i>	3.71	<i>3.70</i>	<i>3.74</i>
Industrial Sector	2.48	2.57	2.70	2.48	2.49	2.61	2.73	<i>2.54</i>	<i>2.55</i>	<i>2.64</i>	<i>2.76</i>	<i>2.56</i>	2.56	<i>2.59</i>	<i>2.63</i>
Transportation Sector	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	0.02	<i>0.02</i>	<i>0.02</i>
Direct Use (d)	0.39	0.38	0.40	0.38	0.38	0.37	0.38	<i>0.37</i>	<i>0.38</i>	<i>0.38</i>	<i>0.40</i>	<i>0.37</i>	0.38	<i>0.37</i>	<i>0.38</i>
Total Consumption	10.19	9.96	12.09	9.84	10.11	10.05	11.69	<i>9.95</i>	<i>10.59</i>	<i>10.22</i>	<i>11.89</i>	<i>10.04</i>	10.52	<i>10.45</i>	<i>10.69</i>
Average residential electricity usage per customer (kWh)	2,645	2,342	3,348	2,401	2,527	2,360	3,131	<i>2,409</i>	<i>2,740</i>	<i>2,386</i>	<i>3,165</i>	<i>2,423</i>	10,736	<i>10,427</i>	<i>10,714</i>
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.13	2.13	2.11	2.08	2.08	2.12	2.16	<i>2.17</i>	<i>2.18</i>	<i>2.19</i>	<i>2.21</i>	<i>2.20</i>	2.11	<i>2.14</i>	<i>2.20</i>
Natural Gas	2.65	2.51	3.00	3.36	3.69	3.38	3.25	<i>3.67</i>	<i>4.16</i>	<i>3.58</i>	<i>3.45</i>	<i>3.85</i>	2.88	<i>3.47</i>	<i>3.72</i>
Residual Fuel Oil	6.15	8.51	9.70	9.08	11.16	10.60	9.91	<i>10.46</i>	<i>10.29</i>	<i>10.85</i>	<i>10.52</i>	<i>10.61</i>	8.41	<i>10.51</i>	<i>10.56</i>
Distillate Fuel Oil	9.00	11.01	11.64	12.14	12.75	12.24	10.92	<i>11.50</i>	<i>12.40</i>	<i>11.74</i>	<i>10.24</i>	<i>10.50</i>	10.86	<i>11.92</i>	<i>11.29</i>
Retail Prices (cents per kilowatthour)															
Residential Sector	12.20	12.66	12.81	12.45	12.61	13.00	13.32	<i>12.80</i>	<i>12.81</i>	<i>13.46</i>	<i>13.73</i>	<i>13.18</i>	12.55	<i>12.96</i>	<i>13.31</i>
Commercial Sector	10.12	10.34	10.68	10.27	10.38	10.67	10.90	<i>10.29</i>	<i>10.50</i>	<i>10.75</i>	<i>10.97</i>	<i>10.42</i>	10.37	<i>10.57</i>	<i>10.67</i>
Industrial Sector	6.42	6.67	7.20	6.67	6.65	6.88	7.42	<i>6.95</i>	<i>6.86</i>	<i>7.09</i>	<i>7.63</i>	<i>7.11</i>	6.75	<i>6.99</i>	<i>7.18</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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Residential Sector															
New England	133	109	152	114	135	112	138	118	139	112	147	117	127	126	129
Middle Atlantic	367	309	461	320	368	307	399	323	387	319	416	324	364	350	361
E. N. Central	522	447	619	459	507	435	545	464	549	442	553	466	512	488	502
W. N. Central	298	243	322	255	298	246	310	265	327	250	315	268	279	280	290
S. Atlantic	968	874	1,223	852	891	891	1,160	859	1,019	905	1,176	873	980	951	993
E. S. Central	337	274	412	279	305	277	372	282	359	286	382	288	326	309	329
W. S. Central	526	518	810	517	501	536	747	512	577	557	799	536	593	575	618
Mountain	240	251	337	232	245	259	345	233	254	256	353	237	265	270	275
Pacific contiguous	406	336	422	381	439	346	441	386	433	354	432	388	386	403	402
AK and HI	13	12	12	14	14	12	12	13	14	12	12	13	13	13	13
Total	3,810	3,373	4,771	3,421	3,704	3,421	4,470	3,455	4,057	3,494	4,583	3,509	3,845	3,764	3,911
Commercial Sector															
New England	141	137	160	135	140	136	152	135	140	136	152	132	143	141	140
Middle Atlantic	422	408	488	408	423	404	463	403	423	405	465	398	432	423	423
E. N. Central	488	493	567	483	490	488	539	486	500	492	540	484	508	501	504
W. N. Central	271	271	308	271	272	270	304	276	280	278	310	276	280	280	286
S. Atlantic	792	844	977	802	784	853	946	803	802	853	947	807	854	847	853
E. S. Central	231	242	295	234	227	241	284	237	242	248	288	238	251	247	254
W. S. Central	473	519	623	511	477	527	611	521	508	554	638	538	532	534	560
Mountain	240	258	290	250	246	265	295	250	247	270	301	254	260	264	268
Pacific contiguous	418	428	475	436	431	431	477	444	422	437	465	440	440	446	441
AK and HI	16	16	16	16	16	16	16	16	16	15	16	16	16	16	16
Total	3,494	3,616	4,199	3,547	3,508	3,630	4,087	3,571	3,580	3,688	4,122	3,583	3,715	3,700	3,744
Industrial Sector															
New England	45	47	49	45	44	44	49	43	42	43	46	42	47	45	43
Middle Atlantic	192	191	202	189	192	194	203	191	196	190	207	190	193	195	196
E. N. Central	502	504	528	485	493	502	530	494	511	508	531	493	505	505	511
W. N. Central	223	228	246	227	228	240	262	246	245	250	270	252	231	244	254
S. Atlantic	362	384	393	362	363	386	373	357	347	373	374	352	375	370	361
E. S. Central	258	269	274	261	264	275	281	271	278	277	276	268	265	273	275
W. S. Central	456	471	481	458	476	498	506	471	474	513	528	489	467	488	501
Mountain	214	232	247	215	210	228	249	222	219	239	256	228	227	227	235
Pacific contiguous	215	236	262	224	211	230	263	229	221	237	260	230	234	233	237
AK and HI	13	14	15	14	13	14	15	14	13	14	14	14	14	14	14
Total	2,480	2,575	2,697	2,480	2,493	2,610	2,729	2,539	2,548	2,642	2,762	2,558	2,558	2,593	2,628
Total All Sectors (a)															
New England	320	294	362	295	320	294	340	298	323	292	346	293	318	313	313
Middle Atlantic	993	918	1,162	927	994	915	1,077	928	1,018	925	1,100	923	1,000	979	991
E. N. Central	1,514	1,446	1,716	1,429	1,492	1,427	1,615	1,447	1,562	1,443	1,626	1,445	1,526	1,495	1,519
W. N. Central	792	742	877	753	798	755	876	787	853	778	894	796	791	804	830
S. Atlantic	2,126	2,106	2,596	2,020	2,042	2,134	2,483	2,022	2,171	2,135	2,501	2,035	2,213	2,171	2,211
E. S. Central	827	785	981	774	796	793	937	790	879	811	946	793	842	829	857
W. S. Central	1,455	1,509	1,914	1,487	1,455	1,562	1,865	1,504	1,560	1,625	1,966	1,564	1,592	1,597	1,679
Mountain	694	741	875	697	701	752	888	706	720	765	910	718	752	762	779
Pacific contiguous	1,042	1,002	1,162	1,043	1,083	1,010	1,184	1,061	1,079	1,030	1,159	1,061	1,062	1,085	1,082
AK and HI	42	41	43	44	43	41	43	44	43	41	43	43	43	43	43
Total	9,805	9,584	11,688	9,469	9,726	9,681	11,308	9,586	10,207	9,845	11,490	9,672	10,139	10,078	10,305

- = 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 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Residential Sector															
New England	19.08	19.30	18.47	18.68	19.08	19.51	19.37	18.41	19.78	20.52	20.24	19.46	18.85	19.10	20.00
Middle Atlantic	15.29	15.88	16.08	15.74	15.56	16.29	16.72	16.06	15.83	16.67	17.15	16.51	15.76	16.17	16.55
E. N. Central	12.51	13.25	12.91	13.04	12.90	13.58	13.34	13.52	13.38	14.22	13.95	14.08	12.91	13.32	13.88
W. N. Central	10.61	12.31	12.67	11.27	10.94	12.66	13.25	11.49	11.09	13.01	13.63	11.77	11.73	12.10	12.36
S. Atlantic	11.40	11.75	11.88	11.47	11.73	12.01	12.35	11.87	11.91	12.43	12.77	12.21	11.65	12.02	12.35
E. S. Central	10.35	10.94	10.90	11.14	11.10	11.44	11.51	11.68	11.46	12.03	11.95	11.99	10.82	11.43	11.84
W. S. Central	10.34	10.69	10.65	10.52	10.55	10.93	11.03	10.83	10.63	11.21	11.33	11.12	10.56	10.86	11.10
Mountain	11.05	11.91	12.12	11.45	11.28	12.15	12.35	11.67	11.53	12.46	12.71	11.99	11.68	11.91	12.23
Pacific	14.13	13.95	16.09	13.85	14.52	14.70	16.54	14.13	14.97	15.28	17.12	14.53	14.56	15.02	15.52
U.S. Average	12.20	12.66	12.81	12.45	12.61	13.00	13.32	12.80	12.81	13.46	13.73	13.18	12.55	12.96	13.31
Commercial Sector															
New England	15.33	15.01	15.19	14.89	15.12	15.08	14.86	13.01	14.12	13.97	14.08	12.72	15.11	14.53	13.74
Middle Atlantic	12.02	12.48	13.29	12.22	12.07	12.73	13.31	12.31	12.05	12.71	13.40	12.53	12.54	12.63	12.70
E. N. Central	9.65	9.87	9.91	9.98	10.02	10.24	10.05	10.21	10.29	10.54	10.27	10.39	9.86	10.13	10.37
W. N. Central	8.86	9.70	10.15	9.07	9.12	10.11	10.59	9.32	9.24	10.30	10.86	9.63	9.47	9.81	10.03
S. Atlantic	9.37	9.27	9.26	9.21	9.48	9.38	9.43	9.41	9.95	9.71	9.68	9.63	9.28	9.43	9.74
E. S. Central	9.93	9.99	10.12	10.35	10.53	10.56	10.50	10.64	10.74	10.88	10.68	10.77	10.10	10.55	10.76
W. S. Central	7.80	7.79	7.86	7.78	8.26	8.42	8.12	7.58	7.79	7.93	7.83	7.55	7.81	8.09	7.78
Mountain	9.02	9.75	10.03	9.34	9.14	9.92	10.09	9.29	9.18	9.96	10.16	9.40	9.56	9.64	9.71
Pacific	12.21	13.08	14.69	12.96	12.53	13.56	15.08	13.11	13.38	14.05	15.71	13.40	13.28	13.61	14.17
U.S. Average	10.12	10.34	10.68	10.27	10.38	10.67	10.90	10.29	10.50	10.75	10.97	10.42	10.37	10.57	10.67
Industrial Sector															
New England	12.22	11.86	12.25	12.03	12.42	12.25	12.52	12.09	12.85	12.55	12.76	12.26	12.09	12.33	12.61
Middle Atlantic	7.05	7.01	7.12	6.92	6.93	6.94	7.10	6.97	6.90	7.00	7.16	7.05	7.03	6.99	7.03
E. N. Central	6.74	6.88	7.04	6.96	7.02	7.05	7.09	7.01	7.11	7.17	7.17	7.09	6.91	7.04	7.14
W. N. Central	6.65	7.10	7.82	6.64	6.89	7.33	7.99	6.71	6.99	7.45	8.11	6.80	7.07	7.25	7.36
S. Atlantic	6.15	6.33	6.78	6.30	6.35	6.39	6.93	6.52	6.56	6.61	7.06	6.64	6.40	6.55	6.72
E. S. Central	5.45	5.72	6.14	5.99	5.91	5.96	6.37	6.28	6.13	6.19	6.57	6.44	5.83	6.13	6.33
W. S. Central	5.06	5.03	5.44	5.32	5.27	5.52	6.15	6.25	5.80	6.01	6.59	6.63	5.22	5.80	6.27
Mountain	5.83	6.29	7.01	6.08	6.08	6.54	7.14	6.29	6.30	6.75	7.37	6.49	6.33	6.54	6.75
Pacific	7.99	9.08	10.54	8.65	8.24	9.35	10.78	8.68	8.18	9.27	10.94	8.72	9.14	9.34	9.34
U.S. Average	6.42	6.67	7.20	6.67	6.65	6.88	7.42	6.95	6.86	7.09	7.63	7.11	6.75	6.99	7.18
All Sectors (a)															
New England	16.41	16.07	16.13	15.88	16.38	16.31	16.35	14.98	16.36	16.24	16.48	15.33	16.13	16.02	16.12
Middle Atlantic	12.25	12.47	13.31	12.34	12.35	12.69	13.40	12.51	12.48	12.89	13.63	12.78	12.63	12.76	12.96
E. N. Central	9.67	9.87	10.11	9.93	10.00	10.13	10.21	10.18	10.33	10.47	10.51	10.45	9.90	10.13	10.44
W. N. Central	8.90	9.75	10.42	9.08	9.16	10.06	10.76	9.24	9.30	10.26	11.00	9.46	9.57	9.83	10.02
S. Atlantic	9.74	9.76	10.12	9.64	9.90	9.94	10.38	9.94	10.33	10.32	10.74	10.22	9.84	10.06	10.42
E. S. Central	8.70	8.86	9.33	9.17	9.22	9.27	9.66	9.51	9.58	9.68	10.00	9.75	9.03	9.43	9.76
W. S. Central	7.86	7.92	8.43	7.97	8.07	8.36	8.77	8.27	8.23	8.45	8.92	8.49	8.07	8.39	8.55
Mountain	8.74	9.40	9.98	9.03	8.97	9.66	10.17	9.14	9.13	9.80	10.36	9.33	9.33	9.53	9.70
Pacific	12.08	12.42	14.25	12.35	12.49	12.98	14.72	12.51	12.94	13.36	15.15	12.79	12.82	13.22	13.60
U.S. Average	9.99	10.17	10.75	10.11	10.27	10.47	11.02	10.31	10.51	10.73	11.27	10.54	10.28	10.54	10.78

- = no data available

Prices are not adjusted for inflation.

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

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

Regions refer to U.S. Census divisions.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 7d. U.S. Regional Electricity Generation, All Sectors (Thousand megawatthours per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
United States															
Coal	3,059	2,967	4,202	3,317	3,250	3,110	3,915	3,353	3,550	3,139	3,960	3,283	3,388	3,408	3,484
Natural Gas	3,426	3,762	4,702	3,191	2,917	3,262	4,335	3,240	3,264	3,568	4,395	3,294	3,771	3,442	3,632
Petroleum (a)	68	63	72	59	61	56	61	59	74	67	74	62	65	59	69
Other Gases	40	35	35	32	39	37	37	33	41	39	38	33	36	36	38
Nuclear	2,245	2,155	2,254	2,148	2,247	2,034	2,293	2,114	2,223	2,097	2,280	2,138	2,200	2,172	2,185
Renewable Energy Sources:	1,804	1,747	1,487	1,625	1,994	2,148	1,613	1,645	1,832	1,977	1,675	1,766	1,665	1,849	1,812
Conventional Hydropower	842	810	618	637	917	1,011	718	619	742	798	720	666	726	815	732
Wind	667	614	517	682	752	738	503	706	754	768	538	763	620	674	705
Wood Biomass	114	104	116	108	114	110	117	111	114	106	117	111	111	113	112
Waste Biomass	60	61	61	59	59	56	57	58	59	60	61	60	60	58	60
Geothermal	47	46	47	50	49	47	48	47	48	47	47	47	48	48	47
Solar	73	112	127	89	103	186	171	104	114	199	192	119	100	141	156
Pumped Storage Hydropower	-12	-14	-26	-21	-16	-16	-23	-17	-14	-12	-17	-15	-18	-18	-15
Other Nonrenewable Fuels (b)	36	38	39	36	36	36	39	36	35	37	40	36	37	36	37
Total Generation	10,667	10,754	12,764	10,386	10,527	10,667	12,270	10,464	11,005	10,910	12,445	10,599	11,145	10,985	11,242
Northeast Census Region															
Coal	162	141	203	150	154	132	172	195	221	133	187	194	164	163	184
Natural Gas	512	599	795	521	474	468	661	516	476	518	666	521	607	530	546
Petroleum (a)	7	3	6	6	4	3	4	4	8	5	8	5	5	4	7
Other Gases	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Nuclear	543	461	516	525	539	476	550	498	522	493	536	503	511	516	514
Hydropower (c)	111	94	78	82	103	108	95	88	82	89	88	87	91	99	86
Other Renewables (d)	77	63	61	73	71	76	68	76	80	72	64	77	69	73	73
Other Nonrenewable Fuels (b)	11	12	12	11	11	11	12	11	11	12	12	12	12	11	12
Total Generation	1,426	1,375	1,674	1,371	1,359	1,276	1,564	1,390	1,403	1,323	1,563	1,400	1,462	1,398	1,423
South Census Region															
Coal	1,270	1,347	1,950	1,462	1,334	1,424	1,778	1,410	1,480	1,398	1,850	1,422	1,508	1,487	1,538
Natural Gas	2,013	2,235	2,645	1,825	1,721	2,064	2,506	1,849	1,879	2,144	2,524	1,871	2,180	2,036	2,106
Petroleum (a)	29	30	35	23	26	23	26	23	31	27	30	23	29	24	28
Other Gases	15	13	14	13	14	14	14	13	15	15	14	14	14	14	14
Nuclear	951	998	994	936	979	888	999	943	996	939	1,021	958	970	952	978
Hydropower (c)	191	84	71	63	135	145	99	69	109	120	94	70	102	112	98
Other Renewables (d)	330	307	305	335	399	398	312	374	405	437	352	417	320	371	403
Other Nonrenewable Fuels (b)	16	18	18	16	15	15	17	15	15	16	18	15	17	16	16
Total Generation	4,815	5,033	6,032	4,673	4,623	4,972	5,751	4,696	4,930	5,097	5,904	4,789	5,140	5,013	5,182
Midwest Census Region															
Coal	1,202	1,109	1,498	1,197	1,292	1,182	1,420	1,222	1,330	1,163	1,406	1,190	1,252	1,279	1,272
Natural Gas	357	368	454	295	283	279	398	299	386	395	452	325	368	315	389
Petroleum (a)	10	9	8	7	7	8	9	10	12	11	12	10	9	9	11
Other Gases	16	13	14	11	17	15	16	12	18	16	16	12	14	15	16
Nuclear	573	543	572	523	555	543	573	517	542	511	556	521	553	547	532
Hydropower (c)	48	43	39	37	55	60	42	39	44	49	39	39	42	49	43
Other Renewables (d)	282	245	185	300	307	299	196	307	323	295	200	323	253	277	285
Other Nonrenewable Fuels (b)	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4
Total Generation	2,492	2,334	2,773	2,374	2,520	2,390	2,659	2,411	2,658	2,444	2,685	2,424	2,494	2,495	2,553
West Census Region															
Coal	426	370	551	508	470	373	544	526	519	444	517	477	464	478	489
Natural Gas	543	560	809	549	440	451	770	576	523	511	752	577	616	560	591
Petroleum (a)	21	20	23	23	23	22	22	23	24	23	24	24	22	22	24
Other Gases	7	6	5	6	6	6	5	6	6	6	5	6	6	6	6
Nuclear	178	152	172	164	175	127	171	156	163	154	167	157	166	157	161
Hydropower (c)	480	575	404	434	607	682	458	405	493	527	483	456	473	538	490
Other Renewables (d)	273	322	317	280	299	363	320	270	281	376	339	283	298	313	320
Other Nonrenewable Fuels (b)	4	5	5	5	5	5	6	5	5	5	6	5	5	5	5
Total Generation	1,933	2,011	2,285	1,968	2,025	2,030	2,297	1,967	2,015	2,047	2,293	1,985	2,050	2,080	2,085

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

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

(c) Conventional hydroelectric and pumped storage generation.

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

Notes: Data reflect generation supplied by electricity-only and combined-heat-and-power (CHP) plants operated by electric utilities, independent power producers, and the commercial and industrial sectors. The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Fuel Consumption for Electricity Generation, All Sectors															
United States															
Coal (thousand st/d)	1,676	1,619	2,288	1,822	1,785	1,700	2,142	1,836	1,911	1,705	2,157	1,798	1,852	1,867	1,893
Natural Gas (million cf/d)	25,226	28,572	36,107	23,726	21,813	24,734	33,083	24,139	24,299	27,192	33,813	24,644	28,416	25,968	27,505
Petroleum (thousand b/d)	121	112	130	103	108	98	113	105	131	118	131	110	116	106	122
Residual Fuel Oil	29	22	35	25	24	25	26	24	32	28	33	28	28	25	30
Distillate Fuel Oil	30	23	24	25	29	25	22	23	30	25	25	22	26	25	25
Petroleum Coke (a)	57	63	66	48	50	45	56	53	62	60	68	56	58	51	62
Other Petroleum Liquids (b)	5	3	5	4	4	4	8	5	7	4	5	5	4	5	5
Northeast Census Region															
Coal (thousand st/d)	80	66	94	70	74	60	83	94	104	63	91	93	77	78	88
Natural Gas (million cf/d)	3,829	4,578	6,203	3,899	3,638	3,642	5,180	3,942	3,649	4,016	5,261	3,995	4,630	4,104	4,234
Petroleum (thousand b/d)	12	5	12	8	8	5	11	7	15	10	15	10	9	8	12
South Census Region															
Coal (thousand st/d)	671	718	1,035	789	717	765	949	753	769	739	983	760	804	796	813
Natural Gas (million cf/d)	14,754	16,920	20,179	13,502	12,676	15,505	18,904	13,588	13,782	16,169	19,165	13,804	16,342	15,181	15,739
Petroleum (thousand b/d)	55	56	66	43	48	43	48	42	57	50	56	43	55	45	52
Midwest Census Region															
Coal (thousand st/d)	680	626	848	675	725	663	804	691	745	655	794	673	708	721	717
Natural Gas (million cf/d)	2,692	2,910	3,743	2,283	2,189	2,154	3,177	2,295	2,948	3,089	3,659	2,509	2,908	2,456	3,051
Petroleum (thousand b/d)	19	19	18	16	15	16	18	20	21	20	22	20	18	17	21
West Census Region															
Coal (thousand st/d)	244	208	312	288	269	212	306	298	293	248	290	271	263	272	275
Natural Gas (million cf/d)	3,951	4,164	5,982	4,041	3,310	3,433	5,822	4,313	3,920	3,919	5,729	4,337	4,537	4,227	4,481
Petroleum (thousand b/d)	34	32	35	35	37	34	35	36	38	37	38	37	34	35	38
End-of-period U.S. Fuel Inventories Held by Electric Power Sector															
Coal (million short tons)	192.3	183.2	158.2	163.9	163.9	160.5	142.7	147.6	146.4	143.0	128.8	146.5	163.9	147.6	146.5
Residual Fuel Oil (mmb)	11.9	12.2	11.7	11.7	12.0	11.5	11.5	12.0	12.0	12.0	11.9	12.4	11.7	12.0	12.4
Distillate Fuel Oil (mmb)	17.3	17.4	21.0	17.1	15.6	15.2	15.5	16.2	16.4	16.4	16.5	17.0	17.1	16.2	17.0
Petroleum Coke (mmb)	6.2	4.5	3.8	4.4	4.4	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.4	4.2	4.1

(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 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)
U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Electric Power Sector															
Geothermal	0.040	0.039	0.040	0.043	0.041	0.040	0.041	0.041	0.040	0.039	0.040	0.041	0.162	0.163	0.161
Hydroelectric Power (a)	0.710	0.684	0.528	0.543	0.765	0.853	0.612	0.528	0.619	0.673	0.615	0.569	2.465	2.759	2.475
Solar (b)	0.061	0.093	0.107	0.075	0.085	0.156	0.145	0.088	0.094	0.167	0.162	0.100	0.337	0.473	0.523
Waste Biomass (c)	0.070	0.072	0.072	0.072	0.071	0.067	0.069	0.071	0.069	0.072	0.074	0.073	0.287	0.278	0.288
Wood Biomass	0.061	0.049	0.060	0.052	0.057	0.055	0.061	0.055	0.056	0.050	0.062	0.056	0.222	0.230	0.224
Wind	0.565	0.520	0.443	0.584	0.630	0.625	0.431	0.605	0.632	0.650	0.461	0.653	2.112	2.291	2.396
Subtotal	1.508	1.457	1.250	1.370	1.650	1.797	1.359	1.387	1.510	1.651	1.415	1.491	5.585	6.193	6.067
Industrial Sector															
Biofuel Losses and Co-products (d)	0.197	0.194	0.204	0.206	0.203	0.199	0.204	0.206	0.200	0.205	0.209	0.209	0.801	0.812	0.823
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Hydroelectric Power (a)	0.004	0.003	0.002	0.003	0.004	0.004	0.002	0.003	0.004	0.004	0.003	0.003	0.012	0.012	0.013
Solar (b)	0.003	0.005	0.005	0.004	0.004	0.007	0.007	0.005	0.006	0.008	0.008	0.006	0.017	0.024	0.028
Waste Biomass (c)	0.046	0.047	0.047	0.046	0.050	0.044	0.048	0.048	0.047	0.044	0.046	0.047	0.186	0.190	0.184
Wood Biomass	0.321	0.315	0.320	0.326	0.322	0.313	0.319	0.315	0.306	0.302	0.310	0.313	1.283	1.269	1.232
Subtotal	0.574	0.565	0.579	0.586	0.584	0.566	0.580	0.577	0.562	0.561	0.573	0.577	2.304	2.306	2.274
Commercial Sector															
Geothermal	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.020	0.020	0.020
Solar (b)	0.015	0.021	0.021	0.015	0.017	0.024	0.025	0.018	0.021	0.030	0.031	0.022	0.072	0.084	0.104
Waste Biomass (c)	0.013	0.012	0.012	0.013	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.049	0.047	0.047
Wood Biomass	0.020	0.020	0.021	0.021	0.020	0.020	0.019	0.018	0.020	0.020	0.019	0.018	0.082	0.078	0.078
Subtotal	0.060	0.065	0.066	0.060	0.061	0.068	0.068	0.060	0.065	0.075	0.074	0.064	0.250	0.257	0.277
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.011	0.012	0.013	0.013	0.013	0.013	0.040	0.043	0.052
Solar (e)	0.030	0.047	0.049	0.034	0.037	0.057	0.059	0.042	0.044	0.067	0.069	0.049	0.161	0.195	0.228
Wood Biomass	0.093	0.093	0.094	0.094	0.094	0.095	0.098	0.099	0.103	0.103	0.104	0.104	0.373	0.386	0.413
Subtotal	0.133	0.150	0.153	0.138	0.140	0.162	0.169	0.153	0.159	0.182	0.186	0.166	0.573	0.624	0.693
Transportation Sector															
Biomass-based Diesel (f)	0.050	0.069	0.088	0.084	0.054	0.079	0.088	0.094	0.069	0.076	0.089	0.089	0.291	0.315	0.323
Ethanol (f)	0.273	0.282	0.293	0.289	0.270	0.290	0.293	0.289	0.275	0.297	0.302	0.295	1.137	1.142	1.169
Subtotal	0.323	0.351	0.381	0.372	0.324	0.369	0.382	0.383	0.344	0.374	0.391	0.384	1.428	1.457	1.492
All Sectors Total															
Biomass-based Diesel (f)	0.050	0.069	0.088	0.084	0.054	0.079	0.088	0.094	0.069	0.076	0.089	0.089	0.291	0.315	0.323
Biofuel Losses and Co-products (d)	0.197	0.194	0.204	0.206	0.203	0.199	0.204	0.206	0.200	0.205	0.209	0.209	0.801	0.812	0.823
Ethanol (f)	0.284	0.293	0.305	0.300	0.281	0.301	0.303	0.300	0.286	0.309	0.314	0.307	1.182	1.185	1.215
Geothermal	0.056	0.055	0.056	0.059	0.057	0.056	0.058	0.058	0.059	0.058	0.059	0.060	0.226	0.229	0.236
Hydroelectric Power (a)	0.714	0.687	0.530	0.546	0.769	0.858	0.615	0.530	0.623	0.677	0.618	0.571	2.477	2.772	2.488
Solar (b)(e)	0.110	0.166	0.183	0.128	0.143	0.243	0.239	0.153	0.164	0.272	0.270	0.177	0.587	0.778	0.883
Waste Biomass (c)	0.129	0.131	0.130	0.131	0.133	0.122	0.130	0.131	0.128	0.128	0.132	0.132	0.522	0.516	0.520
Wood Biomass	0.496	0.477	0.495	0.492	0.493	0.484	0.498	0.488	0.485	0.476	0.495	0.490	1.959	1.963	1.946
Wind	0.565	0.520	0.443	0.584	0.630	0.625	0.431	0.605	0.632	0.650	0.461	0.653	2.112	2.291	2.396
Total Consumption	2.597	2.588	2.429	2.526	2.758	2.961	2.569	2.560	2.640	2.843	2.638	2.683	10.140	10.848	10.803

- = no data available

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

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Renewable Energy Electric Generating Capacity (megawatts, end of period)															
Electric Power Sector (a)															
Biomass	7,425	7,448	7,424	7,455	7,362	7,400	7,442	7,441	7,498	7,592	7,592	7,627	7,455	7,441	7,627
Waste	4,157	4,180	4,175	4,198	4,206	4,245	4,236	4,236	4,293	4,293	4,293	4,328	4,198	4,236	4,328
Wood	3,268	3,268	3,250	3,257	3,155	3,155	3,205	3,205	3,205	3,299	3,299	3,299	3,257	3,205	3,299
Conventional Hydroelectric	79,463	79,530	79,551	79,558	79,691	79,699	79,793	79,868	79,879	79,894	80,020	80,188	79,558	79,868	80,188
Geothermal	2,529	2,529	2,529	2,529	2,457	2,457	2,457	2,494	2,494	2,494	2,494	2,525	2,529	2,494	2,525
Large-Scale Solar (b)	14,305	15,109	17,544	21,639	22,463	23,460	24,375	26,579	27,146	27,880	28,236	30,398	21,639	26,579	30,398
Wind	73,624	74,481	75,016	81,871	82,871	83,333	84,500	87,829	88,146	88,911	89,870	95,833	81,871	87,829	95,833
Other Sectors (c)															
Biomass	6,827	6,823	6,821	6,766	6,823	6,843	6,843	6,843	6,843	6,844	6,844	6,846	6,766	6,843	6,846
Waste	944	944	942	887	884	888	889	889	889	889	889	891	887	889	891
Wood	5,882	5,879	5,879	5,879	5,939	5,955	5,955	5,955	5,955	5,956	5,956	5,956	5,879	5,955	5,956
Conventional Hydroelectric	361	362	363	363	334	334	334	334	334	334	334	334	363	334	334
Large-Scale Solar (b)	306	310	312	317	320	337	337	339	339	339	339	338	317	339	338
Small-Scale Solar (d)	10,810	11,569	12,305	13,183	14,107	14,691	15,689	16,486	17,326	18,145	19,026	19,958	13,183	16,486	19,958
Residential Sector	5,775	6,352	6,874	7,421	8,070	8,565	9,014	9,491	9,996	10,510	11,042	11,595	7,421	9,491	11,595
Commercial Sector	4,104	4,239	4,405	4,681	4,727	4,755	5,245	5,516	5,801	6,056	6,354	6,682	4,681	5,516	6,682
Industrial Sector	930	978	1,027	1,081	1,311	1,370	1,430	1,480	1,530	1,579	1,629	1,681	1,081	1,480	1,681
Wind	89	89	89	89	89	87	93	93	96	96	96	96	89	93	96
Renewable Electricity Generation (thousand megawatthours per day)															
Electric Power Sector (a)															
Biomass	89	84	92	84	87	84	89	86	87	84	93	87	87	87	88
Waste	49	52	51	50	49	47	48	49	49	50	51	51	51	48	50
Wood	39	32	41	34	38	37	41	37	38	34	41	37	37	38	37
Conventional Hydroelectric	837	806	615	634	912	1,006	714	615	738	793	717	663	723	811	728
Geothermal	47	46	47	50	49	47	48	47	48	47	47	47	48	48	47
Large-Scale Solar (b)	72	110	125	88	102	184	169	102	112	197	189	117	99	139	154
Wind	667	613	517	681	751	737	502	706	754	767	537	762	619	673	704
Other Sectors (c)															
Biomass	85	82	85	83	86	81	85	83	86	81	85	83	84	84	84
Waste	75	72	75	74	76	72	76	74	76	72	76	74	74	75	75
Wood	11	10	9	9	10	9	9	10	9	9	9	9	10	9	9
Conventional Hydroelectric	5	4	3	3	5	5	3	3	5	5	3	3	4	4	4
Large-Scale Solar (b)	1	2	2	1	1	2	2	2	2	3	3	2	2	2	2
Small-Scale Solar (d)	42	63	64	45	53	80	82	58	66	98	100	71	53	68	84
Residential Sector	21	34	35	24	29	46	46	33	37	56	57	40	29	38	48
Commercial Sector	16	23	23	16	19	26	27	19	23	33	33	23	20	23	28
Industrial Sector	4	6	6	4	5	8	8	6	7	9	9	7	5	7	8
Wind	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1

-- = no data available

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

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

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

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

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

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

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

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

Table 9a. U.S. Macroeconomic Indicators and CO₂ Emissions

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2009 dollars - SAAR)	16,572	16,664	16,778	16,851	16,903	17,030	17,113	17,223	<i>17,360</i>	<i>17,478</i>	<i>17,574</i>	<i>17,681</i>	16,716	17,067	17,523
Real Personal Consumption Expend.															
(billion chained 2009 dollars - SAAR)	11,431	11,538	11,618	11,702	11,758	11,854	11,929	12,005	<i>12,090</i>	<i>12,163</i>	<i>12,239</i>	<i>12,315</i>	11,572	11,887	12,202
Real Fixed Investment															
(billion chained 2009 dollars - SAAR)	2,788	2,797	2,808	2,820	2,876	2,901	2,918	2,952	<i>2,980</i>	<i>3,012</i>	<i>3,043</i>	<i>3,077</i>	2,803	2,912	3,028
Business Inventory Change															
(billion chained 2009 dollars - SAAR)	42	12	17	70	0	1	-20	-16	<i>12</i>	<i>35</i>	<i>38</i>	<i>43</i>	35	-9	32
Real Government Expenditures															
(billion chained 2009 dollars - SAAR)	2,903	2,896	2,900	2,901	2,897	2,894	2,894	2,903	<i>2,911</i>	<i>2,912</i>	<i>2,914</i>	<i>2,920</i>	2,900	2,897	2,915
Real Exports of Goods & Services															
(billion chained 2009 dollars - SAAR)	2,098	2,113	2,145	2,124	2,162	2,182	2,205	2,222	<i>2,245</i>	<i>2,268</i>	<i>2,289</i>	<i>2,311</i>	2,120	2,193	2,278
Real Imports of Goods & Services															
(billion chained 2009 dollars - SAAR)	2,682	2,685	2,703	2,756	2,785	2,796	2,806	2,837	<i>2,870</i>	<i>2,902</i>	<i>2,938</i>	<i>2,974</i>	2,706	2,806	2,921
Real Disposable Personal Income															
(billion chained 2009 dollars - SAAR)	12,568	12,627	12,649	12,591	12,680	12,781	12,829	12,884	<i>13,047</i>	<i>13,158</i>	<i>13,266</i>	<i>13,374</i>	12,609	12,794	13,211
Non-Farm Employment															
(millions)	143.4	144.0	144.7	145.2	145.7	146.2	146.7	147.2	<i>147.7</i>	<i>148.3</i>	<i>148.8</i>	<i>149.2</i>	144.3	146.4	148.5
Civilian Unemployment Rate															
(percent)	4.9	4.9	4.9	4.7	4.7	4.4	4.3	4.3	<i>4.3</i>	<i>4.2</i>	<i>4.2</i>	<i>4.1</i>	4.9	4.4	4.2
Housing Starts															
(millions - SAAR)	1.15	1.16	1.15	1.25	1.24	1.17	1.19	1.25	<i>1.32</i>	<i>1.33</i>	<i>1.35</i>	<i>1.36</i>	1.18	1.21	1.34
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	103.1	102.9	103.1	103.3	103.7	105.1	105.3	105.8	<i>106.9</i>	<i>107.6</i>	<i>108.2</i>	<i>108.9</i>	103.1	105.0	107.9
Manufacturing	102.9	102.6	102.7	103.1	103.7	104.4	104.3	104.9	<i>105.8</i>	<i>106.6</i>	<i>107.1</i>	<i>107.9</i>	102.8	104.3	106.8
Food	107.0	107.7	108.3	107.5	110.1	111.5	112.4	112.1	<i>112.4</i>	<i>112.8</i>	<i>113.3</i>	<i>113.9</i>	107.6	111.5	113.1
Paper	96.1	95.3	95.0	96.7	96.3	95.5	94.8	94.7	<i>94.4</i>	<i>94.3</i>	<i>94.2</i>	<i>94.3</i>	95.8	95.3	94.3
Petroleum and Coal Products	100.0	100.9	101.4	101.4	102.5	106.1	103.9	105.3	<i>108.9</i>	<i>110.5</i>	<i>111.4</i>	<i>112.0</i>	100.9	104.4	110.7
Chemicals	98.8	98.0	97.1	98.1	97.6	98.8	99.4	99.6	<i>100.8</i>	<i>101.9</i>	<i>102.8</i>	<i>103.8</i>	98.0	98.9	102.3
Nonmetallic Mineral Products	113.6	112.2	111.0	112.3	116.7	115.2	115.9	117.9	<i>119.1</i>	<i>120.6</i>	<i>122.1</i>	<i>123.5</i>	112.3	116.4	121.3
Primary Metals	94.8	95.0	92.1	92.8	96.8	95.4	94.4	94.2	<i>94.2</i>	<i>94.5</i>	<i>94.5</i>	<i>95.0</i>	93.7	95.2	94.5
Coal-weighted Manufacturing (a)	100.8	100.3	99.4	100.2	102.6	102.8	102.0	102.4	<i>103.2</i>	<i>104.0</i>	<i>104.6</i>	<i>105.4</i>	100.2	102.4	104.3
Distillate-weighted Manufacturing (a)	105.6	105.5	105.1	106.2	108.5	108.8	108.8	109.7	<i>111.1</i>	<i>112.1</i>	<i>112.9</i>	<i>113.7</i>	105.6	108.9	112.5
Electricity-weighted Manufacturing (a)	101.5	101.2	100.9	101.6	103.1	103.6	102.9	103.4	<i>104.4</i>	<i>105.3</i>	<i>106.0</i>	<i>106.9</i>	101.3	103.3	105.6
Natural Gas-weighted Manufacturing (a) ...	100.8	100.5	100.5	101.4	103.0	104.2	103.1	103.5	<i>104.9</i>	<i>106.2</i>	<i>107.1</i>	<i>108.1</i>	100.8	103.4	106.6
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982=1984=1.00)	2.38	2.39	2.40	2.42	2.44	2.44	2.45	2.46	<i>2.48</i>	<i>2.49</i>	<i>2.50</i>	<i>2.51</i>	2.40	2.45	2.49
Producer Price Index: All Commodities															
(index, 1982=1.00)	1.84	1.85	1.85	1.88	1.93	1.92	1.94	1.95	<i>1.96</i>	<i>1.97</i>	<i>1.98</i>	<i>1.99</i>	1.85	1.94	1.98
Producer Price Index: Petroleum															
(index, 1982=1.00)	1.21	1.46	1.53	1.56	1.66	1.67	1.75	1.76	<i>1.68</i>	<i>1.75</i>	<i>1.77</i>	<i>1.72</i>	1.44	1.71	1.73
GDP Implicit Price Deflator															
(index, 2009=100)	110.6	111.3	111.6	112.2	112.8	113.0	113.6	114.2	<i>114.9</i>	<i>115.6</i>	<i>116.3</i>	<i>116.9</i>	111.4	113.4	115.9
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	8,079	9,024	8,932	8,566	8,301	9,163	8,962	8,628	<i>8,273</i>	<i>9,290</i>	<i>9,158</i>	<i>8,809</i>	8,651	8,765	8,885
Air Travel Capacity															
(Available ton-miles/day, thousands)	548	603	609	590	567	617	596	570	<i>577</i>	<i>623</i>	<i>598</i>	<i>575</i>	588	587	593
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	326	366	375	357	344	386	370	351	<i>356</i>	<i>390</i>	<i>374</i>	<i>355</i>	356	362	369
Airline Ticket Price Index															
(index, 1982-1984=100)	281.8	305.0	273.0	270.4	277.8	297.0	264.8	281.7	<i>302.8</i>	<i>336.7</i>	<i>293.1</i>	<i>298.9</i>	282.6	280.3	307.9
Raw Steel Production															
(million short tons per day)	0.238	0.247	0.238	0.230	0.248	0.247	0.250	0.219	<i>0.260</i>	<i>0.252</i>	<i>0.230</i>	<i>0.199</i>	0.239	0.241	0.235
Carbon Dioxide (CO₂) Emissions (million metric tons)															
Petroleum	573	571	590	588	564	587	595	588	<i>572</i>	<i>587</i>	<i>602</i>	<i>596</i>	2,321	2,334	2,357
Natural Gas	439	327	343	376	416	306	327	388	<i>455</i>	<i>326</i>	<i>337</i>	<i>393</i>	1,485	1,438	1,511
Coal	309	298	413	335	322	308	388	340	<i>342</i>	<i>306</i>	<i>390</i>	<i>334</i>	1,354	1,358	1,372
Total Energy (c)	1,323	1,198	1,349	1,301	1,306	1,203	1,313	1,320	<i>1,372</i>	<i>1,222</i>	<i>1,332</i>	<i>1,326</i>	5,172	5,141	5,252

- = no data available

SAAR = Seasonally-adjusted annual rate

(a) Fuel share weights of individual sector indices based on EIA *Manufacturing Energy Consumption Survey* .

(b) Total highway travel includes gasoline and diesel fuel vehicles.

(c) Includes electric power sector use of geothermal energy and non-biomass waste.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.**Historical data:** Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.**Projections:** EIA Regional Short-Term Energy Model. Macroeconomic projections are based on Global Insight Model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Real Gross State Product (Billion \$2009)															
New England	884	888	894	898	900	906	911	915	921	925	929	934	891	908	927
Middle Atlantic	2,468	2,480	2,480	2,485	2,489	2,502	2,518	2,529	2,545	2,559	2,568	2,580	2,478	2,510	2,563
E. N. Central	2,269	2,282	2,296	2,304	2,312	2,326	2,337	2,347	2,362	2,375	2,386	2,397	2,288	2,331	2,380
W. N. Central	1,053	1,060	1,068	1,071	1,068	1,076	1,082	1,087	1,094	1,100	1,104	1,110	1,063	1,078	1,102
S. Atlantic	2,935	2,952	2,978	2,992	3,004	3,028	3,046	3,066	3,092	3,113	3,132	3,153	2,964	3,036	3,123
E. S. Central	742	748	753	756	759	764	768	772	778	782	786	790	750	766	784
W. S. Central	2,016	2,015	2,020	2,034	2,051	2,072	2,068	2,094	2,120	2,140	2,157	2,174	2,021	2,071	2,148
Mountain	1,052	1,056	1,071	1,075	1,078	1,090	1,098	1,107	1,117	1,125	1,133	1,141	1,064	1,093	1,129
Pacific	3,051	3,080	3,114	3,132	3,137	3,161	3,180	3,199	3,225	3,250	3,270	3,292	3,094	3,169	3,259
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	98.2	97.8	97.8	97.9	98.0	98.3	97.9	98.4	99.1	99.5	99.8	100.3	97.9	98.2	99.7
Middle Atlantic	98.8	98.4	98.2	97.9	98.2	97.6	97.1	97.7	98.4	98.9	99.3	100.0	98.3	97.6	99.2
E. N. Central	105.0	104.9	105.0	105.7	106.2	106.6	106.8	107.4	108.3	109.1	109.8	110.6	105.1	106.7	109.4
W. N. Central	102.4	102.0	102.0	102.2	102.3	103.4	103.3	103.8	104.6	105.3	105.9	106.6	102.1	103.2	105.6
S. Atlantic	105.5	105.5	105.9	106.9	107.2	108.1	108.0	108.6	109.3	109.9	110.4	111.1	106.0	108.0	110.2
E. S. Central	107.3	107.7	108.5	108.9	110.1	110.7	110.7	111.4	112.2	113.0	113.5	114.3	108.1	110.7	113.3
W. S. Central	97.8	96.7	96.1	96.4	98.1	99.8	99.8	100.6	101.7	102.6	103.4	104.4	96.7	99.6	103.0
Mountain	106.1	106.0	106.3	107.2	108.3	109.1	109.1	109.8	110.8	111.6	112.1	112.9	106.4	109.1	111.9
Pacific	104.0	103.7	103.3	103.7	103.7	104.7	104.5	105.2	106.2	107.1	107.6	108.4	103.7	104.5	107.3
Real Personal Income (Billion \$2009)															
New England	776	782	786	775	781	786	789	792	799	804	810	817	779	787	807
Middle Atlantic	1,967	1,975	1,979	1,968	1,981	1,990	1,999	2,004	2,020	2,033	2,046	2,061	1,972	1,994	2,040
E. N. Central	2,094	2,103	2,105	2,095	2,110	2,121	2,128	2,133	2,151	2,165	2,181	2,198	2,099	2,123	2,174
W. N. Central	994	998	1,000	991	995	1,003	1,007	1,010	1,018	1,026	1,033	1,042	996	1,004	1,030
S. Atlantic	2,704	2,719	2,733	2,725	2,753	2,774	2,787	2,799	2,828	2,851	2,876	2,905	2,720	2,778	2,865
E. S. Central	774	775	778	774	782	785	788	791	799	805	810	817	775	787	808
W. S. Central	1,732	1,736	1,736	1,721	1,738	1,752	1,760	1,770	1,791	1,809	1,826	1,845	1,731	1,755	1,818
Mountain	949	955	963	954	962	969	975	980	991	1,000	1,010	1,020	955	972	1,005
Pacific	2,317	2,333	2,342	2,344	2,363	2,379	2,389	2,400	2,423	2,442	2,463	2,486	2,334	2,383	2,453
Households (Thousands)															
New England	5,827	5,832	5,835	5,838	5,840	5,823	5,830	5,838	5,848	5,858	5,868	5,879	5,838	5,838	5,879
Middle Atlantic	15,961	15,971	15,977	15,982	15,983	15,931	15,947	15,965	15,989	16,010	16,033	16,058	15,982	15,965	16,058
E. N. Central	18,744	18,760	18,769	18,776	18,784	18,723	18,740	18,760	18,786	18,815	18,845	18,876	18,776	18,760	18,876
W. N. Central	8,523	8,540	8,554	8,568	8,583	8,566	8,584	8,604	8,628	8,653	8,676	8,699	8,568	8,604	8,699
S. Atlantic	25,028	25,127	25,216	25,301	25,382	25,375	25,470	25,569	25,671	25,776	25,879	25,986	25,301	25,569	25,986
E. S. Central	7,585	7,599	7,611	7,622	7,633	7,616	7,631	7,647	7,666	7,685	7,705	7,725	7,622	7,647	7,725
W. S. Central	14,512	14,564	14,613	14,657	14,701	14,696	14,750	14,807	14,869	14,930	14,990	15,052	14,657	14,807	15,052
Mountain	8,934	8,973	9,010	9,047	9,081	9,084	9,123	9,163	9,206	9,250	9,294	9,338	9,047	9,163	9,338
Pacific	18,622	18,677	18,725	18,774	18,821	18,808	18,872	18,938	19,010	19,073	19,135	19,195	18,774	18,938	19,195
Total Non-farm Employment (Millions)															
New England	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.4	7.4	7.5	7.5	7.3	7.4	7.5
Middle Atlantic	19.2	19.2	19.3	19.4	19.4	19.5	19.5	19.6	19.6	19.7	19.7	19.7	19.3	19.5	19.7
E. N. Central	21.7	21.7	21.8	21.8	21.9	21.9	22.0	22.0	22.1	22.1	22.2	22.3	21.7	22.0	22.2
W. N. Central	10.5	10.5	10.6	10.6	10.6	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.6	10.7	10.8
S. Atlantic	27.4	27.6	27.8	27.9	28.0	28.1	28.2	28.3	28.5	28.6	28.7	28.8	27.7	28.2	28.6
E. S. Central	7.9	7.9	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.2	8.2	8.2	8.0	8.1	8.2
W. S. Central	16.8	16.8	16.8	16.9	17.0	17.1	17.2	17.2	17.3	17.4	17.5	17.6	16.8	17.1	17.5
Mountain	10.2	10.2	10.3	10.4	10.4	10.4	10.5	10.6	10.6	10.7	10.7	10.8	10.3	10.5	10.7
Pacific	22.2	22.4	22.5	22.6	22.7	22.8	22.9	22.9	23.0	23.1	23.2	23.3	22.4	22.8	23.1

- = 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.

Regions refer to U.S. Census divisions.

See "Census division" in EIA's Energy Glossary (<http://www.eia.doe.gov/glossary/index.html>) for a list of States in each region.**Historical data:** Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17.

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

Projections: Macroeconomic projections are based on the Global Insight Model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Heating Degree Days															
New England	2,840	901	77	2,114	2,985	807	112	2,194	3,095	848	130	2,112	5,932	6,098	6,185
Middle Atlantic	2,668	750	39	1,904	2,661	603	81	2,005	2,881	676	83	1,942	5,361	5,350	5,582
E. N. Central	2,867	753	48	2,032	2,691	628	133	2,247	3,163	724	119	2,227	5,700	5,698	6,233
W. N. Central	2,894	660	103	2,133	2,813	663	148	2,439	3,273	684	149	2,416	5,790	6,062	6,521
South Atlantic	1,380	210	2	859	1,148	125	19	980	1,429	199	14	963	2,452	2,272	2,605
E. S. Central	1,754	234	5	1,100	1,374	154	34	1,311	1,849	248	20	1,308	3,093	2,872	3,425
W. S. Central	1,051	78	2	620	773	66	4	791	1,183	82	4	801	1,751	1,634	2,070
Mountain	2,079	678	161	1,704	2,058	697	147	1,844	2,236	676	138	1,846	4,622	4,747	4,896
Pacific	1,305	467	97	1,159	1,563	534	78	1,239	1,504	567	87	1,183	3,028	3,414	3,341
U.S. Average	1,948	481	51	1,399	1,859	428	74	1,545	2,128	481	72	1,518	3,879	3,906	4,199
Heating Degree Days, Prior 10-year Average															
New England	3,212	824	133	2,105	3,201	831	122	2,125	3,172	818	121	2,123	6,275	6,279	6,235
Middle Atlantic	2,983	651	90	1,927	2,983	661	81	1,941	2,948	646	82	1,950	5,651	5,666	5,626
E. N. Central	3,247	690	125	2,206	3,254	701	114	2,197	3,209	693	119	2,209	6,267	6,267	6,229
W. N. Central	3,298	693	150	2,393	3,302	707	142	2,380	3,264	705	145	2,385	6,535	6,531	6,499
South Atlantic	1,499	184	14	972	1,502	188	12	966	1,476	176	13	977	2,669	2,667	2,642
E. S. Central	1,899	225	19	1,308	1,906	231	16	1,287	1,868	217	19	1,304	3,451	3,439	3,408
W. S. Central	1,221	83	5	815	1,227	88	4	799	1,181	80	4	806	2,124	2,119	2,072
Mountain	2,231	725	147	1,880	2,216	734	142	1,862	2,195	737	144	1,859	4,983	4,954	4,935
Pacific	1,496	610	88	1,212	1,462	598	89	1,205	1,465	593	85	1,202	3,407	3,354	3,345
U.S. Average	2,199	483	76	1,535	2,192	487	71	1,527	2,160	478	72	1,531	4,293	4,277	4,241
Cooling Degree Days															
New England	0	80	541	0	0	74	386	1	0	94	455	1	621	461	550
Middle Atlantic	0	146	736	6	0	137	519	4	0	173	590	6	888	660	769
E. N. Central	4	230	704	19	1	210	509	6	0	219	543	8	957	726	770
W. N. Central	10	318	711	30	9	264	633	10	3	274	676	12	1,069	915	965
South Atlantic	138	651	1,346	278	157	666	1,169	225	124	652	1,180	243	2,414	2,218	2,199
E. S. Central	42	533	1,250	129	65	482	999	63	29	522	1,062	72	1,955	1,610	1,685
W. S. Central	123	837	1,599	330	214	829	1,454	202	93	912	1,574	219	2,889	2,699	2,798
Mountain	34	464	884	113	36	467	941	74	23	451	964	85	1,495	1,518	1,523
Pacific	35	230	592	74	30	220	727	58	34	214	636	83	931	1,035	967
U.S. Average	54	411	965	129	70	401	857	90	45	418	886	102	1,559	1,418	1,452
Cooling Degree Days, Prior 10-year Average															
New England	0	81	419	1	0	81	433	1	0	81	435	0	501	514	516
Middle Atlantic	0	168	548	5	0	169	566	6	0	166	568	3	722	741	738
E. N. Central	3	229	528	6	3	234	542	8	3	228	535	6	765	788	772
W. N. Central	7	279	674	9	7	281	672	12	7	276	660	11	969	972	953
South Atlantic	114	661	1,147	222	117	666	1,167	230	119	674	1,162	223	2,143	2,179	2,179
E. S. Central	32	541	1,037	56	33	544	1,055	65	34	539	1,035	62	1,667	1,698	1,669
W. S. Central	90	890	1,517	191	90	876	1,528	205	100	887	1,531	202	2,688	2,698	2,721
Mountain	21	429	930	76	23	424	930	81	24	426	924	80	1,455	1,458	1,454
Pacific	29	180	611	72	30	181	607	74	30	185	623	74	891	892	913
U.S. Average	42	404	845	88	43	405	857	94	45	408	857	92	1,379	1,399	1,402

- = no data available

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

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

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

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

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

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

Appendix

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](#).

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	August 2017	September 2017	August-September 2017 Average	August-September 2016 Average	2014 – 2016 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	97.8	98.4	98.1	96.7	95.9
Global Petroleum and Other Liquids Consumption (b)	99.0	98.9	98.9	98.2	95.3
Biofuels Production (c)	2.6	2.5	2.5	2.5	2.1
Biofuels Consumption (c)	2.2	2.2	2.2	2.2	2.0
Iran Liquid Fuels Production	4.6	4.6	4.6	4.3	3.7
Iran Liquid Fuels Consumption	1.9	1.9	1.9	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	90.5	91.3	90.9	90.0	90.1
Consumption (d)	94.9	94.8	94.9	94.3	91.4
Production minus Consumption	-4.3	-3.5	-3.9	-4.3	-1.3
World Inventory Net Withdrawals Including Iran	1.2	0.5	0.8	1.5	-0.6
Estimated OECD Inventory Level (e) (million barrels)	2,980	2,982	2,981	3,060	2,840
OPEC Surplus Crude Oil Production Capacity (f)	2.0	1.9	1.9	1.0	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 2017	September 2017	August-September 2017 Average	August-September 2016 Average	2014 – 2016 Average
Brent Front Month Futures Price (\$ per barrel)	51.87	55.51	53.56	47.20	66.06
WTI Front Month Futures Price (\$ per barrel)	48.06	49.88	48.91	45.01	61.71
Dubai Front Month Futures Price (\$ per barrel)	50.28	54.29	52.15	44.26	63.38
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-0.48	0.64	0.04	-4.17	-3.42
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-1.13	-1.24	-1.18	-5.02	-2.04
RBOB Front Month Futures Price (\$ per gallon)	1.66	1.66	1.66	1.40	1.89
Heating Oil Front Month Futures Price (\$ per gallon)	1.63	1.79	1.71	1.42	1.93
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.43	0.34	0.39	0.28	0.31
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.40	0.47	0.43	0.30	0.36

(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).