



Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- North Sea Brent crude oil spot prices averaged \$63 per barrel (b) in November, an increase of \$5/b from the average in October. EIA forecasts Brent spot prices to average \$57/b in 2018, up from an average of \$54/b in 2017.
- West Texas Intermediate (WTI) crude oil prices are forecast to average \$4/b lower than Brent prices in 2018. After averaging \$2/b lower than Brent prices through the first eight months of 2017, WTI prices averaged \$6/b lower than Brent prices from September through November.
- NYMEX WTI contract values for March 2018 delivery traded during the five-day period ending December 7, 2017, suggest that a range of \$48/b to \$68/b encompasses the market expectation for March WTI prices at the 95% confidence level.
- EIA estimates that U.S. crude oil production averaged 9.7 million barrels per day (b/d) in November, up 360,000 b/d from the October level. Most of the increase was in the Gulf of Mexico, where production was 290,000 b/d higher than in October. Higher production in November reflected oil production platforms returning to operation after being shut in response to Hurricane Nate. EIA forecasts total U.S. crude oil production to average 9.2 million b/d for all of 2017 and 10.0 million b/d in 2018, which would mark the highest annual average production, surpassing the previous record of 9.6 million b/d set in 1970.
- U.S. regular gasoline retail prices averaged \$2.56 per gallon (gal) in November, an increase of nearly 6 cents/gal from the average in October. The increase in November primarily reflected increasing crude oil prices. EIA forecasts the U.S. regular gasoline retail price will average \$2.59/gal in December, 34 cents/gal higher than at the same time last year. EIA forecasts that U.S. regular gasoline retail prices will average \$2.51/gal in 2018.

Natural gas

- U.S. dry natural gas production is forecast to average 73.5 billion cubic feet per day (Bcf/d) in 2017, a 0.7 Bcf/d increase from the 2016 level. EIA forecasts that natural gas production in 2018 will be 6.1 Bcf/d higher than the 2017 level.

- In November, the U.S. benchmark Henry Hub natural gas spot price averaged \$3.01 per million British thermal units (MMBtu), up nearly 14 cents/MMBtu from October. Expected growth in natural gas exports and domestic natural gas consumption in 2018 contribute to an increase in EIA's forecast Henry Hub natural gas spot price from an annual average of \$3.01/MMBtu in 2017 to \$3.12/MMBtu in 2018. NYMEX contract values for March 2018 delivery that traded during the five-day period ending December 7, 2017, suggest that a range of \$1.98/MMBtu to \$4.27/MMBtu encompasses the market expectation for March Henry Hub natural gas prices at the 95% confidence level.

Electricity, coal, renewables, and emissions

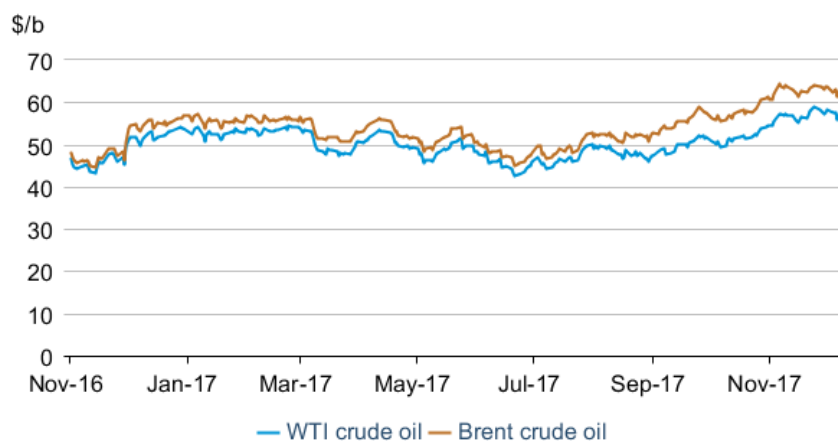
- EIA expects the share of total U.S. utility-scale electricity generation from natural gas will average about 32% in 2017, down from 34% in 2016 as a result of higher natural gas fuel costs and increased generation from renewable energy sources. EIA projects the 2017 share of generation from coal will average 30%, about the same as last year. The forecast 2018 generation shares for natural gas and coal remain relatively unchanged from 2017, averaging 32% and 31%, respectively. Generation from renewable energy sources other than hydropower grows from about 8% in 2016 to a forecast share of nearly 10% in 2018. Nuclear power's forecast share of total electricity generation averages about 20% in both 2017 and 2018, similar to its 2016 level.
- Estimated U.S. coal production for the first 11 months of 2017 is 719 million short tons (MMst), 54 MMst (8%) higher than production for the same period in 2016. Annual production is expected to be 791 MMst in 2017, falling to 771 MMst in 2018 because of lower exports and no growth in coal consumption.
- U.S. coal exports for the first three quarters of 2017 were 69 MMst, 68% (28 MMst) higher than exports for the same period in 2016. This total for the first three quarters of 2017 is already 14% (8 MMst) higher than total annual coal exports in 2016. EIA expects that exports will total 89 MMst in 2017 and 74 MMst in 2018.
- U.S. [wind electricity generating capacity](#) at the end of 2016 totaled 81 gigawatts (GW). EIA expects wind capacity additions in the forecast to raise 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 will bring total utility-scale solar capacity to 27 GW by the end of 2017 and to 30 GW by the end of 2018.
- After declining by 1.7% in 2016, U.S. energy-related carbon dioxide (CO₂) emissions are projected to decrease by 0.8% in 2017 and then to increase by 1.8% in 2018. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, and energy prices.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for North Sea Brent crude oil settled at \$62.20 per barrel (b) on December 7, 2017, an increase of \$1.71/b since November 1. Front-month futures prices for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by \$2.39/b over the same period, settling at \$56.69/b on December 7 (**Figure 1**). November Brent and WTI monthly average spot prices were \$5.20/b and \$5.06/b higher, respectively, than the October average spot prices.

Figure 1. Crude oil front-month futures prices



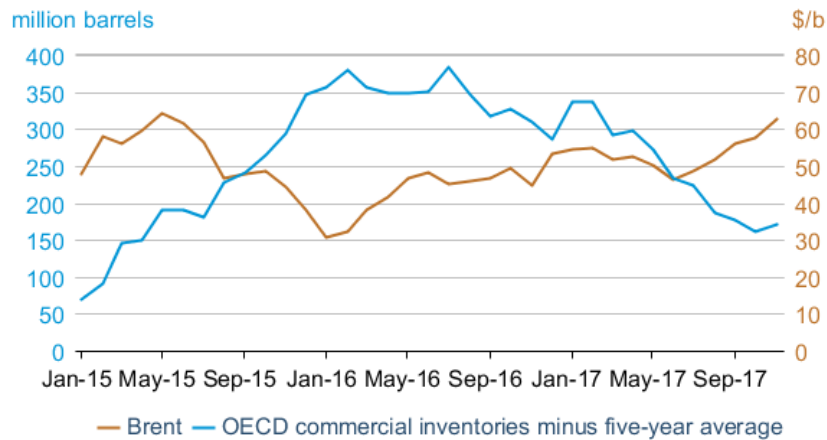
 CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Crude oil prices traded at the highest levels in more than two years in November and early December 2017. On November 30, the Organization of the Petroleum Exporting Countries (OPEC) announced an extension of the crude oil [supply reduction](#) agreement through the end of 2018, which was broadly in line with market expectations in the days leading up to the meeting. The non-OPEC countries that agreed to crude oil production cuts in 2017 also agreed to continue limiting output through the end of 2018. [Saudi Arabia and Russia](#) will co-chair a monitoring committee designed to assess the group's adherence to the production targets. The group plans to review production levels at the June 2018 meeting depending on market conditions at that time. EIA estimates OPEC crude oil production averaged 32.5 million barrels per day (b/d) in 2017, a 0.2 million b/d decrease from 2016 levels, and EIA forecasts OPEC crude oil production will average 32.7 million b/d in 2018.

An important metric for identifying oil market balance is the level of commercial liquids inventories compared with their five-year average for countries in the Organization for Economic Cooperation and Development (OECD). Since reaching a record high of almost 3.09 billion barrels at the end of July 2016, total OECD liquid fuels inventories have fallen by 137 million barrels to 2.95 billion barrels at the end of November 2017. Over the same period, the surplus to the five-year average has declined by 210 million barrels, ending November at an

estimated 174 million barrels (**Figure 2**). Going forward, the five-year average will include a higher proportion of data points from 2015-17, which were years of high inventory levels, resulting in higher five-year average stock levels for comparison. The OECD five-year average inventory level for May 2018, the last full month before the June 2018 OPEC meeting, will be 2.8 billion barrels, 80 million barrels higher than the five-year average for December 2017. Although EIA forecasts OECD inventories to increase by 51 million barrels from December 2017 through May 2018, the level of OECD inventories relative to the five-year average is expected to decrease by 29 million barrels because of the increase in the five-year average.

Figure 2. OECD commercial liquids inventories and Brent price



 U.S. Energy Information Administration, Intercontinental Exchange, as compiled by Bloomberg L.P.

Despite the extension of the OPEC agreement, EIA forecasts higher output from non-OPEC countries to contribute to growth in total liquid fuels supply in 2018. The non-OPEC outlook is 0.1 million b/d higher than EIA’s November STEO, averaging 60.3 million b/d in 2018, which would be 1.7 million b/d higher than 2017 levels. This growth, together with the forecast 0.2 million b/d growth in OPEC crude oil production and another 0.1 million b/d increase in OPEC non-crude liquids production, results in forecast total global liquids production growth of 2.1 million b/d in 2018. EIA expects that crude oil price increases in late 2017 will contribute to U.S. crude oil production growing to more than 10 million b/d by mid-2018. Overall, U.S. crude oil production is forecast to increase by an average of 0.8 million b/d in 2018. Canada, Brazil, Norway, the United Kingdom, and Kazakhstan are forecast to add a combined 0.7 million b/d of liquids production in 2018.

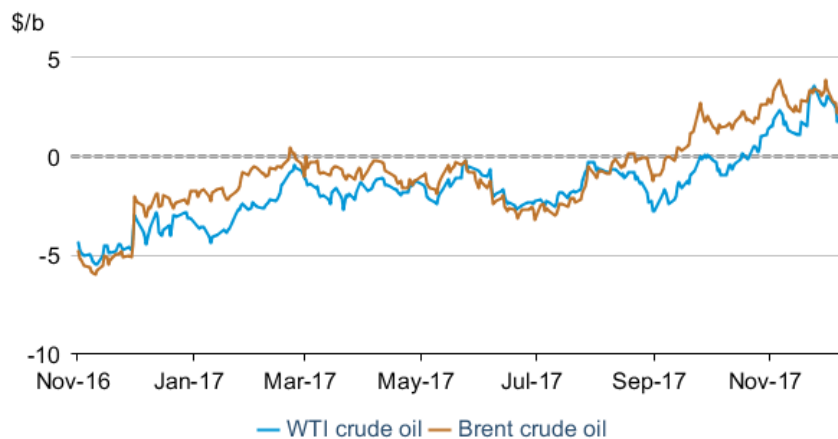
Despite higher oil prices, EIA expects global liquid fuels demand to increase by more than 1.6 million b/d in 2018, up from growth of 1.4 million b/d in 2017. Demand growth is not forecast to keep pace with supply growth, however, resulting in global liquids inventories increasing modestly in 2018. With global inventories expected to increase in 2018, EIA forecasts Brent crude oil prices will decline from current levels to an average of \$57/b in 2018, which is \$2/b higher than forecast in the November STEO.

In late November 2017, the WTI futures curve reached the same level of backwardation (when near-term prices are higher than longer-dated prices) as the Brent futures curve, based on the 1st–13th month futures price spread. The Brent 1st–13th spread decreased by 34 cents/b from November 1 to settle at \$2.39/b on December 7, whereas the WTI 1st–13th spread increased by 33 cents/b over the same period, settling at \$1.89/b (**Figure 3**).

The Keystone Pipeline, which delivers crude oil from Western Canada to the U.S. midcontinent, leaked approximately 5,000 barrels in South Dakota and was temporarily shut down. The pipeline leak reduced flows into Cushing, Oklahoma, (the delivery point for the WTI futures contract) and likely contributed to a \$1.01/b daily increase in WTI front-month futures prices relative to longer-dated futures prices on November 21, 2017, the largest daily increase in almost a year. Cushing [stocks fell](#) by 2.9 million barrels the week ending November 24, and [imports from Canada](#) declined by 0.4 million b/d. The Keystone Pipeline resumed operations on November 28.

Total U.S. crude oil inputs to refineries set an all-time high for the month of November, reflecting the refining sector’s return from [hurricane disruptions](#) and maintenance season in the third quarter. Increased refinery demand, in addition to the Keystone Pipeline disruption, contributed to the stock draws from Cushing, Oklahoma, and likely provided upward price pressure on WTI front-month futures prices.

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



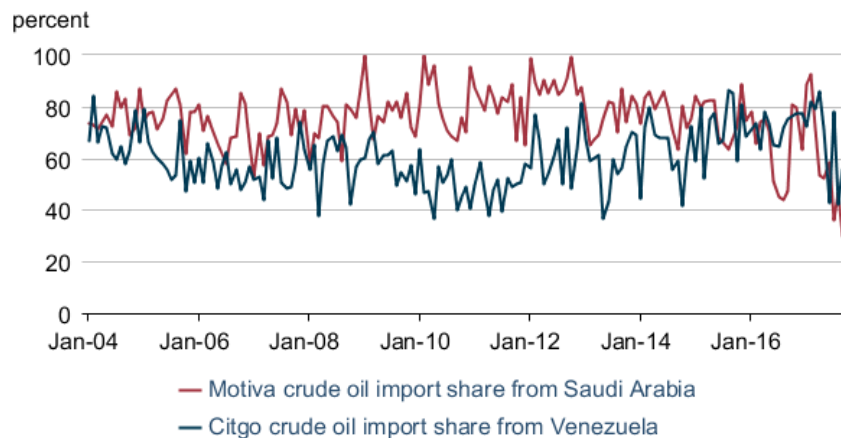
 CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

U.S. crude oil imports: The OPEC crude oil production cut agreement and other supply reductions have changed U.S. crude oil import trends in 2017. Saudi Arabia reduced crude oil exports to most regions, including to the United States, as a result of both its voluntary crude oil production cuts and the increase in the amount of crude oil Saudi Arabia refines domestically. Total Saudi Arabian crude oil exports fell to 6.5 million b/d in September 2017, the lowest level since March 2011, according to the [Joint Organization Data Initiative](#) (JODI). Motiva Enterprises LLC, which owns the largest refinery in the United States in Port Arthur, Texas, is a wholly-owned refinery subsidiary of Saudi Arabia’s national oil company, Saudi Aramco. [Motiva’s](#)

imports of Saudi Arabian crude oil decreased significantly in 2017, down to 30% of Motiva’s total crude oil imports in September (**Figure 4**), compared with 65% on average during 2016. Overall, total U.S. crude oil imports from Saudi Arabia fell to the lowest level in 30 years, with some of that decline made up by increased imports from Iraq.

Venezuela’s crude oil production has declined since 2016 because of operational and financial difficulties. EIA estimates Venezuelan crude oil production averaged 1.9 million b/d in November 2017, down from 2.4 million b/d as recently as December 2015. Reduced production has lowered the available amount of Venezuelan crude oil for export, with some cargoes being diverted away from the United States to other countries to repay oil-for-loan agreements. Citgo Petroleum Corporation is a wholly-owned refinery subsidiary of Venezuela’s national oil company, Petroleos de Venezuela SA (PDVSA), and owns refineries on the U.S. Gulf Coast. Between 2015 and April 2017, Citgo Petroleum had been generally increasing its share of crude oil imported from Venezuela, from 59% in January 2015 to more than 85% in April 2017. Since then, the share of crude oil Citgo imports from Venezuela fell to a three-year low in August 2017 before rising slightly in September. In September, total U.S. imports of Venezuelan crude oil fell to the lowest point since 2003. In November, major credit rating agencies declared both Venezuela and PDVSA to be in varying levels of default because of late interest payments. Any increased financial difficulties could exacerbate Venezuelan crude oil production and export declines, ultimately removing its crude oil from the global market.

Figure 4. Refinery crude oil import share from major supplier



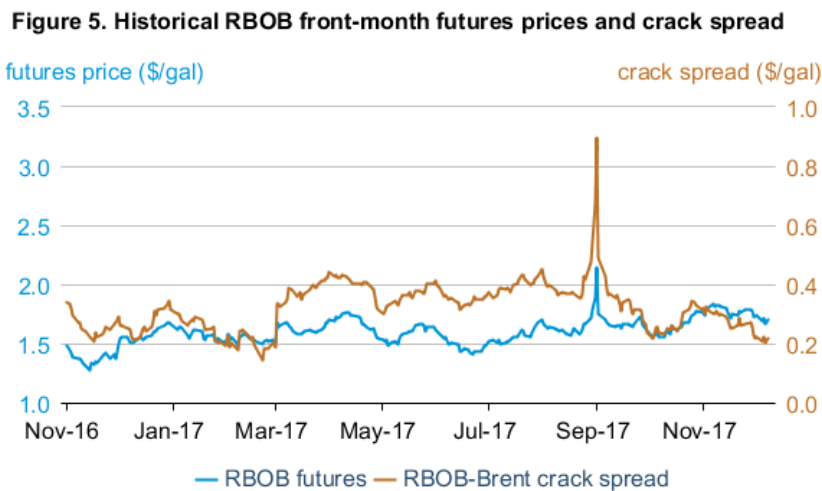
eia U.S. Energy Information Administration

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) fell by 4 cents per gallon (gal) from November 1 to settle at \$1.70/gal on December 7, 2017 (**Figure 5**). The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) fell by 8 cents/gal to settle at 22 cents/gal over the same period. EIA compares RBOB

prices with Brent prices because [EIA research indicates that U.S. gasoline prices usually move with Brent prices](#), the international crude oil benchmark.

Despite the decline in the gasoline crack spread towards the end of November 2017, the [average gasoline crack spread](#) set a five-year high for November. EIA estimates that U.S. gasoline consumption in November averaged almost 9.2 million barrels (b/d), which would be close to the five-year high for the month, if confirmed by EIA’s *Petroleum Supply Monthly* (PSM). Similarly, U.S. [finished gasoline exports](#) in the four weeks ending December 1 were more than 0.9 million b/d, which would set a five-year high for November.

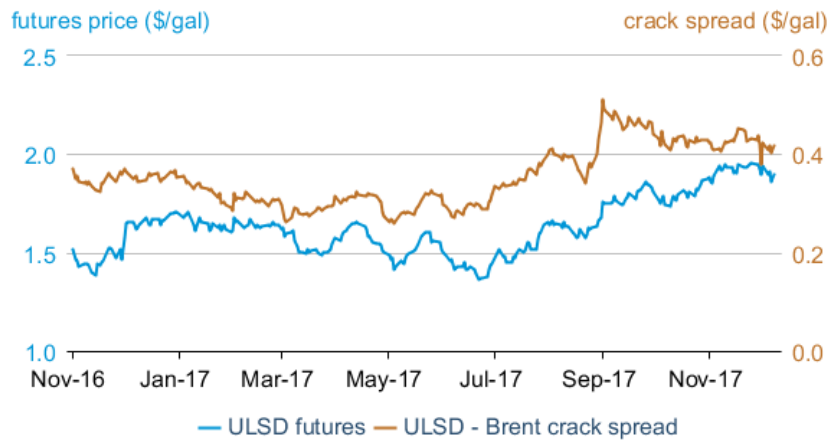


CME Group, as compiled by Bloomberg L.P., RBOB=reformulated blendstock for oxygenate blending

Ultra-low sulfur diesel prices: The ultra-low sulfur diesel (ULSD) front-month futures price increased by 3 cents/gal from November 1 to settle at \$1.90/gal on December 7, 2017. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) declined by almost 1 cent/gal over the same period, settling at 42 cent/gal (**Figure 6**).

[Distillate stocks](#) as of December 1, 2017, were 0.7 million barrels lower than the five-year average. The total of distillate consumption and exports rose to 5.3 million b/d for the four weeks ending December 1, which would set a five-year high, if confirmed by the PSM. Because of lower distillate stocks and increased distillate demand this year, the ULSD crack spread has remained higher than its five-year average each month since July 2017 and has also remained significantly higher than the crack spreads in the second half of 2016.

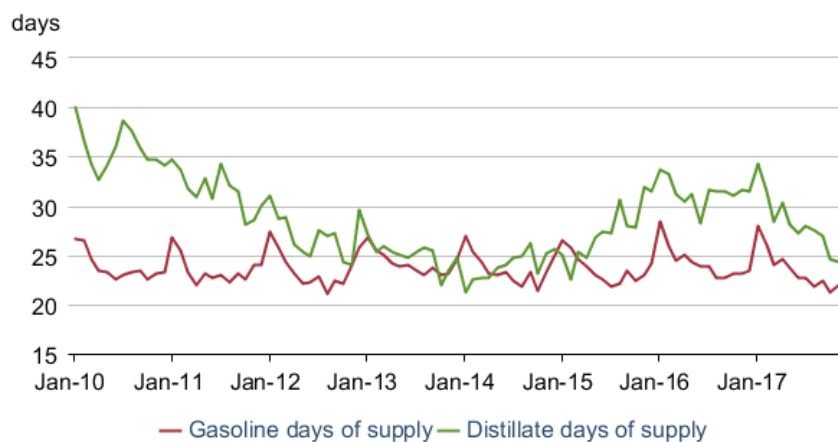
Figure 6. Historical ULSD front-month futures price and crack spread



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

High demand for both gasoline and distillate resulted in each petroleum product’s days of supply in the U.S. market reaching the lowest levels in several years. When adding exports to product supplied in the traditional [days of supply calculation](#), days of supply of total motor gasoline was 22 days as of the four weeks ending December 1, 2017 (**Figure 7**), slightly higher than the days of supply in October, which would have been the fewest days of supply since August 2012, if confirmed by the PSM. Similarly, days of supply of distillate fell to 24 days during the same period and would be the fewest days of supply since February 2015. The increasingly tight U.S. distillate market could make ULSD price increases more likely this winter if global demand for distillate remains high and if the United States [experiences colder-than-normal temperatures](#) in the U.S. East Coast, where heating oil is widely used for residential heating.

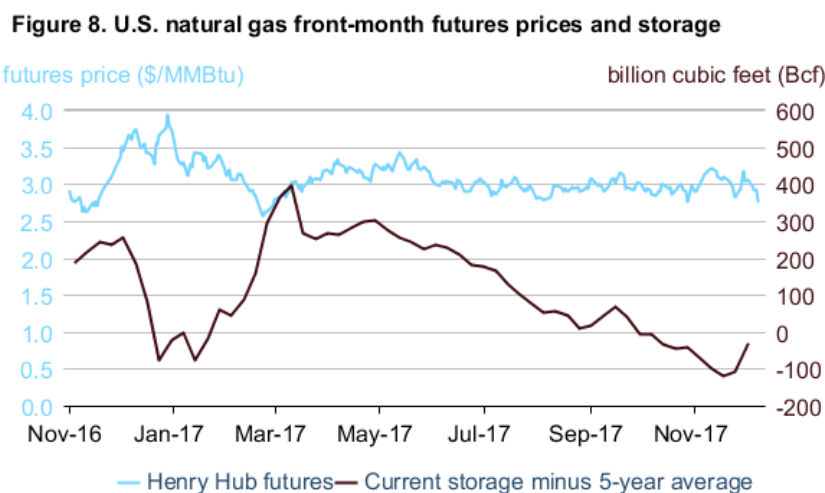
Figure 7. Days of supply including exports



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Natural Gas

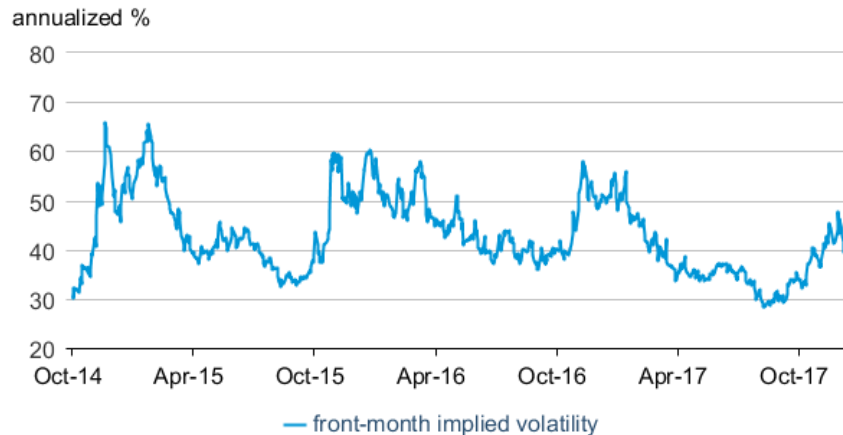
The front-month natural gas futures contract for delivery at Henry Hub settled at \$2.76/million British thermal units (MMBtu) on December 7, 2017, a decrease of 13 cents/MMBtu from November 1 (**Figure 8**). Several factors affected price movements in November. Natural gas inventories fell further below the five-year average in recent weeks until a rare injection into storage for the week ending December 1 brought inventories up to 36 billion cubic feet below the five-year average. [Increased takeaway capacity from Appalachia](#) is expected to result in increased natural gas production in the coming months and could limit significant upward price pressure, although colder-than-normal temperatures throughout the rest of 2017 could contribute to price increases. The Henry Hub natural gas spot price averaged \$3.01/MMBtu in November, almost 14 cents/MMBtu higher than in October. EIA expects that price to average \$3.13/MMBtu in December and average \$3.12/MMBtu in 2018.



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

Natural gas futures prices in November traded within a 43 cents/MMBtu range, wider than in recent months, but they stayed close to \$3.00/MMBtu. In comparison, natural gas futures prices in October traded within a 31 cents/MMBtu range, the narrowest range for October since 1995. Natural gas front-month implied volatility increased 2.3 percentage points since November 1, settling at 39% on December 7 (**Figure 9**). After reaching a three-year low in August 2017, volatility has been steadily increasing, as is typical heading into winter, but it remains below the volatility levels seen in November 2015 and 2016. In November 2016, liquefied natural gas [gross exports were more than 1 billion cubic feet per day \(Bcf/d\)](#) for the first time in U.S. history, as Sabine Pass entered service, and storage reached an [all-time high of more than 4 trillion cubic feet](#), factors that may have contributed to higher volatility. Natural gas production has shown year-on-year growth since June 2017, and inventories are within 1% of the five-year average level, which may moderate implied volatility.

Figure 9. Natural gas implied volatility



eia Bloomberg L.P. based on prices from CME Group

Notable forecast changes

- Beginning this month, EIA is using Oxford Economics as the data source for historical and forecast calculations of oil-weighted GDP in the STEO. Based on this new data source, global oil-weighted GDP growth was 2.7% in 2016, and it is expected to be 3.0% in 2017 and 3.2% in 2018. The previous STEO had GDP growth of 2.4%, 2.9%, and 3.0%, respectively, in those years.
- EIA forecasts U.S. crude oil production to average 10.0 million barrels per day (b/d) in 2018, which is almost 0.1 million b/d higher than in the November STEO. The higher forecast production largely occurs during the second half of 2018 and reflects crude oil prices during November and December 2017 that have been higher than previously expected in the STEO. The higher prices contribute to higher forecast rig counts and production in the Lower 48 onshore regions after about a six-month lag.
- In EIA's [International Energy Statistics](#) database, historical estimates for China's liquid fuels consumption in 2015 were revised higher by 360,000 b/d, increasing the baseline for the forecast. Because STEO did not change assumed growth rates for China from 2016-18, estimated consumption in those years was also revised higher by 360,000 b/d.
- Historical electricity and renewable energy data for 2016 and 2017 have been updated to match the revisions published in the *Electric Power Annual* and *Electric Power Monthly*, but these changes have not significantly affected forecast values.

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.

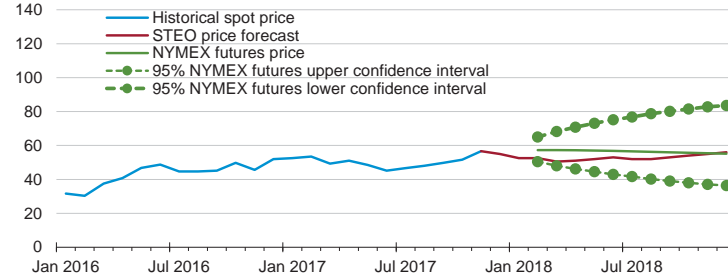


Short-Term Energy Outlook

Chart Gallery for December 2017

West Texas Intermediate (WTI) crude oil price

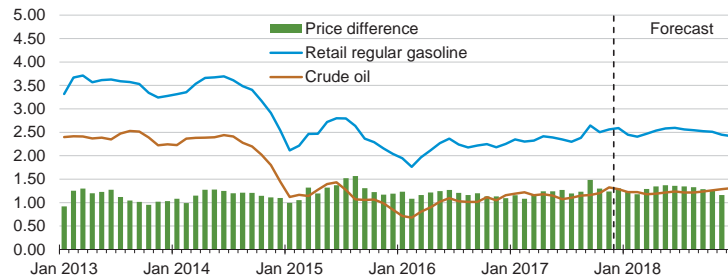
dollars per barrel



Note: Confidence interval derived from options market information for the 5 trading days ending Dec 7, 2017. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Source: Short-Term Energy Outlook, December 2017, and CME Group.

U.S. gasoline and crude oil prices

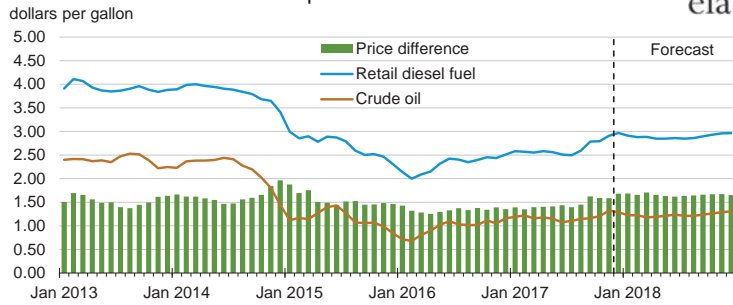
dollars per gallon



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

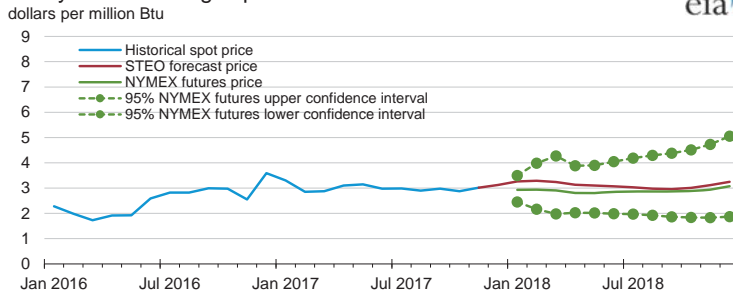
Source: Short-Term Energy Outlook, December 2017.

U.S. diesel fuel and crude oil prices



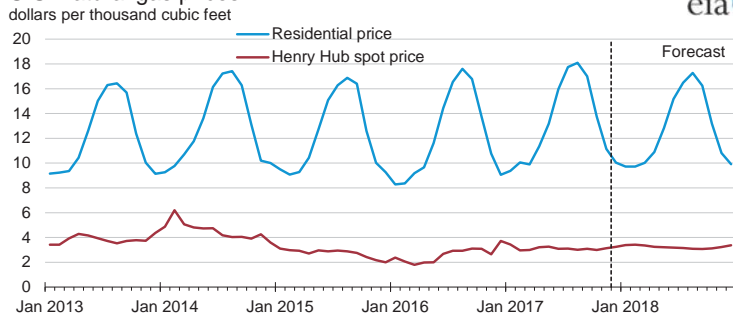
Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.
 Source: Short-Term Energy Outlook, December 2017.

Henry Hub natural gas price



Note: Confidence interval derived from options market information for the 5 trading days ending Dec 7, 2017. Intervals not calculated for months with sparse trading in near-the-money options contracts.
 Source: Short-Term Energy Outlook, December 2017, and CME Group.

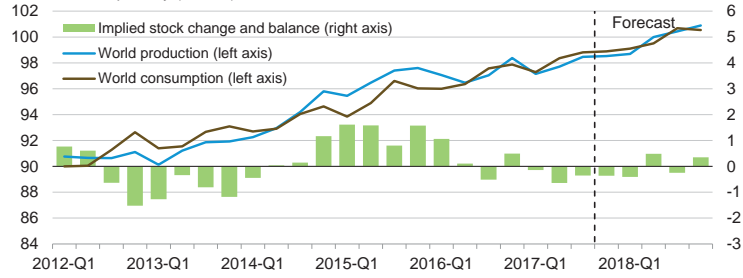
U.S. natural gas prices



Source: Short-Term Energy Outlook, December 2017, and Thomson Reuters.

World liquid fuels production and consumption balance

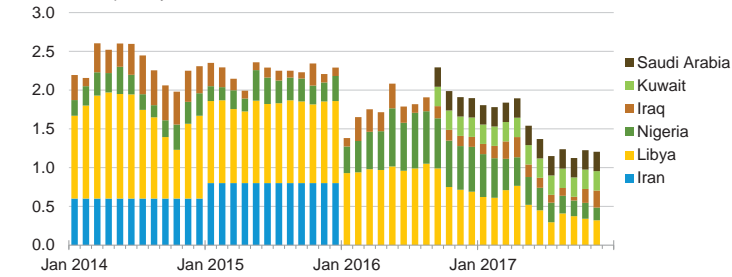
million barrels per day (MMb/d)



Source: Short-Term Energy Outlook, December 2017.

Estimated historical unplanned OPEC crude oil production outages

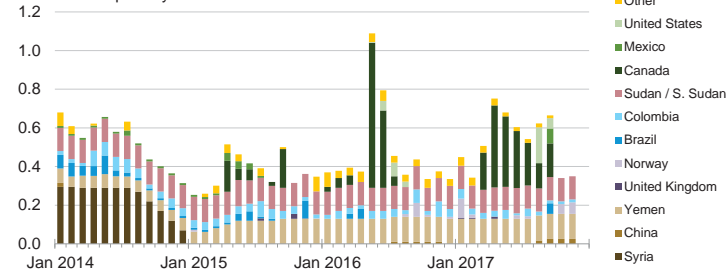
million barrels per day



Source: Short-Term Energy Outlook, December 2017.

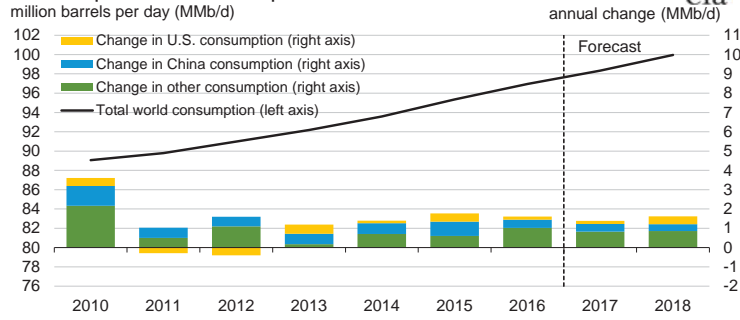
Estimated historical unplanned non-OPEC liquid fuels production outages

million barrels per day



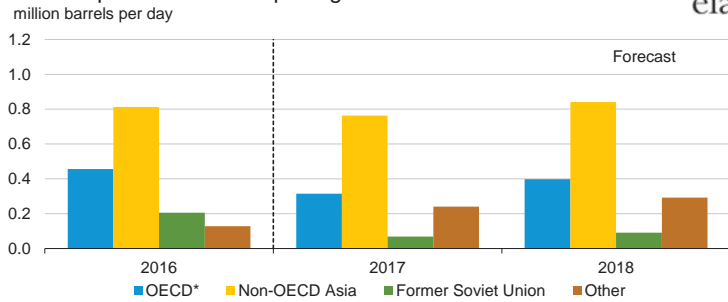
Source: Short-Term Energy Outlook, December 2017.

World liquid fuels consumption



Source: Short-Term Energy Outlook, December 2017.

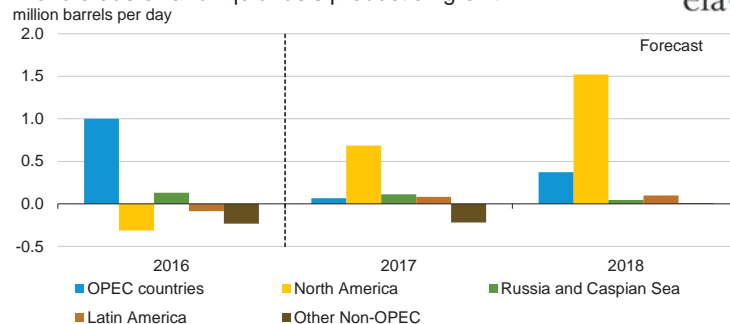
World liquid fuels consumption growth



* Countries belonging to the Organization for Economic Cooperation and Development

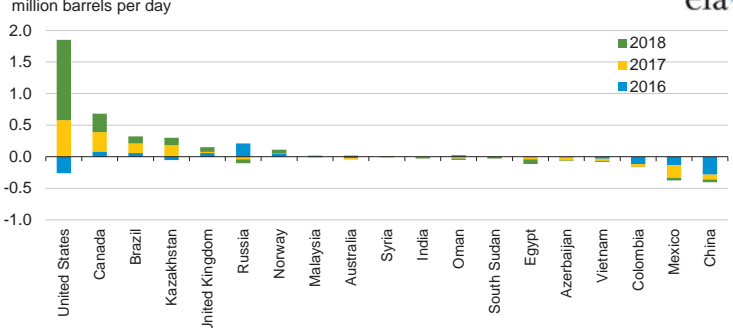
Source: Short-Term Energy Outlook, December 2017.

World crude oil and liquid fuels production growth



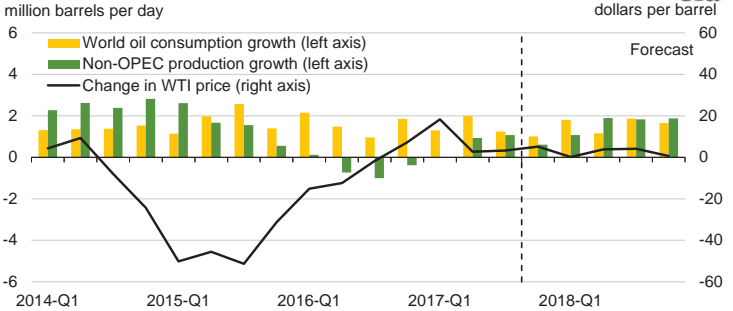
Source: Short-Term Energy Outlook, December 2017.

Non-OPEC crude oil and liquid fuels production growth



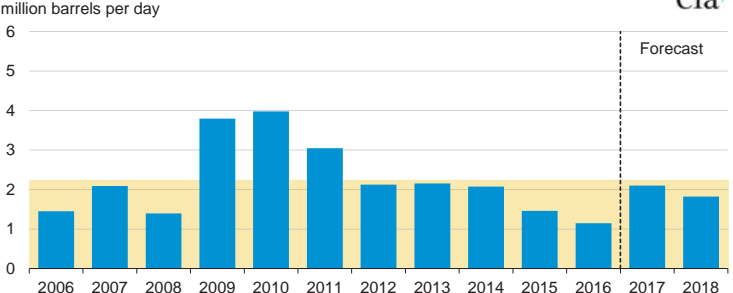
Source: Short-Term Energy Outlook, December 2017.

World consumption and non-OPEC production growth



Source: Short-Term Energy Outlook, December 2017.

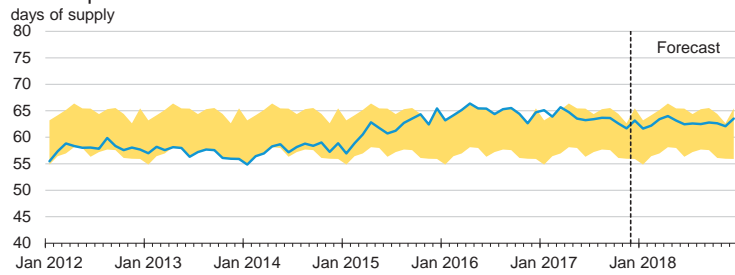
OPEC surplus crude oil production capacity



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

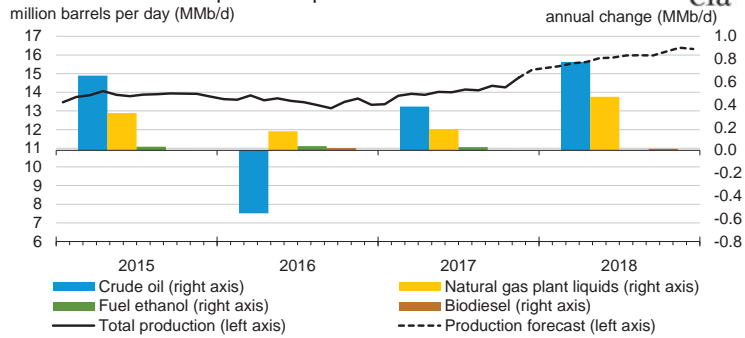
Source: Short-Term Energy Outlook, December 2017.

OECD commercial stocks of crude oil and other liquids



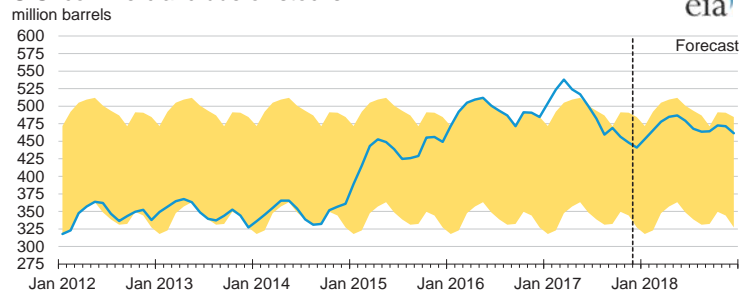
Note: Colored band around days of supply of crude oil and other liquids stocks represents the range between the minimum and maximum from Jan. 2012 - Dec. 2016.
Source: Short-Term Energy Outlook, December 2017.

U.S. crude oil and liquid fuels production



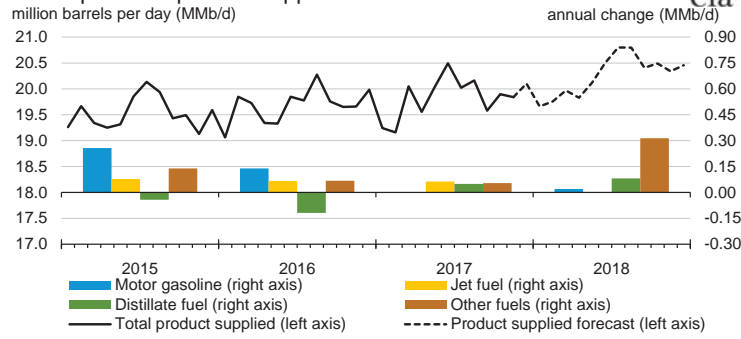
Source: Short-Term Energy Outlook, December 2017.

U.S. commercial crude oil stocks



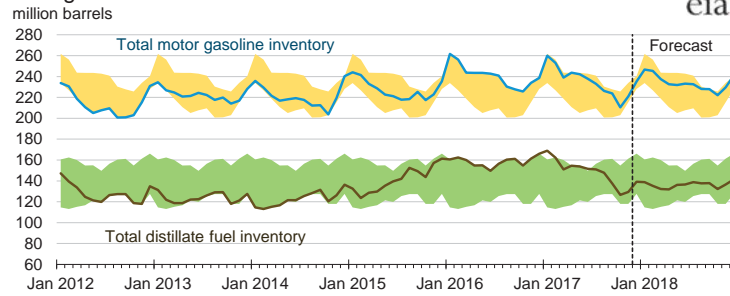
Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2012 - Dec. 2016.
Source: Short-Term Energy Outlook, December 2017.

U.S. liquid fuels product supplied



Source: Short-Term Energy Outlook, December 2017.

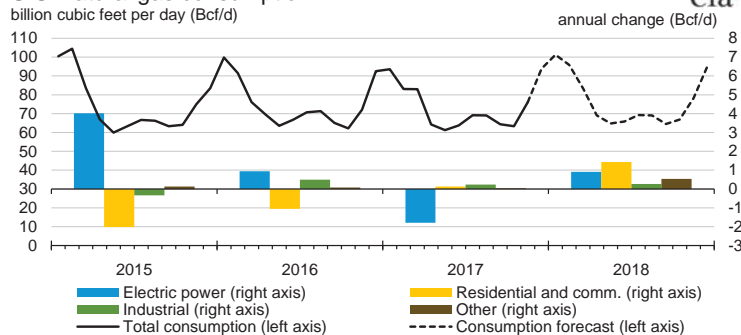
U.S. gasoline and distillate inventories



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

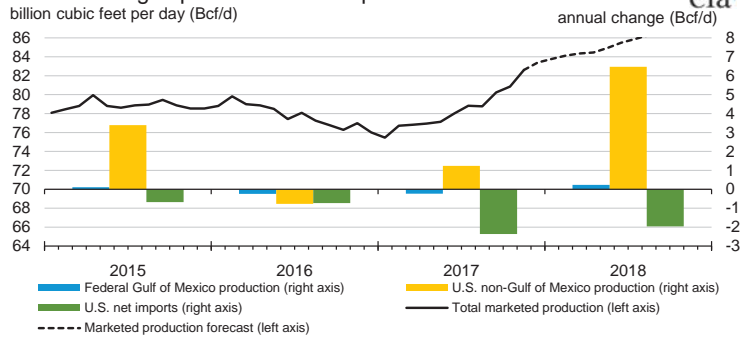
Source: Short-Term Energy Outlook, December 2017.

U.S. natural gas consumption



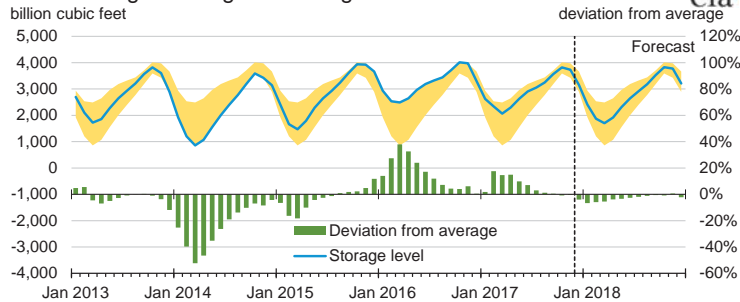
Source: Short-Term Energy Outlook, December 2017.

U.S. natural gas production and imports



Source: Short-Term Energy Outlook, December 2017.

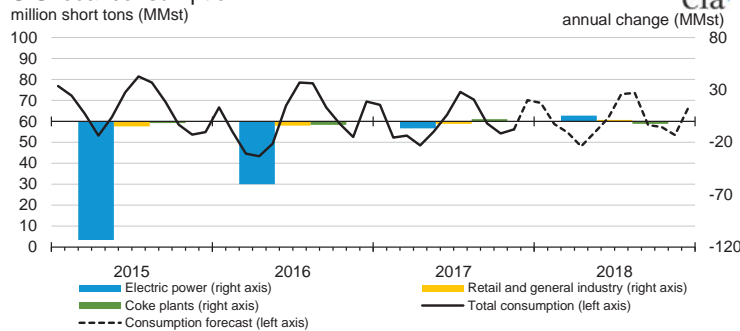
U.S. working natural gas in storage



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

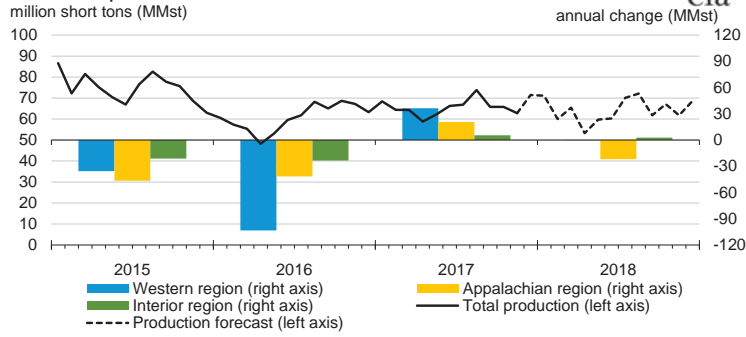
Source: Short-Term Energy Outlook, December 2017.

U.S. coal consumption

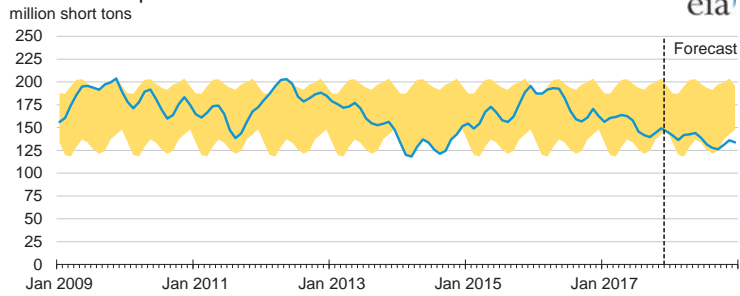


Source: Short-Term Energy Outlook, December 2017.

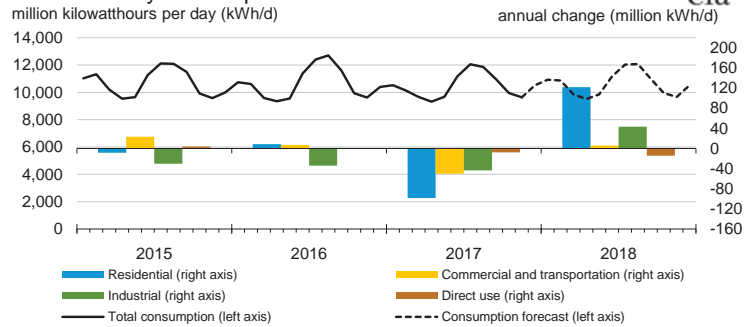
U.S. coal production



U.S. electric power coal stocks

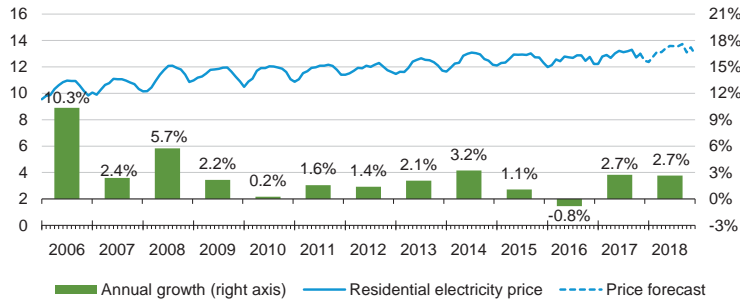


U.S. electricity consumption



U.S. residential electricity price

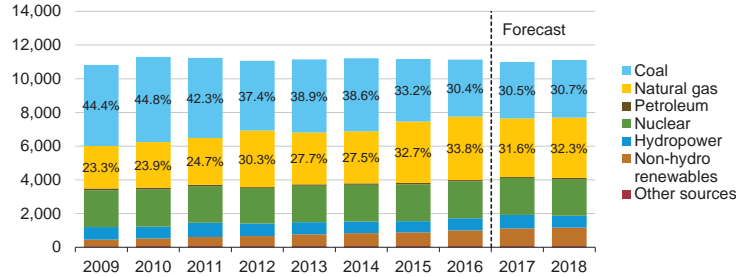
cents per kilowatthour



Source: Short-Term Energy Outlook, December 2017.

U.S. electricity generation by fuel, all sectors

thousand megawatthours per day

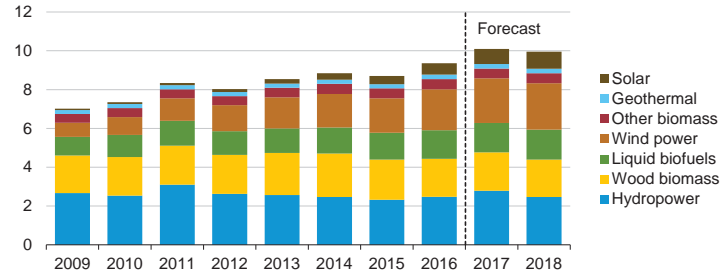


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, December 2017.

U.S. renewable energy supply

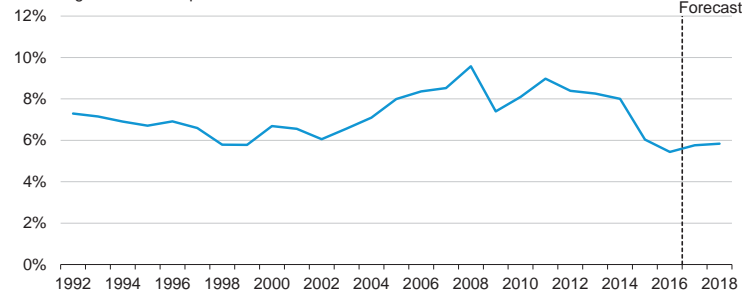
quadrillion British thermal units (Btu)



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.

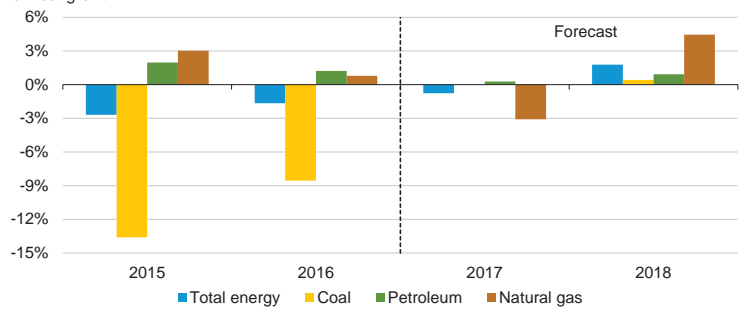
Source: Short-Term Energy Outlook, December 2017.

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



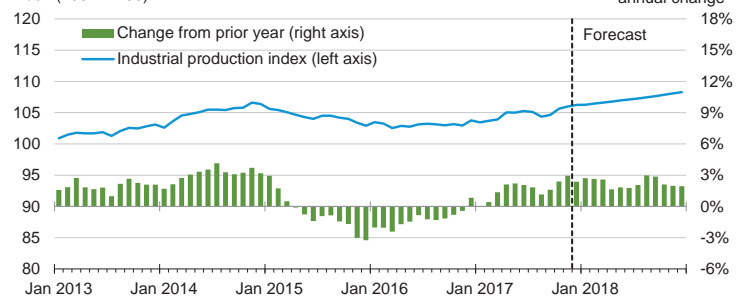
Source: Short-Term Energy Outlook, December 2017.

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



Source: Short-Term Energy Outlook, December 2017.

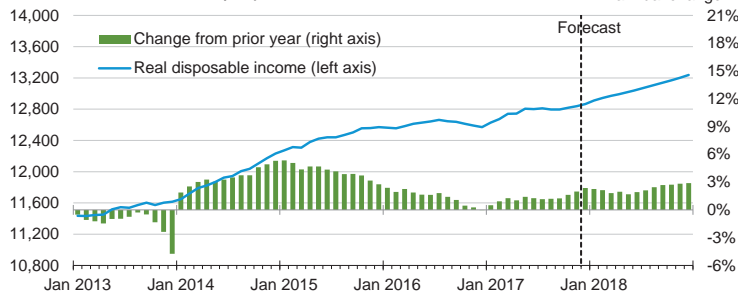
U.S. total industrial production index index (2007 = 100)



Source: Short-Term Energy Outlook, December 2017.

U.S. disposable income

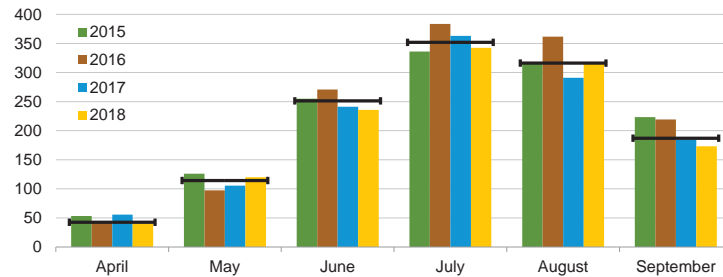
billion 2009 dollars, seasonally adjusted



Source: Short-Term Energy Outlook, December 2017.

U.S. summer cooling degree days

population-weighted

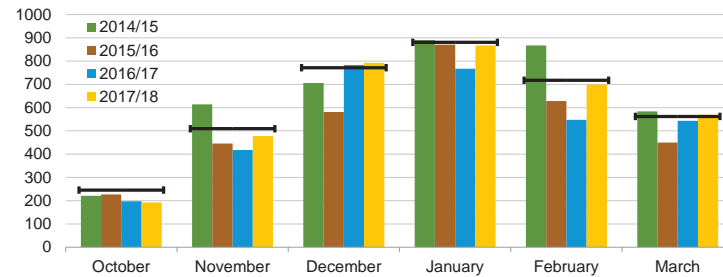


Note: EIA calculations based on from the National Oceanic and Atmospheric Administration data. Horizontal lines indicate each month's prior 10-year average (2008-2017). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, December 2017.

U.S. winter heating degree days

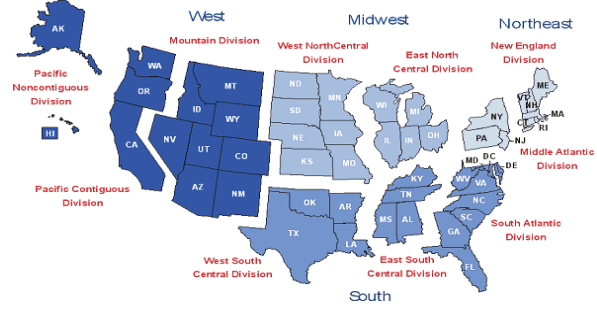
population-weighted



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, December 2017.

U.S. census regions and divisions



Source: Short-Term Energy Outlook, December 2017.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	75.7	4.3
Price (\$/mcf)	12.66	12.21	11.71	11.53	10.82	10.19	10.74	10.97	2.2
Expenditures (\$)	1,022	812	891	969	916	691	779	830	6.6
Midwest									
Consumption (Mcf)	80.3	65.4	77.6	88.1	83.1	67.7	68.9	76.6	11.2
Price (\$/mcf)	9.23	8.99	8.36	8.69	8.56	7.58	8.31	8.94	7.5
Expenditures (\$)	740	587	648	766	711	513	573	685	19.6
South									
Consumption (Mcf)	49.3	40.8	46.5	52.1	50.5	40.7	38.5	45.1	17.0
Price (\$/mcf)	11.02	11.45	10.71	10.77	10.82	10.80	12.28	11.88	-3.3
Expenditures (\$)	543	468	498	561	546	440	473	536	13.2
West									
Consumption (Mcf)	49.4	49.1	48.6	46.4	41.5	45.9	46.9	46.8	-0.1
Price (\$/mcf)	9.67	9.35	9.13	9.96	10.72	9.93	10.69	10.73	0.4
Expenditures (\$)	478	459	444	462	444	456	501	502	0.3
U.S. Average									
Consumption (Mcf)	65.0	55.7	62.5	68.0	64.8	55.8	56.9	61.3	7.7
Price (\$/mcf)	10.46	10.25	9.72	9.97	9.91	9.30	10.11	10.35	2.3
Expenditures (\$)	680	571	607	678	642	519	575	634	10.2
Heating Oil									
U.S. Average									
Consumption (gallons)	580.8	471.2	545.6	607.3	608.1	481.9	517.7	542.7	4.8
Price (\$/gallon)	3.38	3.73	3.87	3.88	3.04	2.06	2.41	2.77	15.1
Expenditures (\$)	1,966	1,757	2,114	2,353	1,849	993	1,248	1,506	20.7
Electricity									
Northeast									
Consumption (kWh***)	7,076	6,437	6,863	7,223	7,253	6,498	6,712	6,846	2.0
Price (\$/kwh)	0.154	0.154	0.152	0.163	0.168	0.164	0.165	0.167	1.4
Expenditures (\$)	1,091	993	1,046	1,177	1,219	1,066	1,106	1,144	3.4
Midwest									
Consumption (kWh)	8,733	7,898	8,589	9,169	8,857	8,031	8,096	8,538	5.5
Price (\$/kwh)	0.105	0.111	0.112	0.112	0.118	0.122	0.123	0.126	2.2
Expenditures (\$)	915	875	958	1,031	1,045	978	1,000	1,077	7.8
South									
Consumption (kWh)	8,221	7,467	7,974	8,382	8,281	7,460	7,313	7,835	7.1
Price (\$/kwh)	0.104	0.107	0.107	0.109	0.111	0.110	0.112	0.113	1.2
Expenditures (\$)	855	798	851	913	919	824	817	886	8.4
West									
Consumption (kWh)	7,217	7,192	7,151	6,983	6,602	6,955	7,032	7,032	0.0
Price (\$/kwh)	0.112	0.115	0.119	0.123	0.127	0.130	0.132	0.136	2.9
Expenditures (\$)	809	825	848	861	836	903	926	953	2.9
U.S. Average									
Consumption (kWh)	7,843	7,252	7,671	7,981	7,801	7,242	7,227	7,583	4.9
Price (\$/kwh)	0.113	0.116	0.117	0.120	0.123	0.124	0.125	0.127	1.5
Expenditures (\$)	884	842	895	955	960	896	906	965	6.5

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

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	607.9	650.7	673.6	3.5
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	1,991	2,189	9.9
Midwest									
Consumption (gallons)	792.0	644.4	766.4	868.7	813.2	667.8	679.0	757.2	11.5
Price* (\$/gallon)	2.11	2.23	1.74	2.61	1.91	1.47	1.73	1.92	11.0
Expenditures (\$)	1,674	1,437	1,334	2,267	1,553	982	1,175	1,454	23.8
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	4,325	4,704	4,935	4.9
Midwest	5,774	4,485	5,545	6,452	6,002	4,689	4,792	5,466	14.1
South	2,629	2,020	2,428	2,784	2,689	2,012	1,880	2,319	23.3
West	3,259	3,231	3,183	2,991	2,568	2,955	3,049	3,041	-0.3
U.S. Average	3,939	3,225	3,721	4,110	3,881	3,203	3,257	3,598	10.5

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 - December 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	8.99	9.10	9.29	9.57	9.88	9.97	9.99	10.23	8.86	9.24	10.02
Dry Natural Gas Production (billion cubic feet per day)	74.14	73.28	72.45	71.55	71.28	72.09	73.97	76.78	78.41	79.20	80.29	80.85	72.85	73.55	79.70
Coal Production (million short tons)	173	161	195	199	197	187	206	200	197	173	204	198	728	791	771
Energy Consumption															
Liquid Fuels (million barrels per day)	19.54	19.50	19.94	19.77	19.49	20.03	19.92	19.95	19.80	20.15	20.67	20.43	19.69	19.85	20.26
Natural Gas (billion cubic feet per day)	89.11	66.61	69.08	75.66	86.64	63.05	67.53	77.78	93.45	66.53	67.64		75.10	73.71	76.85
Coal (b) (million short tons)	166	160	223	181	173	167	203	181	182	164	205	177	731	724	729
Electricity (billion kilowatt hours per day)	10.31	10.09	12.25	9.99	10.11	10.05	11.64	10.04	10.54	10.17	11.71	10.05	10.66	10.46	10.62
Renewables (c) (quadrillion Btu)	2.58	2.58	2.42	2.52	2.76	2.97	2.54	2.58	2.63	2.82	2.61	2.65	10.10	10.85	10.71
Total Energy Consumption (d) (quadrillion Btu)	25.27	22.98	24.80	24.45	25.02	23.22	24.20	24.39	25.42	23.04	24.31	24.68	97.50	96.83	97.44
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	33.35	45.46	44.85	49.18	51.64	48.15	48.16	54.35	51.79	52.00	52.30	54.95	43.33	50.56	52.77
Natural Gas Henry Hub Spot (dollars per million Btu)	2.00	2.14	2.88	3.04	3.01	3.08	2.95	3.01	3.26	3.10	2.99	3.13	2.51	3.01	3.12
Coal (dollars per million Btu)	2.13	2.13	2.11	2.08	2.08	2.12	2.07	2.20	2.20	2.20	2.22	2.20	2.11	2.12	2.20
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	16,572	16,664	16,778	16,851	16,903	17,031	17,157	17,262	17,350	17,439	17,529	17,625	16,716	17,088	17,486
Percent change from prior year	1.4	1.2	1.5	1.8	2.0	2.2	2.3	2.4	2.6	2.4	2.2	2.1	1.5	2.2	2.3
GDP Implicit Price Deflator (Index, 2009=100)	110.6	111.3	111.6	112.2	112.8	113.0	113.6	114.2	114.8	115.4	116.1	116.6	111.4	113.4	115.7
Percent change from prior year	1.2	1.2	1.2	1.5	2.0	1.6	1.8	1.8	1.8	2.1	2.1	2.1	1.3	1.8	2.0
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	12,568	12,627	12,649	12,591	12,680	12,783	12,801	12,841	12,942	13,021	13,110	13,203	12,609	12,777	13,069
Percent change from prior year	2.2	1.7	1.4	0.2	0.9	1.2	1.2	2.0	2.1	1.9	2.4	2.8	1.4	1.3	2.3
Manufacturing Production Index (Index, 2012=100)	102.9	102.6	102.7	103.1	103.7	104.4	103.9	105.1	105.5	105.9	106.4	107.0	102.8	104.3	106.2
Percent change from prior year	0.3	0.1	-0.1	0.5	0.8	1.8	1.2	1.9	1.7	1.4	2.4	1.8	0.2	1.4	1.8
Weather															
U.S. Heating Degree-Days	1,949	481	51	1,399	1,858	428	65	1,462	2,136	492	79	1,529	3,880	3,813	4,237
U.S. Cooling Degree-Days	54	411	964	129	70	402	839	113	43	396	833	91	1,558	1,424	1,363

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

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

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

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

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

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

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly*, DOE/EIA-0109;

Petroleum Supply Annual, DOE/EIA-0340/2; *Weekly Petroleum Status Report*, DOE/EIA-0208; *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130;

Electric Power Monthly, DOE/EIA-0226; *Quarterly Coal Report*, DOE/EIA-0121; and *International Petroleum Monthly*, DOE/EIA-0520.

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

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

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	48.16	<i>54.35</i>	<i>51.79</i>	<i>52.00</i>	<i>52.30</i>	<i>54.95</i>	43.33	<i>50.56</i>	<i>52.77</i>
Brent Spot Average	33.89	45.57	45.80	49.25	53.57	49.59	52.09	<i>60.35</i>	<i>57.29</i>	<i>56.50</i>	<i>56.30</i>	<i>58.95</i>	43.74	<i>53.88</i>	<i>57.26</i>
U.S. Imported Average	28.85	40.32	41.19	44.44	47.94	46.12	46.33	<i>50.93</i>	<i>48.30</i>	<i>48.50</i>	<i>48.82</i>	<i>51.53</i>	38.70	<i>47.76</i>	<i>49.21</i>
U.S. Refiner Average Acquisition Cost	30.84	42.23	42.90	46.56	49.91	47.66	47.72	<i>53.43</i>	<i>50.80</i>	<i>51.01</i>	<i>51.32</i>	<i>54.02</i>	40.69	<i>49.67</i>	<i>51.78</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	119	158	150	153	163	165	172	<i>182</i>	<i>168</i>	<i>180</i>	<i>176</i>	<i>168</i>	145	<i>171</i>	<i>173</i>
Diesel Fuel	109	141	145	156	162	155	169	<i>190</i>	<i>182</i>	<i>180</i>	<i>182</i>	<i>189</i>	138	<i>169</i>	<i>183</i>
Heating Oil	99	125	132	146	154	144	154	<i>182</i>	<i>182</i>	<i>171</i>	<i>173</i>	<i>182</i>	124	<i>159</i>	<i>179</i>
Refiner Prices to End Users															
Jet Fuel	107	134	137	149	158	150	162	<i>183</i>	<i>179</i>	<i>174</i>	<i>176</i>	<i>182</i>	132	<i>164</i>	<i>178</i>
No. 6 Residual Fuel Oil (a)	69	88	103	115	128	120	124	<i>131</i>	<i>129</i>	<i>124</i>	<i>127</i>	<i>132</i>	94	<i>126</i>	<i>128</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	190	225	221	223	233	238	244	<i>255</i>	<i>244</i>	<i>257</i>	<i>254</i>	<i>246</i>	215	<i>243</i>	<i>251</i>
Gasoline All Grades (b)	200	235	232	234	244	250	255	<i>267</i>	<i>255</i>	<i>268</i>	<i>266</i>	<i>258</i>	226	<i>254</i>	<i>262</i>
On-highway Diesel Fuel	208	230	238	247	257	255	263	<i>289</i>	<i>289</i>	<i>285</i>	<i>287</i>	<i>295</i>	231	<i>266</i>	<i>289</i>
Heating Oil	195	205	211	233	247	238	234	<i>271</i>	<i>281</i>	<i>267</i>	<i>266</i>	<i>278</i>	210	<i>252</i>	<i>277</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>3.12</i>	<i>3.38</i>	<i>3.21</i>	<i>3.10</i>	<i>3.24</i>	2.61	<i>3.12</i>	<i>3.24</i>
Henry Hub Spot (dollars per million Btu)	2.00	2.14	2.88	3.04	3.01	3.08	2.95	<i>3.01</i>	<i>3.26</i>	<i>3.10</i>	<i>2.99</i>	<i>3.13</i>	2.51	<i>3.01</i>	<i>3.12</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	3.44	2.93	3.64	4.04	4.50	4.12	3.89	<i>4.24</i>	<i>4.69</i>	<i>4.13</i>	<i>4.01</i>	<i>4.35</i>	3.52	<i>4.20</i>	<i>4.31</i>
Commercial Sector	6.87	7.26	8.24	7.52	7.71	8.32	8.70	<i>7.85</i>	<i>7.82</i>	<i>8.28</i>	<i>8.67</i>	<i>7.92</i>	7.29	<i>7.97</i>	<i>8.02</i>
Residential Sector	8.51	11.15	16.96	10.18	9.73	12.90	17.59	<i>10.87</i>	<i>9.80</i>	<i>12.34</i>	<i>16.66</i>	<i>10.72</i>	10.04	<i>11.13</i>	<i>10.92</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	2.07	<i>2.20</i>	<i>2.20</i>	<i>2.20</i>	<i>2.22</i>	<i>2.20</i>	2.11	<i>2.12</i>	<i>2.20</i>
Natural Gas	2.66	2.51	2.99	3.36	3.68	3.38	3.19	<i>3.56</i>	<i>4.12</i>	<i>3.58</i>	<i>3.29</i>	<i>3.74</i>	2.87	<i>3.43</i>	<i>3.64</i>
Residual Fuel Oil (c)	6.15	8.51	9.71	9.08	11.16	10.60	10.14	<i>11.07</i>	<i>11.34</i>	<i>11.57</i>	<i>11.06</i>	<i>11.05</i>	8.41	<i>10.73</i>	<i>11.25</i>
Distillate Fuel Oil	9.00	11.00	11.64	12.14	12.74	12.23	12.55	<i>13.82</i>	<i>14.46</i>	<i>13.23</i>	<i>12.99</i>	<i>13.78</i>	10.83	<i>12.83</i>	<i>13.65</i>
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.44	6.69	7.20	6.69	6.64	6.88	7.26	<i>6.92</i>	<i>6.86</i>	<i>7.06</i>	<i>7.50</i>	<i>7.02</i>	6.76	<i>6.93</i>	<i>7.12</i>
Commercial Sector	10.18	10.40	10.74	10.35	10.39	10.68	11.03	<i>10.56</i>	<i>10.61</i>	<i>10.98</i>	<i>11.43</i>	<i>10.91</i>	10.43	<i>10.68</i>	<i>11.00</i>
Residential Sector	12.20	12.66	12.81	12.46	12.60	13.00	13.20	<i>12.70</i>	<i>12.73</i>	<i>13.39</i>	<i>13.62</i>	<i>13.15</i>	12.55	<i>12.89</i>	<i>13.23</i>

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

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

Prices exclude taxes unless otherwise noted.

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	25.96	26.31	26.86	27.12	26.91	27.13	27.72	28.36	28.82	28.94	29.55	26.54	27.22	28.92
U.S. (50 States)	14.99	14.94	14.68	14.81	15.00	15.32	15.48	15.92	16.26	16.62	16.81	17.12	14.86	15.43	16.71
Canada	4.73	3.99	4.70	4.95	5.05	4.71	5.02	4.83	4.98	5.15	5.26	5.36	4.59	4.90	5.19
Mexico	2.57	2.52	2.48	2.39	2.36	2.34	2.20	2.26	2.27	2.25	2.24	2.23	2.49	2.29	2.25
Other OECD	4.73	4.52	4.45	4.70	4.70	4.55	4.42	4.71	4.85	4.79	4.63	4.83	4.60	4.60	4.77
Non-OECD	70.03	70.51	70.73	71.52	70.03	70.80	71.33	70.81	70.33	71.18	71.49	71.34	70.70	70.75	71.09
OPEC	38.77	39.00	39.35	39.81	38.84	39.32	39.68	39.35	39.32	39.70	39.83	39.84	39.23	39.30	39.67
Crude Oil Portion	32.24	32.47	32.76	33.25	32.08	32.32	32.89	32.53	32.41	32.76	32.84	32.82	32.68	32.46	32.71
Other Liquids (b)	6.52	6.53	6.59	6.56	6.77	7.00	6.79	6.82	6.90	6.94	6.98	7.02	6.55	6.85	6.96
Eurasia	14.34	14.10	13.92	14.52	14.43	14.31	14.24	14.35	14.42	14.40	14.31	14.41	14.22	14.33	14.38
China	5.02	4.90	4.79	4.77	4.82	4.82	4.73	4.79	4.71	4.74	4.74	4.78	4.87	4.79	4.75
Other Non-OECD	11.91	12.50	12.68	12.41	11.94	12.35	12.68	12.32	11.88	12.34	12.62	12.31	12.38	12.32	12.29
Total World Supply	97.05	96.47	97.05	98.37	97.15	97.71	98.46	98.53	98.69	100.00	100.43	100.89	97.24	97.97	100.01
Non-OPEC Supply	58.28	57.47	57.70	58.56	58.30	58.40	58.77	59.17	59.37	60.29	60.61	61.05	58.00	58.66	60.34
Consumption (million barrels per day) (c)															
OECD	46.60	45.96	47.18	47.25	46.74	46.84	47.29	47.38	47.25	46.71	47.92	47.95	46.75	47.06	47.46
U.S. (50 States)	19.54	19.50	19.94	19.77	19.49	20.03	19.92	19.95	19.80	20.15	20.67	20.43	19.69	19.85	20.26
U.S. Territories	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.09	0.09	0.10	0.12	0.13	0.15	0.13	0.11
Canada	2.33	2.32	2.46	2.40	2.35	2.34	2.47	2.44	2.41	2.35	2.46	2.44	2.38	2.40	2.41
Europe	13.62	13.93	14.44	14.19	13.89	14.25	14.66	14.24	14.08	14.14	14.54	14.28	14.05	14.26	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	6.57	6.52	6.44	6.44	6.62	6.64	6.51	6.55	6.71	6.46	6.50	6.60
Non-OECD	49.39	50.41	50.38	50.63	50.55	51.51	51.52	51.51	51.85	52.80	52.76	52.58	50.20	51.28	52.50
Eurasia	4.71	4.58	4.95	4.94	4.76	4.75	5.02	4.89	4.80	4.84	5.11	4.99	4.80	4.86	4.94
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	12.65	13.01	12.67	12.92	13.37	13.36	13.03	13.09	13.78	13.70	13.35	13.42	12.81	13.21	13.56
Other Asia	12.78	12.96	12.53	12.99	12.98	13.39	12.91	13.43	13.63	13.91	13.40	13.74	12.82	13.18	13.67
Other Non-OECD	18.56	19.15	19.52	19.07	18.74	19.31	19.83	19.37	18.93	19.63	20.16	19.70	19.08	19.32	19.61
Total World Consumption	95.99	96.36	97.56	97.88	97.29	98.35	98.81	98.89	99.10	99.51	100.68	100.54	96.95	98.34	99.96
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	0.34	0.86	-0.25	-0.58	-0.08	0.56	-0.13	0.36	-0.08
Other OECD	0.02	-0.13	-0.10	0.60	-0.49	0.05	-0.21	-0.17	0.23	0.03	0.11	-0.31	0.10	-0.20	0.01
Other Stock Draws and Balance	-0.61	0.30	0.64	-1.33	0.63	0.37	0.23	-0.33	0.43	0.06	0.22	-0.60	-0.25	0.22	0.02
Total Stock Draw	-1.06	-0.11	0.52	-0.49	0.14	0.64	0.35	0.36	0.41	-0.49	0.25	-0.35	-0.28	0.37	-0.05
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	1,305	1,236	1,260	1,314	1,323	1,284	1,334	1,236	1,284
OECD Commercial Inventory	3,001	3,040	3,048	2,967	3,011	2,997	2,994	2,942	2,945	2,996	2,995	2,985	2,967	2,942	2,985

- = 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 - December 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	22.41	22.37	22.70	<i>23.01</i>	<i>23.51</i>	<i>24.03</i>	<i>24.31</i>	<i>24.72</i>	21.94	22.62	24.15
Canada	4.73	3.99	4.70	4.95	5.05	4.71	5.02	4.83	4.98	5.15	5.26	5.36	4.59	4.90	5.19
Mexico	2.57	2.52	2.48	2.39	2.36	2.34	2.20	2.26	2.27	2.25	2.24	2.23	2.49	2.29	2.25
United States	14.99	14.94	14.68	14.81	15.00	15.32	15.48	15.92	16.26	16.62	16.81	17.12	14.86	15.43	16.71
Central and South America	4.74	5.41	5.64	5.32	4.91	5.39	5.74	<i>5.40</i>	<i>5.01</i>	<i>5.50</i>	<i>5.81</i>	<i>5.53</i>	5.28	5.36	5.46
Argentina	0.70	0.71	0.73	0.71	0.67	0.67	0.70	0.69	0.66	0.66	0.69	0.68	0.71	0.68	0.67
Brazil	2.65	3.36	3.63	3.32	2.95	3.42	3.76	3.43	3.06	3.54	3.85	3.56	3.24	3.39	3.51
Colombia	0.98	0.93	0.87	0.87	0.87	0.88	0.86	0.86	0.86	0.88	0.85	0.86	0.91	0.87	0.86
Other Central and S. America	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Europe	4.21	4.02	3.91	4.19	4.22	4.06	3.91	<i>4.19</i>	<i>4.33</i>	<i>4.25</i>	<i>4.07</i>	<i>4.26</i>	4.08	4.09	4.23
Norway	2.04	1.95	1.91	2.12	2.09	2.01	1.90	2.02	2.12	2.04	2.02	2.09	2.00	2.01	2.07
United Kingdom	1.13	1.09	1.01	1.03	1.10	1.07	1.00	1.16	1.19	1.21	1.06	1.16	1.06	1.08	1.16
Eurasia	14.34	14.10	13.92	14.52	14.43	14.31	14.24	<i>14.35</i>	<i>14.42</i>	<i>14.40</i>	<i>14.31</i>	<i>14.41</i>	14.22	14.33	14.38
Azerbaijan	0.87	0.87	0.84	0.80	0.79	0.80	0.79	0.81	0.81	0.80	0.78	0.77	0.84	0.80	0.79
Kazakhstan	1.76	1.63	1.57	1.83	1.87	1.87	1.86	1.91	1.99	1.98	1.99	2.04	1.70	1.88	2.00
Russia	11.27	11.17	11.08	11.45	11.32	11.18	11.14	11.16	11.17	11.16	11.08	11.14	11.24	11.20	11.14
Turkmenistan	0.27	0.26	0.26	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.27	0.28	0.29
Other Eurasia	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.18	0.18	0.18	0.18	0.17	0.17	0.17	0.17
Middle East	1.14	1.14	1.14	1.14	1.07	1.07	1.08	<i>1.11</i>	<i>1.11</i>	<i>1.09</i>	<i>1.07</i>	<i>1.05</i>	1.14	1.08	1.08
Oman	1.02	1.01	1.02	1.02	0.98	0.98	0.99	1.01	0.99	0.97	0.95	0.94	1.02	0.99	0.96
Asia and Oceania	9.73	9.52	9.40	9.37	9.37	9.30	9.22	<i>9.28</i>	<i>9.23</i>	<i>9.25</i>	<i>9.26</i>	<i>9.30</i>	9.50	9.29	9.26
Australia	0.39	0.37	0.41	0.37	0.35	0.36	0.37	0.36	0.36	0.37	0.38	0.39	0.39	0.36	0.38
China	5.02	4.90	4.79	4.77	4.82	4.82	4.73	4.79	4.71	4.74	4.74	4.78	4.87	4.79	4.75
India	1.00	0.99	0.99	0.99	1.01	1.00	1.00	1.00	1.00	0.99	0.98	0.98	0.99	1.00	0.99
Indonesia	0.96	0.96	0.96	0.95	0.92	0.92	0.90	0.88	0.89	0.89	0.88	0.89	0.96	0.91	0.89
Malaysia	0.75	0.74	0.73	0.74	0.74	0.72	0.72	0.73	0.74	0.74	0.73	0.72	0.74	0.73	0.73
Vietnam	0.33	0.33	0.31	0.31	0.30	0.30	0.28	0.27	0.27	0.27	0.27	0.27	0.32	0.29	0.27
Africa	1.83	1.83	1.82	1.86	1.89	1.92	1.89	<i>1.83</i>	<i>1.78</i>	<i>1.78</i>	<i>1.78</i>	<i>1.78</i>	1.84	1.88	1.78
Egypt	0.70	0.69	0.69	0.69	0.68	0.68	0.66	0.63	0.59	0.59	0.59	0.59	0.69	0.66	0.59
South Sudan	0.15	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.12	0.12	0.12	0.12	0.15	0.15	0.12
Total non-OPEC liquids	58.28	57.47	57.70	58.56	58.30	58.40	58.77	<i>59.17</i>	<i>59.37</i>	<i>60.29</i>	<i>60.61</i>	<i>61.05</i>	58.00	58.66	60.34
OPEC non-crude liquids	6.52	6.53	6.59	6.56	6.77	7.00	6.79	<i>6.82</i>	<i>6.90</i>	<i>6.94</i>	<i>6.98</i>	<i>7.02</i>	6.55	6.85	6.96
Non-OPEC + OPEC non-crude	64.81	64.00	64.29	65.12	65.07	65.40	65.56	<i>66.00</i>	<i>66.28</i>	<i>67.24</i>	<i>67.59</i>	<i>68.07</i>	64.56	65.51	67.30
Unplanned non-OPEC Production Outages	0.38	0.76	0.42	0.34	0.43	0.68	0.61	<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 - December 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	10.09	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	1.95	-	-	-	-	-	2.18	-	-
OPEC Total	32.24	32.47	32.76	33.25	32.08	32.32	32.89	32.53	32.41	32.76	32.84	32.82	32.68	32.46	32.71
Other Liquids (a)	6.52	6.53	6.59	6.56	6.77	7.00	6.79	6.82	6.90	6.94	6.98	7.02	6.55	6.85	6.96
Total OPEC Supply	38.77	39.00	39.35	39.81	38.84	39.32	39.68	39.35	39.32	39.70	39.83	39.84	39.23	39.30	39.67
Crude Oil Production Capacity															
Africa	5.28	4.96	4.78	5.07	5.04	5.24	5.65	5.63	5.64	5.60	5.58	5.57	5.02	5.39	5.59
Middle East	25.54	25.95	26.27	26.56	26.70	26.69	26.71	26.65	26.60	26.69	26.69	26.67	26.08	26.69	26.67
South America	2.84	2.78	2.66	2.62	2.53	2.51	2.49	2.40	2.34	2.29	2.26	2.21	2.73	2.48	2.27
OPEC Total	33.66	33.69	33.71	34.25	34.27	34.44	34.85	34.67	34.57	34.58	34.53	34.46	33.83	34.56	34.53
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	2.13	1.95	2.14	2.16	1.82	1.69	1.64	1.15	2.10	1.82
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	2.13	1.95	2.14	2.16	1.82	1.69	1.64	1.15	2.10	1.82
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 - December 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	24.36	24.33	24.39	24.19	24.50	25.10	24.85	24.10	24.22	24.66
Canada	2.33	2.32	2.46	2.40	2.35	2.34	2.47	2.44	2.41	2.35	2.46	2.44	2.38	2.40	2.41
Mexico	2.05	2.02	2.01	2.03	1.96	1.98	1.92	1.99	1.97	1.99	1.96	1.97	2.03	1.96	1.97
United States	19.54	19.50	19.94	19.77	19.49	20.03	19.92	19.95	19.80	20.15	20.67	20.43	19.69	19.85	20.26
Central and South America	6.89	7.05	7.14	7.07	6.99	7.01	7.11	7.05	6.85	7.03	7.16	7.17	7.04	7.04	7.05
Brazil	2.95	3.00	3.06	3.00	3.07	3.00	3.07	3.08	3.03	3.08	3.16	3.17	3.00	3.06	3.11
Europe	14.31	14.62	15.16	14.91	14.59	14.95	15.38	14.96	14.79	14.85	15.28	15.01	14.75	14.98	14.99
Eurasia	4.71	4.58	4.95	4.94	4.76	4.75	5.02	4.89	4.80	4.84	5.11	4.99	4.80	4.86	4.94
Russia	3.57	3.46	3.76	3.74	3.61	3.62	3.82	3.69	3.61	3.68	3.89	3.76	3.63	3.68	3.73
Middle East	8.21	8.62	8.98	8.46	8.12	8.67	9.15	8.58	8.28	8.83	9.30	8.71	8.57	8.64	8.78
Asia and Oceania	33.80	33.49	32.85	34.11	34.70	34.32	33.58	34.65	35.76	35.03	34.33	35.31	33.56	34.31	35.10
China	12.65	13.01	12.67	12.92	13.37	13.36	13.03	13.09	13.78	13.70	13.35	13.42	12.81	13.21	13.56
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
India	4.56	4.50	4.19	4.61	4.50	4.65	4.30	4.78	4.93	4.95	4.56	4.88	4.46	4.56	4.83
Africa	4.11	4.14	4.06	4.17	4.29	4.28	4.23	4.34	4.43	4.42	4.37	4.48	4.12	4.29	4.42
Total OECD Liquid Fuels Consumption	46.60	45.96	47.18	47.25	46.74	46.84	47.29	47.38	47.25	46.71	47.92	47.95	46.75	47.06	47.46
Total non-OECD Liquid Fuels Consumption	49.39	50.41	50.38	50.63	50.55	51.51	51.52	51.51	51.85	52.80	52.76	52.58	50.20	51.28	52.50
Total World Liquid Fuels Consumption	95.99	96.36	97.56	97.88	97.29	98.35	98.81	98.89	99.10	99.51	100.68	100.54	96.95	98.34	99.96
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100	101.8	103.3	103.9	104.8	105.4	106.2	106.9	107.8	108.8	109.5	110.3	111.3	103.5	106.6	110.0
Percent change from prior year	1.8	2.8	2.8	3.1	3.5	2.8	2.9	2.8	3.2	3.1	3.2	3.2	2.7	3.0	3.2
OECD Index, 2010 Q1 = 100	100.8	102.2	102.6	103.3	103.7	104.3	104.7	105.3	106.1	106.5	106.9	107.5	102.2	104.5	106.8
Percent change from prior year	0.8	1.9	1.9	2.2	2.9	2.0	2.0	1.9	2.3	2.1	2.2	2.1	1.7	2.2	2.2
Non-OECD Index, 2010 Q1 = 100	102.9	104.4	105.2	106.2	107.1	108.1	109.1	110.1	111.4	112.5	113.6	114.9	104.7	108.6	113.1
Percent change from prior year	2.9	3.7	3.7	3.9	4.1	3.6	3.6	3.7	4.0	4.1	4.2	4.3	3.5	3.7	4.1
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100	104.54	102.64	102.56	104.61	104.80	103.26	101.71	101.05	100.63	100.51	100.31	100.02	103.59	102.70	100.37
Percent change from prior year	4.5	2.5	0.0	1.1	0.2	0.6	-0.8	-3.4	-4.0	-2.7	-1.4	-1.0	2.0	-0.9	-2.3

- = no data available

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	8.99	9.10	9.29	9.57	9.88	9.97	9.99	10.23	8.86	9.24	10.02
Alaska	0.51	0.49	0.45	0.51	0.52	0.50	0.45	0.49	0.51	0.48	0.43	0.49	0.49	0.49	0.48
Federal Gulf of Mexico (b)	1.59	1.57	1.56	1.67	1.73	1.62	1.68	1.57	1.72	1.73	1.63	1.74	1.60	1.65	1.71
Lower 48 States (excl GOM)	7.05	6.76	6.64	6.63	6.74	6.98	7.16	7.51	7.65	7.76	7.92	7.99	6.77	7.10	7.83
Crude Oil Net Imports (c)	7.33	7.05	7.37	7.28	7.24	7.24	6.63	6.32	6.53	7.03	6.61	5.73	7.26	6.85	6.47
SPR Net Withdrawals	0.00	0.00	0.00	0.00	0.04	0.14	0.06	0.12	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	0.34	0.30	-0.41	-0.02	0.16	0.03	-0.10	0.12	-0.06
Crude Oil Adjustment (d)	0.10	0.28	0.17	0.12	0.23	0.24	0.28	0.26	0.19	0.19	0.21	0.15	0.17	0.25	0.19
Total Crude Oil Input to Refineries	15.96	16.20	16.52	16.07	15.91	17.13	16.60	16.58	16.20	17.19	16.99	16.28	16.19	16.56	16.67
Other Supply															
Refinery Processing Gain	1.08	1.12	1.15	1.11	1.09	1.13	1.07	1.10	1.07	1.11	1.12	1.10	1.12	1.10	1.10
Natural Gas Plant Liquids Production	3.42	3.64	3.48	3.50	3.54	3.70	3.72	3.82	3.91	4.11	4.27	4.37	3.51	3.70	4.17
Renewables and Oxygenate Production (e)	1.13	1.14	1.18	1.18	1.17	1.16	1.19	1.20	1.16	1.18	1.19	1.19	1.16	1.18	1.18
Fuel Ethanol Production	0.99	0.98	1.01	1.03	1.04	1.01	1.02	1.05	1.02	1.03	1.04	1.04	1.00	1.03	1.03
Petroleum Products Adjustment (f)	0.21	0.22	0.22	0.21	0.21	0.22	0.21	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	-2.80	-3.42	-2.93	-3.11	-2.88	-3.14	-2.46	-3.04	-3.02
Hydrocarbon Gas Liquids	-0.98	-1.07	-0.95	-1.12	-1.20	-1.18	-1.16	-1.31	-1.24	-1.31	-1.30	-1.50	-1.03	-1.21	-1.34
Unfinished Oils	0.35	0.46	0.42	0.37	0.37	0.34	0.38	0.26	0.36	0.41	0.43	0.32	0.40	0.34	0.38
Other HC/Oxygenates	-0.11	-0.09	-0.06	-0.06	-0.13	-0.09	-0.09	-0.07	-0.11	-0.09	-0.08	-0.08	-0.08	-0.09	-0.09
Motor Gasoline Blend Comp.	0.34	0.64	0.58	0.52	0.43	0.68	0.64	0.37	0.50	0.66	0.49	0.45	0.52	0.53	0.53
Finished Motor Gasoline	-0.57	-0.49	-0.46	-0.78	-0.66	-0.62	-0.63	-0.78	-0.88	-0.69	-0.47	-0.66	-0.58	-0.68	-0.67
Jet Fuel	-0.02	-0.04	-0.02	-0.03	-0.04	-0.07	-0.01	0.02	-0.03	0.03	0.06	-0.01	-0.03	-0.02	0.01
Distillate Fuel Oil	-0.82	-1.19	-1.11	-1.00	-1.01	-1.36	-1.32	-1.18	-0.95	-1.36	-1.37	-1.04	-1.03	-1.22	-1.18
Residual Fuel Oil	-0.09	-0.09	-0.10	-0.09	-0.10	-0.11	-0.12	-0.11	-0.06	-0.12	-0.09	-0.10	-0.09	-0.11	-0.09
Other Oils (g)	-0.51	-0.62	-0.58	-0.48	-0.61	-0.60	-0.50	-0.61	-0.53	-0.63	-0.55	-0.51	-0.55	-0.58	-0.56
Product Inventory Net Withdrawals	0.15	-0.32	-0.34	0.38	0.56	-0.33	-0.07	0.44	0.15	-0.58	-0.26	0.40	-0.03	0.15	-0.08
Total Supply	19.54	19.50	19.94	19.77	19.52	20.03	19.92	19.95	19.80	20.15	20.67	20.43	19.69	19.86	20.26
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	2.79	2.35	2.39	2.62	2.79	2.45	2.33	2.72	2.93	2.58	2.80	3.11	2.54	2.57	2.86
Unfinished Oils	0.03	-0.02	-0.01	0.02	0.02	0.02	-0.01	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	9.56	9.21	8.92	9.52	9.60	9.29	9.32	9.32	9.34
Fuel Ethanol blended into Motor Gasoline	0.90	0.93	0.96	0.94	0.90	0.96	0.96	0.94	0.92	0.98	0.98	0.96	0.93	0.94	0.96
Jet Fuel	1.51	1.62	1.69	1.63	1.60	1.68	1.71	1.71	1.57	1.72	1.77	1.64	1.61	1.68	1.68
Distillate Fuel Oil	3.93	3.79	3.80	3.99	3.95	3.91	3.87	3.97	4.09	3.94	3.94	4.05	3.88	3.93	4.01
Residual Fuel Oil	0.29	0.37	0.33	0.32	0.37	0.37	0.30	0.35	0.35	0.32	0.33	0.30	0.33	0.35	0.33
Other Oils (g)	1.91	1.99	2.16	1.99	1.83	2.06	2.15	1.97	1.93	2.10	2.26	2.02	2.01	2.00	2.08
Total Consumption	19.54	19.50	19.94	19.77	19.49	20.03	19.92	19.95	19.80	20.15	20.67	20.43	19.69	19.85	20.26
Total Petroleum and Other Liquids Net Imports	4.92	4.56	5.10	4.60	4.28	4.25	3.83	2.90	3.60	3.92	3.73	2.59	4.79	3.81	3.46
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	504.8	500.9	471.5	484.6	537.9	500.4	469.1	441.1	477.8	479.3	464.3	461.3	484.6	441.1	461.3
Hydrocarbon Gas Liquids	152.5	209.9	250.8	200.2	148.1	190.6	229.7	187.8	157.8	211.9	248.1	200.0	200.2	187.8	200.0
Unfinished Oils	91.6	86.8	83.5	80.3	89.3	88.7	89.2	80.3	89.9	88.8	86.4	79.9	80.3	80.3	79.9
Other HC/Oxygenates	29.1	27.9	27.4	29.0	32.6	29.3	28.3	30.1	31.8	30.8	30.1	30.7	29.0	30.1	30.7
Total Motor Gasoline	243.7	242.7	227.7	238.6	239.0	237.9	223.8	235.3	237.5	233.1	227.8	241.1	238.6	235.3	241.1
Finished Motor Gasoline	26.3	24.7	24.8	28.4	21.7	22.5	21.8	27.4	24.7	23.4	24.0	25.3	28.4	27.4	25.3
Motor Gasoline Blend Comp.	217.5	218.0	202.9	210.2	217.2	215.5	202.0	207.9	212.8	209.7	203.9	215.8	210.2	207.9	215.8
Jet Fuel	44.3	40.7	44.9	43.0	42.3	41.0	43.3	40.3	40.1	41.4	42.8	40.6	43.0	40.3	40.6
Distillate Fuel Oil	160.1	149.8	161.1	166.1	151.1	151.6	137.5	139.2	132.3	136.5	137.9	141.4	166.1	139.2	141.4
Residual Fuel Oil	44.5	40.4	38.9	41.5	40.8	35.2	35.9	31.6	36.4	38.2	37.6	38.0	41.5	31.6	38.0
Other Oils (g)	58.6	55.5	50.3	51.2	56.6	55.2	47.9	50.5	56.1	54.3	48.5	51.1	51.2	50.5	51.1
Total Commercial Inventory	1,329	1,354	1,356	1,334	1,338	1,330	1,305	1,236	1,260	1,314	1,323	1,284	1,334	1,236	1,284
Crude Oil in SPR	695	695	695	695	692	679	674	663	661	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 - December 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	1.34	1.45	1.53	1.59	1.67	1.79	1.27	1.38	1.65
Propane	1.16	1.18	1.17	1.15	1.16	1.21	1.23	1.26	1.26	1.32	1.35	1.35	1.17	1.22	1.32
Butanes	0.63	0.64	0.65	0.63	0.63	0.65	0.67	0.66	0.68	0.72	0.73	0.73	0.64	0.65	0.72
Natural Gasoline (Pentanes Plus)	0.41	0.43	0.47	0.43	0.41	0.45	0.48	0.45	0.44	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	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Propane	0.29	0.32	0.31	0.30	0.29	0.32	0.30	0.31	0.31	0.33	0.32	0.31	0.31	0.31	0.32
Propylene (refinery-grade)	0.29	0.28	0.27	0.28	0.27	0.29	0.27	0.28	0.28	0.29	0.28	0.28	0.28	0.28	0.28
Butanes/Butylenes	-0.11	0.26	0.20	-0.20	-0.09	0.27	0.16	-0.18	-0.07	0.26	0.18	-0.19	0.04	0.04	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	-0.20	-0.21	-0.25	-0.26	-0.27	-0.28	-0.09	-0.18	-0.27
Propane/Propylene	-0.64	-0.66	-0.57	-0.76	-0.79	-0.71	-0.68	-0.77	-0.68	-0.72	-0.71	-0.86	-0.66	-0.74	-0.75
Butanes/Butylenes	-0.07	-0.12	-0.08	-0.10	-0.09	-0.12	-0.11	-0.13	-0.12	-0.13	-0.13	-0.15	-0.09	-0.11	-0.13
Natural Gasoline (Pentanes Plus)	-0.20	-0.20	-0.19	-0.16	-0.18	-0.18	-0.16	-0.20	-0.19	-0.19	-0.20	-0.21	-0.19	-0.18	-0.20
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.43	0.29	0.32	0.53	0.43	0.30	0.33	0.49	0.41	0.31	0.34	0.50	0.39	0.39	0.39
Natural Gasoline (Pentanes Plus)	0.14	0.15	0.15	0.14	0.16	0.18	0.18	0.16	0.17	0.17	0.19	0.17	0.15	0.17	0.18
HGL Consumption															
Ethane/Ethylene	1.13	1.12	1.11	1.15	1.19	1.23	1.13	1.23	1.24	1.31	1.46	1.53	1.13	1.19	1.39
Propane	1.12	0.62	0.68	0.91	1.05	0.60	0.67	0.93	1.12	0.62	0.69	0.97	0.83	0.81	0.85
Propylene (refinery-grade)	0.31	0.30	0.30	0.28	0.34	0.31	0.28	0.29	0.30	0.31	0.30	0.29	0.30	0.31	0.30
Butanes/Butylenes	0.18	0.26	0.24	0.17	0.12	0.23	0.18	0.19	0.19	0.27	0.27	0.23	0.21	0.18	0.24
Natural Gasoline (Pentanes Plus)	0.04	0.06	0.06	0.10	0.10	0.08	0.08	0.08	0.07	0.08	0.08	0.09	0.07	0.08	0.08
HGL Inventories (million barrels)															
Ethane	31.69	42.32	48.71	50.55	49.65	51.89	51.77	55.44	56.66	60.57	56.63	55.42	43.35	52.20	57.31
Propane	61.80	79.84	99.00	77.06	40.23	57.06	71.59	58.52	36.64	62.21	84.87	68.23	77.06	58.52	68.23
Propylene (refinery-grade)	5.16	5.57	5.34	7.02	3.75	4.01	5.21	5.20	4.59	5.23	5.25	5.52	7.02	5.20	5.52
Butanes/Butylenes	32.46	54.17	73.48	40.38	31.68	57.24	76.10	46.11	36.04	60.13	76.46	45.97	40.38	46.11	45.97
Natural Gasoline (Pentanes Plus)	20.43	21.25	25.31	25.05	21.49	20.55	23.40	22.63	22.14	23.84	25.80	26.11	25.05	22.63	26.11
Refinery and Blender Net Inputs															
Crude Oil	15.96	16.20	16.52	16.07	15.91	17.13	16.60	16.58	16.20	17.19	16.99	16.28	16.19	16.56	16.67
Hydrocarbon Gas Liquids	0.58	0.43	0.47	0.67	0.58	0.48	0.51	0.65	0.58	0.49	0.53	0.67	0.54	0.55	0.57
Other Hydrocarbons/Oxygenates	1.15	1.22	1.23	1.19	1.16	1.24	1.22	1.25	1.18	1.27	1.28	1.26	1.20	1.22	1.25
Unfinished Oils	0.22	0.53	0.47	0.38	0.25	0.33	0.38	0.35	0.25	0.45	0.48	0.38	0.40	0.33	0.39
Motor Gasoline Blend Components	0.34	0.83	0.90	0.47	0.39	0.65	0.67	0.44	0.55	0.82	0.67	0.47	0.64	0.54	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	19.38	19.28	18.77	20.22	19.96	19.06	18.96	19.20	19.51
Refinery Processing Gain															
.....	1.08	1.12	1.15	1.11	1.09	1.13	1.07	1.10	1.07	1.11	1.12	1.10	1.12	1.10	1.10
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.48	0.87	0.79	0.39	0.48	0.89	0.73	0.42	0.52	0.89	0.79	0.41	0.63	0.63	0.65
Finished Motor Gasoline	9.71	10.07	10.18	10.01	9.57	10.10	10.04	10.17	9.87	10.30	10.17	10.10	10.00	9.97	10.11
Jet Fuel	1.58	1.62	1.76	1.64	1.63	1.74	1.75	1.66	1.59	1.71	1.72	1.63	1.65	1.69	1.66
Distillate Fuel	4.68	4.79	4.92	4.94	4.75	5.18	4.94	5.09	4.88	5.26	5.24	5.05	4.83	4.99	5.11
Residual Fuel	0.40	0.42	0.42	0.44	0.46	0.41	0.43	0.42	0.46	0.46	0.42	0.41	0.42	0.43	0.44
Other Oils (a)	2.47	2.57	2.68	2.48	2.50	2.64	2.56	2.61	2.52	2.71	2.75	2.56	2.55	2.58	2.64
Total Refinery and Blender Net Production	19.33	20.34	20.74	19.89	19.40	20.97	20.46	20.37	19.84	21.33	21.09	20.16	20.08	20.30	20.61
Refinery Distillation Inputs															
.....	16.26	16.50	16.89	16.41	16.23	17.42	16.90	16.83	16.44	17.33	17.23	16.55	16.51	16.85	16.89
Refinery Operable Distillation Capacity															
.....	18.32	18.36	18.44	18.49	18.62	18.58	18.55	18.50	18.50	18.54	18.54	18.54	18.40	18.56	18.53
Refinery Distillation Utilization Factor															
.....	0.89	0.90	0.92	0.89	0.87	0.94	0.91	0.91	0.89	0.93	0.93	0.89	0.90	0.91	0.91

- = 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 - December 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	172	182	168	180	176	168	145	171	173
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	187	220	215	223	231	233	241	255	247	253	250	247	212	240	249
PADD 2	176	221	215	212	223	228	232	246	232	249	247	237	207	232	241
PADD 3	167	201	199	201	210	216	222	229	219	229	225	218	192	219	223
PADD 4	184	220	226	220	227	239	245	252	232	246	252	241	213	241	243
PADD 5	241	265	264	263	276	289	290	298	287	308	304	288	259	288	297
U.S. Average	190	225	221	223	233	238	244	255	244	257	254	246	215	243	251
Gasoline All Grades Including Taxes	200	235	232	234	244	250	255	267	255	268	266	258	226	254	262
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	65.9	73.1	58.8	65.4	65.3	67.2	58.8	63.9	66.0	66.2	62.5	65.3	65.4	63.9	65.3
PADD 2	57.1	53.9	51.1	53.2	57.0	53.6	50.4	51.3	53.3	50.8	49.6	52.0	53.2	51.3	52.0
PADD 3	82.9	80.3	83.2	82.8	79.1	82.4	78.5	81.3	80.8	80.5	80.5	84.6	82.8	81.3	84.6
PADD 4	8.4	7.4	6.9	7.9	7.9	7.0	6.9	7.4	7.3	7.4	7.3	7.9	7.9	7.4	7.9
PADD 5	29.4	27.9	27.6	29.3	29.7	27.7	29.2	31.4	30.1	28.2	27.9	31.4	29.3	31.4	31.4
U.S. Total	243.7	242.7	227.7	238.6	239.0	237.9	223.8	235.3	237.5	233.1	227.8	241.1	238.6	235.3	241.1
Finished Gasoline Inventories															
U.S. Total	26.3	24.7	24.8	28.4	21.7	22.5	21.8	27.4	24.7	23.4	24.0	25.3	28.4	27.4	25.3
Gasoline Blending Components Inventories															
U.S. Total	217.5	218.0	202.9	210.2	217.2	215.5	202.0	207.9	212.8	209.7	203.9	215.8	210.2	207.9	215.8

- = no data available

Prices are not adjusted for inflation.

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	76.32	77.36	79.26	82.28	84.07	84.96	86.19	86.85	77.81	78.82	85.53
Alaska	0.98	0.86	0.81	1.04	1.01	0.97	0.82	0.94	1.00	0.85	0.77	0.93	0.92	0.93	0.89
Federal GOM (a)	3.40	3.28	3.21	3.30	3.26	2.99	2.95	3.07	3.45	3.33	3.21	3.22	3.30	3.07	3.30
Lower 48 States (excl GOM)	74.81	74.13	73.36	72.09	72.05	73.40	75.49	78.27	79.62	80.78	82.21	82.70	73.59	74.82	81.34
Total Dry Gas Production	74.14	73.28	72.45	71.55	71.28	72.09	73.97	76.78	78.41	79.20	80.29	80.85	72.85	73.55	79.70
LNG Gross Imports	0.33	0.19	0.18	0.26	0.29	0.18	0.17	0.22	0.29	0.16	0.18	0.22	0.24	0.21	0.21
LNG Gross Exports	0.15	0.40	0.64	0.85	1.63	1.80	1.67	2.63	2.93	2.86	2.86	3.48	0.51	1.94	3.03
Pipeline Gross Imports	8.08	7.84	8.14	7.82	8.89	7.76	7.74	7.39	8.26	7.84	7.48	6.98	7.97	7.94	7.63
Pipeline Gross Exports	5.63	5.64	5.93	6.28	7.24	6.49	6.41	6.86	8.19	7.00	7.01	7.06	5.87	6.75	7.31
Supplemental Gaseous Fuels	0.16	0.16	0.16	0.15	0.16	0.13	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.15	0.17
Net Inventory Withdrawals	13.09	-7.78	-5.64	4.32	13.72	-9.02	-7.19	4.56	16.06	-10.37	-9.61	3.50	0.99	0.47	-0.17
Total Supply	90.03	67.66	68.71	76.98	85.47	62.84	66.77	79.61	92.05	67.13	68.64	81.18	75.83	73.64	77.20
Balancing Item (b)	-0.91	-1.05	0.38	-1.32	1.17	0.21	0.75	-1.83	1.39	-0.60	-1.01	-1.14	-0.72	0.07	-0.35
Total Primary Supply	89.11	66.61	69.08	75.66	86.64	63.05	67.53	77.78	93.45	66.53	67.64	80.04	75.10	73.71	76.85
Consumption (billion cubic feet per day)															
Residential	22.23	7.08	3.44	14.79	22.17	6.65	3.56	15.49	25.01	7.09	3.62	15.97	11.87	11.93	12.87
Commercial	13.33	5.95	4.53	10.15	13.51	5.84	4.56	10.40	14.90	6.10	4.58	10.67	8.48	8.56	9.04
Industrial	22.47	20.02	20.07	21.84	22.96	20.45	20.33	21.61	23.07	20.72	20.43	22.20	21.10	21.33	21.60
Electric Power (c)	24.27	27.40	34.85	22.57	21.43	24.08	32.82	23.52	23.20	25.98	32.28	24.06	27.28	25.49	26.40
Lease and Plant Fuel	4.42	4.37	4.32	4.27	4.26	4.32	4.42	4.59	4.69	4.74	4.81	4.85	4.34	4.40	4.77
Pipeline and Distribution Use	2.28	1.68	1.75	1.92	2.20	1.60	1.71	2.04	2.44	1.78	1.81	2.17	1.91	1.89	2.05
Vehicle Use	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.12	0.12
Total Consumption	89.11	66.61	69.08	75.66	86.64	63.05	67.53	77.78	93.45	66.53	67.64	80.04	75.10	73.71	76.85
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	2,486	3,186	3,705	3,297	2,063	2,908	3,568	3,148	1,703	2,647	3,531	3,210	3,297	3,148	3,210
East Region (d)	436	654	898	721	260	563	866	671	219	525	819	698	721	671	698
Midwest Region (d)	543	763	1,042	906	478	702	994	879	350	604	966	834	906	879	834
South Central Region (d)	1,071	1,227	1,176	1,162	938	1,139	1,137	1,110	789	1,024	1,163	1,153	1,162	1,110	1,153
Mountain Region (d)	144	196	232	204	142	184	218	192	127	167	220	201	204	192	201
Pacific Region (d)	266	316	321	271	219	288	314	259	181	290	327	286	271	259	286
Alaska	25	30	36	33	27	32	39	37	37	37	37	37	33	37	37

- = 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 - December 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	3.12	<i>3.38</i>	<i>3.21</i>	<i>3.10</i>	<i>3.24</i>	2.61	<i>3.12</i>	<i>3.24</i>
Residential Retail															
New England	11.73	13.06	17.73	13.35	12.85	14.08	18.12	13.82	<i>13.05</i>	<i>14.01</i>	<i>16.94</i>	<i>13.50</i>	12.83	<i>13.67</i>	<i>13.59</i>
Middle Atlantic	8.84	10.69	16.15	10.23	9.92	12.18	17.11	11.15	<i>9.90</i>	<i>11.97</i>	<i>16.40</i>	<i>11.04</i>	10.05	<i>11.11</i>	<i>10.97</i>
E. N. Central	6.78	9.36	17.80	8.25	7.77	11.52	17.80	9.26	<i>8.19</i>	<i>11.07</i>	<i>16.74</i>	<i>9.01</i>	8.25	<i>9.39</i>	<i>9.35</i>
W. N. Central	7.38	10.51	17.80	9.11	8.32	11.85	18.78	10.31	<i>9.11</i>	<i>11.82</i>	<i>17.66</i>	<i>9.76</i>	8.96	<i>10.06</i>	<i>10.21</i>
S. Atlantic	10.05	15.16	23.15	12.90	12.27	18.79	25.41	13.88	<i>11.50</i>	<i>16.30</i>	<i>22.17</i>	<i>12.76</i>	12.45	<i>14.66</i>	<i>13.20</i>
E. S. Central	8.54	13.14	19.55	11.35	10.53	15.83	20.82	12.46	<i>10.03</i>	<i>14.56</i>	<i>20.39</i>	<i>12.86</i>	10.52	<i>12.50</i>	<i>11.96</i>
W. S. Central	8.29	14.15	21.03	13.26	10.33	16.49	22.10	12.75	<i>9.66</i>	<i>14.48</i>	<i>19.95</i>	<i>12.31</i>	11.61	<i>13.08</i>	<i>12.09</i>
Mountain	8.23	9.66	13.77	8.53	8.21	10.17	13.91	9.24	<i>9.01</i>	<i>10.34</i>	<i>13.84</i>	<i>9.28</i>	8.98	<i>9.30</i>	<i>9.70</i>
Pacific	10.95	11.32	13.01	12.19	12.02	12.64	12.90	11.33	<i>12.06</i>	<i>12.30</i>	<i>12.81</i>	<i>11.54</i>	11.68	<i>12.02</i>	<i>12.03</i>
U.S. Average	8.51	11.15	16.96	10.18	9.73	12.90	17.59	10.87	<i>9.80</i>	<i>12.34</i>	<i>16.66</i>	<i>10.72</i>	10.04	<i>11.13</i>	<i>10.92</i>
Commercial Retail															
New England	8.80	9.56	10.40	9.55	9.55	9.97	10.61	10.57	<i>10.88</i>	<i>10.80</i>	<i>10.60</i>	<i>10.01</i>	9.32	<i>10.00</i>	<i>10.63</i>
Middle Atlantic	6.93	6.45	6.06	6.78	7.66	7.42	6.90	7.37	<i>7.68</i>	<i>7.68</i>	<i>7.07</i>	<i>7.61</i>	6.68	<i>7.44</i>	<i>7.58</i>
E. N. Central	5.86	6.61	8.77	6.52	6.63	7.87	8.94	6.92	<i>6.77</i>	<i>7.85</i>	<i>9.18</i>	<i>7.14</i>	6.40	<i>7.10</i>	<i>7.21</i>
W. N. Central	6.22	6.71	8.48	6.79	6.96	7.79	9.08	7.33	<i>7.56</i>	<i>8.08</i>	<i>9.07</i>	<i>7.43</i>	6.66	<i>7.38</i>	<i>7.72</i>
S. Atlantic	7.54	8.33	9.32	8.54	8.86	10.03	9.67	8.81	<i>8.60</i>	<i>9.30</i>	<i>9.84</i>	<i>8.89</i>	8.18	<i>9.15</i>	<i>8.96</i>
E. S. Central	7.49	8.57	9.75	9.03	9.05	10.28	10.76	9.37	<i>8.72</i>	<i>9.70</i>	<i>10.20</i>	<i>9.08</i>	8.36	<i>9.56</i>	<i>9.14</i>
W. S. Central	6.27	6.88	8.27	8.11	7.63	8.20	8.86	7.90	<i>7.33</i>	<i>7.66</i>	<i>8.23</i>	<i>7.72</i>	7.18	<i>8.01</i>	<i>7.63</i>
Mountain	6.95	7.10	7.96	6.89	6.88	7.37	8.27	7.28	<i>7.52</i>	<i>7.82</i>	<i>8.56</i>	<i>7.44</i>	7.06	<i>7.24</i>	<i>7.66</i>
Pacific	8.44	8.15	9.22	9.19	9.04	8.99	9.00	8.64	<i>8.57</i>	<i>8.37</i>	<i>8.81</i>	<i>8.58</i>	8.75	<i>8.91</i>	<i>8.57</i>
U.S. Average	6.87	7.26	8.24	7.52	7.71	8.32	8.70	7.85	<i>7.82</i>	<i>8.28</i>	<i>8.67</i>	<i>7.92</i>	7.29	<i>7.97</i>	<i>8.02</i>
Industrial Retail															
New England	6.88	6.69	6.13	6.95	7.81	7.04	6.39	7.87	<i>8.48</i>	<i>7.80</i>	<i>7.17</i>	<i>8.25</i>	6.73	<i>7.41</i>	<i>8.04</i>
Middle Atlantic	6.51	5.99	6.27	6.76	7.69	7.59	7.55	7.31	<i>7.89</i>	<i>7.49</i>	<i>7.48</i>	<i>7.77</i>	6.45	<i>7.56</i>	<i>7.74</i>
E. N. Central	5.04	4.73	5.45	5.41	5.86	5.96	5.59	5.78	<i>6.51</i>	<i>6.30</i>	<i>6.17</i>	<i>6.03</i>	5.14	<i>5.82</i>	<i>6.30</i>
W. N. Central	4.42	3.56	4.06	4.50	5.00	4.28	4.24	5.04	<i>5.57</i>	<i>4.88</i>	<i>4.65</i>	<i>5.19</i>	4.18	<i>4.69</i>	<i>5.12</i>
S. Atlantic	4.40	3.78	4.43	4.82	5.35	5.01	4.88	5.25	<i>5.48</i>	<i>5.03</i>	<i>4.93</i>	<i>5.30</i>	4.37	<i>5.13</i>	<i>5.20</i>
E. S. Central	3.99	3.40	4.12	4.63	5.06	4.59	4.40	4.81	<i>5.08</i>	<i>4.68</i>	<i>4.54</i>	<i>4.94</i>	4.04	<i>4.73</i>	<i>4.83</i>
W. S. Central	2.29	2.16	3.07	3.21	3.42	3.42	3.30	3.38	<i>3.60</i>	<i>3.40</i>	<i>3.38</i>	<i>3.47</i>	2.69	<i>3.38</i>	<i>3.46</i>
Mountain	5.27	4.96	5.44	5.11	5.31	5.36	5.61	5.67	<i>5.91</i>	<i>5.78</i>	<i>6.08</i>	<i>6.04</i>	5.19	<i>5.49</i>	<i>5.95</i>
Pacific	6.64	6.01	6.67	7.11	7.45	6.89	6.43	6.52	<i>6.95</i>	<i>6.53</i>	<i>6.62</i>	<i>6.72</i>	6.64	<i>6.85</i>	<i>6.72</i>
U.S. Average	3.44	2.93	3.64	4.04	4.50	4.12	3.89	4.24	<i>4.69</i>	<i>4.13</i>	<i>4.01</i>	<i>4.35</i>	3.52	<i>4.20</i>	<i>4.31</i>

- = no data available

Prices are not adjusted for inflation.

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

Regions refer to U.S. Census divisions.

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

Historical data: Latest data available from Energy Information Administration databases supporting the *Natural Gas Monthly*, DOE/EIA-0130.

Natural gas Henry Hub spot price from Reuter's News Service (<http://www.reuters.com>).

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

Projections: EIA Regional Short-Term Energy Model.

Table 6. U.S. Coal Supply, Consumption, and Inventories
U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	173.2	160.9	195.1	199.2	197.0	187.1	206.5	200.0	196.6	173.2	204.0	197.6	728.4	790.6	771.4
Appalachia	44.4	43.4	45.1	47.5	50.7	51.2	50.1	48.9	48.9	45.0	42.8	42.3	180.3	200.9	178.9
Interior	36.9	34.5	35.8	37.0	38.5	36.4	38.4	36.1	38.1	33.3	40.2	40.7	144.1	149.5	152.3
Western	92.0	83.0	114.2	114.8	107.8	99.4	117.9	115.1	109.5	95.0	121.1	114.7	404.0	440.3	440.2
Primary Inventory Withdrawals	0.7	2.3	5.7	2.0	0.1	1.8	1.4	1.0	-2.8	2.3	1.1	-0.4	10.6	4.3	0.2
Imports	2.7	2.3	2.7	2.1	1.9	2.2	2.3	1.7	1.3	2.2	2.9	2.6	9.8	8.1	9.1
Exports	14.2	14.2	12.6	19.3	22.3	21.8	24.6	20.2	19.3	18.7	18.2	17.3	60.3	89.0	73.5
Metallurgical Coal	10.2	10.1	9.1	11.6	12.2	13.5	14.8	13.2	13.4	13.5	13.3	12.9	40.9	53.7	53.1
Steam Coal	4.0	4.2	3.5	7.7	10.1	8.3	9.8	7.0	5.9	5.2	4.9	4.4	19.3	35.3	20.4
Total Primary Supply	162.4	151.2	190.9	183.9	176.8	169.2	185.6	182.4	175.8	159.0	189.9	182.5	688.5	714.0	707.2
Secondary Inventory Withdrawals	4.7	9.7	25.8	-5.8	1.5	3.6	18.2	-5.6	4.1	2.7	12.6	-7.5	34.4	17.7	11.8
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	169.7	162.8	219.1	180.1	180.6	174.6	206.3	179.3	182.3	164.1	204.8	177.3	731.6	740.9	728.6
Consumption (million short tons)															
Coke Plants	4.1	4.1	4.2	4.1	4.2	4.3	4.7	5.4	3.8	3.3	4.1	5.0	16.5	18.6	16.3
Electric Power Sector (b)	152.7	147.5	210.5	167.8	160.3	154.1	190.7	166.8	169.5	152.3	192.2	163.3	678.6	671.9	677.4
Retail and Other Industry	9.6	8.6	8.6	9.0	8.8	8.3	7.9	8.4	8.9	8.4	8.6	8.9	35.8	33.5	34.9
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	9.1	8.4	8.4	8.7	8.4	8.1	7.8	8.2	8.6	8.3	8.5	8.7	34.7	32.6	34.2
Total Consumption	166.4	160.2	223.3	180.9	173.4	166.7	203.4	180.6	182.3	164.1	204.8	177.3	730.9	724.1	728.6
Discrepancy (c)	3.2	2.5	-4.2	-0.8	7.2	7.9	2.9	-1.3	0.0	0.0	0.0	0.0	0.8	16.8	0.0
End-of-period Inventories (million short tons)															
Primary Inventories (d)	35.2	32.9	27.3	25.3	25.2	23.4	22.0	21.0	23.8	21.5	20.4	20.8	25.3	21.0	20.8
Secondary Inventories	197.8	188.1	162.4	168.1	166.7	163.0	144.8	150.4	146.4	143.7	131.1	138.7	168.1	150.4	138.7
Electric Power Sector	191.6	182.2	156.6	162.5	161.7	157.8	139.6	145.6	141.9	138.9	126.1	133.8	162.5	145.6	133.8
Retail and General Industry	3.9	3.8	3.7	3.6	3.2	3.3	3.3	2.8	3.0	3.0	3.1	3.1	3.6	2.8	3.1
Coke Plants	1.9	1.8	1.7	1.7	1.4	1.6	1.7	1.8	1.3	1.6	1.7	1.7	1.7	1.8	1.7
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	0.244	0.274	0.259	0.236	0.203	0.239	0.247	0.243
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.13	2.13	2.11	2.08	2.08	2.12	2.07	2.20	2.20	2.20	2.22	2.20	2.11	2.12	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 - December 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	10.74	12.75	10.38	10.58	10.68	12.15	<i>10.55</i>	<i>10.91</i>	<i>10.78</i>	<i>12.20</i>	<i>10.54</i>	11.14	<i>10.99</i>	<i>11.11</i>
Electric Power Sector (a)	10.24	10.32	12.30	9.96	10.14	10.26	11.72	<i>10.14</i>	<i>10.49</i>	<i>10.38</i>	<i>11.77</i>	<i>10.15</i>	10.71	<i>10.57</i>	<i>10.70</i>
Comm. and Indus. Sectors (b)	0.43	0.42	0.45	0.42	0.43	0.42	0.44	<i>0.41</i>	<i>0.41</i>	<i>0.40</i>	<i>0.42</i>	<i>0.39</i>	0.43	<i>0.42</i>	<i>0.41</i>
Net Imports	0.17	0.17	0.19	0.15	0.16	0.17	0.19	<i>0.18</i>	<i>0.21</i>	<i>0.21</i>	<i>0.22</i>	<i>0.18</i>	0.17	<i>0.18</i>	<i>0.20</i>
Total Supply	10.84	10.92	12.94	10.54	10.74	10.85	12.34	<i>10.73</i>	<i>11.11</i>	<i>10.99</i>	<i>12.42</i>	<i>10.72</i>	11.31	<i>11.17</i>	<i>11.31</i>
Losses and Unaccounted for (c)	0.53	0.83	0.69	0.55	0.63	0.80	0.70	<i>0.69</i>	<i>0.57</i>	<i>0.81</i>	<i>0.71</i>	<i>0.67</i>	0.65	<i>0.70</i>	<i>0.69</i>
Electricity Consumption (billion kilowatthours per day unless noted)															
Retail Sales	9.93	9.72	11.85	9.62	9.73	9.68	11.25	<i>9.68</i>	<i>10.18</i>	<i>9.82</i>	<i>11.33</i>	<i>9.70</i>	10.28	<i>10.09</i>	<i>10.26</i>
Residential Sector	3.81	3.38	4.78	3.44	3.70	3.42	4.45	<i>3.45</i>	<i>4.04</i>	<i>3.50</i>	<i>4.50</i>	<i>3.47</i>	3.86	<i>3.76</i>	<i>3.88</i>
Commercial Sector	3.51	3.64	4.22	3.57	3.50	3.62	4.06	<i>3.55</i>	<i>3.55</i>	<i>3.64</i>	<i>4.04</i>	<i>3.53</i>	3.74	<i>3.69</i>	<i>3.69</i>
Industrial Sector	2.58	2.68	2.82	2.59	2.50	2.62	2.72	<i>2.66</i>	<i>2.57</i>	<i>2.66</i>	<i>2.77</i>	<i>2.68</i>	2.67	<i>2.62</i>	<i>2.67</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)	0.38	0.38	0.40	0.37	0.38	0.37	0.39	<i>0.36</i>	<i>0.37</i>	<i>0.36</i>	<i>0.38</i>	<i>0.35</i>	0.38	<i>0.38</i>	<i>0.36</i>
Total Consumption	10.31	10.09	12.25	9.99	10.11	10.05	11.64	<i>10.04</i>	<i>10.54</i>	<i>10.17</i>	<i>11.71</i>	<i>10.05</i>	10.66	<i>10.46</i>	<i>10.62</i>
Average residential electricity usage per customer (kWh)	2,649	2,347	3,359	2,411	2,528	2,361	3,105	<i>2,415</i>	<i>2,726</i>	<i>2,384</i>	<i>3,104</i>	<i>2,390</i>	10,766	<i>10,410</i>	<i>10,603</i>
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.13	2.13	2.11	2.08	2.08	2.12	2.07	<i>2.20</i>	<i>2.20</i>	<i>2.20</i>	<i>2.22</i>	<i>2.20</i>	2.11	<i>2.12</i>	<i>2.20</i>
Natural Gas	2.66	2.51	2.99	3.36	3.68	3.38	3.19	<i>3.56</i>	<i>4.12</i>	<i>3.58</i>	<i>3.29</i>	<i>3.74</i>	2.87	<i>3.43</i>	<i>3.64</i>
Residual Fuel Oil	6.15	8.51	9.71	9.08	11.16	10.60	10.14	<i>11.07</i>	<i>11.34</i>	<i>11.57</i>	<i>11.06</i>	<i>11.05</i>	8.41	<i>10.73</i>	<i>11.25</i>
Distillate Fuel Oil	9.00	11.00	11.64	12.14	12.74	12.23	12.55	<i>13.82</i>	<i>14.46</i>	<i>13.23</i>	<i>12.99</i>	<i>13.78</i>	10.83	<i>12.83</i>	<i>13.65</i>
Retail Prices (cents per kilowatthour)															
Residential Sector	12.20	12.66	12.81	12.46	12.60	13.00	13.20	<i>12.70</i>	<i>12.73</i>	<i>13.39</i>	<i>13.62</i>	<i>13.15</i>	12.55	<i>12.89</i>	<i>13.23</i>
Commercial Sector	10.18	10.40	10.74	10.35	10.39	10.68	11.03	<i>10.56</i>	<i>10.61</i>	<i>10.98</i>	<i>11.43</i>	<i>10.91</i>	10.43	<i>10.68</i>	<i>11.00</i>
Industrial Sector	6.44	6.69	7.20	6.69	6.64	6.88	7.26	<i>6.92</i>	<i>6.86</i>	<i>7.06</i>	<i>7.50</i>	<i>7.02</i>	6.76	<i>6.93</i>	<i>7.12</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 - December 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	136	113	139	113	140	114	127	124	127
Middle Atlantic	368	310	462	321	368	307	403	320	388	312	410	319	366	350	357
E. N. Central	523	448	621	461	507	435	545	462	541	442	560	460	513	487	501
W. N. Central	299	244	324	258	298	246	303	276	324	253	316	279	281	281	293
S. Atlantic	976	881	1,235	858	891	891	1,131	872	1,024	909	1,130	874	988	947	984
E. S. Central	335	273	410	278	305	277	368	280	359	289	380	281	324	308	327
W. S. Central	526	518	810	517	501	536	760	497	565	561	786	506	593	574	605
Mountain	240	251	337	232	245	259	347	231	250	259	349	233	265	270	273
Pacific contiguous	403	334	421	383	439	346	447	383	439	348	422	389	386	404	400
AK and HI	13	12	12	13	14	12	12	14	14	12	12	13	13	13	13
Total	3,815	3,381	4,785	3,435	3,704	3,421	4,450	3,447	4,044	3,498	4,504	3,469	3,855	3,757	3,879
Commercial Sector															
New England	142	138	161	136	140	136	152	132	137	131	144	125	144	140	134
Middle Atlantic	424	410	490	410	423	404	462	405	423	404	458	399	434	423	421
E. N. Central	488	493	566	483	489	486	537	472	499	489	537	469	508	496	498
W. N. Central	271	272	309	271	272	270	302	272	280	277	307	271	281	279	284
S. Atlantic	794	846	980	805	785	853	941	813	800	849	933	811	857	848	849
E. S. Central	236	247	300	239	225	241	275	229	231	242	273	226	256	243	243
W. S. Central	478	525	631	517	471	522	598	514	492	535	604	524	538	526	539
Mountain	242	259	292	251	246	265	301	248	246	268	305	249	261	265	267
Pacific contiguous	420	431	478	440	431	431	480	453	423	435	464	440	442	449	440
AK and HI	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Total	3,512	3,636	4,223	3,567	3,498	3,622	4,063	3,554	3,547	3,644	4,042	3,530	3,735	3,686	3,692
Industrial Sector															
New England	48	49	52	48	44	44	48	48	43	43	45	47	49	46	44
Middle Atlantic	195	194	206	192	192	194	204	199	198	190	208	199	197	197	199
E. N. Central	528	533	560	514	495	504	522	518	513	509	524	515	534	510	515
W. N. Central	236	241	260	242	228	240	253	260	243	248	260	266	245	245	254
S. Atlantic	369	391	400	369	362	386	390	372	351	377	397	370	382	377	374
E. S. Central	267	277	284	269	267	275	281	282	284	279	278	278	274	276	279
W. S. Central	486	501	523	495	480	502	510	502	481	521	538	525	502	498	517
Mountain	215	232	248	216	210	228	245	216	217	237	252	220	228	225	232
Pacific contiguous	225	245	272	234	211	230	253	247	222	237	251	249	244	236	240
AK and HI	13	14	15	14	13	14	14	14	13	14	14	14	14	14	14
Total	2,581	2,679	2,820	2,594	2,503	2,616	2,719	2,659	2,566	2,655	2,767	2,683	2,669	2,625	2,668
Total All Sectors (a)															
New England	324	297	367	299	320	294	336	295	321	288	331	288	322	311	307
Middle Atlantic	999	925	1,169	934	994	915	1,079	934	1,020	916	1,086	927	1,007	981	987
E. N. Central	1,540	1,476	1,749	1,459	1,493	1,427	1,605	1,455	1,555	1,441	1,622	1,446	1,556	1,495	1,516
W. N. Central	806	757	893	771	798	755	857	808	847	778	882	815	807	805	831
S. Atlantic	2,142	2,122	2,619	2,035	2,042	2,134	2,465	2,060	2,179	2,139	2,464	2,059	2,230	2,176	2,210
E. S. Central	838	798	994	786	798	793	924	791	874	809	930	785	854	827	850
W. S. Central	1,491	1,545	1,966	1,530	1,452	1,559	1,868	1,514	1,538	1,618	1,929	1,556	1,633	1,599	1,661
Mountain	697	743	877	700	701	752	893	695	714	764	906	702	754	760	772
Pacific contiguous	1,050	1,012	1,173	1,060	1,084	1,010	1,184	1,085	1,086	1,022	1,139	1,080	1,074	1,091	1,082
AK and HI	42	41	43	44	43	41	43	44	43	41	43	44	43	43	43
Total	9,929	9,716	11,849	9,617	9,726	9,679	11,253	9,680	10,178	9,817	11,333	9,701	10,280	10,088	10,259

- = 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 - December 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Residential Sector															
New England	19.09	19.16	18.42	18.67	19.06	19.49	19.51	19.34	19.83	20.47	20.45	20.44	18.81	19.35	20.28
Middle Atlantic	15.19	15.78	16.00	15.68	15.55	16.27	16.43	15.73	15.64	16.58	16.86	16.19	15.68	16.00	16.32
E. N. Central	12.65	13.39	13.07	13.18	12.90	13.58	13.26	13.52	13.32	14.20	13.91	14.18	13.06	13.30	13.88
W. N. Central	10.66	12.38	12.75	11.33	10.94	12.66	13.17	11.47	11.07	13.00	13.54	11.81	11.79	12.05	12.33
S. Atlantic	11.32	11.70	11.77	11.40	11.69	12.01	12.26	11.76	11.82	12.39	12.72	12.20	11.56	11.95	12.30
E. S. Central	10.40	10.98	10.93	11.19	11.08	11.44	11.32	11.37	11.20	11.96	11.91	11.77	10.86	11.30	11.70
W. S. Central	10.36	10.72	10.68	10.56	10.55	10.93	10.87	10.58	10.41	11.05	11.15	10.90	10.59	10.75	10.90
Mountain	11.01	11.87	12.09	11.42	11.28	12.15	12.31	11.62	11.50	12.46	12.68	11.97	11.65	11.90	12.21
Pacific	14.19	14.00	16.12	13.83	14.51	14.70	16.50	14.19	15.07	15.24	16.80	14.58	14.59	15.03	15.45
U.S. Average	12.20	12.66	12.81	12.46	12.60	13.00	13.20	12.70	12.73	13.39	13.62	13.15	12.55	12.89	13.23
Commercial Sector															
New England	15.34	15.10	15.27	15.00	15.11	15.06	15.72	15.33	15.53	15.61	16.50	16.15	15.18	15.32	15.96
Middle Atlantic	11.96	12.42	13.24	12.17	12.08	12.75	13.35	12.28	12.19	12.90	13.55	12.45	12.48	12.63	12.79
E. N. Central	9.75	9.97	10.03	10.08	10.02	10.24	10.06	10.19	10.26	10.57	10.39	10.41	9.96	10.12	10.41
W. N. Central	8.93	9.76	10.21	9.15	9.12	10.11	10.58	9.31	9.30	10.39	10.94	9.62	9.54	9.80	10.09
S. Atlantic	9.33	9.23	9.22	9.20	9.44	9.38	9.55	9.54	9.77	9.74	9.95	9.88	9.24	9.48	9.84
E. S. Central	9.99	10.07	10.25	10.46	10.57	10.56	10.62	10.83	11.05	11.20	11.30	11.24	10.20	10.64	11.20
W. S. Central	8.24	8.21	8.24	8.24	8.37	8.40	8.38	8.22	8.26	8.43	8.55	8.36	8.23	8.34	8.41
Mountain	8.95	9.68	9.95	9.27	9.14	9.92	10.04	9.35	9.35	10.19	10.33	9.64	9.49	9.64	9.91
Pacific	12.22	13.06	14.67	12.95	12.53	13.56	15.36	13.45	13.10	14.12	16.44	14.39	13.27	13.77	14.56
U.S. Average	10.18	10.40	10.74	10.35	10.39	10.68	11.03	10.56	10.61	10.98	11.43	10.91	10.43	10.68	11.00
Industrial Sector															
New England	12.29	11.95	12.40	12.15	12.46	12.25	12.60	12.32	12.69	12.48	12.87	12.57	12.20	12.41	12.65
Middle Atlantic	7.03	7.02	7.13	6.93	6.94	6.94	6.88	6.93	7.04	7.06	6.97	6.97	7.03	6.92	7.01
E. N. Central	6.78	6.88	7.05	6.98	7.03	7.05	7.01	7.13	7.22	7.23	7.27	7.27	6.92	7.06	7.25
W. N. Central	6.71	7.13	7.80	6.77	6.89	7.33	8.06	7.15	7.14	7.55	8.34	7.32	7.12	7.37	7.60
S. Atlantic	6.20	6.39	6.83	6.38	6.32	6.39	6.79	6.63	6.62	6.63	7.06	6.72	6.45	6.54	6.76
E. S. Central	5.43	5.69	6.13	5.97	5.90	5.95	6.17	6.25	6.11	6.14	6.49	6.35	5.81	6.07	6.27
W. S. Central	5.16	5.17	5.53	5.38	5.28	5.56	5.72	5.76	5.61	5.78	6.01	5.79	5.32	5.59	5.80
Mountain	5.88	6.32	7.07	6.12	6.08	6.54	7.12	6.23	6.22	6.68	7.29	6.36	6.38	6.52	6.66
Pacific	7.80	8.88	10.32	8.45	8.23	9.35	10.72	8.54	8.19	9.34	10.94	8.69	8.93	9.26	9.33
U.S. Average	6.44	6.69	7.20	6.69	6.64	6.88	7.26	6.92	6.86	7.06	7.50	7.02	6.76	6.93	7.12
All Sectors (a)															
New England	16.39	16.04	16.14	15.91	16.37	16.29	16.77	16.36	16.98	17.01	17.65	17.23	16.12	16.46	17.23
Middle Atlantic	12.17	12.39	13.24	12.28	12.35	12.69	13.26	12.32	12.49	12.93	13.52	12.55	12.56	12.67	12.89
E. N. Central	9.71	9.89	10.15	9.96	10.00	10.13	10.15	10.16	10.32	10.50	10.60	10.49	9.94	10.11	10.48
W. N. Central	8.92	9.77	10.43	9.13	9.16	10.06	10.75	9.35	9.35	10.33	11.10	9.62	9.59	9.85	10.12
S. Atlantic	9.70	9.73	10.06	9.62	9.86	9.94	10.35	9.95	10.23	10.31	10.75	10.29	9.79	10.04	10.41
E. S. Central	8.71	8.86	9.36	9.18	9.20	9.27	9.55	9.40	9.51	9.73	10.11	9.70	9.04	9.36	9.77
W. S. Central	7.99	8.07	8.52	8.10	8.10	8.36	8.67	8.20	8.22	8.48	8.90	8.32	8.19	8.35	8.51
Mountain	8.72	9.37	9.95	9.01	8.97	9.66	10.12	9.14	9.15	9.87	10.39	9.38	9.31	9.52	9.75
Pacific	12.02	12.35	14.18	12.27	12.49	12.98	14.79	12.60	12.88	13.38	15.35	13.13	12.75	13.26	13.72
U.S. Average	9.99	10.16	10.73	10.11	10.26	10.47	10.98	10.33	10.51	10.78	11.34	10.63	10.27	10.53	10.83

- = 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 - December 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	2,965	4,197	3,314	3,242	3,096	3,764	3,288	3,495	3,079	3,828	3,233	3,386	3,349	3,409
Natural Gas	3,434	3,744	4,695	3,187	2,965	3,288	4,359	3,276	3,223	3,507	4,286	3,314	3,766	3,475	3,584
Petroleum (a)	70	63	72	60	61	54	56	57	72	66	72	63	66	57	68
Other Gases	38	35	34	32	40	39	40	33	41	40	41	33	35	38	39
Nuclear	2,245	2,159	2,254	2,148	2,247	2,034	2,302	2,204	2,216	2,090	2,272	2,131	2,201	2,197	2,178
Renewable Energy Sources:	1,798	1,750	1,487	1,629	2,004	2,155	1,616	1,668	1,838	1,976	1,674	1,746	1,665	1,859	1,808
Conventional Hydropower	848	820	624	638	918	1,010	717	635	743	792	715	643	732	819	723
Wind	665	615	518	684	764	747	503	705	755	768	538	764	620	679	706
Wood Biomass	114	105	117	111	118	115	122	112	116	109	120	112	112	117	114
Waste Biomass	58	61	59	60	58	56	56	58	58	59	60	61	60	57	60
Geothermal	43	42	43	45	45	43	44	46	47	46	47	47	43	44	47
Solar	70	107	126	91	101	184	174	111	118	202	194	118	99	142	158
Pumped Storage Hydropower	-12	-14	-26	-21	-16	-16	-22	-16	-14	-12	-16	-14	-18	-18	-14
Other Nonrenewable Fuels (b)	36	39	40	37	35	35	37	36	35	36	38	36	38	36	36
Total Generation	10,668	10,742	12,751	10,385	10,577	10,684	12,152	10,547	10,906	10,782	12,195	10,542	11,139	10,993	11,108
Northeast Census Region															
Coal	162	141	205	150	154	134	136	147	211	112	155	168	165	143	161
Natural Gas	510	599	799	520	487	482	637	531	470	503	642	517	607	535	534
Petroleum (a)	7	2	5	6	4	2	3	3	8	5	7	5	5	3	6
Other Gases	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Nuclear	543	461	516	525	539	476	549	523	522	493	536	503	511	521	514
Hydropower (c)	108	99	77	85	102	107	99	88	82	88	90	87	92	99	87
Other Renewables (d)	76	61	59	74	72	76	68	75	79	71	64	77	67	73	73
Other Nonrenewable Fuels (b)	11	11	12	11	11	11	12	12	11	11	12	12	11	11	11
Total Generation	1,419	1,377	1,674	1,373	1,371	1,290	1,505	1,381	1,386	1,286	1,508	1,370	1,461	1,387	1,388
South Census Region															
Coal	1,270	1,347	1,948	1,462	1,330	1,412	1,681	1,390	1,472	1,389	1,789	1,405	1,508	1,454	1,514
Natural Gas	2,014	2,232	2,646	1,816	1,757	2,088	2,565	1,859	1,857	2,113	2,453	1,864	2,177	2,069	2,073
Petroleum (a)	30	30	35	23	26	22	23	21	30	27	30	23	29	23	27
Other Gases	15	13	14	12	15	15	15	13	15	15	15	13	14	14	15
Nuclear	951	998	994	936	979	888	1,003	994	988	932	1,013	950	970	966	971
Hydropower (c)	193	82	67	59	128	138	99	69	109	120	101	70	100	108	100
Other Renewables (d)	329	307	303	337	401	402	323	376	408	442	356	419	319	375	406
Other Nonrenewable Fuels (b)	16	18	19	16	15	15	16	15	15	16	17	15	17	15	16
Total Generation	4,818	5,028	6,025	4,662	4,650	4,980	5,725	4,737	4,893	5,054	5,773	4,759	5,134	5,025	5,121
Midwest Census Region															
Coal	1,200	1,106	1,493	1,192	1,288	1,177	1,395	1,239	1,309	1,144	1,401	1,165	1,248	1,275	1,255
Natural Gas	358	363	442	297	290	272	406	302	381	390	459	346	365	318	394
Petroleum (a)	11	9	8	8	8	7	7	9	11	11	12	10	9	8	11
Other Gases	14	14	13	12	17	16	17	12	18	16	17	12	13	15	16
Nuclear	573	547	572	523	555	543	579	523	542	511	556	521	554	550	532
Hydropower (c)	51	41	44	37	52	58	37	40	44	49	35	40	43	47	42
Other Renewables (d)	281	244	184	301	313	303	199	311	324	296	200	324	252	281	286
Other Nonrenewable Fuels (b)	4	5	5	4	3	4	4	4	4	4	4	4	4	4	4
Total Generation	2,492	2,329	2,761	2,375	2,526	2,380	2,645	2,441	2,633	2,421	2,684	2,422	2,490	2,498	2,540
West Census Region															
Coal	426	371	551	509	470	373	551	512	503	434	483	495	465	477	479
Natural Gas	552	550	808	553	431	446	751	583	515	501	733	586	616	554	584
Petroleum (a)	23	22	24	23	23	22	23	24	23	23	24	25	23	23	24
Other Gases	7	7	5	6	6	6	6	6	6	6	6	6	6	6	6
Nuclear	178	152	172	164	175	127	171	164	163	154	167	157	166	159	161
Hydropower (c)	484	583	410	436	619	692	460	422	494	521	473	433	478	547	480
Other Renewables (d)	265	318	316	279	301	363	309	271	283	376	338	282	295	311	320
Other Nonrenewable Fuels (b)	5	5	5	5	5	5	6	5	5	5	6	5	5	5	5
Total Generation	1,939	2,008	2,290	1,975	2,031	2,035	2,277	1,988	1,993	2,021	2,230	1,990	2,054	2,083	2,059

(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 - December 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)	1,674	1,618	2,285	1,820	1,777	1,690	2,069	1,811	1,882	1,673	2,088	1,773	1,851	1,838	1,854
Natural Gas (million cf/d)	24,686	27,908	35,413	23,109	21,934	24,634	33,338	24,223	23,968	26,799	33,135	24,877	27,787	26,058	27,214
Petroleum (thousand b/d)	125	115	132	106	107	100	105	104	131	118	130	114	119	104	123
Residual Fuel Oil	31	25	38	28	26	27	28	27	34	31	35	30	31	27	33
Distillate Fuel Oil	32	24	24	26	28	24	23	23	29	24	25	23	26	24	25
Petroleum Coke (a)	57	62	65	48	49	45	48	49	60	59	65	56	58	48	60
Other Petroleum Liquids (b)	5	3	5	4	4	4	7	5	7	4	5	5	4	5	5
Northeast Census Region															
Coal (thousand st/d)	85	70	100	74	75	63	67	71	99	54	76	81	82	69	77
Natural Gas (million cf/d)	3,704	4,493	6,115	3,799	3,772	3,666	5,065	4,014	3,596	3,910	5,084	3,972	4,530	4,132	4,144
Petroleum (thousand b/d)	12	4	10	8	7	4	7	6	15	9	13	9	9	6	12
South Census Region															
Coal (thousand st/d)	671	718	1,033	789	715	759	902	749	766	735	952	752	803	782	801
Natural Gas (million cf/d)	14,357	16,506	19,767	13,035	12,476	15,424	19,083	13,507	13,425	15,780	18,495	13,631	15,919	15,136	15,342
Petroleum (thousand b/d)	56	56	65	43	47	42	43	40	56	50	55	44	55	43	51
Midwest Census Region															
Coal (thousand st/d)	675	621	841	668	717	655	788	701	733	643	791	659	702	716	706
Natural Gas (million cf/d)	2,624	2,827	3,589	2,235	2,489	2,165	3,566	2,355	3,095	3,261	3,978	2,862	2,819	2,646	3,300
Petroleum (thousand b/d)	19	19	18	16	15	16	16	19	21	21	22	20	18	17	21
West Census Region															
Coal (thousand st/d)	244	209	311	289	269	213	313	290	284	242	270	281	264	271	269
Natural Gas (million cf/d)	4,002	4,083	5,942	4,040	3,197	3,379	5,625	4,347	3,852	3,849	5,579	4,412	4,519	4,144	4,428
Petroleum (thousand b/d)	37	36	39	39	39	37	39	39	39	39	40	41	38	38	40
End-of-period U.S. Fuel Inventories Held by Electric Power Sector															
Coal (million short tons)	191.6	182.2	156.6	162.5	161.7	157.8	139.6	145.6	141.9	138.9	126.1	133.8	162.5	145.6	133.8
Residual Fuel Oil (mmb)	11.7	11.9	11.6	11.8	12.5	11.9	11.4	12.2	12.1	11.9	11.8	12.3	11.8	12.2	12.3
Distillate Fuel Oil (mmb)	17.5	17.9	21.8	17.8	17.0	16.6	16.4	16.9	17.1	17.1	17.1	17.5	17.8	16.9	17.5
Petroleum Coke (mmb)	6.2	4.5	3.8	4.2	4.3	4.3	4.9	4.8	4.7	4.7	4.6	4.5	4.2	4.8	4.5

(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 - December 2017

	2016				2017				2018				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2016	2017	2018
Electric Power Sector															
Geothermal	0.036	0.035	0.037	0.039	0.037	0.037	0.038	<i>0.039</i>	<i>0.040</i>	<i>0.039</i>	<i>0.040</i>	<i>0.041</i>	0.146	<i>0.151</i>	<i>0.160</i>
Hydroelectric Power (a)	0.710	0.684	0.528	0.543	0.765	0.853	0.617	<i>0.542</i>	<i>0.619</i>	<i>0.667</i>	<i>0.609</i>	<i>0.549</i>	2.465	<i>2.777</i>	<i>2.444</i>
Solar (b)	0.058	0.090	0.106	0.077	0.083	0.154	0.147	<i>0.093</i>	<i>0.097</i>	<i>0.169</i>	<i>0.164</i>	<i>0.099</i>	0.331	<i>0.478</i>	<i>0.530</i>
Waste Biomass (c)	0.069	0.071	0.070	0.071	0.070	0.066	0.068	<i>0.070</i>	<i>0.068</i>	<i>0.072</i>	<i>0.074</i>	<i>0.073</i>	0.281	<i>0.274</i>	<i>0.287</i>
Wood Biomass	0.061	0.049	0.061	0.054	0.061	0.059	0.064	<i>0.056</i>	<i>0.056</i>	<i>0.050</i>	<i>0.061</i>	<i>0.055</i>	0.224	<i>0.240</i>	<i>0.222</i>
Wind	0.564	0.521	0.443	0.585	0.640	0.633	0.431	<i>0.604</i>	<i>0.633</i>	<i>0.650</i>	<i>0.460</i>	<i>0.654</i>	2.113	<i>2.308</i>	<i>2.398</i>
Subtotal	1.497	1.449	1.244	1.369	1.657	1.802	1.365	<i>1.404</i>	<i>1.514</i>	<i>1.648</i>	<i>1.410</i>	<i>1.471</i>	5.560	<i>6.228</i>	<i>6.041</i>
Industrial Sector															
Biofuel Losses and Co-products (d)	0.197	0.194	0.204	0.206	0.203	0.199	0.204	<i>0.207</i>	<i>0.200</i>	<i>0.205</i>	<i>0.208</i>	<i>0.209</i>	0.801	<i>0.812</i>	<i>0.821</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Hydroelectric Power (a)	0.004	0.003	0.002	0.003	0.004	0.004	0.003	<i>0.003</i>	<i>0.004</i>	<i>0.004</i>	<i>0.003</i>	<i>0.003</i>	0.012	<i>0.013</i>	<i>0.013</i>
Solar (b)	0.004	0.006	0.006	0.004	0.005	0.007	0.007	<i>0.005</i>	<i>0.006</i>	<i>0.008</i>	<i>0.009</i>	<i>0.006</i>	0.019	<i>0.024</i>	<i>0.029</i>
Waste Biomass (c)	0.046	0.047	0.047	0.046	0.050	0.044	0.041	<i>0.045</i>	<i>0.047</i>	<i>0.044</i>	<i>0.042</i>	<i>0.044</i>	0.186	<i>0.180</i>	<i>0.177</i>
Wood Biomass	0.321	0.315	0.320	0.326	0.322	0.313	0.329	<i>0.317</i>	<i>0.301</i>	<i>0.297</i>	<i>0.307</i>	<i>0.313</i>	1.283	<i>1.281</i>	<i>1.218</i>
Subtotal	0.573	0.565	0.579	0.586	0.584	0.566	0.583	<i>0.577</i>	<i>0.557</i>	<i>0.555</i>	<i>0.566</i>	<i>0.574</i>	2.304	<i>2.309</i>	<i>2.251</i>
Commercial Sector															
Geothermal	0.005	0.005	0.005	0.005	0.005	0.005	0.005	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	0.020	<i>0.020</i>	<i>0.020</i>
Solar (b)	0.013	0.018	0.018	0.013	0.015	0.023	0.023	<i>0.017</i>	<i>0.020</i>	<i>0.028</i>	<i>0.029</i>	<i>0.021</i>	0.062	<i>0.078</i>	<i>0.097</i>
Waste Biomass (c)	0.013	0.012	0.012	0.013	0.012	0.012	0.012	<i>0.012</i>	<i>0.012</i>	<i>0.011</i>	<i>0.012</i>	<i>0.012</i>	0.049	<i>0.048</i>	<i>0.047</i>
Wood Biomass	0.020	0.020	0.021	0.021	0.020	0.020	0.020	<i>0.018</i>	<i>0.020</i>	<i>0.020</i>	<i>0.020</i>	<i>0.018</i>	0.082	<i>0.079</i>	<i>0.078</i>
Subtotal	0.057	0.062	0.063	0.058	0.059	0.067	0.068	<i>0.060</i>	<i>0.063</i>	<i>0.073</i>	<i>0.073</i>	<i>0.063</i>	0.240	<i>0.253</i>	<i>0.272</i>
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.011	<i>0.012</i>	<i>0.013</i>	<i>0.013</i>	<i>0.013</i>	<i>0.013</i>	0.040	<i>0.042</i>	<i>0.052</i>
Solar (e)	0.030	0.047	0.049	0.034	0.037	0.057	0.058	<i>0.042</i>	<i>0.043</i>	<i>0.066</i>	<i>0.068</i>	<i>0.048</i>	0.161	<i>0.194</i>	<i>0.226</i>
Wood Biomass	0.093	0.093	0.094	0.094	0.094	0.095	0.097	<i>0.099</i>	<i>0.103</i>	<i>0.103</i>	<i>0.104</i>	<i>0.104</i>	0.373	<i>0.385</i>	<i>0.413</i>
Subtotal	0.133	0.150	0.153	0.138	0.140	0.162	0.166	<i>0.153</i>	<i>0.159</i>	<i>0.182</i>	<i>0.185</i>	<i>0.165</i>	0.573	<i>0.621</i>	<i>0.691</i>
Transportation Sector															
Biomass-based Diesel (f)	0.050	0.069	0.088	0.084	0.054	0.079	0.080	<i>0.096</i>	<i>0.065</i>	<i>0.070</i>	<i>0.079</i>	<i>0.078</i>	0.291	<i>0.309</i>	<i>0.291</i>
Ethanol (f)	0.273	0.282	0.293	0.288	0.270	0.290	0.292	<i>0.289</i>	<i>0.274</i>	<i>0.297</i>	<i>0.301</i>	<i>0.294</i>	1.137	<i>1.141</i>	<i>1.166</i>
Subtotal	0.323	0.351	0.381	0.372	0.324	0.369	0.377	<i>0.385</i>	<i>0.339</i>	<i>0.367</i>	<i>0.380</i>	<i>0.372</i>	1.428	<i>1.454</i>	<i>1.457</i>
All Sectors Total															
Biomass-based Diesel (f)	0.050	0.069	0.088	0.084	0.054	0.079	0.080	<i>0.096</i>	<i>0.065</i>	<i>0.070</i>	<i>0.079</i>	<i>0.078</i>	0.291	<i>0.309</i>	<i>0.291</i>
Biofuel Losses and Co-products (d)	0.197	0.194	0.204	0.206	0.203	0.199	0.204	<i>0.207</i>	<i>0.200</i>	<i>0.205</i>	<i>0.208</i>	<i>0.209</i>	0.801	<i>0.812</i>	<i>0.821</i>
Ethanol (f)	0.284	0.293	0.305	0.300	0.281	0.301	0.304	<i>0.300</i>	<i>0.285</i>	<i>0.308</i>	<i>0.313</i>	<i>0.306</i>	1.182	<i>1.187</i>	<i>1.212</i>
Geothermal	0.056	0.055	0.056	0.059	0.057	0.056	0.057	<i>0.057</i>	<i>0.059</i>	<i>0.058</i>	<i>0.059</i>	<i>0.060</i>	0.226	<i>0.227</i>	<i>0.236</i>
Hydroelectric Power (a)	0.714	0.687	0.530	0.546	0.769	0.858	0.620	<i>0.545</i>	<i>0.623</i>	<i>0.671</i>	<i>0.613</i>	<i>0.552</i>	2.477	<i>2.792</i>	<i>2.460</i>
Solar (b)(e)	0.110	0.166	0.183	0.128	0.143	0.243	0.235	<i>0.157</i>	<i>0.166</i>	<i>0.272</i>	<i>0.269</i>	<i>0.175</i>	0.587	<i>0.779</i>	<i>0.882</i>
Waste Biomass (c)	0.129	0.131	0.130	0.131	0.133	0.122	0.121	<i>0.127</i>	<i>0.127</i>	<i>0.126</i>	<i>0.127</i>	<i>0.129</i>	0.522	<i>0.504</i>	<i>0.510</i>
Wood Biomass	0.496	0.477	0.495	0.492	0.493	0.484	0.507	<i>0.490</i>	<i>0.479</i>	<i>0.471</i>	<i>0.492</i>	<i>0.490</i>	1.959	<i>1.975</i>	<i>1.932</i>
Wind	0.564	0.521	0.443	0.585	0.640	0.633	0.431	<i>0.604</i>	<i>0.633</i>	<i>0.650</i>	<i>0.460</i>	<i>0.654</i>	2.113	<i>2.308</i>	<i>2.398</i>
Total Consumption	2.585	2.577	2.420	2.523	2.763	2.965	2.542	<i>2.578</i>	<i>2.631</i>	<i>2.823</i>	<i>2.613</i>	<i>2.645</i>	10.105	<i>10.849</i>	<i>10.713</i>

- = no data available

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

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

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 8b. U.S. Renewable Electricity Generation and Capacity

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	7,343	7,376	7,369	7,356	7,330	7,369	7,422	7,422	7,477	7,570	7,570	7,606	7,356	7,422	7,606
Waste	4,126	4,158	4,169	4,190	4,201	4,240	4,243	4,244	4,298	4,298	4,298	4,335	4,190	4,244	4,335
Wood	3,218	3,218	3,200	3,166	3,128	3,128	3,178	3,178	3,178	3,272	3,272	3,272	3,166	3,178	3,272
Conventional Hydroelectric	79,462	79,529	79,550	79,556	79,561	79,568	79,663	79,721	79,732	79,763	79,885	80,053	79,556	79,721	80,053
Geothermal	2,517	2,517	2,517	2,517	2,457	2,457	2,457	2,457	2,494	2,494	2,494	2,500	2,517	2,457	2,500
Large-Scale Solar (b)	14,272	15,081	17,507	21,631	22,485	23,488	23,964	26,700	27,393	28,102	28,451	30,205	21,631	26,700	30,205
Wind	73,331	74,188	74,756	81,198	82,898	83,361	84,081	87,911	88,180	88,810	89,770	96,177	81,198	87,911	96,177
Other Sectors (c)															
Biomass	6,717	6,714	6,712	6,657	6,707	6,726	6,727	6,727	6,727	6,728	6,728	6,730	6,657	6,727	6,730
Waste	944	943	942	887	884	888	889	889	889	889	889	891	887	889	891
Wood	5,774	5,771	5,771	5,771	5,823	5,838	5,838	5,838	5,838	5,839	5,839	5,839	5,771	5,838	5,839
Conventional Hydroelectric	355	356	357	357	357	357	357	357	357	357	357	357	357	357	357
Large-Scale Solar (b)	309	314	316	320	322	339	339	341	341	341	341	340	320	341	340
Small-Scale Solar (d)	10,440	11,185	11,913	12,765	13,728	14,549	15,333	16,227	17,026	17,799	18,618	19,470	12,765	16,227	19,470
Residential Sector	5,853	6,432	6,958	7,527	8,130	8,619	9,097	9,571	10,042	10,519	10,997	11,477	7,527	9,571	11,477
Commercial Sector	3,522	3,640	3,794	4,023	4,292	4,561	4,799	5,142	5,405	5,640	5,914	6,215	4,023	5,142	6,215
Industrial Sector	1,066	1,113	1,161	1,215	1,305	1,369	1,436	1,514	1,579	1,640	1,707	1,778	1,215	1,514	1,778
Wind	89	89	89	89	89	87	87	93	96	96	96	96	89	93	96
Renewable Electricity Generation (thousand megawatthours per day)															
Electric Power Sector (a)															
Biomass	87	83	90	85	90	86	90	86	86	84	92	87	86	88	87
Waste	48	51	50	50	49	47	47	48	49	50	51	51	50	48	50
Wood	39	32	40	35	41	39	43	37	38	34	41	36	37	40	37
Conventional Hydroelectric	843	816	620	634	913	1,005	713	632	738	787	711	640	728	815	719
Geothermal	43	42	43	45	45	43	44	46	47	46	47	47	43	44	47
Large-Scale Solar (b)	68	106	124	90	100	182	172	109	116	200	191	116	97	141	156
Wind	665	614	517	683	763	746	503	705	754	767	537	763	620	679	705
Other Sectors (c)															
Biomass	86	83	86	85	87	84	88	85	87	84	88	85	85	86	86
Waste	76	73	77	75	78	75	79	75	78	75	79	75	75	77	77
Wood	10	10	10	10	9	9	9	10	9	9	9	10	10	9	9
Conventional Hydroelectric	5	4	3	4	5	5	4	4	5	5	4	4	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)	40	61	62	43	51	79	80	57	64	96	97	69	51	67	82
Residential Sector	22	34	35	25	29	46	46	32	36	56	56	40	29	38	47
Commercial Sector	14	20	20	14	17	25	25	18	21	31	31	22	17	21	26
Industrial Sector	4	7	7	5	5	8	8	6	7	10	10	7	6	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 - December 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	17,031	17,157	17,262	17,350	17,439	17,529	17,625	16,716	17,088	17,486
Real Personal Consumption Expend. (billion chained 2009 dollars - SAAR)	11,431	11,538	11,618	11,702	11,758	11,853	11,922	12,008	12,075	12,139	12,198	12,258	11,572	11,885	12,167
Real Fixed Investment (billion chained 2009 dollars - SAAR)	2,788	2,797	2,808	2,820	2,876	2,898	2,909	2,931	2,953	2,966	2,994	3,031	2,803	2,904	2,986
Business Inventory Change (billion chained 2009 dollars - SAAR)	42	12	16	69	0	5	38	49	58	60	60	58	35	23	59
Real Government Expenditures (billion chained 2009 dollars - SAAR)	2,903	2,896	2,900	2,901	2,897	2,895	2,894	2,894	2,898	2,902	2,906	2,909	2,900	2,895	2,904
Real Exports of Goods & Services (billion chained 2009 dollars - SAAR)	2,098	2,112	2,145	2,124	2,162	2,181	2,194	2,208	2,235	2,262	2,282	2,307	2,120	2,186	2,271
Real Imports of Goods & Services (billion chained 2009 dollars - SAAR)	2,682	2,685	2,703	2,755	2,785	2,795	2,789	2,815	2,854	2,874	2,897	2,922	2,706	2,796	2,887
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	12,568	12,627	12,649	12,591	12,680	12,783	12,801	12,841	12,942	13,021	13,110	13,203	12,609	12,777	13,069
Non-Farm Employment (millions)	143.4	144.0	144.7	145.2	145.7	146.2	146.7	147.2	147.6	148.0	148.4	148.8	144.3	146.4	148.2
Civilian Unemployment Rate (percent)	4.9	4.9	4.9	4.7	4.7	4.4	4.3	4.1	4.0	4.1	4.1	4.1	4.9	4.4	4.1
Housing Starts (millions - SAAR)	1.15	1.16	1.15	1.25	1.24	1.17	1.17	1.19	1.19	1.22	1.25	1.27	1.18	1.19	1.24
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	103.1	102.9	103.1	103.3	103.7	105.1	104.7	105.9	106.4	106.9	107.4	108.1	103.1	104.9	107.2
Manufacturing	102.9	102.6	102.7	103.1	103.7	104.4	103.9	105.1	105.5	105.9	106.4	107.0	102.8	104.3	106.2
Food	107.0	107.7	108.3	107.5	110.1	111.2	112.9	113.7	114.0	114.5	115.0	115.6	107.6	112.0	114.8
Paper	96.1	95.3	95.0	96.7	96.3	95.5	95.2	95.0	94.6	94.4	94.4	94.6	95.8	95.5	94.5
Petroleum and Coal Products	100.0	100.9	101.4	101.4	102.5	106.1	102.4	107.0	109.8	111.4	112.3	113.1	100.9	104.5	111.6
Chemicals	98.8	98.0	97.1	98.1	97.6	98.9	98.3	100.0	100.6	101.4	102.4	103.5	98.0	98.7	102.0
Nonmetallic Mineral Products	113.6	112.2	111.0	112.3	116.7	115.3	115.5	118.0	119.4	120.8	122.2	123.3	112.3	116.4	121.4
Primary Metals	94.8	95.0	92.1	92.8	96.8	95.4	94.8	94.9	94.6	94.7	95.1	95.9	93.7	95.5	95.1
Coal-weighted Manufacturing (a)	100.8	100.3	99.4	100.2	102.6	102.7	101.5	103.1	103.6	104.2	105.0	105.9	100.2	102.5	104.7
Distillate-weighted Manufacturing (a)	105.6	105.5	105.1	106.2	108.5	108.8	108.3	110.2	111.3	112.3	113.2	114.1	105.6	108.9	112.7
Electricity-weighted Manufacturing (a)	101.5	101.2	100.9	101.6	103.1	103.6	102.4	104.0	104.5	105.2	106.0	107.0	101.3	103.3	105.7
Natural Gas-weighted Manufacturing (a)	100.8	100.5	100.5	101.4	103.0	104.3	102.2	104.7	105.5	106.4	107.4	108.6	100.8	103.5	107.0
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	2.47	2.48	2.49	2.50	2.51	2.40	2.45	2.50
Producer Price Index: All Commodities (index, 1982=1.00)	1.84	1.85	1.85	1.88	1.93	1.92	1.92	1.95	1.96	1.96	1.96	1.98	1.85	1.93	1.97
Producer Price Index: Petroleum (index, 1982=1.00)	1.21	1.46	1.53	1.56	1.66	1.67	1.75	1.88	1.80	1.83	1.82	1.82	1.44	1.74	1.82
GDP Implicit Price Deflator (index, 2009=100)	110.6	111.3	111.6	112.2	112.8	113.0	113.6	114.2	114.8	115.4	116.1	116.6	111.4	113.4	115.7
Miscellaneous															
Vehicle Miles Traveled (b) (million miles/day)	8,079	9,024	8,932	8,566	8,301	9,163	9,015	8,611	8,253	9,272	9,131	8,779	8,651	8,774	8,861
Air Travel Capacity (Available ton-miles/day, thousands)	548	603	609	590	567	619	648	558	545	632	635	559	588	598	593
Aircraft Utilization (Revenue ton-miles/day, thousands)	326	366	375	357	344	390	394	343	335	395	396	344	356	368	367
Airline Ticket Price Index (index, 1982-1984=100)	281.8	305.0	273.0	270.4	277.8	297.0	264.5	279.4	304.5	339.2	294.2	298.9	282.6	279.7	309.2
Raw Steel Production (million short tons per day)	0.238	0.247	0.238	0.230	0.248	0.247	0.250	0.244	0.274	0.259	0.236	0.203	0.239	0.247	0.243
Carbon Dioxide (CO₂) Emissions (million metric tons)															
Petroleum	574	573	591	589	565	588	593	587	571	587	602	594	2,327	2,333	2,355
Natural Gas	441	330	346	378	420	309	330	389	454	326	333	400	1,495	1,448	1,513
Coal	309	298	413	335	322	311	382	340	341	305	381	333	1,354	1,354	1,360
Total Energy (c)	1,327	1,203	1,352	1,305	1,310	1,210	1,308	1,319	1,369	1,221	1,319	1,331	5,187	5,147	5,239

- = no data available

SAAR = Seasonally-adjusted annual rate

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

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

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

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

Historical data: Latest data available from U.S. Department of Commerce, Bureau of Economic Analysis; Federal Reserve System, Statistical release G17; Federal Highway Administration; and Federal Aviation Administration. Minor discrepancies with published historical data are due to independent rounding.

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

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	912	917	920	924	928	932	891	909	926
Middle Atlantic	2,468	2,480	2,480	2,485	2,489	2,502	2,518	2,529	2,538	2,550	2,560	2,571	2,478	2,510	2,555
E. N. Central	2,269	2,282	2,296	2,304	2,312	2,326	2,344	2,354	2,363	2,373	2,383	2,392	2,288	2,334	2,378
W. N. Central	1,053	1,060	1,068	1,071	1,068	1,076	1,086	1,091	1,095	1,099	1,104	1,109	1,063	1,080	1,102
S. Atlantic	2,935	2,952	2,978	2,992	3,004	3,028	3,046	3,067	3,085	3,102	3,119	3,137	2,964	3,036	3,111
E. S. Central	742	748	753	756	759	765	771	775	778	782	785	788	750	767	783
W. S. Central	2,016	2,015	2,020	2,034	2,051	2,072	2,081	2,100	2,116	2,132	2,147	2,163	2,021	2,076	2,140
Mountain	1,052	1,056	1,071	1,075	1,078	1,090	1,101	1,108	1,115	1,121	1,128	1,136	1,064	1,094	1,125
Pacific	3,051	3,080	3,114	3,132	3,137	3,162	3,191	3,214	3,231	3,250	3,268	3,288	3,094	3,176	3,259
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	98.2	97.8	97.8	97.9	98.0	98.7	97.8	98.7	98.7	98.8	98.9	99.3	97.9	98.3	98.9
Middle Atlantic	98.8	98.4	98.2	97.9	98.2	97.9	96.9	97.9	98.1	98.3	98.6	99.1	98.3	97.7	98.5
E. N. Central	105.0	104.9	105.0	105.7	106.2	106.9	105.9	107.3	107.8	108.4	109.0	109.5	105.1	106.6	108.7
W. N. Central	102.4	102.0	102.0	102.2	102.3	103.3	103.2	104.3	104.6	105.0	105.5	106.0	102.1	103.3	105.3
S. Atlantic	105.5	105.5	105.9	106.9	107.2	108.0	107.7	108.9	109.2	109.6	109.9	110.4	106.0	107.9	109.8
E. S. Central	107.3	107.7	108.5	108.9	110.1	110.6	109.6	110.9	111.4	111.9	112.4	113.0	108.1	110.3	112.2
W. S. Central	97.8	96.7	96.1	96.4	98.1	99.7	99.8	101.2	101.8	102.4	103.2	104.1	96.7	99.7	102.9
Mountain	106.1	106.0	106.3	107.2	108.3	109.1	108.5	109.8	110.2	110.8	111.3	111.9	106.4	108.9	111.0
Pacific	104.0	103.7	103.3	103.7	103.7	104.3	103.9	105.2	105.5	106.1	106.6	107.4	103.7	104.3	106.4
Real Personal Income (Billion \$2009)															
New England	769	774	777	766	774	779	781	783	788	792	796	802	771	779	795
Middle Atlantic	1,957	1,963	1,966	1,955	1,963	1,976	1,984	1,989	2,000	2,009	2,019	2,031	1,960	1,978	2,015
E. N. Central	2,092	2,103	2,109	2,096	2,109	2,122	2,128	2,133	2,147	2,158	2,171	2,183	2,100	2,123	2,165
W. N. Central	989	995	995	987	992	996	998	1,002	1,009	1,014	1,020	1,026	991	997	1,017
S. Atlantic	2,724	2,738	2,751	2,743	2,773	2,796	2,802	2,815	2,839	2,856	2,877	2,900	2,739	2,796	2,868
E. S. Central	771	774	777	773	778	784	786	788	794	799	804	809	774	784	801
W. S. Central	1,695	1,698	1,697	1,682	1,703	1,713	1,719	1,727	1,743	1,756	1,770	1,786	1,693	1,716	1,764
Mountain	958	964	971	964	976	984	987	992	1,001	1,007	1,015	1,024	964	985	1,012
Pacific	2,351	2,368	2,377	2,381	2,396	2,410	2,422	2,432	2,450	2,465	2,482	2,502	2,369	2,415	2,475
Households (Thousands)															
New England	5,846	5,848	5,842	5,838	5,833	5,836	5,854	5,863	5,873	5,882	5,892	5,903	5,838	5,863	5,903
Middle Atlantic	15,955	15,937	15,918	15,900	15,882	15,884	15,932	15,950	15,973	15,996	16,020	16,046	15,900	15,950	16,046
E. N. Central	18,832	18,846	18,831	18,816	18,803	18,802	18,857	18,879	18,908	18,943	18,975	19,010	18,816	18,879	19,010
W. N. Central	8,503	8,498	8,502	8,505	8,510	8,522	8,558	8,580	8,608	8,637	8,661	8,686	8,505	8,580	8,686
S. Atlantic	24,978	25,020	25,076	25,130	25,183	25,257	25,415	25,523	25,635	25,746	25,851	25,958	25,130	25,523	25,958
E. S. Central	7,588	7,589	7,592	7,594	7,596	7,604	7,635	7,653	7,675	7,697	7,717	7,738	7,594	7,653	7,738
W. S. Central	14,490	14,507	14,537	14,564	14,591	14,633	14,716	14,772	14,830	14,890	14,951	15,016	14,564	14,772	15,016
Mountain	8,935	8,962	8,988	9,014	9,038	9,069	9,128	9,171	9,218	9,266	9,312	9,358	9,014	9,171	9,358
Pacific	18,610	18,629	18,653	18,679	18,705	18,754	18,849	18,910	18,975	19,040	19,104	19,166	18,679	18,910	19,166
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	7.4	7.5	7.3	7.4	7.4
Middle Atlantic	19.2	19.2	19.3	19.4	19.4	19.5	19.5	19.6	19.6	19.6	19.6	19.7	19.3	19.5	19.6
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	22.2	21.7	21.9	22.1
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	28.4	28.4	28.5	28.6	28.7	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	17.1	17.2	17.3	17.4	17.4	17.5	16.8	17.1	17.4
Mountain	10.2	10.2	10.3	10.4	10.4	10.4	10.5	10.5	10.6	10.6	10.7	10.7	10.3	10.5	10.6
Pacific	22.2	22.4	22.5	22.6	22.7	22.8	22.9	23.0	23.0	23.1	23.2	23.2	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 IHS Markit model of the U.S. Economy.

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - December 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	2,841	902	76	2,115	2,987	805	92	<i>2,010</i>	<i>3,179</i>	<i>874</i>	<i>131</i>	<i>2,165</i>	5,934	<i>5,894</i>	<i>6,349</i>
Middle Atlantic	2,669	750	40	1,902	2,660	603	73	<i>1,892</i>	<i>2,953</i>	<i>701</i>	<i>93</i>	<i>1,989</i>	5,361	<i>5,227</i>	<i>5,736</i>
E. N. Central	2,869	754	48	2,033	2,691	629	105	<i>2,187</i>	<i>3,180</i>	<i>732</i>	<i>134</i>	<i>2,225</i>	5,703	<i>5,613</i>	<i>6,272</i>
W. N. Central	2,893	660	103	2,131	2,810	661	138	<i>2,402</i>	<i>3,279</i>	<i>709</i>	<i>161</i>	<i>2,397</i>	5,786	<i>6,011</i>	<i>6,546</i>
South Atlantic	1,381	211	2	860	1,148	124	14	<i>945</i>	<i>1,428</i>	<i>195</i>	<i>16</i>	<i>981</i>	2,455	<i>2,232</i>	<i>2,620</i>
E. S. Central	1,754	233	5	1,099	1,374	153	24	<i>1,282</i>	<i>1,831</i>	<i>245</i>	<i>22</i>	<i>1,307</i>	3,091	<i>2,832</i>	<i>3,405</i>
W. S. Central	1,052	78	1	618	772	65	4	<i>728</i>	<i>1,127</i>	<i>77</i>	<i>4</i>	<i>782</i>	1,750	<i>1,569</i>	<i>1,990</i>
Mountain	2,078	678	159	1,702	2,055	696	153	<i>1,719</i>	<i>2,195</i>	<i>683</i>	<i>147</i>	<i>1,834</i>	4,617	<i>4,622</i>	<i>4,859</i>
Pacific	1,305	470	98	1,163	1,564	534	70	<i>1,095</i>	<i>1,548</i>	<i>604</i>	<i>98</i>	<i>1,222</i>	3,036	<i>3,263</i>	<i>3,472</i>
U.S. Average	1,949	481	51	1,399	1,858	428	65	<i>1,462</i>	<i>2,136</i>	<i>492</i>	<i>79</i>	<i>1,529</i>	3,880	<i>3,813</i>	<i>4,237</i>
Heating Degree Days, Prior 10-year Average															
New England	3,212	824	133	2,105	3,201	831	122	<i>2,125</i>	<i>3,172</i>	<i>818</i>	<i>119</i>	<i>2,105</i>	6,275	<i>6,279</i>	<i>6,215</i>
Middle Atlantic	2,983	651	90	1,927	2,983	661	81	<i>1,941</i>	<i>2,948</i>	<i>646</i>	<i>81</i>	<i>1,938</i>	5,651	<i>5,666</i>	<i>5,613</i>
E. N. Central	3,247	690	125	2,206	3,255	701	114	<i>2,198</i>	<i>3,209</i>	<i>693</i>	<i>116</i>	<i>2,203</i>	6,267	<i>6,267</i>	<i>6,221</i>
W. N. Central	3,298	693	150	2,393	3,302	707	142	<i>2,380</i>	<i>3,264</i>	<i>705</i>	<i>144</i>	<i>2,381</i>	6,535	<i>6,531</i>	<i>6,494</i>
South Atlantic	1,499	184	14	972	1,502	188	12	<i>966</i>	<i>1,476</i>	<i>176</i>	<i>12</i>	<i>974</i>	2,669	<i>2,667</i>	<i>2,639</i>
E. S. Central	1,899	225	19	1,308	1,906	231	16	<i>1,287</i>	<i>1,868</i>	<i>217</i>	<i>18</i>	<i>1,301</i>	3,451	<i>3,439</i>	<i>3,404</i>
W. S. Central	1,221	83	5	815	1,227	88	4	<i>799</i>	<i>1,181</i>	<i>80</i>	<i>4</i>	<i>799</i>	2,124	<i>2,119</i>	<i>2,065</i>
Mountain	2,231	725	147	1,880	2,216	734	142	<i>1,862</i>	<i>2,194</i>	<i>737</i>	<i>144</i>	<i>1,847</i>	4,983	<i>4,954</i>	<i>4,922</i>
Pacific	1,496	610	88	1,212	1,462	598	89	<i>1,206</i>	<i>1,465</i>	<i>593</i>	<i>84</i>	<i>1,188</i>	3,407	<i>3,355</i>	<i>3,330</i>
U.S. Average	2,199	483	76	1,535	2,192	487	71	<i>1,527</i>	<i>2,160</i>	<i>478</i>	<i>71</i>	<i>1,523</i>	4,293	<i>4,277</i>	<i>4,232</i>
Cooling Degree Days															
New England	0	80	541	0	0	74	365	<i>11</i>	<i>0</i>	<i>80</i>	<i>400</i>	<i>1</i>	621	<i>450</i>	<i>481</i>
Middle Atlantic	0	145	734	6	0	138	500	<i>21</i>	<i>0</i>	<i>147</i>	<i>513</i>	<i>4</i>	884	<i>659</i>	<i>665</i>
E. N. Central	4	230	704	19	1	210	479	<i>16</i>	<i>0</i>	<i>213</i>	<i>516</i>	<i>6</i>	957	<i>706</i>	<i>735</i>
W. N. Central	10	319	713	30	9	265	622	<i>14</i>	<i>3</i>	<i>261</i>	<i>657</i>	<i>10</i>	1,072	<i>910</i>	<i>930</i>
South Atlantic	138	653	1,347	279	159	671	1,157	<i>255</i>	<i>120</i>	<i>640</i>	<i>1,135</i>	<i>225</i>	2,417	<i>2,241</i>	<i>2,120</i>
E. S. Central	42	534	1,254	130	65	482	967	<i>81</i>	<i>27</i>	<i>509</i>	<i>1,023</i>	<i>63</i>	1,960	<i>1,595</i>	<i>1,622</i>
W. S. Central	122	836	1,597	330	214	828	1,461	<i>229</i>	<i>92</i>	<i>886</i>	<i>1,503</i>	<i>202</i>	2,884	<i>2,733</i>	<i>2,683</i>
Mountain	34	463	886	113	36	466	919	<i>115</i>	<i>19</i>	<i>431</i>	<i>925</i>	<i>76</i>	1,496	<i>1,537</i>	<i>1,451</i>
Pacific	35	229	590	72	30	220	698	<i>89</i>	<i>29</i>	<i>166</i>	<i>564</i>	<i>58</i>	927	<i>1,037</i>	<i>817</i>
U.S. Average	54	411	964	129	70	402	839	<i>113</i>	<i>43</i>	<i>396</i>	<i>833</i>	<i>91</i>	1,558	<i>1,424</i>	<i>1,363</i>
Cooling Degree Days, Prior 10-year Average															
New England	0	81	419	1	0	81	433	<i>1</i>	<i>0</i>	<i>81</i>	<i>433</i>	<i>1</i>	501	<i>514</i>	<i>515</i>
Middle Atlantic	0	168	548	5	0	169	566	<i>6</i>	<i>0</i>	<i>166</i>	<i>566</i>	<i>5</i>	722	<i>741</i>	<i>737</i>
E. N. Central	3	229	528	6	3	234	542	<i>8</i>	<i>3</i>	<i>228</i>	<i>532</i>	<i>7</i>	765	<i>788</i>	<i>770</i>
W. N. Central	7	279	674	9	7	281	672	<i>12</i>	<i>7</i>	<i>277</i>	<i>659</i>	<i>11</i>	969	<i>973</i>	<i>953</i>
South Atlantic	114	661	1,147	222	117	666	1,167	<i>230</i>	<i>119</i>	<i>675</i>	<i>1,161</i>	<i>226</i>	2,143	<i>2,179</i>	<i>2,181</i>
E. S. Central	32	541	1,037	56	33	544	1,056	<i>66</i>	<i>34</i>	<i>539</i>	<i>1,032</i>	<i>64</i>	1,667	<i>1,698</i>	<i>1,668</i>
W. S. Central	90	890	1,517	191	90	876	1,527	<i>205</i>	<i>100</i>	<i>887</i>	<i>1,532</i>	<i>205</i>	2,688	<i>2,698</i>	<i>2,724</i>
Mountain	21	429	930	76	23	424	930	<i>81</i>	<i>24</i>	<i>426</i>	<i>922</i>	<i>84</i>	1,455	<i>1,458</i>	<i>1,456</i>
Pacific	29	180	611	72	30	180	607	<i>74</i>	<i>30</i>	<i>185</i>	<i>620</i>	<i>77</i>	891	<i>892</i>	<i>913</i>
U.S. Average	42	404	845	88	43	405	857	<i>94</i>	<i>45</i>	<i>408</i>	<i>855</i>	<i>94</i>	1,379	<i>1,399</i>	<i>1,402</i>

- = no data available

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

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

	October 2017	November 2017	October-November 2017 Average	October-November 2016 Average	2014 – 2016 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	98.1	98.9	98.5	98.6	95.9
Global Petroleum and Other Liquids Consumption (b)	98.7	98.7	98.7	97.6	95.3
Biofuels Production (c)	2.6	2.2	2.4	2.3	2.1
Biofuels Consumption (c)	2.2	2.2	2.2	2.1	2.0
Iran Liquid Fuels Production	4.6	4.7	4.6	4.4	3.7
Iran Liquid Fuels Consumption	1.7	1.7	1.7	1.8	1.9
Petroleum and Petroleum Products Produced and Consumed in Countries Other Than Iran (million barrels per day)					
Production (d)	90.9	92.0	91.5	91.9	90.2
Consumption (d)	94.8	94.8	94.8	93.7	91.4
Production minus Consumption	-3.8	-2.8	-3.3	-1.8	-1.3
World Inventory Net Withdrawals Including Iran	0.6	-0.1	0.2	-0.9	-0.6
Estimated OECD Inventory Level (e) (million barrels)	2,956	2,953	2,955	3,024	2,840
OPEC Surplus Crude Oil Production Capacity (f)	2.1	2.1	2.1	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	October 2017	November 2017	October-November 2017 Average	October-November 2016 Average	2014 – 2016 Average
Brent Front Month Futures Price (\$ per barrel)	57.65	62.87	60.26	49.24	66.06
WTI Front Month Futures Price (\$ per barrel)	51.59	56.66	54.13	47.85	61.71
Dubai Front Month Futures Price (\$ per barrel)	55.70	60.86	58.28	46.75	63.38
Brent 1st - 13th Month Futures Spread (\$ per barrel)	1.87	3.03	2.45	-4.74	-3.42
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-0.05	1.99	0.97	-4.34	-2.04
RBOB Front Month Futures Price (\$ per gallon)	1.65	1.77	1.71	1.43	1.89
Heating Oil Front Month Futures Price (\$ per gallon)	1.80	1.92	1.86	1.52	1.93
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.27	0.28	0.28	0.26	0.31
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.43	0.42	0.43	0.34	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).